



COLORADO

**Colorado Water
Conservation Board**

Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Anna Mauss, P.E., Project Manager
Kirk Russell, P.E. Finance Section Chief

DATE: July 19-20, 2017 Board Meeting

AGENDA ITEM: 23d. Water Project Loans
City of Walsenburg - City Lake Dam Rehabilitation & Enlargement

Introduction

The City of Walsenburg (City), acting by and through its water activity enterprise, is applying for a loan for the City Lake Dam Rehabilitation & Enlargement (Project). Through this loan the City intends to rehabilitate and enlarge City Lake Dam. The City originally submitted a Feasibility Study on April 1, 2017 scheduled for consideration at the May 2017 CWCB Board meeting. In discussions with the Board, the presentation was tabled to allow time for further conversations regarding the use of the additional space created through the enlargement. The City is continuing discussions with the Huerfano County Water Conservancy District regarding the Cucharas Basin Collaborative Study. Pending the outcome of those continued conversations, the City might be applying for grant funds to help offset the cost of the enlargement. The City is moving forward with a loan request for full funding of the Project at this time to be sure it can address dam safety issues, with or without grant funds. This dam has been subject to an Office of the State Engineer Dam Safety Branch (SEO) safety compliance plan since September of 2014 and a formal storage restriction since April 2017. Successful Project completion will result in the recovery of a minimum of 41.8 acre-feet (AF) of water storage, and the creation of 120 AF of new water storage. Estimated Project costs are \$6,821,000. The City is requesting a loan from the CWCB for 100% of Project costs. See attached Project Data Sheet for a location map and Project Summary.

Staff Recommendation

Staff recommends the Board approve a loan not to exceed \$6,889,210 (\$6,821,000 for Project costs and \$68,210 for the 1% service fee) to the City of Walsenburg, acting by and through its water activity enterprise, for costs related to the City Lake Dam Rehabilitation & Enlargement Project from the Severance Tax Perpetual Base Fund. Loan terms shall be 30 years at the reduced municipal low-income interest rate of 2.0% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.



Background

The City owns and operates a system of five reservoirs and six dams, including City Lake Dam. It also operates a water treatment plant located approximately three miles west of the City, immediately downstream of the City Lake Dam. Treated water is pumped to a storage tank adjacent to the plant and distributed to water tap customers via the City's water distribution network. City Lake serves as the forebay to the City's water treatment plant.

The dam safety compliance plan issued in September of 2014 was the result of identified dam safety deficiencies, including factors of safety for seepage and stability, and the inability of the existing spillway capacity to carry the required Inflow Design Flood. The dam safety compliance plan required the City to complete a number of specific actions to address the deficiencies. This compliance plan imposed a 1-foot storage restriction on April 1, 2017, reducing allowed storage by 41.8 AF. Further, the compliance plan stipulates if no action is taken, a 2-foot storage restriction will be effective on November 15, 2017, followed by a 3-foot storage restriction on May 1, 2019, which would result in a total storage loss of 119.1 AF. The storage restriction not only reduces the amount of available water supply but also reduces the pressure head available to push water through the treatment plant's filters.

Loan Feasibility Study

Michael Graber, P.E. of RJH Consultants prepared the Loan Feasibility Study titled "Feasibility Evaluation - Walsenburg City Lake Dam Rehabilitation and Enlargement," dated March 2017. Audited financial statements were prepared by Rubin Brown LLP. The feasibility study, prepared in accordance with CWCB guidelines, includes an analysis of alternatives, preliminary engineering design, and construction cost estimates. The study was funded by a 50/50 matching feasibility study grant in the amount of \$49,000.

Borrower - City of Walsenburg

The City was the first statutory City in Territorial Colorado, incorporated in 1873, and is the county seat of Huerfano County. The City operates both a water activity and sewer activity enterprises. The water activity enterprise provides potable water to 2,900 customers and 1,700 taps, of which 1,511 are residential taps, the remainder being business, municipal, and industrial users. The City's average annual water delivery is 730 AF.

Water Rights

The City's most senior water rights are diverted from the Cucharas River, at a location upstream from the Town of La Veta. Water diverted at this location can be stored within or conveyed through two of the City's smaller reservoirs to the Walsenburg City Pipeline. The pipeline delivers water from the upper reservoirs to City Lake, where it can either be stored, delivered to the water treatment plant, or flow through to the City's downstream storage in Lake Miriam and Lake Oehm (also known as the "Coler System Reservoirs"). This is the City's primary method of delivering water to the treatment plant. The associated water rights are listed in Table 1. Deliveries from the Walsenburg Pipeline to City Lake for water treatment plant use have averaged 730 acre-feet/year over the past five years. The City anticipates that its recently changed Gomez Ditch water will be stored in the additional City Lake capacity resulting from this Project. Under the City's Gomez Ditch change of use decree, with administrative approval, the City can exchange Gomez Ditch water that is stored within the Coler System Reservoirs to City Lake, which can then be delivered to the water treatment plant.

