



COLORADO

**Colorado Water
Conservation Board**

Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Joshua Godwin, P.E., Project Manager
Kirk Russell, P.E., Finance Section Chief

DATE: March 19-20, 2025 Board Meeting

AGENDA ITEM: 19a. Water Project Loans
Fort Bent Ditch Company
Willow Creek Siphon Repair

Staff Recommendation

Staff recommends the Board approve a loan not to exceed \$869,610 (\$861,000 for project costs and \$8,610 for the 1% service fee) to the Fort Bent Ditch Company for costs related to the Willow Creek Siphon Repair, from the Severance Tax Perpetual Base Fund. The loan term will be 30 years at an interest rate of 2.40% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

Introduction

The Fort Bent Ditch Company (Company) is applying for a loan at a blended interest rate to fund the Willow Creek Siphon Repair (Project) along the Fort Bent Ditch (Ditch). The Ditch supplies irrigation water to a 5,870-acre service area, as well as municipal water to the City of Lamar. At the end of the 2024 irrigation season, a leak was discovered in the Company's siphon that crosses underneath Willow Creek and Memorial Drive. Memorial Drive is the primary access for the Prowers Medical Center in Lamar, Colorado. The Project will avoid a potential shut down of the main road to Lamar's only hospital if the siphon should fail. The total Project cost is estimated to be \$861,000. See attached Project Data Sheet for a location map and Project summary.



Borrower - Fort Bent Ditch Company

The Company is a mutual ditch company that was established in 1911. The Company operates and maintains the Ditch for the benefit of its 70 shareholders within its 5,870-acre service area. The Ditch diverts an annual average of 17,820 AF from the Arkansas River in Bent County on the south side of the river and the ditch flows east into Prowers County, through the City of Lamar and continues east for a total distance of just over 30 miles. The Ditch supplies irrigation water to farms for alfalfa, corn, and cattle grazing, as well as delivers Fryingpan-Arkansas Project water to the City of Lamar. The Company is directed by a five-member board of directors elected at the annual board meeting in January. The board has the power to take on debt, set annual assessments to be paid by the shareholders, the power to cut off water deliveries to shareholders who fail to pay their assessments, and the power to offer stock for sale to pay for back assessments. The Company is formed as a non-profit and is in good standing with the Colorado Secretary of State's Office.

Background

The Ditch has two siphon crossings along the route, one at Willow Creek and the other at Clay Creek. At the end of the 2024 irrigation season, a leak was discovered along the alignment of the siphon crossing where the Ditch water is carried underground beneath Willow Creek and Memorial Drive. Memorial Drive is the primary access street to the Prowers Medical Center in the City of Lamar. Although the leak that was visible in the center of Memorial Drive was small, the Company and City of Lamar are concerned that unseen damage could continue to occur when the siphon is running that could impact the street leading to the hospital and are also concerned that the siphon leak may enlarge during operations in the 2025 irrigation season.

The Willow Creek siphon is a 600 foot long, 60 inch diameter concrete pipe that was installed over 80 years ago around the original wooden siphon. Initial inspection of the siphon had shown that many of the original wood staves have rotted away and have commingled with sediment to form a blockage that could have caused the leak. The pipe was inundated with water beyond the first 100 feet at the time of the inspection, therefore the condition along the complete length of the pipe will not be known until the contractor is able to fully drain the pipe.

Loan Feasibility Study

Bill Tyner P.E., with Tyner Engineering & Sciences, LLC, prepared the Loan Feasibility Study titled, "Feasibility Report Options for the Fort Bent Ditch Siphon Repair", dated February 2025. The feasibility study is in accordance with CWCB guidelines and includes an analysis of alternatives, estimated costs, and financial statements prepared by Anderson & Company, a public accounting firm.

Water Rights

The Company operates under water rights as shown in Table 1.

TABLE 1: PROJECT WATER RIGHTS

Name	Amount (cfs)	Appropriation Date	Adjudication Date	Case No.
Fort Bent Ditch	27.77	04/01/1886	07/01/1895	W4015
	32.77	03/10/1889	07/01/1895	
	11.7	09/11/1889	07/01/1895	
	26.27	08/12/1890	07/01/1895	
	50	01/01/1893	10/14/1918	
	80	12/31/1900	10/14/1918	

Project Description

The purpose of this Project is to repair the Company’s siphon that crosses under Willow Creek and Memorial Drive.

Alternative 1 - No Action: Taking no action is the least expensive short-term option. However, the siphon crosses underneath the primary access to the Prowers County Medical Center, which is the City of Lamar’s only hospital. Should the siphon fail and cause the street to be unsafe and unusable, access to the hospital would be limited, require longer travel times, and be a danger to the community. For these reasons, “no action” is not feasible.

Alternative 2 - Repair Damaged Section of Pipe: This alternative would be to expose the known location of the leak by excavating Memorial Drive and patching the damaged section of pipe then repairing the damage caused to Memorial Drive. Similar to the “No Action” alternative, this would cut off the primary access to the only medical facility in the City of Lamar. For this reason, the alternative was considered unacceptable.

Selected Alternative 3 - Line Existing Pipe with CIP Liner: This alternative involves removing the debris and then lining the interior of the siphon with a cured-in-place (CIP) coating. The contractor would drain the siphon, remove the blockage of sediment and deteriorated wood, and cut out the remaining wood staves left over from the original siphon. The CIP liner would then be applied on the inside of the concrete pipe. This approach allows for the siphon repair without excavating the road. The tensile strength of a properly applied and cured liner is strong enough to operate without the original siphon as support. The liner has a 10-year warranty and will be inspected for wear annually. The liner will be at least 150 millimeters thick and - based on observed similar applications - has a loss (wear) rate of 1 millimeter per year. The total estimated cost of this alternative is \$861,000 as shown in Table 2.

