COLORADO
Colorado Water Conservation Board
Department of Natural Resources

1313 Sherman Street
Denver, CO 80203

P (303) 866-3441
F (303) 866-4474

John Hickenlooper, Governor

Robert Randall, 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 21-22, 2016 Board Meeting

AGENDA ITEM: 16a. Water Project Loans
Larimer and Weld Irrigation Company – Headgate Structure Replacement

---

Introduction

The Larimer and Weld Irrigation Company (Company), is applying for a loan for the Headgate Structure Replacement (Project). The Company's diversion off the Cache la Poudre River is aging and in need of repair. This Project will focus on replacing the headgate component of the diversion, including the concrete structure, gates, and gate operators, as this component is the top priority. The replacement of the other diversion components are not a part of this Project but are planned to take place within the next few years. The estimated Project cost is $750,000. The Company is requesting a loan from the CWCB for 90% of the 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 $681,750 ($675,000 for Project costs and $6,750 for the 1% service fee) to the Larimer and Weld Irrigation Company, for costs related to the Headgate Structure Replacement Project, from the Construction Fund. The loan terms shall be 30 years at a blended interest rate of 1.50% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

Background

The Company's service area extends from the Cache la Poudre River diversion north of Fort Collins, east to near the town of Galeton, encompassing approximately 61,000 acres of irrigated land in Larimer and Weld Counties. Crops grown in the service area include corn, beets, pinto beans, wheat, barley, oats, alfalfa, grass hay, and other vegetable crops. The Company's facilities consist of approximately 40 miles of the Larimer & Weld Ditch (aka Eaton Ditch), including many control structures, checks, and headgates. This ditch allows delivery of approximately 54,000 – 60,000 AF of water per year through headgates into lateral ditches, directly onto fields, or into reservoir storage.

The diversion as it exists today was built in 1921 and consists of a diversion dam across the Cache la Poudre River, a forebay structure with a trash rack, and a headgate structure. Over the years there have been numerous minor repairs, mostly in the nature of concrete patching. During the September 2013 flood, there was significant damage to the headgates, including the motors being fully submerged, requiring them to be rebuilt and retrofitted. The Company repaired the flood damage using cash on hand as well as the CWCB/Northern emergency grant program.

The Company plans to eventually repair or replace all components of the diversion, but has determined a phased approach will better allow for all work to occur in the non-irrigation season. The headgate structure is the top priority due to its operational importance and deteriorating condition. In addition to benefits to the shareholders, the reliable operation of the gates plays an important role to the City of Fort Collins due to the ditch's use as a conveyance path in the Dry Creek Flood Control Plan. During a flood in the Dry Creek Basin, the ditch will intercept flood flows and safely carry the water downstream. Therefore, it is of great importance for life, safety, and prevention of property damage, that the ditch's upstream headgate off the Poudre River be able to close so there is capacity available in the ditch to handle flood flows.

Loan Feasibility Study

Brad Anderson, P.E. of Anderson Consulting Engineers, prepared the Loan Feasibility Study, titled "Feasibility Study for Rehabilitation of Larimer & Weld Irrigation Company Canal Diversion on the Cache la Poudre River," dated July 10, 2016. The feasibility study was prepared in accordance with the CWCB guidelines and includes an analysis of alternatives, preliminary engineering design, and construction cost estimates.

Borrower – Larimer and Weld Irrigation Company

The Company is a Mutual Ditch Company that was established in 1879. The Company's office is located in Eaton. It operates as a nonprofit corporation and is in good standing with the Colorado Secretary of State. The Company has issued 1,419 shares of stock and has 356 shareholders. The Company's revenues are primarily derived from assessments charged on shares of stock and from carriage agreements with the Larimer and Weld Reservoir Company and the Windsor Reservoir and Canal Company.

Assessments are set at the annual shareholder's meeting, although the Board has the authority to set assessments should the shareholders fail to approve assessments. The Board has the authority to enforce assessments by ceasing water deliveries, and the eventual forfeiture and sale of shares for failure to pay assessments.

