STATE OF COLORADO

Colorado Water Conservation Board
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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: November 8, 2013

SUBJECT: **Agenda Item 30a, November 19-20, 2013 Board Meeting**
Finance – Water Project Loans
North Poudre Irrigation Company – Reservoir No. 4 Rehabilitation Project

Introduction

The North Poudre Irrigation Company (Company) is applying for a loan for the Reservoir No. 4 Rehabilitation Project (Project). The purpose of the Project is to remove the State Engineer's Office (SEO) Dam Safety Branch imposed storage restriction and improve the overall reservoir facility. The total Project cost is estimated to be $1,800,000. The Company is requesting a loan from the CWCB for 90% of 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 $1,636,200 ($1,620,000 for project cost and $16,200 for the 1% service fee) to the North Poudre Irrigation Company for engineering and construction cost related to the Reservoir No. 4 Rehabilitation Project from the Construction Fund. The loan terms shall be 30 years at a blended interest rate of 2.35% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

Background

The Company's service area includes approximately 28,000 irrigated acres of farm land in Northeastern Larimer County extending from Ft. Collins to north of Wellington. The Company operates 21 storage reservoirs, five flood control dams, and approximately 200 miles of ditches. The irrigated acreage within the service area is primarily used to grow corn, sugar beets, soybeans, hay, and feed crops.

Reservoir No. 4 is an off stream reservoir with a drainage basin of approximately 320 acres. The dam was constructed in the late 1880's, enlarged in the 1920's, and the outlet works were replaced in the late 1950's. The reservoir has decreed water rights allowing storage of 1,781 acre feet (AF) of water at full capacity with a 918 AF refill right. The reservoir is used to irrigate approximately 150 acres of land downstream with the remainder of water used in exchanges to other irrigation companies and for mitigation of water losses on other portions of the Company's system.

The SEO Dam Safety Branch restricted the reservoir due to aging outlet works, an inadequate spillway, and seepage at the toe of the dam over twenty-eight years ago. Under this restriction the reservoir capacity is approximately 1,107 AF, representing a storage loss of 674 AF. The Company has long desired to make these repairs to lift the storage restriction but, with such a large irrigation system, other more pressing projects continued to pop up taking precedence over Reservoir No. 4. However, the aging outlet works have now deteriorated to the point that complete reservoir operation may soon be lost if these repairs are not performed. In this time more than 400 cottonwood trees have established below the decreed high water line of the reservoir. These trees have an estimated water use of 44 AF per year.

Colorado Parks and Wildlife has leased the reservoir's fishing rights and is responsible for road maintenance, trash pickup, and restroom facilities. This annual lease has set terms that expire on July 31, 2025.

Loan Feasibility Study

Ronald Slosson, P.E., prepared the Loan Feasibility Study titled "*Feasibility of Rehabilitation of North Poudre Reservoir No. 4*," dated September 2013. The study includes an alternative analysis and preliminary engineering design and cost estimates. The study was prepared in accordance with CWCB guidelines.

Borrower – North Poudre Irrigation Company

The Company is a Mutual Ditch Company that was established in 1901. The Company's office is located in Wellington. It operates as a nonprofit corporation and is in good standing with the Colorado Secretary of State. The Company has issued 10,000 shares of stock. The Company's revenues are primarily derived from assessments charged on shares of stock owned by the stockholders but the Company also receives revenues from recreational leases and a note receivable from the City of Fort Collins.

The Company's by-laws (1988) allow the Board of Directors to borrow money on the credit or responsibility of the Company for the uses, needs, and demands of the Company and to set assessments accordingly. The Board has the authority to enforce assessments including suspending water deliveries and the eventual sale or forfeiture of shares for failure to pay assessments.

Water Rights

The water rights impacted by this project are shown in Table 1:

TABLE 1: RESERVOIR NO 4 STORAGE WATER RIGHTS

Name	Amount (AF)	Appropriation Date	Adjudication Date
Reservoir No 4	1,074	11/1/1889	12/9/1904
Reservoir No 4	707	5/15/1903	4/22/1922
Reservoir No 4 (Refill)	918	12/31/1921	9/10/1953

Average annual diversions of the entire Company are 44,400 AF (4.44 AF per share).

