



**COLORADO**  
**Colorado Water  
Conservation Board**  
Department of Natural Resources

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John Hickenlooper, Governor  
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**TO:** Colorado Water Conservation Board Members

**FROM:** Derek Johnson, P.E., Project Manager  
Kirk Russell, P.E. Finance Section Chief

**DATE:** November 16-17, 2016 Board Meeting

**CONSENT AGENDA:** 2a. Change to Existing Loans  
West Reservoir and Ditch Company  
Repair of West Reservoir No.1 Outlet Works

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### Guidance

At the May 2005 Board Meeting, the Board authorized staff to present as Consent Agenda items increases to existing loans that are less than 20% of the original loan request. This request is for an increase of approximately 10.2% of the original loan amount.

### Introduction

The West Reservoir and Ditch Company (Company) received approval of a \$248,378 CWCB loan (CT2015-169) at the November 2014 Board Meeting to finance the Repair of West Reservoir No.1 Outlet Works (Project). The purpose of the Project is to meet the State Engineer's Office Dam Safety Branch (SEO) requirements by constructing a new outlet works conduit, intake structure, a manually-operated slide gate, trash racks, downstream stilling basin, and upstream riprap slope protection. The total Project cost was originally estimated at \$471,577. Changes which occurred during construction resulted in additional costs for construction and associated engineering design. The revised project cost is estimated at \$496,577, an increase of approximately 5.3% for the total Project. The Company is requesting a loan increase to cover \$25,000 in additional Project costs. See attached Project Data Sheet for a location map and Project summary.

### Staff recommendation

Staff recommends the Board approve a loan increase of \$25,250 (\$25,000 for Project costs and \$250 for the 1% Loan Service Fee), for a total loan not to exceed \$273,628 (\$270,919 for Project costs and \$2,709 for the 1% Loan Service Fee) to the West Reservoir and Ditch Company for engineering and construction costs related to the Repair of West Reservoir No.1 Outlet Works Project from the Severance Tax Perpetual Base Fund. Loan terms shall remain 30 years at the agricultural interest rate of 2.0% per annum. Security for the loan shall remain as originally approved and remains in compliance with CWCB Financial Policy #5.



### Background

The Company was originally founded for the purposes of the construction of West Reservoir No. 1 and the Wakefield Ditch in 1905. Those structures were designed to convey irrigation water from branches of Jay Creek, eastward across Oak Mesa for delivery to the Basin and Wakefield Mesa near Paonia. The water is used as stock water as the ditch runs east across 1,100 acres of private land, then onto 600 acres of BLM grazing lease. From there it is used to irrigate three ranches' hay fields and pastures. Return flows enter Roatcap Creek, augmenting irrigation water for the Overland Ditch and the Fire Mountain Canal.

West Reservoir was improved in the 1950s, but over the years became in need of repair. As a result of an annual inspection of West Reservoir by the SEO and video inspection of the dam outlet pipe in May of 2103, the SEO delivered a "no fill" storage restriction order for the reservoir. The SEO determined that the existing deteriorated outlet pipe is not a candidate for rehabilitation using cast-in-place pipe lining or traditional grouted in-place slip-lining because of the condition of the existing pipe, the change in grade, and a gap in the pipe located about 36 feet from the downstream end. In a June 2013 letter the SEO requested a design for replacement of the outlet pipe be developed. The reservoir was subsequently drained by the use of pumps rather than the existing outlet pipe.

### Borrower - West Reservoir and Ditch Company

West Reservoir and Ditch Company is a non-profit mutual ditch company founded in 1908. The Company, in good standing with the Secretary of State, comprises three shareholders, who respectively own 969, 396, and 96 shares of the Company's total 1,200 shares. The Company's only source of revenue comes from shareholder assessments. Per the Company's bylaws, Company stock can be assessed for "construction, operation, maintenance, repairs, and betterment of the system". Assessments are set annually at the shareholders' meeting, based upon Company projections of expenses for each coming year.

### Water Rights

West Reservoir is an off-stream reservoir, collecting run-off water from the mountains surrounding the Jay Creek drainage and the Roatcap Creek drainage. Company water rights include 454 acre feet of storage rights, and 55.3 CFS of surface water rights to meet the storage right. The 454 acre feet storage has an appropriation date of 1905.

TABLE 1: IMPACTED WATER RIGHTS

Name	Amount	Appropriation Date	Adjudication Date	Water Court Case No.
WEST RESERVOIR	454.5 AF	1905-10-19	1914-06-23	CA0617
WEST RES SUPPLY D EXT	36 CFS	1950-10-03	1954-03-20	CA3503
WEST RES SUP D EX NO 2	19.3 CFS	1950-10-01	1964-01-31	CA4808

The average annual diversions of the Company are 604 AF.

### Project Update

During project construction, the SEO requested changes to the slope of the excavation to improve safety and reduce the likelihood of the stepped excavation sloughing off into the open cut. As the material was excavated, upwards of 25% of the removed material was found to have unacceptably high organic content, and would need to be replaced in the backfill operations with better material. In addition, upon excavation down to the level of the outlet works piping, underground spring seepage was discovered, resulting in the new outlet works piping being redesigned and moved eight feet lower than originally planned. These construction phase changes resulted in the requirement of additional excavation, embankment, and procurement of select fill. Additional embankment moved was estimated at 4,000 cubic yards.

