

STATE OF 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., Chief
Finance and Administration Section

DATE: October 18, 2013

SUBJECT: **Agenda Item 8h, October 21, 2013 Special Board Meeting**
Finance – Emergency Loans
Consolidated Home Supply Ditch and Reservoir Company – Emergency Big
Dam Diversion Structure Repair

Introduction

The Consolidated Home Supply Ditch and Reservoir Company (Company) is applying for an Emergency Loan for the Emergency Big Dam Diversion Structure Repair Project (Project). During the unprecedented flood of September 2013 in the tributaries to the South Platte River, a significant number of diversion structures and dams along the river corridor were damaged. The Company's Big Dam diversion structure received significant damage as a result of this flood. The purpose of the Project is to repair the diversion structure to allow the Company to divert their decreed water rights. The total Project cost is estimated to be \$1,600,000. See attached Project Data Sheet for a location map and project summary.

Staff Recommendation

Staff recommends the Board approve a loan not to exceed \$1,616,000 (\$1,600,000 for Project cost and \$16,000 for the 1% service fee) to the Consolidated Home Supply Ditch and Reservoir Company for 100% of engineering and construction costs related to the Emergency Big Dam Diversion Structure Repair Project from the Severance Tax Perpetual Base Fund, up to the approved loan amount. The loan terms shall be 3 years of no interest followed by 27 years at a blended interest rate of 1.95% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

Additionally, staff recommends the following contract condition:

Any future grant funds obtained for the purpose of this Project shall be submitted to CWCB to be applied to the balance of the loan within thirty (30) days after receipt of said funds.

Background

The Company serves approximately 15,000 irrigated acres in Larimer County near Loveland. Its diversion structure, known as the Big Dam, is located on the Big Thompson River just downstream of the canyon mouth west of Loveland. During the unprecedented flood of September 2013 in the tributaries to the South Platte River, a significant number of diversion structures and dams along the river corridor were damaged, including the Company's river diversion.

The Big Dam on the Big Thompson River is a 65-feet high, 70-feet long, and 5-feet wide masonry arch dam built in 1895. It is a low hazard non-jurisdictional dam. The reservoir is filled with alluvium and only a few acre-feet of water is stored to create enough backwater to run the ditch. The Company's headgate is located on the south abutment and the City of Loveland's headgate is on the north abutment. The Big Dam itself is owned by the Company.

Prior to the 2013 flood, the diversion structure was fully functional and in place. During the 2013 flood, the top five feet of the masonry structure was washed out and the mortar between masonry blocks on the north abutment was partially lost. Field observations show that the river was overtopping the structure by approximately 10 feet.

Loan Feasibility Study

Minerva Lee, President of The Consolidated Home Supply Ditch and Reservoir Company, with assistance from Deere & Ault Consultants, prepared the Loan Feasibility Study titled "*Emergency Loan Application and Feasibility Study*," dated October 2013. The study includes an alternative analysis and preliminary engineering design and cost estimates. Deere & Ault's preliminary examination and proposed repair letter dated October 16, 2013 was included as an attachment to the feasibility study. The study was prepared in accordance with the CWCB guidelines.

Borrower – Consolidated Home Supply Ditch & Reservoir Company.

The Company is a mutual ditch and reservoir company that was established in 1882. The Company's office is located in Berthoud. It operates as a nonprofit corporation and is in good standing with the Colorado Secretary of State. The Company has issued 2,001 shares of stock. The Company's revenues are primarily derived from assessments charged on shares of stock owned by the stockholders.

The Company's by-laws (2001) authorize the Board of Directors to manage the business and affairs to the Company and to borrow money through a resolution of the directors. The Board has the authority to take measures to enforce assessments, including the suspension of water deliveries and the eventual sale or forfeiture of shares for failure to pay assessments.

Water Rights

The water rights impacted by this project include

TABLE 1: IMPACTED DIRECT FLOW WATER RIGHTS

Name	Amount (AF)	Appropriation Date	Adjudication Date
Home Supply Ditch	15.00	11/10/1861	5/28/1883
Home Supply Ditch	13.02	4/1/1863	5/28/1883
Home Supply Ditch	14.19	5/1/1864	5/28/1883
Home Supply Ditch	25.05	3/1/1867	5/28/1883
Home Supply Ditch	3.74	5/1/1872	5/28/1883
Home Supply Ditch	278.84	7/15/1881	5/28/1883

TABLE 2: IMPACTED STORAGE WATER RIGHTS

Name	Amount (AF)	Appropriation Date	Adjudication Date
Lone Tree Reservoir	3,020.84	2/1/1881	3/22/1890
Mariano (aka Boedecker) Reservoir	1,832.64	8/1/1888	3/22/1890
Lon Hagler Reservoir	1,719.80	7/7/1959	10/2/1980
Lone Tree Refill	3,020.84	6/15/1907	11/14/1939
Mariano Refill	1,832.64	6/17/1907	11/14/1939
Lon Hagler Refill (Absolute)	584.89	7/7/1959	11/22/1971
Lon Hagler Refill (Conditional)	1,161.17	7/7/1959	11/22/1971

Average annual diversions of the Company are 22,000 AF.

Project Description

The goal of this project is to restore the condition of the Big Dam to pre-flood conditions or better. The Company has retained the services of Deere & Ault Consultants, who have served as the Company's primary engineer for the last nine years.

