STATE OF COLORADO

Colorado Water Conservation Board
Department of Natural Resources
1313 Sherman Street, Room 721
Denver, Colorado 80203
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John W. Hickenlooper
Governor

Mike King
DNR Executive Director

Jennifer L. Gimbel
CWCB Director

October 4, 2012

Mr. Jerry Lorenz
Sanchez Ditch and Reservoir Company
P.O. Box 215
San Acacia, CO 81150

Re: Sanchez Reservoir Outlet Rehabilitation Project
Contract Number C150342

Mr. Lorenz:

I am pleased to inform you that on September 28, 2012 the Colorado Water Conservation Board approved your loan request for the Sanchez Reservoir Outlet Rehabilitation Project as described in the application and approved Loan Feasibility Study titled "*Feasibility Study for Sanchez Reservoir Outlet Rehabilitation Plan.*" The Board approved a loan not to exceed exceed $1,128,776 ($1,117,600 for project costs and $11,176 for the 1% Loan Service Fee). The loan terms shall be 30 years at an interest rate of 1.75% per annum.

I have attached a copy of the updated Board memo dated October 4, 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. Peg Mason will contact you to initiate the loan contracting process for this project. When all of the contract conditions are met and the contract is executed the Company may request loan funds to cover eligible project expenses. You can contact Peg at (303) 866-3441 x3227.

Please note that the loan contract will have an additional contract condition:

Staff additionally recommends a contract condition requiring the Company to make additional principal payments of $5,000 annually to CWCB Loan Contract C153623. Upon the final payment to C153623, an additional $15,000 shall be paid annually to CWCB Loan Contract C153755A.

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 (303) 866-3441 x3224.

NOTE: No expenses incurred on any work performed prior to execution of the WSRA Grant Contract will be eligible for reimbursement through the loan or grant.

On behalf of the Board, I would like to thank you for your interest in a 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)

Travis Smith, CWCB Board Member – Rio Grande River 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: September 18, 2012 **(Updated October 4, 2012)**

SUBJECT: **Agenda Item 23c, September 27-28, 2012 Board Meeting**
Finance/Water Supply Planning – WSRA Grant & Construction Fund Loan
Sanchez Ditch and Reservoir Company – Sanchez Reservoir Outlet Rehabilitation Project

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Introduction
The Sanchez Ditch and Reservoir Company (Company) is applying for a WSRA grant and CWCB loan to finance the Sanchez Reservoir Outlet Rehabilitation Project (Project). The purpose of the Project is to make safety and operational improvements to the outlet works at Sanchez Reservoir (Reservoir). The total Project cost is estimated to be $2,032,000. In July of 2012, the Company was approved for a $914,400 grant by the Rio Grande Basin Round Table from the Water Supply Reserve Account. The Company is requesting a loan from the CWCB to cover the remaining $1,117,600. See attached Project Data Sheet for a location map and a Project summary.

Staff Recommendation for WSRA Grant (Board approved staff recommendation on September 28, 2012)
Staff recommends approval of up to $859,400 from the Statewide Account and $55,000 from the Rio Grande Basin Account to fund the Sanchez Reservoir Outlet Rehabilitation Project.

Staff Recommendation for Construction Fund Loan (Board approved staff recommendation on September 28, 2012)
Staff recommends the Board approve a loan, from the Construction Fund, not to exceed $1,128,776 ($1,117,600 for project costs and $11,176 for the 1% Loan Service Fee) to the Sanchez Ditch and Reservoir Company for the Sanchez Reservoir Outlet Rehabilitation Project. The loan terms shall be 30 years at the agricultural rate of 1.75% per annum, the first 5 years of which are interest only. Security for the loan shall be in compliance with CWCB Financial Policy #5.

Staff additionally recommends a contract condition requiring the Company to make additional principal payments of $5,000 annually to CWCB Loan Contract C153623. Upon the final payment to C153623, an additional $15,000 shall be paid annually to CWCB Loan Contract C153755A.

