

STATE OF COLORADO

Colorado Water Conservation Board

Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Anna Mauss, P.E.
Tim Feehan, P.E., Chief
Finance Section

DATE: September 2, 2011

SUBJECT: **Agenda Item 20a, September 13-14, 2011 Board Meeting**
Finance Section – New Project Loans
Lake Canal Reservoir Company – North Gray Reservoir Rehabilitation Project

Introduction

The Lake Canal Reservoir Company (Company) is applying for a loan for the Rehabilitation of North Gray Reservoir Project (Project). The purpose of this project is to replace the existing spillway and remove the restriction imposed by the Office of the State Engineer (SEO). The Company is requesting a loan for approximately 90% of the \$128,300 total 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 \$116,625 (\$115,470 for project costs and \$1,155 for the 1% Loan Service Fee) from the Construction Fund to the Lake Canal Reservoir Company for engineering and construction costs related to the Rehabilitation of North Gray Reservoir Project. The loan terms shall be 30 years at a blended-restricted reservoir interest rate of 2.10% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

Background

North Gray Reservoir (Reservoir) is one of three reservoirs owned by the Company. It is located in Larimer County, approximately three miles east and two miles north of Fort Collins. The reservoir has a total capacity of 333 AF. As of June 2011, the reservoir is restricted to a level three feet below the spillway crest (gage height 11) due to poor spillway condition. This restriction reduces the stored volume by 75 AF.

The spillway is a corrugated metal pipe that has reached the end of its useful life. The invert has corroded completely through in a few locations. This has also caused erosion below the pipe. Continued corrosion and erosion is expected, likely leading to dam failure.

Loan Feasibility Study

The Loan Feasibility Study, “Feasibility Study for Rehabilitation of North Gray Reservoir,” dated August, 2011, was prepared by Duane H Smith, P.E. and Clint Brown, P.E. with Smith Geotechnical Engineering, Inc. The study was prepared in accordance with the CWCB guidelines and includes alternatives analysis, engineering design and cost estimates.

Lake Canal Reservoir Company

The Lake Canal Reservoir Company is a Nonprofit Colorado Mutual Ditch Company incorporated in January 1902 and is in good standing with the Colorado Secretary of State’s Office. The Company’s facilities consist of the storage reservoirs known as North Gray Reservoir, South Gray Reservoir, and Gray Reservoir No. 3 located in Larimer County. The service area includes approximately 5,200 acres of irrigated farm land in Larimer and Weld Counties in Colorado.

The Company is managed by a five-member board of directors. The board has the power to take on debt. Shareholders must approve assessments that are set at the Company’s annual meeting. The Company’s by-laws permit it to cut off water delivery and/or sell the shares of stock if assessments are not paid.

The Company has issued 160 shares of stock owned by 49 stockholders. Shares of stock are owned by private and public shareholders; however all of the water is currently used for agricultural purposes.

Water Rights

Water stored in the Gray Reservoirs is released back into Box Elder Creek and then diverted into the Lake Canal Ditch and delivered to the irrigated farm and pasture land. The Lake Canal Ditch is owned by the Lake Canal Company which is a separate company from the Reservoir Company; however, all of the water stored and delivered from the Gray Reservoirs is owned by shareholders of the Lake Canal Company.

TABLE 1: WATER RIGHTS

Reservoir	Appropriation Date	Gage Height (Feet)	Storage Volume (AF)
North Gray	April 1, 1882	7.5	136
	November 1, 1902	11.5	139
	November 15, 1904	13.65	58
	North Gray Subtotal		333
South Gray	April 1, 1882	6.0	275
	November 1, 1902	14.0	237
	November 10, 1904	18.0	222
	South Gray Subtotal		734
Gray No. 3	November 14, 1904	13.0	111
	Total Storage Rights		1,178

In 2002, the Company filed for alternate storage locations for the water decreed for storage in Gray No. 3. The application was approved in 2004.

Project Description

The following alternatives were considered to address the spillway concerns:

Selected Alternative No. 1 – New Spillway Between North and South Gray Reservoirs: This alternative consisted of the removal of the existing spillway and the construction of a new spillway at a new location on the embankment dam between the North and South Gray reservoirs. The new spillway would be a concrete cutoff wall and riprap lined channel. The spillway would be adequate to pass the inflow design flood for the North Gray reservoir without overtopping North Gray dam into the South Gray reservoir. Additionally the existing spillway would be removed and the area would be backfilled. The estimate for this alternative was \$128,300.

Alternative No. 2 – New Spillway at Current Location: This alternative consisted of removing the existing spillway and constructing a new spillway in the same location. The existing spillway will not meet the current SEO regulations for dam safety, so a larger, chute style spillway would need to go in its place. The estimate for this alternative was \$250,000.

Alternative No. 3 – No Action: The no action alternative would likely result in further restrictions by the SEO and could result in complete dam failure; therefore, this alternative was dismissed by the Company.