Alternative 1 – Do Nothing: This alternative is considered unacceptable. Without this structure, not only will the Company be unable to deliver its water rights, but Loveland's intake structure will also be inoperable.

Alternative 2 – Rebuilding Collaboratively with Improvements: The Big Dam already serves multiple users. Additional collaboration or stream improvements were not identified.

Selected Alternative 3 – Reconstruct the Big Dam to Pre-Flood Conditions: The selected alternative is to reconstruct the Big Dam to pre-flood conditions. This will be done in two phases. Phase One will include rebuilding the crest of the dam to pre-flood elevations. Construction materials will include matching quartzite blocks to retain the historic appearance of the structure, but will also include reinforced concrete on the upstream wall face and crest cap. This will improve the integrity of the dam beyond its pre-flood condition. This phase will also include the repair of the north abutment buttress and the repair of erosion holes. Phase Two will repoint the masonry blocks on the downstream dam face and repair various holes with shotcrete and grout.

The company has an agriculture exemption from the Corps of Engineers. The estimated engineering and construction cost of this Alternative is \$1,600,000 and is further broken down in Table 3:

TABLE 3: PROJECT COST SUMMARY

Task	Cost
Engineering	\$174,600
Phase One Construction	\$561,600
Phase Two Construction	\$543,800
Subtotal	\$1,280,000
Contingency (25%)	\$320,000
Total	\$1,600,000

Schedule: Construction is expected to commence by December 2013 or sooner. Phase One is expected to be complete by February 2014. Phase Two will commence and be completed in the fall of 2014.

Financial Analysis

Table 4 provides a summary of the Project's financial aspects. The first three years of the loan will be assessed a 0% interest rate. The remaining term of the loan will be assessed a blended interest rate of 1.95% with the principal amortized over 27 years (Ownership: 76% Agriculture, 23% Mid Municipal, <1% High Municipal, <1% Commercial). Staff is recommending an exemption to Financial Policy #11 to allow for 100% funding of eligible Project cost.

TABLE 4: FINANCIAL SUMMARY

Total Project Cost	\$1,600,000
CWCB Loan Amount (100% of total Project cost)	\$1,600,000
CWCB Loan Amount (Including 1% Service Fee)	\$1,616,000
CWCB Annual Loan Payment	\$77,553
CWCB Loan Obligation (Including 10% Reserve)	\$85,308
Number of Shares	2001
Annual Cost Per Share for Loan	\$43
Current Assessment per Share	\$163
Future Assessment per Share	\$210

Creditworthiness: The Company has \$525,608 in existing debt as summarized in Table 5. These loans are in good standing.

TABLE 4: EXISTING DEBT

Lender	Original Balance	Current Balance	Annual Payment	Maturity Date	Collateral
USDA Rural Development	\$650,000	\$99,018	\$27,157	12/10/2015	Assessments
CWCB	\$533,000	\$426,591	\$29,024	3/1/2034	Mariano Reservoir and Dam; Assessments

TABLE 6: FINANCIAL RATIOS

Financial Ratio	Past 3 Years	Future w/ Project
Operating Ratio (revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	101% (Average) \$328K/\$324K	103% (Average) \$422K/\$409K
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	107% (Average) <u>\$328K-\$268K</u> \$56K	109% (Average) <u>\$422K-\$268K</u> \$141K
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	59% (Average) \$191K/\$324K	47% (Weak) \$191K/\$409K
Annual Operating Cost per Acre-Foot (22,000 AF) weak: >\$20 - average: \$10 - \$20 - strong: <\$10	\$15 (Average) \$324K/22K AF	\$19 (Average) \$409K/22K AF

Collateral: As security for the loan, the Company will pledge its assessment revenues backed by a rate covenant and the Project itself (Big Dam diversion and headgate). This is in compliance with the CWCB Financial Policy #5 (Collateral).

cc: Minerva Lee, President, Consolidated Home Supply Ditch and Reservoir Company
Susan Schneider/Jennifer Mele, Colorado's Attorney General Office

Attachment: Water Project Loan Program – Project Data Sheet

**CWCB Water Project Loan Program
Project Data Sheet**

C150375

Borrower: Consolidated Home Supply Ditch
& Reservoir Company

Project Name: Big Dam Diversion Structure
Repair

Drainage Basin/ District: South Platte / 4

Total Project Cost: \$1,600,000

Type of Borrower: Blended

CWCB Loan: \$1,616,000
(with 1% service fee)

County: Larimer

Project Type: Diversion Rehabilitation

Water Source: Big Thompson River

Funding Source: Severance Tax PBF

Average Annual Diversion: 22,000 AF

Interest Rate: 1.95% **Term:** 30-years
(76% Ag, 23% Mid, <1% High, <1% Com)

During the unprecedented flood of September 2013 in the tributaries to the South Platte River, a significant number of diversion structures and dams along the river corridor were damaged including the Company's "Big Dam" diversion structure. During the flood, the top five feet of the masonry structure was washed out and the mortar between masonry blocks on the north abutment was partially lost. Field observations show that the river was overtopping the structure by approximately 10 feet. The purpose of this project is to restore the "Big Dam" diversion structure to its pre-flood crest elevation while improving the structural integrity of the structure.

