



COLORADO

**Colorado Water
Conservation Board**

Department of Natural Resources

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John Hickenlooper, Governor

Robert Randall, DNR Executive Director

Rebecca Mitchell, CWCB Director

TO: Colorado Water Conservation Board Members

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

DATE: March 21-22, 2018 Board Meeting

AGENDA ITEM: 10b. Change to Existing Loans
Tunnel Water Company - Laramie-Poudre Tunnel Rehabilitation

Introduction

The Tunnel Water Company (Company) received approval of a \$1,111,000 CWCB loan (Contract number CT2016-2001) to finance the Laramie-Poudre Tunnel Rehabilitation (Project) at the September 2015 Board Meeting. The purpose of the Project is to extend the service life of the tunnel and improve maintenance access by rehabilitating the tunnel's west and east portals. The Company successfully completed construction on the west portal in 2016. During final design of the east portal, the estimated construction cost increased and additional work was identified which required additional permitting through the US Forest Service. The total Project cost is now estimated to be \$1,700,000 and the Company is requesting a loan increase of \$600,000 to fully fund the Project. See the attached Project Data Sheet for a location map and a Project summary.

Staff Recommendation

Staff recommends the Board approve a loan increase of \$606,000 (\$600,000 for Project costs and \$6,000 for the 1% service fee), for a total loan not to exceed \$1,717,000 (\$1,700,000 for Project costs and \$17,000 for the 1% service fee) to the Tunnel Water Company for costs related to the Laramie-Poudre Tunnel Rehabilitation Project, from the Construction Fund. The loan terms shall remain 30 years at a blended interest rate of 2.55% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.



Project Update

West Portal: Bids were received in summer of 2015 and Rock Solid Solutions was awarded the contract. Construction began in fall of 2015. Work included the excavation and demolition of approximately 80 feet of the existing tunnel, and extending the tunnel by 165 feet, reducing the entrance grade from 21% to 5%. Major construction was completed in fall 2015, and the trash rack installation and final revegetation was completed in fall 2016.

East Portal: The Company intended to bid the east portal construction work for completion by winter 2017. However, during pre-bid meetings, the contractors confirmed the existing access road, at about a 30% grade, would not be a safe route for heavy equipment including concrete trucks. Alternatives including pumping concrete 300 feet over a slope distance of 1,200 feet were not feasible. The design engineer thus designed a new access road to reduce the profile from 30% to about 18%. This required a change to the temporary construction permit secured from the US Forest Service, and triggered the need for an environmental assessment to comply with the National Environmental Policy Act (NEPA).

The updated Project cost estimate is \$1,700,000 as shown in Table 1. With final design, the engineer revised the overall cost estimate which was found to increased significantly, primarily due to the difficult location and overall material cost increases since the 2015 cost estimate. This cost estimate does not include the additional environmental assessment work by Telesto that was paid for by Company funds.

TABLE 1: UPDATED PROJECT COST ESTIMATE

Task	Original	Current
Design Engineering		
West Portal		\$29,350
East Portal		\$8,000
Total	\$60,000	\$37,350
Construction Phase 1: West Portal	\$670,000	\$767,900
Construction Phase 2: East Portal		
Access Road		\$160,000
Structure	\$290,000	\$545,300
Total	\$290,000	\$705,300
Construction Management		
West Portal		\$19,700
East Portal		\$33,000
Total	\$50,000	\$52,700
Contingency	\$155,000	\$136,750
Total	\$1,225,000	\$1,700,000

Permitting: The original US Forest Service permit only required two surveys by Forest Service staff as work was to occur only in historically disturbed area. With the redesigned access roads, the Company must now comply with NEPA requirements and hired Telesto to perform the environmental assessment.

Schedule: Telesto anticipates having the environmental assessment process completed by the end of summer 2018 allowing for construction to occur between the 2018 and 2019 irrigation seasons.

Financial Analysis

Table 2 provides a summary of the Project's financial aspects. The term of the loan will remain at 30 years at a blended interest rate of 2.55% (Ownership: 24% Agriculture, 20% Low Municipal, 24% Mid Municipal, 32 % High Municipal). The original loan was approved with a 10% borrower contribution per Policy #11 which limited loans to 90% of total project cost. That policy was since revised (November 2016) to allow for 100% financing. This increase will therefore cover 100% of eligible costs, providing the Company with an additional built-in contingency with the cash already paid to this Project.