The revised Project costs are shown in Table 2 below.

**TABLE 2: ESTIMATED PROJECT COST**

Task Description	Original Amount	Updated Amount
Drain Reservoir	\$ 45,260	\$ 45,260
Construction	\$ 383,446	\$ 400,446
Engineering	\$ 42,871	\$ 50,871
Total	\$ 471,577	\$ 496,577

**Schedule:** The SEO performed a final construction inspection of the Project on September 28, 2016. Approval of the Company's request for temporary storage by the SEO has been received and removal of the SEO storage restriction is anticipated upon completion of final SEO documentation.

#### **Financial Analysis**

The Company qualified for a 2.0% agricultural interest rate for a 30-year repayment term.

The Company was approved in September of 2014 for a grant from the CWCB Water Supply Reserve Fund (WSRF) in the amount of \$225,658, which has been fully disbursed except for 5% withheld pending receipt of final project reporting.

**TABLE 3: FINANCIAL SUMMARY**

	Original Approval	Current Request
Total Project Cost	\$ 471,577	\$496,577
WSRA Grant	\$ 225,658	\$ 225,658
CWCB Loan	\$ 245,919	\$270,919
CWCB Loan (Including 1% Service Fee)	\$ 248,378	\$273,628
CWCB Annual Loan Payment	\$ 11,090	\$12,217
CWCB Annual Loan Obligation (incl. 10% debt reserve funding)	\$ 12,199	\$13,439
Cost of Project per acre-foot of water storage (454 AF Restored)	\$ 1,039	\$ 1,094
Current Assessment per Share (1200 shares)	\$ 3.88	\$ 3.88
Future Assessment per Share (1200 shares)	\$ 12.40	\$ 13.43

#### **Creditworthiness:**

At this time the Company has no existing debt outside of this existing loan in disbursement. The Company meets annually and assesses shareholders for anticipated expenses for the coming year. The Company plans to levy annual assessments per share throughout the life of the loan to cover debt obligations created by this loan.

TABLE 4: FINANCIAL RATIOS

Financial Ratio	Past 3 Years	Future w/ Project
Operating Ratio (revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	113% (average) \$18.2K/\$16.1K	107% (average) \$31.6K/\$29.5K
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	No Debt	116% (average) (\$31.6K-\$16.1K) / \$13.4K
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	108% (strong) \$17.4K/\$16.1K	59% (average) \$17.4K / \$29.5K
Annual Operating Cost per Acre-Foot (604 AF) weak: >\$20 - average: \$10 - \$20 - strong: <\$10	\$36 (weak) \$16.1K/604 AF	\$49 (weak) \$29.5K/604 AF

**Collateral:** Security for the loan will remain as a pledge of assessment revenues and the water rights described in Table 1. This is in compliance with the CWCB Financial Policy #5 (Collateral).

cc: Nick Hughes, President, West Reservoir and Ditch Company  
Jennifer Mele, Colorado Office of the Attorney General

Attachment: Water Project Loan Program - Project Data Sheet



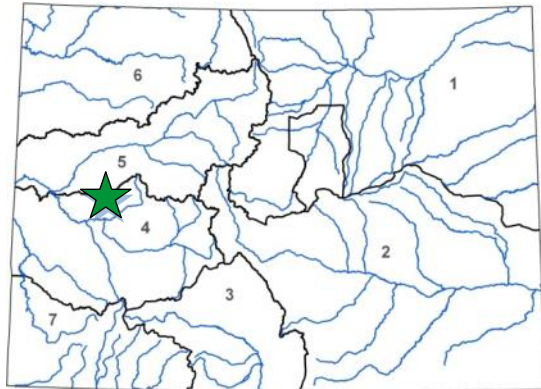
## Repair of West Reservoir No.1 Outlet Works

West Reservoir and Ditch Company

November 2016 Board Meeting

(Loan Increase)

L O A N   D E T A I L S	
Project Cost:	\$496,577
CWCB Loan (with Service Fee):	\$273,628
Loan Term and Interest Rate:	30 Years @ 2%
Funding Source:	Severance Tax Perpetual Base Fund
B O R R O W E R   T Y P E	
Agriculture	Municipal
100%	0%
Commercial	
0%	
P R O J E C T   D E T A I L S	
Project Type:	Dam Rehabilitation
Average Annual Delivery:	604 AF
Storage Preserved:	455 AF



L O C A T I O N	
County:	Delta
Water Source:	Jay Creek
Drainage Basin:	Gunnison
Division:	4
District:	40

The West Reservoir and Ditch Company operates West Reservoir No. 1, providing water seven miles eastward via Wakefield Ditch to Wakefield Mesa. Diversions are available for livestock as it traverses east Oak Mesa and irrigates approximately 600 acres of hay and pasture. The current landowners use the Oak Mesa Reservoir and Ditch water for spring irrigation and, when those flows are exhausted, use West Reservoir water for mid-summer to fall irrigation. West Reservoir No. 1 was improved in the early 1950s, but was under a storage restriction order from the Office of the State Engineer due to deterioration of the outlet pipe. This project includes a low-level outlet sized to meet SEO release requirements, an outlet stilling basin structure downstream of the dam for energy dissipation, and an intake structure for a manually operated slide gate and trash racks. Construction was completed in fall of 2016.