Background
The Company provides irrigation water for users in Costilla County, southwest of the town of San Luis. The Company's primary storage reservoir is Sanchez Reservoir. The approximately 104,000 acre-foot reservoir was built in 1910 and is impounded by two separate earthfill dams known as the Main Dam and East Dike. The Main Dam is 135 feet tall and 1,170 feet long and is classified as a large, high hazard structure.

The reservoir's outlet includes a 135 foot tall concrete gate tower. Within the tower there are eight sets of 30-inch diameter valves located at varying elevations. Water exits the gate tower through a 10 ½ foot concrete outlet conduit that is approximately 600 feet long. In order to access the gates to operate the dam, a tramway/gondola runs along a cable and is powered by a portable gasoline generator. Because daily access to the tower is required during irrigation season, the reliability and safety of the gondola system has been a concern of the Company.

In July of 2011, the Company was awarded $95,000 in WSRA grants ($10,000 from the Rio Grande Basin Account and $85,000 from the Statewide Account) to assess the deteriorating infrastructure and safety concerns of the reservoir. That study, titled "Phase I Assessment & Upgrade, " concluded that abandoning the gondola and replacing the outlet works with remotely operated valves would provide for the most efficient management of the water and would improve safety for Company employees.

Loan Feasibility Study
The loan feasibility study, titled "Feasibility Study for Sanchez Reservoir Outlet Rehabilitation Plan," dated July 2012, was prepared by Duane Smith, P.E. of Smith Geotechnical. The study was prepared in accordance with CWCB guidelines and includes preliminary engineering and an engineer's estimate of probable cost that were used in determination of the total Project cost. The Loan Feasibility Study was included as a part of the "Phase I Assessment and Upgrade" report completed with the July 2011 WSRA grants.

The Sanchez Ditch and Reservoir Company
The Company is a Colorado Mutual Ditch Company, incorporated in 1955 and is in good standing with the Colorado Secretary of State. The Company serves over 13,400 acres of irrigated crop land and another 18,400 acres of farm land which, due to lack of water, are either not irrigated or are irrigated in rotation. The Company's system includes Sanchez Reservoir (103,155 AF), Stabilization Reservoir (300 AF), 38 miles of concrete lined ditch, 15 miles of earthen ditch, 23 miles of canal, and a diversion structure at the inlet of Culebra Sanchez Canal.

The Company is governed by a five-member board of directors. There are 34 shareholders with a total of 21,790 shares of stock. The board has the ability to take on debt and to withhold delivery of water to stockholders if assessment are unpaid. Liens can also be placed against any shares of stock if assessments are unpaid. Shareholder approval is required in order to set assessments for engineering services and reservoir repair projects.

Water Rights

The Company's decreed water rights are dated from 1856 and go through 1934 for a total of 373.95 cfs. Sanchez Reservoir specifically has a decreed storage right of 103,155 AF. On average the Company delivers 15,000 AF annually.

Project Description

The objective of this Project is to address the safety and operational management concerns at the reservoir by demolishing the gate tower and modifying the outlet works.

Several alternatives were considered including: 1) repairing the tower and conduit and upgrading the gates and control system; 2) repairing the tower and replacing the existing tower gates with four larger gates; 3) demolishing the tower and replacing the outlet conduit with a new intake structure; and, 4) the do-nothing alternative. Additional options were also investigated to improve the tower access by the installation of a pedestrian bridge or the installation of a ladder on the outside of the tower.

The Company chose alternative 3 to demolish the tower. This alternative includes: demolition of the gate tower; the installation of new control gates and operators; lining the existing outlet conduit with shotcrete; repairing the downstream outlet structure; and, installing a new perimeter drain and weir along the right side of the outlet structure to control seepage.

Preliminary engineering documents have been prepared and used for estimating the total project cost summary as provided in Table 1.