TABLE 2: UPDATED FINANCIAL SUMMARY

	Original	Current
Total Project Cost	\$1,225,000	\$1,700,000
Borrowers Contribution	\$125,000	\$0
CWCB Loan Amount	\$1,100,000	\$1,700,000
CWCB Loan Amount (Including 1% Service Fee)	\$1,111,000	\$1,717,000
CWCB Annual Loan Payment	\$53,435	\$82,582
CWCB Annual Loan Obligation (including 10% Reserve)	\$58,779	\$90,840
Number of Shares	450	450
Annual Loan Obligation per Share	\$131/share	\$202/share
Current Assessment per Share	\$947/share	\$947/share
Future Assessment per Share	\$1,078/share	\$1,149/share

Creditworthiness: The Company has \$2,273,727 in existing debt made up of two CWCB loans as summarized in Table 3. Both loans were for the rehabilitation on the Laramie-Poudre Tunnel, and are in good standing.

TABLE 3: UPDATED EXISTING DEBT

Lender	Original Balance	Current Balance	Annual Payment	Maturity Date	Collateral
CWCB (C150052)	\$1,570,214	\$1,048,315	\$98,226	2032	Water rights available to the Laramie River System of the Tunnel Water Company. Easement for the Laramie-Poudre Tunnel.
CWCB (C150065)	\$1,847,932	\$1,225,412	\$112,799	2032	
Total		\$2,273,727	\$211,025		

TABLE 4: UPDATED FINANCIAL RATIOS

Financial Ratio	Past 3 Years	Future w/ Project
Operating Ratio (revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	119% (average) \$430K/\$361K	115% (average) \$521K/\$452K
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	132% (strong) (\$430K-\$150K) \$211K	123% (strong) (\$521K-\$150K) \$302K
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	13% (weak) \$46K/\$361K	10% (weak) \$46K/\$452K
Annual Operating Cost per Acre-Foot (6,875 AF) weak: >\$20 - average: \$10 - \$20 - strong: <\$10	\$52.50 (weak) \$361K/6,875 AF	\$65.75 (weak) \$452K/6,875 AF

Collateral: Security for this loan will remain a pledge of assessment revenues, backed by a rate covenant, and the Project itself (west and east portal structures). This is in compliance with CWCB Financial Policy #5 (Collateral).

cc: Dennis Harmon, General Manager, Tunnel Water Company
Jennifer Mele, Colorado Attorney General's Office

Attachments: Water Project Loan Program - Project Data Sheet
Original Board Memo (September 2015)

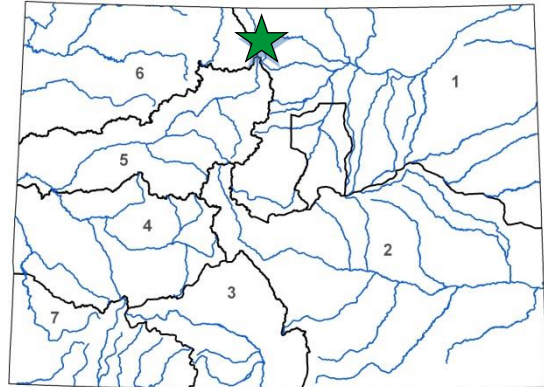


Laramie-Poudre Tunnel Rehabilitation

The Tunnel Water Company
March 2018 Board Meeting

(Loan Increase)