Water Rights

The water rights of the Company associated with the Larimer & Weld diversion include:

TABLE 1: WATER RIGHTS

Name	Amount (CFS)	Appropriation Date	Adjudication Date	Water Court Case No.
Larimer Weld Irr Canal	3.00	6/1/1864	4/11/1882	CA0320
Larimer Weld Irr Canal	1.47	4/1/1866	4/11/1882	CA2798
Larimer Weld Irr Canal	16.67	4/1/1867	4/11/1882	CA0320
Larimer Weld Irr Canal	75.00	9/20/1871	4/11/1882	CA0320
Larimer Weld Irr Canal	43.33	1/15/1875	4/11/1882	CA0320
Larimer Weld Irr Canal	571.00	9/18/1878	4/11/1882	CA0320

In addition to the Company owned water rights above, the Company shareholders' C-BT water is carried by the ditch, as well as water rights owned by the Larimer and Weld Reservoir Company and the Windsor Reservoir Canal Company through carriage agreements. On average, approximately 85,000 AF per year of Company owned water rights are delivered to its shareholders.

Project Description

The goal of this Project is to ensure the Company can reliably divert its water rights, as well as to ensure the headgates can reliably operate during flood events in conformance with Fort Collin's Dry Creek Flood Control Project.

Alternative 1 – No Action: This alternative was considered unacceptable. The gates and the structure are deteriorating with exposed rebar, rusted gates, and scour on the downstream portion of the canal, jeopardizing future water deliveries. Additionally, with the Dry Creek Flood Control Project, it is important to the safety of the community that these gates reliably operate in flood conditions.

Alternative 2 – Repair or Replace Entire Diversion System: This alternative would see the headgate structure, trash rack and forebay structure, and the diversion structure repaired or replaced as one construction project. The preliminary cost estimate of this alternative is $2,950,000. This alternative was not selected because it was not guaranteed the entire diversion system could be replaced within the non-irrigation season. It is of primary importance to the Company that construction activities do not impact water deliveries during the irrigation season.

Selected Alternative 3 – Phased Replacement: Headgate Structure: This alternative focuses on replacing the headgate structure as a standalone project. Construction activities will include the replacement of the concrete structure, new gates and operators, and a new control building. The headgates will maintain the existing flow capacity, which is sufficient for the Company's water rights and carriage agreements. Based on experience from the September 2013 flood, the Company will not be using electrically operated gates, but instead will use hydraulic operators with pumps that can be elevated and isolated within the control house to protect them from flooding. The operators will have both 12-volt and manual backup pump systems to allow gate operation even during times of power outage or flooding. The concrete headgate structure will be wider than the existing structure to allow for easier equipment access to facilitate maintenance of the headgate structure, and to serve as a bridge across the ditch for maintenance equipment. The control building will be enlarged and elevated to allow for sensitive controls and operational equipment to be kept inside; protecting them from future floods and from vandalism.

The cost associated with this alternative is $750,000 as shown in Table 2.

TABLE 2: PROJECT COST

Task	Cost
Construction	$272,000
Gate, Operators, and Control Equipment	$412,000
Engineering	$50,000
Contingency	$16,000
TOTAL	$750,000

Permitting: The Corps of Engineers has approved this Project as being exempt under the Clean Water Act, per Section 404(f)(1). No other permits are required and all work will be confined to Company owned land or ditch easement.

Schedule: Final design is expected to occur by October 2016. Construction is planned to occur from November 2016 through March 2017, prior to the 2017 irrigation season.

Financial Analysis

The Company qualifies for a blended interest rate of 1.50% for a 30-year term (Ownership: 96% Agricultural, 4% Mid Municipal, <1% High Municipal). Due to the small percentage of non-agricultural ownership, this blended rate is the same as the agricultural rate after it has been rounded down to the nearest 0.05% per CWCB Financial Policy #7. Table 3 provides a summary of the Project's financial aspects. The Company will pay for its contribution using available cash on hand.

TABLE 3: FINANCIAL SUMMARY

Total Project Cost	$750,000
Borrowers Contribution (10%)	$75,000
CWCB Loan Amount (90%)	$675,000
CWCB Loan Amount (Including 1% Service Fee)	$681,750
CWCB Annual Loan Payment	$28,388
CWCB Annual Loan Obligation (1st Ten Years)	$31,226
Number of Shares	1,419
Annual Loan Obligation per Share	$22
Current Assessment per Share	$350
Future Assessment per Share [1]	$350
Total Cost of Project per AF (85,000 AF)	$8.82

[1]Financial Analysis shows an increase of current assessments may not be necessary

Creditworthiness: The Company has $1,991,820 in existing debt made up of two CWCB loans as shown in Table 4. Both loans are in good standing.

