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

Rebecca Mitchell, CWCB Director

TO: Colorado Water Conservation Board Members

FROM: Rachel Pittinger, P.E., Project Manager
Kirk Russell, P.E., Finance Section Chief

DATE: January 22-23, 2018 Board Meeting

AGENDA ITEM: 9c. Water Project Loans
Lupton Bottom Ditch Company – Diversion Structure Repair

Introduction

The Lupton Bottom Ditch Company (Company) is applying for a loan for the Diversion Structure Repair (Project). The diversion structure and intake are located on the South Platte River near Wattenberg. The purpose of the proposed Project is to stabilize the Company's river diversion structure so it may divert and deliver water to its shareholders. The structure was initially damaged during September 2013 flooding. Subsequent high river flows continued to damage the diversion structure. The Project cost is estimated at $676,000. The Company is seeking a $600,000 loan (approximately 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 $606,000 ($600,000 for the Project costs and $6,000 for the 1% service fee) to the Lupton Bottom Ditch Company for costs related to Diversion Structure Repair Project, from the Construction Fund. The loan terms shall be 10 years at a reduced blended interest rate of 1.6% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

Background

The Company, located in Fort Lupton, Colorado and manages a 28-mile long irrigation canal that serves the Lupton Bottom Ditch, Lupton Meadow Ditch and the Meadow Island Ditches. The Company provides water to more than 20 farmers that irrigate a mixture of vegetable crops on 5,250 acres. The ditch has historically provided irrigation water to lands west of the South Platte River with its first shareholder deliveries starting just south of Highway 52 and extending northward. The Company's water rights are currently applied to crops for irrigation, provide a reliable drinking water supply to the public by municipalities, and are used within State approved augmentation plans.

The existing check dam was built in 1949 and the gates were replaced in 2001. Damage and undermining of the structure began when high river flows overtopped the rock dam (south) side of the check and scoured a large hole on its downstream side and subsequently extended that scour into the structure. The structure was initially damaged during the September 2013 flooding and further damaged in subsequent high river flows.

Loan Feasibility Study

Brad Hagen, P.E., with Civil Resources, LLC prepared the Loan Feasibility Study titled, "CWCB Feasibility Study for the Lupton Bottom South Platte Diversion Stabilization and Repair," dated November 2017. The feasibility study was prepared in accordance with CWCB guidelines and includes an analysis of alternatives, preliminary engineering, and estimated engineering costs.

Borrower – Lupton Bottom Ditch Company

The Company is a mutual ditch company formed in 1873 and includes farmers, special districts and municipalities. The Company is in good standing with the Colorado Secretary of State. The Company is governed by a five member board of directors. There are 22 shareholders in the Company with a total of 82.5 shares of stock. A major shareholder in the Company is the Lupton Meadows Ditch Company with 43 shares of stock. The board has the ability to take on debt and to withhold delivery of water to stockholders if assessments are unpaid. Liens can also be placed against any shares of stock if assessments are unpaid. Shareholder approval is needed in order to set assessments.

Water Rights

The water rights associated with the Project are shown in Table 1.

TABLE 1: WATER RIGHTS

Name	Amount	Appropriation Date	Priority	Water Court Case No.
Lupton Bottom Ditch	47.7 cfs	5/15/1863	5	CA6009
Lupton Bottom Ditch	10 cfs	3/10/1871	20	CA6009
Lupton Bottom Ditch	92.8 cfs	9/15/1873	31	CA6009

The total average diversion is 19,097 acre-feet per year.

Project Description

The purpose of the Project is to rehabilitate the diversion structure so the Company can continue delivering water to shareholders.

Alternative 1 – No Action: This alternative represents an extreme level of risk. Failure of the check structure and diversion system would likely result in damaged or completely failed crops within the service area and cause the breach of terms included in municipal and commercial/industrial shareholders' augmentation plans.

Alternative 2 – Full Replacement: This alternative includes a full replacement of the check and diversion structure. Full replacement was considered due to the observed extensive erosion that has undermined the existing structure and associated potential damage that has yet to be identified. A full replacement of the structure would require the installation of full-depth sheetpile (to bedrock) and construction of a coffer dam upstream of the structure to allow the river water to be diverted and to create a working area for the installation of new caissons and concrete check structure. The estimated cost of this alternative was $1,666,900 and was not selected because it is cost prohibitive and unlikely to be completed prior to the need to divert water by April 1, 2018.

Selected Alternative 3 – Diversion Structure Repair: This alternative consists of stabilizing the diversion structure while taking into consideration the fish habitat. Construction includes work on the upstream and downstream sides of the structure. On the upstream side, sheet piling will be installed and a concrete apron will be poured. On the downstream side, the structure will be stabilized with grouted boulders. Pressure grouting may be used to fill voids, if necessary. The existing rock dam will also be rebuilt. The estimated cost for this alternative is $676,000.

The Company selected Alternative 3 because it believes it is the most cost effective solution. The Company plans to complete the repair work in two stages because construction activity must occur during low flow conditions within the river during the fall and winter months. The Lupton Bottom Ditch must be operational by April 1, 2018 so the ditch may deliver water to shareholders.