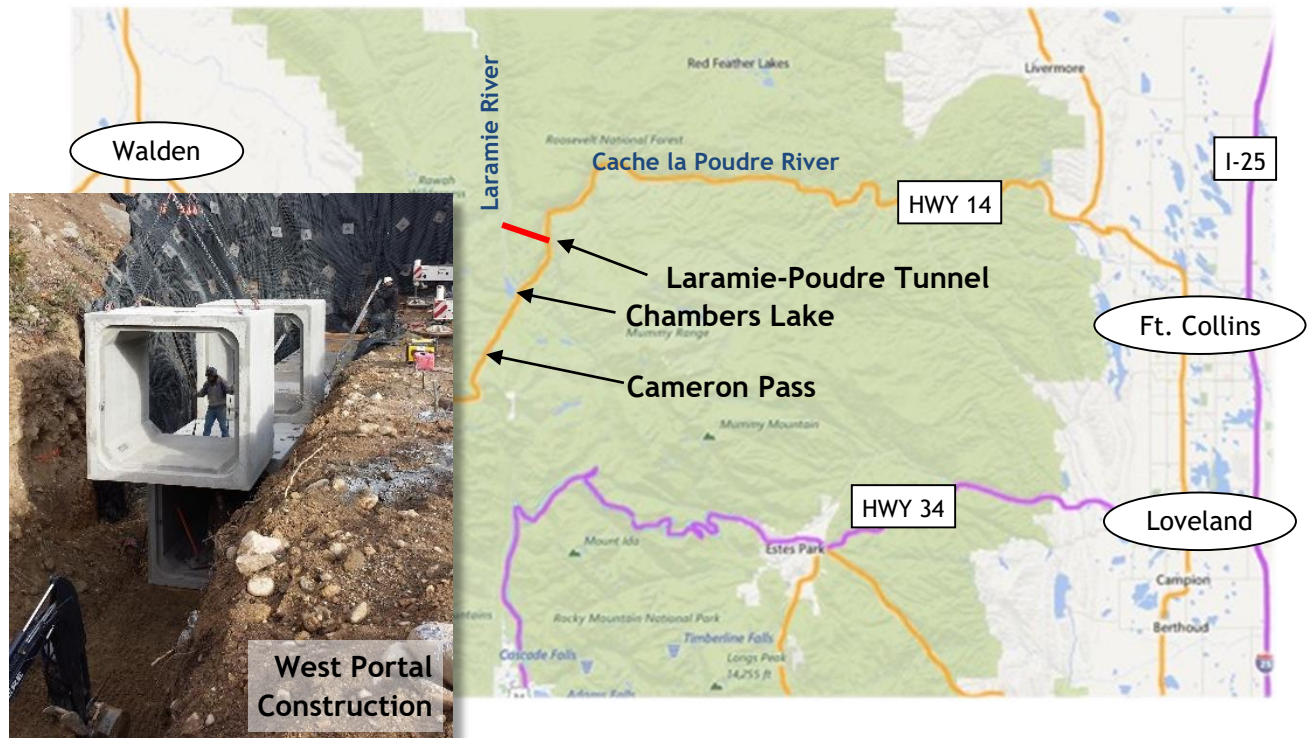
L O A N D E T A I L S	
Project Cost:	\$1,700,000
CWCB Loan (with Service Fee):	\$1,717,000
Loan Term and Interest Rate:	30 Years @ 2.55%
Funding Source:	Construction Fund
B O R R O W E R T Y P E	
Agriculture	Municipal Commercial
24%	20% Low - 24% Mid - 32% High 0%
P R O J E C T D E T A I L S	
Project Type:	Ditch Rehabilitation
Average Annual Diversion:	6,875 AF



L O C A T I O N	
County:	Larimer
Water Source:	Laramie River
Drainage Basin:	North Platte/South Platte
Division:	1 District: 48/3

The Tunnel Water Company operates the Laramie-Poudre Tunnel for the benefit of its two shareholders: Water Supply and Storage Company (WSSC) and Windsor Reservoir and Canal Company (WRCC). The tunnel diverts from the Laramie River, about 60 miles west of Fort Collins, and delivers water through a 2.15-mile tunnel to the Poudre River. WSSC delivers irrigation water to its shareholders, primarily for agricultural irrigation on approximately 40,000 acres lying below the Larimer County Canal. WRCC delivers water to its municipal shareholders via the Soldier Canyon and Bellvue Water Treatment Plants.

The Company purchased the Laramie Poudre Tunnel and its adjoining Laramie River System in 1938. The west portal (inlet) has deteriorated since its original construction in 1910. The interior timber cribbing and concrete lining are at or near the end of their useful lives and the steepness of the slope at the inlet makes it difficult for maintenance access. The east portal's (outlet) concrete energy attenuation structure, which has been resurfaced many times before, is heavily spalled and near failure. The west portal construction was completed in 2016. The Company is seeking this CWCB loan increase to account for increased construction cost associated with the east portal. Construction on the east portal is planned to occur between the 2018 and 2019 irrigation season.





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John Hickenlooper, Governor

Mike King, DNR Executive Director

James Eklund, CWCB Director

TO: Colorado Water Conservation Board Members

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

DATE: September 15-17, 2015 Board Meeting

AGENDA ITEM: 22c. Water Project Loans
The Tunnel Water Company - Laramie-Poudre Tunnel Rehabilitation Project

Introduction

The Tunnel Water Company (Company) is applying for a loan for the Laramie-Poudre Tunnel Rehabilitation Project (Project). The Laramie-Poudre Tunnel diverts water from the Laramie River to the Cache la Poudre River and is integral to the Company's operation. The purpose of the Project is to extend the service life of the tunnel and improve maintenance access by rehabilitating the west and east tunnel portals. The total Project cost is estimated to be \$1,225,000. The Company is requesting a loan from CWCB for approximately 90% of the Project Cost. See attached Project Data Sheet for a location map and Project summary.