Alternative No. 1 was selected as the most cost effective alternative to meet the Company's goals.

TABLE 2: TOTAL PROJECT COST SUMMARY

Task	Cost
Engineering	\$27,000
Construction	\$84,300
Contingency (15%)	\$17,000
Total	\$128,300

Final engineering, including SEO approval, is expected to be completed by July 2012. Construction is scheduled for September 2012 through November 2012.

Financial Analysis

Table 3 shows a summary of the financial aspects of the loan request. The blended interest rate for the Company is based on a breakdown of ownership of 86% agricultural, 8% middle-income municipal, and 6% commercial interests. The blended rate was determined to be 3.10%. Because this project is a restricted reservoir project and the Company is predominately agriculturally owned, a 1.0% interest rate reduction applies (Per Financial Policy #7). Therefore, the Company's interest rate becomes 2.10% for a 30-year term.

TABLE 3: FINANCIAL SUMMARY

Total Project Cost		\$128,300
CWCB Loan Amount (90% of total Project cost)		\$115,470
CWCB Loan Amount (Including 1% Service Fee)		\$116,625
CWCB Loan Payment		\$5,280
CWCB Loan Obligation (Including 10% Reserve)		\$5,808
Number of Shares		160
Annual Cost of Loan (with Reserve Account) per Share		\$36
	Before Project	After Project
Assessments per share (160 shares)	\$350	\$386
Project cost per AF to restore 75 AF		\$1,711/AF

Creditworthiness: The Company has two existing loans with the CWCB. The first was a \$160,000 loan for the Gray Lake Reservoir ditch rehabilitation. This loan has a balance of \$43,116 (\$6,920 annual payment) with a maturity date of July 2018. The second loan was for South Gray Reservoir rehabilitation and the breach of Gray No. 3. This project has not been closed out and is therefore not yet in repayment. The loan was approved for \$393,900 with annual payments expected to be \$20,500. To date, \$251,718 has been disbursed for this project.

TABLE 4: FINANCIAL RATIOS

Financial Ratio	Past 2 Years	Future w/ Project
Operating Ratio (revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	132% (Strong) \$70K/\$53K	104% (Average) \$82K/\$79K
Debt Service Coverage Ratio (revenues-expenses)/debt service* weak: <100% - average: 100% - 120% - strong: >120%	343% (Strong) (\$70K-\$46K)/ \$7K	109% (Average) (\$82K-\$46K)/ \$33K
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	140% (Strong) \$74K/\$53K	77% (Average) \$61K/\$79K
Annual Operating Cost per Acre-Foot (1,120 AF) weak: >\$20 - average: \$10 - \$20 - strong: <\$10	\$47 (Weak) \$53K/1,120	\$71 (Weak) \$79K/1,120

Collateral: As security for the loan, the Company will pledge assessment revenues backed by a rate covenant and the land under North Gray Reservoir. This is in compliance with the CWCB Financial Policy #5 (Collateral).

Staff Recommendation

Staff recommends the Board approve a loan not to exceed \$116,625 (\$115,470 for project costs and \$1,155 for the 1% Loan Service Fee) from the Construction Fund to the Lake Canal Reservoir Company for engineering and construction costs related to the Rehabilitation of North Gray Reservoir Project. The loan terms shall be 30 years at a blended-restricted reservoir interest rate of 2.10% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

cc: Rodney Nelson, President, Lake Canal Reservoir Company
Clint Brown, P.E., Smith Geotechnical Engineering, Inc.
Susan Schneider, AGO
Peter Johnson, AGO

Attachment: Water Project Loan Program – Project Data Sheet

CWCB Construction Loan Program Project Data Sheet

Borrower: Lake Canal Reservoir Company

County: Larimer and Weld

Project Name: North Gray Reservoir
Rehabilitation

Project Type: Reservoir Rehabilitation

Drainage Basin: South Platte River

Water Source: Box Elder Creek

Total Project Cost: \$128,300

Funding Sources: Construction Fund

Type of Borrower: Blended Agricultural
Municipal & Commercial

Details: 333 AF Stored
75 AF Recovered

Loan Amount: \$116,625 (Including 1% fee)

Interest Rate: 2.10% **Term:** 30 years

The Lake Canal Reservoir Company is requesting a CWCB loan to construct a new spillway on North Gray Reservoir. The reservoir is currently under a storage restriction by the Office of the State Engineer (SEO). The existing spillway is a corrugated metal pipe that has corroded through. The existing pipe will be removed and the area will be backfilled. A new concrete cutoff wall and riprap lined channel will be constructed to replace the old spillway. Project design and SEO review is expected to be completed by July 2012. Construction is planned for September through November of 2012.

Note: Because this reservoir is on the SEO's restricted reservoir list and the Company is predominately owned by agricultural interests, this loan qualifies for a 1.0% interest rate reduction. The blended rate of 3.10% was reduced to 2.10%.