TABLE 1: TOTAL PROJECT COST SUMMARY

Task	Cost
Final Engineering and Construction Management	$225,000
Construction	$1,528,000
Contingency	$279,000
Total	$2,032,000

The Project schedule is as follows: final design and State Engineer's Office (SEO) approval between January 2013 and January 2014; bid the project in May of 2014; award the bid by June of 2014; start construction in September of 2014; complete construction by March of 2015.

TABLE 2: PROJECT FUNDING SUMMARY

WSRA Grant	
Rio Grande River Basin	$55,000
Statewide	$859,400
TOTAL	$914,400
CWCB Construction Fund Loan	$1,117,600
Total Project Cost	$2,032,000

CWCB will disburse funds at a rate of 55% loan to 45% grant of each invoice amount for Project related expenses, up to the approved limit of $2,032,000.

Water Supply Reserve Account Grant

At the July 2012 Rio Grande Basin Roundtable meeting the Roundtable granted approval of the Sanchez Reservoir Phase II – Outlet Rehabilitation & Gate Tower Replacement Project application request for $55,000 in Basin Funds and recommended approval of $859,400 of Statewide Funds. Letters of support for the Project were received from the Natural Resources Conservation Service, Division of Water Resources (Division 3 office), the Town of San Luis, and the Costilla Conservation District.

Source of Funds: *$859,400 Statewide Funds, $55,000 Rio Grande Basin Funds*
Matching Funds: *$1,117,600 CWCB Loan*

Threshold and Evaluation Criteria: The application articulates how the project satisfies the Threshold and Evaluation Criteria as summarized below:

Tier 1: Promoting Collaboration/Cooperation & Meeting Water Management Goals & Identified Needs: Sanchez Reservoir is managed for recreational use as a Colorado State Wildlife Area and is a popular fishing and boating destination, providing economic benefits to Costilla County. The project has the support of the county and local communities in addressing both consumptive and non-consumptive needs, including irrigation and maintenance of a fish and wildlife conservation pool of 2,500 AF. Sanchez Reservoir also provides flood protection for a number of historic communities, including San Luis. The Rio Grande Basin Roundtable has prioritized reservoir rehabilitation as an important IPP's to preserve critical storage in the basin.

Tier 2: Facilitating Water Activity Implementation: The Company currently has two existing loans with the CWCB and has indicated that an additional assessment to cover the costs of the entire Project is not economically feasible for shareholders. The Company is working with CWCB to establish a repayment structure to retire existing debt early so the financial burden to shareholders can be addressed over a number of years rather than a large assessment increase all at once.

Tier 3: The Water Activity Addresses Issues of Statewide Value and Maximizes Benefits: This Project sustains agriculture by improving the Company's ability to store and distribute water. This Project helps meet environmental needs by ensuring the continued viability of the Sanchez Reservoir. Tourism, boating and fishing bring needed funds into one of the poorest communities of Colorado. This Project also reduces the risk of flooding in the area.

Discussion:
As identified in the SWSI findings, small agricultural water users often lack the financial ability to adequately address infrastructure needs without financial aid. The Company does not possess the financial resources to make the improvements to efficiently and safely utilize its existing water rights without the loan and grant funding. In addition, the SWSI Management Objectives, of the SWSI Phase II Report: Addressing the Water Supply Gap Technical Roundtable, includes the "sustainably meet agricultural demands," which is directly met through this activity. The proposed Project effectively meets the objectives of HB 1177 and the consumptive needs of the Rio Grande Basin by rehabilitating existing infrastructure to preserve agricultural water use.

Issues/Additional Needs:
The Colorado Division of Water Resources (Division 2 office) reviewed the feasibility study and grant application and provided the following comments:

Please note we have not performed a technical review of the proposed alternatives due to their preliminary nature.