TABLE 2: ESTIMATED PROJECT COST

Tasks	Cost
Site Preparation/Mobilization	$18,100
Site Work	$237,000
Structure Stabilization	$344,900
TOTAL CONSTRUCTION ESTIMATE	$600,000
SUBTOTAL	**$600,000**
Design and Construction Engineering	$76,000
TOTAL	**$676,000**

Permitting: On behalf of the Company, Civil Resources, LLC, received a Nation Wide Permit 3 for the Project, dated December 6, 2017, File No. NWO-2017-2052-DEN. No other permits are needed.

Schedule: Final design is complete. Construction is expected to occur from January 2018 through March 2018.

Financial Analysis

Table 3 provides a summary of the Project's financial aspects. The Company qualifies for a blended interest rate of 2.4% for a 30-year term (Ownership: 46.4% Middle-Income Municipal, 47.2% Agriculture, and 6.4% Commercial). The Company requested a 10-year term, therefore an additional 0.8% interest rate reduction will be applied per Policy #7, bringing the interest rate to 1.6%.

TABLE 3: FINANCIAL SUMMARY

Project Cost	$676,000
Participant Cash Contribution	$76,000
CWCB Loan Amount	$600,000
CWCB Loan Amount (Including 1% Service Fee)	$606,000
CWCB Annual Loan Payment	$66,060
CWCB Annual Loan Obligation (1st Ten Years)	$72,666
Number of Shares	82.5
Annual Loan Obligation per Share	$881
Current Assessment per Share	$1,500
Estimated Total Future Assessment per Share ($800/share increase)	$2,300
Annual Obligation per AF delivered (19,097AF)	$3.81/AF

Creditworthiness: The Company has no existing debt. Assessments vary each year depending on needed projects and budget estimates. Over the past 12 years, assessments ranged from $700/share to $1500/share.

TABLE 4: FINANCIAL RATIOS

Financial Ratio	Past Years	Future w/ Project
Operating Ratio (revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	129% (strong) $148K/$115K	114% (average) $214K/$188K
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	N/A	136% (strong) ($214K-$115K) $73K
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	80% (average) $92K/$115K	9% (weak) $16K/$188K
Annual Operating Cost per Acre-Foot (AF) weak: >$20 - average: $10 - $20 - strong: <$10	$6.02 (strong) $115K/ 19,097AF	$9.84 (strong) $188K/19,097AF

Collateral: Security for this loan will be a pledge of assessment revenues back by a rate covenant and the Project itself including the diversion dam and intake structure. This security is in compliance with the CWCB Financial Policy #5 (Collateral).

cc: Mr. Howard Cantrell, Secretary/Treasurer, Lupton Bottom Ditch Company
Jennifer Mele, Colorado Attorney General's Office

Attachment: Water Project Loan Program – Project Data Sheet

COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Lupton Bottom Ditch Company

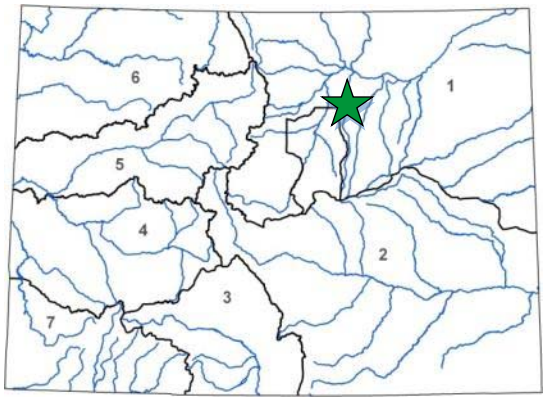
Diversion Structure Repair

January 2018 Board Meeting

LOAN DETAILS	
Project Cost:	$676,000
CWCB Loan (with Service Fee):	$606,000
Loan Term and Interest Rate:	10 years @ 1.6%
Funding Source:	Construction Fund

BORROWER TYPE		
Agriculture	*Municipal*	*Commercial*
47.2%	0 % Low – 46.4% Mid -0% High	6.4%

PROJECT DETAILS	
Project Type:	Diversion Structure Rehabilitation
Average Annual Diversions:	19,097 AF



LOCATION			
County:			Weld
Water Source:			South Platte River
Drainage Basin:			South Platte
Division:	1	*District:*	2

The Lupton Bottom Ditch Company diverts water from the South Platte River near Wattenberg in Weld County. The existing check dam was built in 1949 and the gates were replaced in 2001. Damage to the structure began when high river flows overtopped the rock dam and scoured a large hole on the downstream side and subsequently extended that scour into the structure. The structure was initially damaged during the September 2013 flooding and further damaged in subsequent high river flows. The proposed repair work will be completed in a two-stage process due to the requirement for construction to occur during low flow conditions within the river. During the first stage, stabilization and installation of upstream sheet piling followed by construction of a concrete apron is planned. The downstream side of the structure will be stabilized with grouted boulders. The second stage includes rebuilding the rock dam. Construction is scheduled for Winter/Spring of 2018.