STATE OF COLORADO

Colorado Water Conservation Board
Department of Natural Resources
1313 Sherman Street, Room 721
Denver, Colorado 80203
Phone: (303) 866-3441
Fax: (303) 866-4474
www.cwcb.state.co.us

March 26, 2012

Mr. James Fernandez
City of Trinidad
Water Enterprise
P.O. Box 880
Trinidad, CO 81082

Re: North Lake Dam Rehabilitation Project
Loan Contract Number C150330

Dear Mr. Fernandez:

I am pleased to inform you that on March 20, 2012 the Colorado Water Conservation Board (CWCB) approved your loan request for the North Lake Dam Rehabilitation Project as described in the application and approved Loan Feasibility Study titled "*Feasibility Study: North Lake Dam Rehabilitation Project*" dated July 2011. The Board approved a loan not to exceed $746,627 ($739,235 for project costs and $7,392 for the 1% Loan Service Fee). The loan terms shall be 10 years at the low-income municipal/restricted reservoir interest rate of 2.50% per annum.

I have attached a copy of the updated Board memo dated March 26, 2012, that includes the Board's approval.

After the Board approves a loan there are a few steps that remain in the loan process including:

A) Contracting: An approved contract must be in place before funds can be disbursed. Vaughn McWilliams will initiate the loan contracting process for this project. When all of the contract conditions are met and the contract is executed the City may request loan funds to cover eligible project expenses. You can contact Vaughn at (303) 866-3441 x 3227 regarding the requirements. The contract will include the following provisions:

1. *Loan funds will not be disbursed until the City receives a letter of conditional approval of its Water Conservation Plan by the CWCB.*

2. *The 10% debt service reserve account requirement will be waived from the loan contract because the loan term is only 10 years.*

B) Design/Construction: You must adhere to the CWCB Design and Construction Administration Procedures. Anna Mauss will be the Project Manager for this phase of the process. Anna will make construction site visits, which will be the basis of pay estimates for disbursement of your loan funds. You can contact Anna at her desk at (303) 866-3441 x 3224 or cell phone (303) 956-0353.

On behalf of the Board, I would like to thank you for your interest the loan from the Colorado Water Conservation Board.

Sincerely,

Kirk Russell, P.E., Chief
Finance Section
Colorado Water Conservation Board

Anna Mauss, P.E., Project Manager
Finance Section
Colorado Water Conservation Board

Attachment: Updated Board Memo

E-mail Copy (Including Attachments)

Alan Hamel, CWCB Board Member, Arkansas Basin
CWCB Finance Section Staff

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TO: Colorado Water Conservation Board Members

FROM: Anna Mauss, P.E., Project Manager
Kirk Russell, P.E., Chief
Finance Section

DATE: March 9, 2012 **(Updated March 26, 2012)**

SUBJECT: **Agenda Item 14a, March 20-21, 2012 Board Meeting**
Finance Section/Water Supply Planning Section
City of Trinidad – North Lake Dam Rehabilitation Project
Water Project Loan – Construction Fund

Introduction

The City of Trinidad (City), acting by and through its Water Enterprise, is applying for a loan for the North Lake Dam Rehabilitation Project (Project). North Lake Reservoir (Reservoir) is the primary source of municipal water for the City. Because of safety concerns, the Office of the State Engineer (SEO) imposed a restriction on the dam. To avoid further restrictions, the City intends to address the dam safety concerns through this Project. The total Project cost is estimated to be $1,848,086. The City was recently approved for a $739,235 grant by the Arkansas Basin Round Table from the Water Supply Reserve Account. The City plans on using cash reserves to fund $369,616 of the total Project. It is requesting the remaining $739,235, or 40% of the estimated total Project cost, in a CWCB loan. See attached Project Data Sheet for a location map and a Project summary.

Staff Recommendation (Board approved staff recommendation on March 20, 2012)

Staff recommends the Board approve a loan not to exceed $746,627 ($739,235 for project costs and $7,392 for the 1% Loan Service Fee) from the Construction Fund to the City of Trinidad, acting by and through its Water Enterprise, for engineering and construction costs related to the North Lake Dam Rehabilitation Project. The loan terms shall be 10 years at the low-income municipal/ restricted reservoir rate of 2.50% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

Staff additionally recommends the following loan contract conditions:

1. Loan funds will not be disbursed until the City receives a letter of conditional approval of its Water Conservation Plan by the CWCB.
2. The 10% debt service reserve account requirement will be waived from the loan contract because the loan term is only 10 years.