(1) *While we support the Sanchez Dam outlet rehabilitation proposed in the May 2012 feasibility report and believe it is a necessary project, we have also made the dam owner aware of our concerns with the right abutment seepage. We have advised them of the un-protected (i.e. no filter protection) nature of the seepage flow path in this area and the fact that this is a fairly serious potential failure mode that we will be tracking as reservoir levels rise. Due to this as an identified failure mode there is a potential for a State Engineer's storage restriction if seepage and piezometric levels continue to rise relative to historic levels when water becomes available to store. We don't want anyone to be surprised if after spending significant time and resources on the outlet works rehabilitation, additional work related to seepage protection is mandated by this office.*
(2) *Past borings and geologic conditions indicate a potential flaw associated with embankment soils in contact with fractured basalt at the right abutment contact. Limited monitoring data indicates increased piezometric pressure and seepage rates in the right abutment since 2004. Due to the limited historic monitoring data and the current low stage of the reservoir, we cannot say conclusively that there is an immediate problem and additional data collection would be very helpful for making that determination. We have therefore required the dam owner to improve their seepage and piezometer monitoring program. The owner agrees that accurate data is the key to assessing the urgency of the seepage problem and to possibly preventing a serious safety problem.*
(3) *We recommend that the proposed outlet rehabilitation project include, at a minimum, a new seepage collection system and measuring device(s) so that the right abutment seepage can be monitored more accurately.*
(4) *Although we don't want to push the scope of the outlet works rehabilitation beyond available funding or delay the project, we recommend that some consideration to be given to a comprehensive evaluation of the failure modes and weaknesses at this historic dam as an aid to potentially phasing project(s) for the most beneficial and timely use of those available funds, and the most efficient rehabilitation of this important structure. We understand that the owner wishes to pursue another Roundtable grant to help address the seepage problems --comprehensive planning may help to prioritize and phase work associated with multiple projects. For example, it could be beneficial to grout the right abutment at the same time if the reservoir is drained for outlet rehabilitation, in order to achieve a more successful grout curtain when there is no seepage.*

To address these concerns, the scope of work does include the installation of a 12-inch slotted drain pipe along the right side of the outlet structure to help control seepage. A weir will also be installed to measure discharge so more data can be collected to better analyze the seepage problem.

Reporting and Deliverables: All products, data and information developed as a result of this grant must be provided to CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform.

In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements provided below:

Reporting: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Deliverable: At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

Engineering: All engineering work (as defined in the Engineers Practice Act (§12-25-102(10) C.R.S.)) performed under this grant shall be performed by or under the responsible charge of professional engineer licensed by the State of Colorado to practice Engineering.

CWCB Loan Program

Financial Analysis
The Company qualifies for the agricultural interest rate of 1.75% for a 30-year term. Table 3 provides a financial summary of the loan request.

TABLE 3: LOAN FINANCIAL SUMMARY

CWCB Loan Amount (55% of total Project cost)	$1,117,600
CWCB Loan Amount (including 1% Service Fee)	$1,128,776
CWCB Annual Loan Payment	$56,133
CWCB Annual Loan Obligation (including reserve account)	$61,747
Interest only payment (est. 2015 – 2020)	$19,754
Number of Shareholders	34
Number of Shares	20,790
Current Annual Assessment (per Share)	$11.50
Annual Cost of Project (per Share)	$2.57
Annual Cost of Project (per Share including reserve account requirement)	$2.83

Creditworthiness:
The Company has two existing loans with the CWCB (C153623 and C153755A). Both loans were for rehabilitation work on the Sanchez Reservoir outlet and dam. The Company received a one-year deferment on both loans in July 2011 so it could spend the otherwise obligated loan funds on the Phase I Assessment & Upgrade study.

In 2009, 2010 and 2011 assessments were set at $10.50 per share. In anticipation of the Project, assessments were increased to $11.50 per share in 2012. The cost of this Project will ultimately be an additional $2.83 per share. The Company is concerned that the additional debt service will be a burden on shareholders and asked the CWCB for assistance in scheduling the debt repayment to help balance out the debt burden. CWCB staff worked with the Company and suggested accelerating the payments on the original two loans. Upon substantial completion of the new Project, the Company will pay interest only for the first five years of repayment on the new loan. Principal and interest would be paid over the remaining 25 years. The extra payments and new payoff dates are noted in Table 3.