Project Description

The purpose of the Project is to remove the SEO's Dam Safety Branch imposed storage restriction and improve the overall reservoir facility. The planned improvements include modifications to the dam embankment including its slope, outlet works, drains, spillway, and measurement structure. The Project will include significant cut grading operations to remove material from the reservoir. The Company will use this material onsite to reshape the shoreline and move the high water line off of neighboring property. This material will also provide for a dedicated dirt parking area near the right abutment of the dam.

The dam will need to be breached to install the outlet works consisting of an inlet structure, outlet conduit, gate tower, outlet structure, and measuring weir. Blanket and toe drains will then be installed downstream of the dam crest and the downstream toe flattened to a 3H:1V slope. The upstream slope will be cleared of the existing but sparse riprap, flattened to a 3H:1V slope, and have riprap and bedding placed on the new slope. A new spillway will be sized to SEO standards and will be constructed away from the toe of the dam.

The grading of a dedicated parking area at the right abutment would shorten the length of the dam and change the access location from Larimer County Road (CR) 11 to CR 64. Currently there is no defined parking at the reservoir and most parking occurs within the historic high water line. Additionally the access from CR 11 is in poor condition. Relocating the access and limiting vehicle parking to a single area would significantly reduce road maintenance around the reservoir and enhance the overall site.

An April 2013 survey of the reservoir showed the existence of a 202 AF dead pool in the reservoir. This water cannot be drained from the reservoir but instead would require pumping. The SEO has given the Company the choice to include or exclude the dead pool as part of their decreed reservoir storage volume. If the dead pool storage volume is counted towards the decreed storage volume, the reservoir would have full storage capacity at an approximate gauge height of 19 feet. If the dead pool storage volume is not included as the reservoir's decreed storage volume then the reservoir would have full storage capacity at an approximate gauge height of 21 feet.

Three alternatives were considered as part of the feasibility report:

Alternative 1 – Do Nothing: Due to the aging outlet works threatening all reservoir operations, this alternative is no longer considered acceptable.

Alternative 2 – Rehabilitate Reservoir to Gauge Height 19: This alternative includes outlet works replacement, spillway modifications, vehicle access modifications, removal of cottonwoods below and around gauge height 19, and the lowering of the dam crest to gauge height 19. This alternative reduces the cost of construction by approximately $125,000 but was considered unacceptable by the

Board as it would prevent the use of the dead pool as a settling basin for silt and could risk the loss of storage rights in the future should SEO water policy change to no longer allow the use of dead storage.

Selected Alternative 3 – Rehabilitate Reservoir to Gauge Height 21: This alternative includes outlet works replacement, spillway modifications, vehicle access modifications, removal of cottonwoods below and around gauge height 21, and setting the dam crest to gauge height 21. This additional two feet in height increases the cost to the gate tower, dam embankment, riprap, drains, and easements but provides full storage capacity above the dead pool storage. This option was selected by the Board as it makes all necessary repairs to the dam to lift the current storage restriction, provides storage on top of the dead pool storage, and provides enhanced access and easements for recreational leases. The successful completion of this Project will restore 674 AF of water storage.

Alternative 3 meets the Project's goals with costs as summarized in Table 2.

TABLE 2: TOTAL PROJECT COST SUMMARY

Task	Cost
Construction Setup, Survey, Misc.	$120,000
Outlet Works	$600,000
Embankment & Spillway	$400,000
Grading Operations	$300,000
Subtotal	$1,420,000
Engineering, Legal, and Contingency (25%)	$355,000
Easements	$25,000
Total	$1,800,000

Schedule: Final design is expected to be complete by May 2014. Construction is planned to begin after the 2014 irrigation season in and be completed by May 2015.

Financial Analysis

Table 3 provides a summary of the Project's financial aspects. The term of the loan will be 30-years and the interest rate will be a blended rate of 2.35% (Ownership: 37% Agriculture, 1% Low Municipal, 57% Mid Municipal, 4% High Municipal, <1% Commercial).

TABLE 3: FINANCIAL SUMMARY

Total Project Cost	$1,800,000
Borrower Match (10% of total Project cost)	$180,000
CWCB Loan Amount (90% of total Project cost)	$1,620,000
CWCB Loan Amount (Including 1% Service Fee)	$1,636,200
CWCB Annual Loan Payment	$76,619
CWCB Loan Obligation (Including 10% Reserve)	$84,281
Number of Shares	10,000
Annual Cost Per Share for Loan	$8.42
October 2013 Approved Emergency Flood Loan Assessment per Share	$2.67
Current Assessment per Share	$120.00
Future Assessment per Share	$131.09
Project Cost per AF recovered (674 AF)	$2,670

Creditworthiness: The Company has $4,055,494 in existing debt made up of eight CWCB loans. Additionally the Company was recently approved for an emergency loan not to exceed $477,000 by the CWCB at the October 2013 Special Board Meeting. These loans are in good standing and are summarized in Table 4.