Background
The Reservoir is located 40 miles west of Trinidad in Las Animas County. The dam was constructed in 1964, submerging an older, smaller dam located upstream of the existing dam. The existing dam is a 72-foot high, high hazard, earthen embankment dam. The Reservoir has a capacity of 4,200 acre-feet.

The dam has a low permeability upstream shell, a very low permeability core extending to bedrock, and a random-fill downstream shell. There are no internal drains or filters. Significant seepage occurs through the right abutment and along the toe of the dam. Because of the seepage problems, the SEO imposed a restriction in July 2011 requiring the water to be lowered five feet below the emergency spillway crest, resulting in a loss of 650 AF of storage.

Additionally, there is a separated intake pipe at the outlet works that the City needs to address.

Loan Feasibility Study
The Loan Feasibility Study titled, "Feasibility Study: North Lake Dam Rehabilitation Project," dated July 2011, was prepared by Robert J. Huzjak, P.E. of RJH Consultants, Inc. The study was prepared in accordance with the CWCB guidelines and includes an alternative analysis, engineering design and cost estimates.

City of Trinidad
The City was incorporated in 1876 and provides water service within the City limits and to a part of the developed rural area outside of the City. The service area includes 4,365 taps. The water system includes North Lake Reservoir, Monument Lake, distribution pipelines, a water treatment plant and several treated water storage tanks.

In a typical year, the City delivers 2,800 acre-feet of water from its treatment plant. Because the City delivers more than 2,000 acre-feet annually, it is required to have a CWCB approved Water Conservation Plan on file before loan or grant funds can be disbursed.

As per the municipal code, the City manager is authorized to run the Water Department and hire its employees. The seven-member City Council has the power to set rates by resolution as it deems necessary. A Water Enterprise was established to collect the Water Department revenues, which are generated from user fees.

Water Rights
The Reservoir is filled with water from the North Fork of the Purgatoire River. The direct flow rights for North Lake have the 1,3,4,6 and 13 priorities on the river with appropriation dates ranging from 1861 to 1864. These total 8.17 cfs. The storage rights for the Reservoir total 4,315 acre-feet.

Project Description
Alternatives were considered throughout the design process. The sections below describe alternatives for each aspect of the Project.

No Action: Because of dam safety concerns at the site, it is expected that further restrictions will be imposed by the SEO. A long-term reduction in storage volume would impact the City's ability to provide a reliable water supply for its residents. For this reason, the no-action alternative was dismissed.

Spillway Alternatives: In order to address seepage concerns and stability issues, a berm must be constructed in the location of the existing spillway. All alternatives required demolition of a major part of the existing spillway. The selected alternative for the spillway is a pipe in the left abutment of the dam. This was chosen because of geological and topographic reasons.

Stability Berm and Seepage Collection System Alternatives: Four alternatives were considered to manage seepage, reduce the potential for piping, and to increase the downstream slope stability. The selected alternative is a blanket drain and downstream slope stability berm.

Outlet Works Modification Alternatives: Four alternatives were also considered to address a separated upper intake pipe at the outlet works. Three of the alternatives identified methods to repair the pipe and one alternative identified abandoning the pipe. Abandonment of the pipe was selected as the alternative because the City concluded that abandonment would not adversely impact operations of the Reservoir and it was the least expensive option.

In addition, a 150-foot long portion of a lower outlet pipe used by the old dam will have to be removed because of the location of the new stability berm.

In all, the Project components include: construction of a downstream stability berm, demolishing the existing spillway, constructing a new spillway using a 36-inch reinforced concrete pipe, abandonment of the upper inlet pipe by grouting, and grouting of the old dam 15-inch outlet pipe.

The Project is currently under final review by the SEO. Pending plan approval, construction is expected to begin in the spring of 2012 and be completed by winter of 2012/2013.

