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:** September 15-17, 2015 Board Meeting

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

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**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 (1st 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)<br>weak: <100% - average: 100% - 120% - strong: >120% | 130%<br>(Strong)<br>$426K/$328K | 125%<br>(Strong)<br>$485K/$387K |
| Debt Service Coverage Ratio<br>(revenues-expenses)/debt service<br>weak: <100% - average: 100% - 120% - strong: >120% | 146%<br>(Strong)<br>($426K-$117K)<br>$211K | 136%<br>(Strong)<br>($485K-$117K)<br>$270K |
| Cash Reserves to Current Expenses<br>weak: <50% - average: 50% - 100% - strong: >100% | 51%<br>(Average)<br>$167K/$328K | 11%<br>(Weak)<br>$42K/$387K |
| Annual Operating Cost per Acre-Foot (6,875 AF)<br>weak: >$20 - average: $10 - $20 - strong: <$10 | $48<br>(Weak)<br>$328K/6,875 AF | $56<br>(Weak)<br>$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

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# Laramie-Poudre Tunnel Rehabilitation

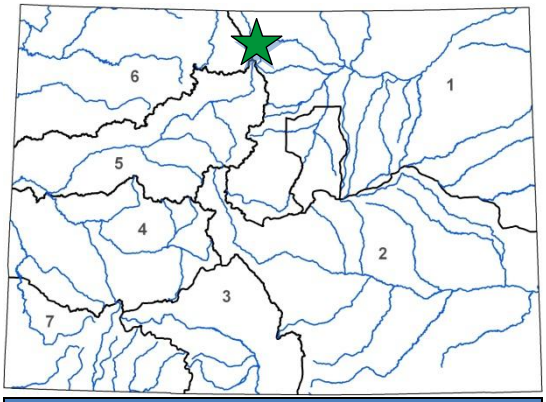
## The Tunnel Water Company

September 2015 Board Meeting

| LOAN DETAILS | |
|---|---|
| *Project Cost:* | $1,225,000 |
| *CWCB Loan (with Service Fee):* | $1,111,000 |
| *Loan Term and Interest Rate:* | 30 Years @ 2.55% |
| *Funding Source:* | Construction Fund |

| BORROWER TYPE | | |
|---|---|---|
| *Agriculture* | *Municipal* | *Commercial* |
| 24% | 20% Low - 24% Mid - 32% High | 0% |

| PROJECT DETAILS | |
|---|---|
| *Project Type:* | Ditch Rehabilitation |
| *Average Annual Diversion:* | 6,875 AF |




| LOCATION | | | |
|---|---|---|---|
| *County:* | | | Larimer |
| *Water Source:* | | | Laramie River |
| *Drainage Basin:* | North Platte/South Platte | | |
| *Division:* | 1 | *District:* | 48/3 |

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