TABLE 4: EXISTING DEBT

Lender	Original Balance	Current Balance	Annual Payment	Maturity Date	Collateral
CWCB (Contract C150109)	$1,000,000	$693,790	$49,384	2034	Pledge of Assessments and Project Itself (Check Structures)
CWCB (Contract C150189)	$1,620,492	$1,298,030	$77,423	2038	Pledge of Assessments and Project Itself (Big Windsor Res Inlet Structure & Lake Lee Dam Structure)

TABLE 5: FINANCIAL RATIOS

Financial Ratio	Past 3 Years	Future w/ Project
Operating Ratio (revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	115% (average) $1.34M/$1.17M	112% (average) $1.34M/$1.20M
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	231% (strong) ($1.34M-$1.04M) $0.13M	188% (strong) ($1.34M-$1.04M) $0.16M
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	40% (weak) $0.47M/$1.17M	33% (weak) $0.39M/$1.20M
Annual Operating Cost per Acre-Foot (85,000 AF) weak: >$20 - average: $10 - $20 - strong: <$10	$14 (average) $1.17M/85K AF	$14 (average) $1.20M/85K AF

Collateral: As Security for this loan, the Company will pledge its assessment revenues back by an assessment covenant and the project itself (headgate structure). This is in Compliance with the CWCB Financial Policy #5 (Collateral).

cc: Lynn Fagerberg, President, Larimer & Weld Irrigation Company
Susan Schneider/Jennifer Mele, Colorado Attorney General's Office

Attachment: Water Project Loan Program – Project Data Sheet

COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Headgate Structure Replacement

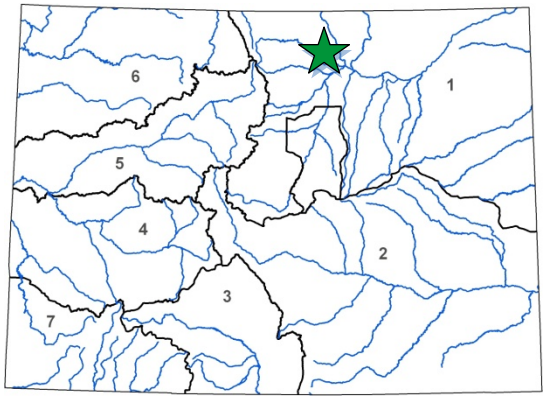
Larimer and Weld Irrigation Company

September 2016 Board Meeting

LOAN DETAILS	
Project Cost:	$750,000
CWCB Loan (with Service Fee):	$681,750
Loan Term and Interest Rate:	30 Years @ 1.5%
Funding Source:	Construction Fund

BORROWER TYPE		
Agriculture	*Municipal*	*Commercial*
96%	0% Low - 4% Mid - <1% High	0%

PROJECT DETAILS	
Project Type:	Ditch Rehabilitation
Average Annual Delivery:	85,000 AF



LOCATION			
County:			Larimer & Weld
Water Source:			Cache la Poudre River
Drainage Basin:			South Platte
Division:	1	*District:*	3

The Larimer and Weld Irrigation Company is a Colorado Mutual Ditch Company and a nonprofit corporation. The Company's service area extends from the Cache la Poudre River diversion north of Fort Collins, east to near the town of Galeton, encompassing approximately 61,000 acres of irrigated land in Larimer and Weld Counties. The Company's diversion off the Cache la Poudre River is aging and in need of repair. This Project will focus on replacing the headgate structure, including the concrete structure, gates, and gate operators. The replacement of the trash rack and forebay structure, and repairs to the diversion structure, are planned to take place within the next few years and are not a part of this Project.

The City of Fort Collins has developed a flood control plan for the Dry Creek Basin, which in part uses the Larimer & Weld Ditch as a conveyance for flood flows in Dry Creek. Therefore, should a flood occur in the Dry Creek Basin, it is of great importance for life, safety, and prevention of property damage, that the ditch's upstream headgate off the Poudre River be able to close so there is capacity available in the ditch to handle flood flows. Construction activities will include the replacement of the concrete structure, new gates and operators, and a new control building. Construction is expected to occur between the 2016 and 2017 irrigation seasons.