The City owns the following decreed water rights conveyed to City Lake under typical operations:

TABLE 1: IMPACTED WATER RIGHTS

Name	Adjudication Date	Appropriation Date	Decreed Rate or Volume
Walsenburg Pipeline Direct Flow Rights (CFS)⁽¹⁾			
Francisco & Daigre Mill Ditch No. 1	6/12/1889	5/30/1863	0.2917 CFS
Calf Pasture Ditch No. 2	6/12/1889	6/15/1863	0.50 CFS
Calf Pasture Ditch No. 2	6/12/1889	5/01/1871	0.50 CFS
Francisco & Daigre Mill Ditch No. 1 (1st Enlargement)	6/12/1889	6/30/1864	4.0833 CFS
Guillen Ditch No. 4	6/12/1889	5/15/1865	1.00 CFS
Guillen Ditch No. 4	6/12/1889	5/15/1865	0.50 CFS
Walsenburg Pipeline	10/3/1921	5/2/1904	7.00 CFS
Walsenburg Pipeline Storage Rights (AF)			
City Lake (Walsenburg Reservoir)	10/3/1921	5/2/1904	411.46 AF
Gomez Ditch Water Rights (CFS)⁽¹⁾			
Gomez Ditch	6/12/1889	6/08/1868	0.533 CFS
Gomez Ditch	2/23/1898	4/10/1888	1.167 CFS

(1) Water can be stored when not needed immediately for municipal uses.

Project Description

The purpose of this Project is to make repairs to the City Lake Dam, removing the SEO storage restriction, and constructing 120 acre-feet of additional storage for the recently changed Gomez Ditch water rights. Alternatives analyses performed toward these goals include:

Alternative 1 - No-Action: The no-action alternate was not selected, as the SEO storage restriction would remain in place and long-term loss of reservoir storage and associated storage rights in City Lake Dam would be a likely eventuality. Additionally, the reduction of the storage level in the reservoir has a negative effect on the pressure head delivering water to the treatment plant's filters.

Alternative 2 - Storage via Alternate Reservoir Sites: The City analyzed the use of other storage reservoirs already owned by the City, but none could readily supply the water treatment plant without the construction of extensive pumping, underground delivery systems, and attendant operation and maintenance costs. While there exists an existing 8-inch pipeline from Martin Reservoir located approximately two miles northeast of City Lake to the treatment plant, water from Martin Lake must be pumped to the treatment plant and is limited to a maximum capacity of 0.9 million gallons per day (MGD) which is far short of the currently needed 3.67 MGD. A much larger pipeline and pumping system would be required.

Alternative 3 - Dam Rehabilitation: The City evaluated rehabilitation of the dam to maintain the current storage volume. Preliminary cost estimates in 2015 were projected to be approximately \$6,640,000.

Selected Alternative 4 - Dam Rehabilitation and Enlargement: The City also evaluated enlarging the reservoir while the earthwork to rehabilitate the dam was underway. The initial project costs were estimated to be \$6,821,000. Given the relatively small cost difference between rehabilitation and rehabilitation with enlargement, the City chose to include the enlargement option and gain an additional 120 AF of new storage.

Project components include removing the existing dam embankment to bedrock level, rebuilding the embankment blending existing removed embankment material with imported borrow embankment material, constructing a new outlet works, and constructing a new 50-foot wide principle service spillway on the east side of the dam embankment. The new dam embankment will be constructed three feet higher, in generally the same location, with slight alignment changes to improve clearance issues with overhead power lines and the State Highway 160 right-of-way, tapering farther upstream to accomplish the additional three feet dam height. Additional design elements include acquisition of rights-of-way or easements for access to the west side of the reservoir, replacing current access that will be inundated by the new storage water level, and an easement or purchase of privately owned land for stockpiling, blending, and processing imported embankment material.

Project costs are shown in Table 2 below, the estimates for which were developed from a completed 30% design.

TABLE 2: PROJECT COST

Task	Cost
General Site Work	\$631,800
Embankment	\$3,755,200
Outlet Works	\$382,200
Auxiliary Spillway	\$209,800
Construction Subtotal	\$4,979,000
Contingencies	\$747,000
Design Engineering	\$498,000
Construction Engineering and Testing	\$597,000
TOTAL	\$6,821,000

Permitting: The City has a 404 permit from the United States Army Corps of Engineers. A permit from the Colorado Division of Mine Safety and a Colorado Department of Transportation highway access permit might be required depending on the borrow source for fill material. The City is currently working with the Huerfano County Planning Department to obtain a 1041 land use permit.

Schedule: Review and approval of the construction plans are underway. Construction is anticipated to occur over the 2017/2018 winter; however, pending the City's decision to apply for grant funds, construction could be delayed by one year.

Financial Analysis

The City qualifies for a low-income municipal interest rate of 2.50% for a 30-year term. Due to the SEO storage restriction, the City qualifies for an additional 0.5% interest rate reduction per Financial Policy #7, with a resulting interest rate of 2.0%.

Table 3 provides a summary of the Project's financial aspects.