TABLE 2: ESTIMATED PROJECT COST

Tasks	Cost
Administration and Mobilization	\$27,000
Diesel Fuel	\$23,500
Siphon Cleaning	\$138,500
Internal Dry Blast	\$66,000
Internal CIP Lining Application	\$440,000
Manhole Installation	\$75,000
Outlet/Inlet CIP Lining Application	\$72,000
Crew Per Diem	\$19,000
TOTAL	\$861,000

Permitting: All easements and rights of way have been coordinated with the City of Lamar. The Company received a statutory exemption, 33 CFR 323.4(a)(3), from the Army Corps of Engineers on February 11, 2025 for this Project.

Schedule: The Company began draining and clearing the siphon at the end of February 2025. Since the irrigation season will start before the entire siphon can be lined, the company has elected to perform the work in two phases. Phase I will be to line 150 ft of the siphon - before irrigation season - at the downstream end where the leak occurred. Phase II will be to line the remaining 450 ft of the siphon once the 2025 irrigation season has concluded. Both phases of the Project will be complete before the beginning of the 2026 irrigation season.

Financial Analysis

Table 3 provides a summary of the Project’s financial aspects. The Company qualifies for a blended interest rate of 2.40% for a 30-year loan (Share ownership is 91% agricultural, 4% low-income municipal, 2% mid-income municipal, 3% commercial). All interest rate evaluations are per CWCB Financial Policy #7 (Lending Rate Determination).

TABLE 3: FINANCIAL SUMMARY

Project Cost	\$861,000	
CWCB Loan Amount	\$861,000	
CWCB Loan Amount (Including 1% Service Fee)	\$869,610	
CWCB Annual Loan Payment	\$40,996	
CWCB Annual Loan Obligation (1 st Ten Years)	\$45,096	
Number of Shares	11,651.2	
Annual Loan Obligation per Share	\$3.87	
Assessments	Current	Future
Assessment per Share	\$12.00	\$15.00*

* The Company raised their assessments to \$15.00 starting in the 2025 irrigation season due to the repair needs.

Creditworthiness: The Company has no existing debt.

TABLE 4: FINANCIAL RATIOS

Financial Ratio	Past Years	Future w/ Project
Operating Ratio (revenues/expenses) weak: <100% typical: 100% - 120% strong: >120%	104% (typical) \$117K/\$113K	111%* (strong) \$175K/\$158K
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% typical: 100% - 125% strong: >125%	N/A	137% (strong) <u>(\$175K-\$113K)</u> \$45.1K
Cash Reserves to Current Expenses weak: <50% typical: 50% - 100% strong: >100%	105% (strong) \$119K/\$113K	75% (typical) \$119K/\$158K
Annual Operating Cost per Acre-Foot (17,820 AF) weak: >\$24 typical: \$3 - \$24 strong: <\$3	\$6.34 (typical) \$113K/18K	\$8.87 (typical) \$158K/18K

* The Company raised their assessments to \$15.00 starting in the 2025 irrigation season.

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

cc: Chris Henderson, Director, Fort Bent Ditch Company
 Jennifer Mele, Colorado Attorney General's Office

Attachments: Water Project Loan Program - Project Data Sheet

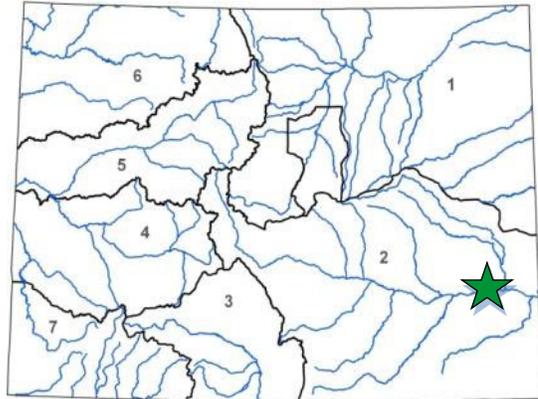


Willow Creek Siphon Repair

Fort Bent Ditch Company

March 2025 Board Meeting

L O A N D E T A I L S	
Project Cost:	\$861,000
CWCB Loan (with 1% Service Fee):	\$869,610
Loan Term and Interest Rate:	30 Yrs @ 2.40%
Funding Source:	Severance Tax Perpetual Base Fund
B O R R O W E R T Y P E	
Agriculture	Municipal Commercial
91%	4% Low - 2% Mid - 0% High 3%
P R O J E C T D E T A I L S	
Project Type:	Ditch Rehabilitation
Average Annual Diversions:	17,820 AF



L O C A T I O N	
County:	Prowers
Water Source:	Arkansas River
Drainage Basin:	Arkansas
Division:	2 District: 67

The Fort Bent Ditch Company (Company) is a non-profit mutual ditch company formed in 1911. The Company provides irrigation water within its service area of 5,870 acres and delivers Fryingpan-Arkansas Project water to the City of Lamar via the approximately 30-mile-long Fort Bent Ditch. The Company also provides water for municipal recharge and augmentation. Overall, the Company has 70 shareholders in Prowers and Bent Counties.

The Willow Creek Siphon is one of the Company’s two siphons and crosses under Memorial Drive in Lamar. This road is the primary access for the Prowers Medical Center. In the fall of 2024, the Company noticed water seeping out of the road, and upon further investigation, determined that a portion of the siphon under the road was leaking. If the leaking continued it could potentially wash out the road, cutting off access to the medical center. The Company immediately ceased operations and has been exploring potential long- and short-term solutions since. The Project will include cleaning out and rehabilitating the siphon before the 2026 irrigation season.