Staff Recommendation

Staff recommends the Board approve a loan not to exceed \$1,111,000 (\$1,100,000 for Project costs and \$11,000 for the 1% service fee) to the Tunnel Water Company for costs related to the Laramie-Poudre Tunnel Rehabilitation Project from the Construction Fund. The loan terms shall be 30 years at a blended interest rate of 2.55% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.



Background

The Company is located in Larimer County and operates the Laramie-Poudre Tunnel (Tunnel), aka Laramie River Tunnel, for the benefit of its two shareholders: Water Supply and Storage Company (WSSC) and Windsor Reservoir and Canal Company (WRCC). The Tunnel diverts from the Laramie River, a tributary of the North Platte River, about 60 miles west of Fort Collins, and delivers water through a 2.15-mile tunnel to the Cache la Poudre River. WSSC was founded in 1891 and delivers irrigation water to its shareholders, primarily for agricultural irrigation on approximately 40,000 acres lying below the Larimer County Canal. WRCC was founded in 1890 and delivers water to its municipal shareholders via the Soldier Canyon and Bellvue Water Treatment Plants.

The Tunnel was originally built in 1910. The Company purchased the Tunnel and its adjoining Laramie River System in 1938. Significant construction occurred in 2001 when the mid section of the tunnel collapsed. That repair was funded through CWCB loans (C150052 & C150065). There is a current concern that the west portal infrastructure, as well as the east portal's energy attenuation structure, are at the end of their service life.

Loan Feasibility Study

Dennis Harmon, General Manager of the Tunnel Water Company, with assistance from John Andrew, PhD, P.E., of Andek Consulting, prepared the Loan Feasibility Study, titled "Feasibility Study: Laramie-Poudre Tunnel West Portal Reconstruction & Rehabilitation of East Portal Energy Attenuation Structure," dated July 2015. The feasibility study was prepared in accordance with the CWCB guidelines.

Borrower - The Tunnel Water Company

The Company is a mutual ditch company that was incorporated in 1938. Its office is located in Fort Collins. It operates as a nonprofit corporation and is in good standing with the Colorado Secretary of State. The Company has 450 shares of stock, owned by 2 shareholders: WSSC (2/3 interest) and WRCC (1/3 interest). The Company's revenues are primarily derived from share assessments.

The Company's Articles of Incorporation provide the five-member Board of Directors with authority to levy assessments to meet the expenses of operation and maintenance of the Company, including the repayment of debt. The Articles of Incorporation were amended in 2012 to provide the Board with the power to borrow money and provide Company property as security for debt. The Company's By-laws provide the authority to enforce unpaid assessments by ceasing water deliveries and eventually by selling delinquent stock shares.

Water Rights

The water rights of the Company include:

TABLE 1: WATER RIGHTS

Name	Amount	Appropriation Date	Adjudication Date	Water Court Case No.
Laramie River Tunnel	300 cfs	8/25/1902	2/20/1914	CA2725
McIntyre Ditch	40 cfs	8/25/1902	2/20/1914	CA2725
Rawah Ditch	225 cfs	8/25/1902	2/20/1914	CA2725
Rawah Lower Supply Ditch	275 cfs	8/25/1902	2/20/1914	CA2725

The Laramie-Poudre Tunnel is one of five transmountain diversion structures included in the Laramie River Compact between Colorado and Wyoming. The Laramie River Compact sets the maximum annual volume to be diverted by all transmountain users to be 19,875 AF per year. On average, 16,040 AF per year runs through this tunnel, of which 6,875 AF belongs to the Company, with the remainder being water solely owned by WSSC.

Project Description

The goal of this Project is to extend the service life of the Tunnel and improve maintenance access. The west portal (inlet) has deteriorated since it was originally constructed in 1910. The interior timber cribbing and concrete lining are near the end of their useful lives and the steepness of this section

makes it very difficult to access the tunnel for maintenance. Additionally, the east portal's (outlet) concrete energy attenuation structure, which has been resurfaced many times before, is heavily spalled and near failure.

Alternative 1 - Do Nothing: This alternative was considered unacceptable as it will eventually result in the failure of the west portal of the tunnel, rendering it unusable pending emergency repairs. A failure of the east portal's concrete energy attenuation structure would cause re-routing of flows and significant erosion damage, including damage to Highway 14 immediately below the east portal.

Alternative 2 - New Tunnel: This alternative was considered not feasible as there are no suitable locations nearby and the costs and environmental permitting involved would be prohibitive.