TABLE 4: EXISTING DEBT

Lender	Original Balance	Current Balance	Annual Payment	Maturity Date	Collateral
CWCB (C153833)	$500,000	$193,187	$36,889	9/1/2019	Undivided 100% Interest in North Poudre Reservoirs #5 & #6
CWCB (C153385)	$1,331,704	$644,667	$77,612	5/1/2024	Undivided 100% Interest Fossil Creek Dam and Reservoir
CWCB (C150013)	$623,778	$402,651	$46,061	5/1/2024	Undivided 100% Interest Fossil Creek Dam and Reservoir
CWCB (C153449)	$1,152,909	$631,160	$67,192	5/1/2026	Undivided 100% Interest Fossil Creek Dam and Reservoir
CWCB (C150170)	$735,280	$561,648	$50,572	2/1/2027	Undivided 100% Interest North Poudre Res #1 (Miner's Lake)
CWCB (C153496)	$404,502	$253,388	$23,574	5/1/2029	Undivided 100% Interest Fossil Creek Dam and Reservoir
CWCB (C153572)	$340,551	$232,000	$19,847	5/1/2031	Undivided 100% Interest Fossil Creek Dam and Reservoir
CWCB (C153637)	$1,761,096	$1,136,793	$64,378	5/1/2035	Undivided 100% Interest in North Poudre Reservoirs #5 & #6
Subtotal (Existing Debt)		$4,055,494	$386,125		
CWCB (C150368) (Pending)	*$477,000*	*$477,000*	*$24,301*	*2044*	*Fossil Creek Reservoir Inlet Diversion Structure, Assessments*
Total		$4,532,494	$410,426		

TABLE 5: FINANCIAL RATIOS

Financial Ratio	Past 3 Years	Future w/ Project*
Operating Ratio (revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	135% (Strong) $1.63M/$1.21M	132% (Strong) $1.74M/$1.32M
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	208% (Strong) $1.63M-$0.82M $0.39M	184% (Strong) $1.74M-$0.82M $0.50M
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	1% (Weak) $16K/$1.21M	1% (Weak) $16K/$1.32M
Annual Operating Cost per Acre-Foot (44,400 AF) weak: >$20 - average: $10 - $20 - strong: <$10	$27 (Weak) $1.21M/44.4K AF	$30 (Weak) $1.32M/44.4K AF

** Includes new October 2013 Emergency Loan Debt*

Collateral: As security for the loan, the Company will pledge its assessment revenues backed by a rate covenant and a 100% undivided interest in Reservoir No. 4 Dam and Reservoir. This is in compliance with the CWCB Financial Policy #5 (Collateral).

cc: Scott Hummer, General Manager, North Poudre Irrigation Company
Susan Schneider/Jennifer Mele, Colorado Attorney General's Office

Attachment: Water Project Loan Program – Project Data Sheet

CWCB Water Project Loan Program
Project Data Sheet

C150378

Borrower: North Poudre Irrigation Company

County: Larimer

Project Name: Reservoir No. 4 Rehabilitation

Project Type: Reservoir Rehabilitation

Drainage Basin/ District: South Platte / 3

Water Source: Cache la Poudre

Total Project Cost: $1,800,000

Funding Source: Construction Fund

Type of Borrower: Blended

Average Annual Diversion: 44,400 AF

CWCB Loan: $1,636,200
(with 1% service fee)

Interest Rate: 2.35% **Term:** 30-years
(37% Ag, 1% Low, 57% Mid, 4% High, <1% Com)

The North Poudre Irrigation Company is a mutual ditch company established in 1901. The Company's office is located in Wellington with a service area of approximately 28,000 irrigated acres of farm land. Reservoir No. 4 is an off stream reservoir constructed in the late 1880s, enlarged in the 1920s, and had the outlet works replaced in the late 1950s. The Reservoir No. 4 Rehabilitation Project will modify the dam including its slope, outlet works, drains, spillway, and measurement structure and will also provide a new parking area and floodplain improvements. The purpose of the project is to lift the State Engineer's storage restriction on the reservoir and dam and improve the overall reservoir facility. The Project will restore 674 AF of water storage.