TABLE 1: TOTAL PROJECT COST SUMMARY

Task	Cost
Construction Engineering/Administration	$260,000
Materials Testing	$35,000
Construction	$1,316,175
Construction Contingencies (15%)	$197,426
City Administration*	$39,485
Total	$1,848,086

**Note: The City Administration is an internal expense to the City and will not be reimbursed by the loan proceeds.*

Financial Analysis

Based on the median household income of the area, the City qualifies for the low-income municipal interest rate of 4.0% for a 30-year term. Because the Reservoir is on the SEO restricted list, the City qualifies for a 1.0% rate reduction. The City has opted for a 10-year term, reducing the interest rate by an additional half percent, to an interest rate of 2.5% (per policy #7).

TABLE 2: FINANCIAL SUMMARY

Total Project Cost	$1,848,086
WSRA Grant Amount (40%)	$739,235
Statewide Funds	$702,273
Basin Funds	$36,962
CWCB Loan Amount (40%)	$739,235
Borrower Match (20%)	$369,616
CWCB Loan Amount (Including 1% Service Fee)	$746,627
CWCB Loan Payment	$85,309
Number of taps	4,365
Monthly Cost of Loan per tap	$1.63
Project Cost per AF Recovered (based on 650 AF)	$2,843

Creditworthiness: The City has an existing loan with the CWCB. The original loan amount was $465,000. All payments were received on time. The City has only one payment of $26,891, due August 15, 2012, remaining on the loan, so that loan will be paid in full before repayment begins on the new loan.

TABLE 3: FINANCIAL RATIOS

Financial Ratio	Past 2 Years	Future w/ Project
Operating Ratio (revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	153% (Strong) $2.3M/$1.5M	153% (Strong) $2.3M/$1.5M
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	3333% (Strong) $2.3M-$1.4M/ $27K)	941% (Strong) $2.3M-$1.5M/ $85K
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	460% (Strong) $6.9M/$1.5M	433% (Strong) $6.5M/$1.5M
Average Residential Water Bill weak: >$60 - average: $30 - $60 - strong: <$30	$39 (Average)	$39 (Average)
Debt per Tap (4,365 taps) weak: >$5,000 - average: $2,500-$5,000 - strong: <$2,500	$6 (Strong) $27K/4,365	$19 (Strong) $747K/4,365

Collateral: As security for the loan, the City will pledge its Water Enterprise revenues backed by a rate covenant and annual financial reporting. This is in compliance with the CWCB Financial Policy #5 (Collateral).

The pledge of water revenues and rate covenant are contractual provisions requiring the Water Enterprise to pay its CWCB debt obligation from water revenues; and requires the Water Enterprise to set its rates sufficient to fund its debt obligation, in addition to operation and maintenance expenses.

cc: Jim Fernandez, Utilities Superintendent, City of Trinidad
Susan Schneider, AGO
Peter Johnson, AGO

Attachment: Water Project Loan Program – Project Data Sheet

CWCB Water Project Loan Program
Project Data Sheet

Borrower: City of Trinidad

County: Las Animas

Project Name: North Lake Dam Rehabilitation

Project Type: Reservoir Rehabilitation

Drainage Basin: Arkansas

Water Source: North Fork of the Purgatoire

Total Project Cost: $1,848,086

Funding Source: Construction Fund & WSRA

Type of Borrower: Low-income municipal

Average Annual Diversion: 3,495 AF
Average Annual Delivery: 2,800 AF
Storage Recovered: 650 AF

CWCB Loan: $746,627(Including 1% Fee)

Interest Rate: 2.5% **Term:** 10-years
Reduced by 1.0% for Restricted Reservoir Rate
Reduced by 0.5% for 10-year term

The City of Trinidad plans on rehabilitating North Lake Dam. North Lake Reservoir is located approximately 40 miles west of Trinidad and is the primary source of municipal water for the City. Because of safety concerns, the Office of the State Engineer imposed a restriction on the dam. To avoid further restrictions, the City intends to address the dam safety concerns by constructing a new stability berm and replacing the spillway. The total project cost is estimated to be $1,848,086. The City was recently approved for a $739,235 grant by the Arkansas Basin Round Table from the Water Supply Reserve Account. The City plans on using cash reserves to fund $369,616 of the total Project. It is requesting the remaining $739,235, or 40% of the estimated total Project cost, in a CWCB loan. Construction is expected to begin as soon as funds are available in the spring of 2012.