TABLE 4: CWCB LOAN CONTRACT SUMMARY

Loan Contract Number	Contract Dated	Contract Amount	Current Balance	Final Payment Due	Annual Payment Amount	Additional Principal Payments	New Estimated Final Payment Date
C153623	8/20/1992	$200,000	$64,431	2017	$11,485.57	$5,000	2016
C153755A	9/3/1997	$335,000	$187,644	2023	$19,900.35	$15,000*	2020
Totals		$535,000	$252,075		$31,385.92		

*Note: The additional payment on loan C153755A will begin in 2018 after C153623 is paid off.

By accelerating the repayment this way, the overall debt service per share, which is currently $1.52/share, will increase to a maximum of $2.97/share for six years and will then drop to $2.57/share for the remaining term of the new loan. Without accelerating the payments and

allowing interest only payments for the first five years, the debt service would have otherwise reached $4.48/share.

TABLE 5: FINANCIAL RATIOS

Financial Ratio	**2009-2011**	**Future w/ Project (2020+)**
Operating Ratio (operating revenues/operating expenses) weak: <100% - average: 100% - 120% - strong: >120%	108% (average) $237K/$220K	107% (average) $265K/$247K
Debt Service Coverage Ratio (total eligible revenues-operating expenses)/total debt service weak: <100% - average: 100% - 120% - strong: >120%	149% (strong) ($237K-$185K)/$35K	129% (strong) ($265K-$185K)/$62K
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	69% (average) $151K/$220K	61% (average) $151K/$247K
Annual Operating Cost per Acre-Foot (based on 15,000 AF) weak: >$20 - average: $10 - $20 - strong: <$10	$14.67 (average) $220K/15,000	$16.47 (average) $247K/15,000

Collateral: As security for the loan, the Company will pledge assessment revenues backed by a rate covenant and annual financial reporting and the undivided one hundred percent (100%) interest in and to the Sanchez Dam and Reservoir and all appurtenant structures thereto, including all lands on which these facilities are located. This is in compliance with the CWCB Financial Policy #5 (Collateral).

cc: Jerry Lorenz, President, Sanchez Ditch and Reservoir Company
Susan Schneider, AGO
Peter Johnson, AGO

Attachment: Water Project Loan Program – Project Data Sheet

CWCB Construction Loan Program
Project Data Sheet

Borrower: Sanchez Ditch and Reservoir Co.

County: Costilla

Project Name: Sanchez Reservoir Outlet Rehabilitation Project

Project Type: Dam Rehabilitation

Basin / District: Rio Grande / 24

Water Source(s): Ventero Creek

Total Project Cost: $2,032,000

Funding Sources: Construction Fund & WSRA (Basin & Statewide funds)

Type of Borrower: Agricultural

Average Diversions: 15,000 AF

Loan Amount: $1,128,776 (Including 1% fee) **Interest Rate:** 1.75% **Term:** 30 years
WSRA Grant Amounts: $55,000 Rio Grande Basin & $859,400 Statewide

The Company provides irrigation water for users in Costilla County, southwest of the town of San Luis. The Company's primary storage reservoir is Sanchez Reservoir. The approximately 104,000 acre-foot reservoir was built in 1910. The reservoir's outlet includes a 135 foot tall concrete gate tower. In order to access the gates to operate the dam, a tramway/gondola runs along a cable and is powered by a portable gasoline generator. Because daily access to the tower is required during irrigation season, the reliability and safety of the gondola system has been a concern of the Company. Using loan and grant funds, the Company intends to address the safety and operational management concerns at the reservoir through the demolition of the gate tower; the installation of new control gates and operators; lining the existing outlet conduit with shotcrete; repairing the downstream outlet structure; and, installing a new perimeter drain and weir along the right side of the outlet structure to control seepage. The project schedule is estimated as: final design and State Engineer's Office (SEO) approval between January 2013 and January 2014; bid the project in May of 2014; award the bid by June of 2014; start construction in September of 2014; complete construction by March of 2015.