Alternative 3 - Abandon Tunnel: This alternative was considered not feasible as the Company is unaware of any alternate sources of water should the tunnel be abandoned. The tunnel carries a significant amount of water that is vital to WSSC and WRCC.

Alternative 4 - Resurface Tunnel Infrastructure: Under this alternative the existing timber cribbing and concrete lining of the west portal would be replaced like for like and the energy attenuation structure would be patched again. This was rejected because the existing west portal's cross-section is too small and restricted to handle mining equipment and because the steep grade makes entry and egress difficult, particularly when performing maintenance activities. The energy attenuation structure has been resurfaced many times already. It is heavily spalled and additional patching is not an acceptable long-term solution.

Selected Alternative 5 - Rebuild Tunnel Infrastructure: This alternative will rebuild the west portal and extend its length by 165 feet. The timber structures will be replaced with an 8'x8' reinforced concrete box culvert and the grade will be reduced from 21% to 5%. Removable energy attenuation curbs will be installed in the west portal approximately every 2.5 feet along the invert to control water velocity while still allowing maintenance access. This work will require a new inlet structure and a trash rack. The East Portal's concrete energy attenuation structure will be replaced with one of similar size and construction. This Alternative meets the goals of the Company.

The costs associated with this alternative are shown in Table 2.

TABLE 2: PROJECT COST

Task	COST
Design Engineering	\$60,000
Construction Phase 1: West Portal	\$670,000
Construction Phase 2: East Portal	\$290,000
Construction Management	\$50,000
Contingency	\$155,000
TOTAL	\$1,225,000

Permitting: The Project lies within the Canyon Lakes District of the Arapaho and Roosevelt National Forest. The Company holds a 2.5 acre USDA-F5 special use permit but may also be required to obtain a temporary construction special use permit based on the final area to be disturbed. Preparation for the temporary permit application is underway.

Schedule: The Company opened bids on July 30 for construction on the west portal (phase 1) and issued a Notice to Proceed in August 2015. Phase 1 Construction will occur between the 2015 and 2016 irrigation season. Construction on the east portal (phase 2) will be bid separately and occur between the 2016 and 2017 irrigation season.

Financial Analysis

The Company qualifies for a blended interest rate of 2.55% for a 30-year term (Ownership: 24% Agricultural, 20 % Low Municipal, 24% Mid Municipal, 32% High Municipal). Table 3 provides a summary of the Project's financial aspects.

TABLE 3: FINANCIAL SUMMARY

Total Project Cost	\$1,225,000
Borrowers Contribution (10%)	\$125,000
CWCB Loan Amount (90%)	\$1,100,000
CWCB Loan Amount (Including 1% Service Fee)	\$1,111,000
CWCB Annual Loan Payment	\$53,435
CWCB Annual Loan Obligation (1 st Ten Years)	\$58,779
Number of Shares	450
Annual Loan Obligation per Share	\$131/share
Current Assessment per Share	\$947/share
Future Assessment per Share	\$1,078/share

Creditworthiness: The Company has \$2,579,923 in existing debt, made up of two CWCB loans as summarized in Table 4. Both loans are in good standing.

TABLE 4: EXISTING DEBT

Lender	Original Balance	Current Balance	Annual Payment	Maturity Date	Collateral
CWCB (C150052)	\$1,570,214	\$1,188,656	\$98,226	2032	Water rights available to the Laramie River System of the Tunnel Water Company. Easement for the Laramie-Poudre Tunnel.
CWCB (C150065)	\$1,847,932	\$1,391,268	\$112,799	2032	

TABLE 5: FINANCIAL RATIOS

Financial Ratio	Past 2 Years	Future w/ Project
Operating Ratio (revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	130% (Strong) \$426K/\$328K	125% (Strong) \$485K/\$387K
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	146% (Strong) (\$426K-\$117K) \$211K	136% (Strong) (\$485K-\$117K) \$270K
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	51% (Average) \$167K/\$328K	11% (Weak) \$42K/\$387K
Annual Operating Cost per Acre-Foot (6,875 AF) weak: >\$20 - average: \$10 - \$20 - strong: <\$10	\$48 (Weak) \$328K/6,875 AF	\$56 (Weak) \$387K/6,875 AF

Collateral: Security for this loan will be a pledge of the Company's assessment revenues backed by an assessment covenant, and the Project itself (*west and east portal structures*). This is in compliance with the CWCB Financial Policy #5 (Collateral).

cc: Dennis Harmon, General Manager, The Tunnel Water Company
Susan Schneider/Jennifer Mele, Colorado Attorney General's Office

Attachment: Water Project Loan Program - Project Data Sheet