TABLE 3: FINANCIAL SUMMARY

Total Project Cost	\$6,821,000
CWCB Loan Amount	\$6,821,000
CWCB Loan Amount (Including 1% Service Fee)	\$6,889,210
CWCB Annual Loan Payment	\$307,603
CWCB Annual Loan Obligation (including reserve account)	\$338,363
Monthly Cost of Loan per Tap (1,700 taps)	\$16.59
Project cost per acre-foot storage (as enlarged to 601 AF)	\$11,350

Creditworthiness: The City carries debt tied to both its water activity enterprise and sewer activity enterprise. The annual obligation for the \$673,530 annual principal and interest payment is split between these two entities. The Series 2007 Bonds were issued by George K. Baum and Company for the construction of the water treatment plant and the wastewater treatment plant. The City will need to increase its water rates to support the additional debt from this project.

TABLE 4: EXISTING DEBT

Lender	Original Balance	Current ⁽¹⁾ Balance	Annual Payment	Maturity Date	Collateral
Series 2007 Revenue Bonds	\$9,700,000	\$3,900,280	\$357,000	2032	Water and sewer revenues

- (1) Current balance is the water enterprise long-term debt from audited financials as of December 31, 2015. At the time of loan review, the 2015 statements were the most current financial statements available.

TABLE 5: FINANCIAL RATIOS

Financial Ratio	Past Years	Future ⁽¹⁾ w/ Project
Operating Ratio (revenues/expenses) weak: <100% average: 100% - 120% strong: >120%	124% (strong) \$1.33M / \$1.07M	100% (average) \$1.41M / \$1.41M
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% average: 100% - 120% strong: >120%	172% (strong) (\$1.33M-\$717K) \$357K	110% (average) (\$1.41M-\$717K) \$695K
Cash Reserves to Current Expenses weak: <50% average: 50% - 100% strong: >100%	59% (average) \$632K / \$1.07M	45% (weak) \$632K / \$1.41M
Debt per Tap (Based on 1,700 Taps) weak: >\$5,000 - average: \$2,500 - \$5,000 - strong: < \$2,500	\$2,294 (strong) \$3.9M / 1,700	\$6,347 (weak) \$10.79M / 1,700
Average Monthly Water Bill weak: >\$60 - average: \$30 - \$60 - strong: <\$30	\$62.31 (weak)	\$66.56 (weak)

(1) Assumes a \$4.25 per month increase to monthly water bills.

Collateral: Security for this loan will be a pledge of water activity enterprise revenues backed by a rate covenant and annual financial reporting. This security is in compliance with CWCB Financial Policy #5 (Collateral).

cc: Mark Ellis, Finance Director, City of Walsenburg
 Jennifer Mele, Colorado Office of the Attorney General

Attachment: Water Project Loan Program - Project Data Sheet



City Lake Dam Rehabilitation & Enlargement

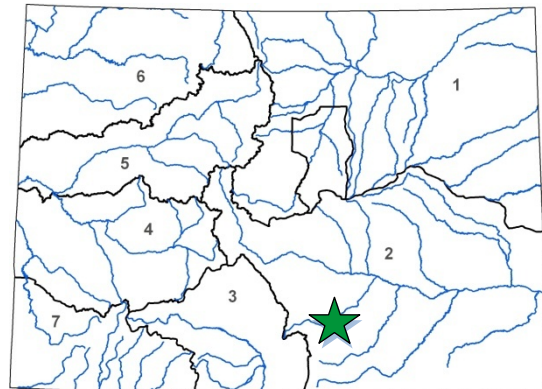
City of Walsenburg
July 2017 Board Meeting

L O A N D E T A I L S	
Project Cost:	\$6,821,000
CWCB Loan (with Service Fee):	\$6,889,210
Loan Term and Interest Rate:	30 years @ 2.0%
Funding Source:	Severance Tax
B O R R O W E R T Y P E	
Agriculture	Municipal
0%	100% Low - 0% Mid - 0% High
	Commercial
	0%
P R O J E C T D E T A I L S	
Project Type:	Reservoir Rehabilitation
Average Annual Delivery:	730 AF
Total Reservoir Storage:	531 AF
Water Storage Developed:	120 AF

The City of Walsenburg's City Lake dam and reservoir provides the primary water supply and storage for the City's water treatment plant located downstream of the dam. This dam has been subject to a State Engineer's Office (SEO) safety compliance plan since September of 2014, and a formal storage restriction since April 2017 as a result of dam safety deficiencies including seepage, stability, and spillway capacity. The dam safety imposes a 1-foot storage restriction on April 1, 2017, a 2-foot storage restriction on November 15, 2017, and a 3-foot storage restriction on May 1, 2019.

The City needs the full storage capacity of City Lake to adequately supply their water treatment plant and to ensure future water supplies.

Elements of the Project include dam embankment reconstruction, new outlet works, new spillway construction, riprap channel lining, and a temporary bypass conduit to route water to the water treatment plant. The project will increase storage by 120 acre-feet by raising the dam embankment three feet. Construction is planned for 2017/2018.



L O C A T I O N	
County:	Huerfano
Water Source:	Cucharas River
Drainage Basin:	Arkansas River
Division:	2
District:	16

