



**COLORADO**

**Colorado Water  
Conservation Board**

Department of Natural Resources

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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:** January 25-26, 2016 Board Meeting

**AGENDA ITEM:** 18a. Water Project Loans  
Orchard Ranch Ditch Company – Orchard Ranch Ditch Piping

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### Introduction

The Orchard Ranch Ditch Company (Company) is applying for a loan for the construction of the Orchard Ranch Ditch Piping (Project). The purpose of the Project is to reduce the amount of salt load entering into the Colorado River, which meets the goals of the US Bureau of Reclamation (Bureau) Colorado River Basin Salinity Control Program. This is to be accomplished by replacing the Company's existing conveyance system, consisting of an earthen main canal and several connected earthen laterals, with an in-place piped system. The Project will reduce seepage losses in the ditch, and help the Company manage its delivery system in proximity to encroaching development. The total Project cost is estimated to be \$1,430,720. The Company is requesting a \$150,000 loan from the CWCB to cover approximately 10% of Project costs, and the remaining costs are to be covered by a Bureau grant of \$1,280,720. See attached Project Data Sheet for a location map and a Project summary.

### Staff Recommendation

Staff recommends the Board approve a loan not to exceed \$151,500 (\$150,000 for Project costs and \$1,500 for the 1% Loan Service Fee) to the Orchard Ranch Ditch Company for the Orchard Ranch Ditch Piping Project from the Severance Tax Perpetual Base Fund. Loan terms shall be 30 years at a blended rate of 1.95% per annum. Security for the loan shall comply with CWCB Financial Policy #5.



## **Background**

The Company serves approximately 350 irrigated acres in Delta County, approximately 10 miles north of the town of Delta, diverting all its supplies via a concrete diversion structure on Surface Creek. The Company's ditch was constructed in the late 1800s by a group of early settlers cooperating to get water to their new farms, and has been in continuous operation since that time. The Company seeks to convert a ditch system to piping to improve system reliability and management, leveraging available Federal funding for the related benefit of salt load reduction.

The Colorado River Basin Salinity Control Program (Salinity Control Program) is a US Bureau of Reclamation (Bureau) program, active since the 1980s in the Gunnison Basin, with the goal of controlling and reducing salt loading to the Colorado River. Beginning in 1995 the Bureau introduced a basin-wide program to award Salinity Control Program grants to owners of irrigation delivery systems through a competitive process to be offered approximately every three years.

The Company, in a successful bid to secure such funding, utilized a grant from the CWCB through its Gunnison Basin Salinity Control Technical Assistance Program (authorized via CWCB Projects Bill HB14-1333). This program assists qualifying owners of certain irrigation infrastructure in the Gunnison Basin to plan for, and compete in, the Salinity Control Program by reimbursing them for a portion of the engineering services required to complete the application. The Company was able to demonstrate competitively effective and efficient use of Federal funding based on a cost per ton of salt reduction over a twenty-five year period. The general criteria for a successful application is \$50 to \$70 per ton of salt reduction, and the Company was able to demonstrate \$53.16 per ton reduction.

The piping project will accomplish two main goals:

- 1) Decrease the amount of salt entering into the Colorado River by an estimated 1,004 tons each year over the planned 50-year lifespan of the Project.
- 2) Modernize the irrigation delivery system for the shareholders of the Orchard Ranch Ditch. The piped system will be pressurized for a third of the area served by the system, resulting in increased opportunities for shareholders to implement water saving irrigation practices such as sprinkling. The Project will also increase the amount of water available for irrigation by decreasing canal transit losses.

## **Loan Feasibility Study**

Paul Kehmeier, Company Vice President, prepared the Loan Feasibility Study titled "Feasibility of Piping the Orchard Ranch Ditch", dated November, 2015, with technical assistance from Brian Deeter, P.E. of J-U-B Engineers, Inc. The study includes an analysis of alternatives, preliminary engineering design, and cost estimates in accordance with CWCB guidelines.

## **Borrower - Orchard Ranch Ditch Company**

The Company is a Colorado mutual ditch company and a non-profit corporation, incorporated in 1915, in good standing with the Colorado Secretary of State. The Company has 34 shareholders and has issued 17,280 shares of stock. The Company's revenues are derived from shareholder fees and assessments charged on shares of stock owned by stockholders. The Company owns their main diversion structure, two Parshall flumes, nine diversion boxes, and the ditch system itself, located within prescriptive easements.

The Company has a three-member board of directors. The Company's by-laws authorize the shareholders to determine assessments on all stock for the purpose of maintenance, upkeep, and repairs. The Board has the authority to take measures to enforce assessments, including the suspension of water deliveries and eventual sale or forfeiture of shares for failure to pay assessments.

## Water Rights

The Company has the following decreed water rights:

TABLE 1: WATER RIGHTS

Name	Amount	Appropriation Date	Adjudication Date
Orchard Ranch Ditch	5.7 cfs	5/9/1883	6/17/1889
Orchard Ranch Ditch	6.45 cfs	6/17/1889	9/28/1907
Orchard Ranch Ditch	10 cfs	6/1/1920	1/31/1964

In addition to the Company's water deliveries based on water rights, the system delivers additional water from upstream reservoirs to shareholders that own such storage rights. Annual deliveries have ranged from about 2,500 to 3,000 acre-feet, three quarters being natural stream flows and one quarter being storage water. All water is routed through the Company's main diversion structure on Surface Creek.

## Project Description

The Company considered the following Project alternatives:

**Alternative 1 - Do Nothing:** This alternative was considered undesirable since the Company would then be unable to leverage 90% in Federal grant funding to accomplish both the system-modernizing goals of the Company and the salt loading reduction goals of the USBR.

**Selected Alternative 2 - Pipe the ditch and portions of four laterals:** The Project will replace approximately 8,260 feet of earthen main canal and 2,560 feet of earthen laterals with underground pipe. In some sections multiple pipes lying side by side will be used instead of a single pipe in order to better manage and control water distribution to shareholders. In all, approximately 16,660 feet of pipe will be laid. A new headgate and screening structure will be constructed at the inlet of the piping system. The existing diversion in the creek and spillway are functioning well and will be modified slightly to connect to the new piped system.

Costs for the selected alternative are shown in the following table:

TABLE 2: ESTIMATED PROJECT COST

Task	Cost
Design	\$ 95,780
NEPA Compliance and Cultural Resources	\$ 23,900
Construction	\$ 1,197,290
Construction Management	\$ 47,890
Habitat Replacement	\$ 59,860
A-133 Federal Audit	\$ 6,000
Total	\$ 1,430,720

**Permitting:** No permitting issues are anticipated.

**Schedule:** The Company plans to start engineering design upon approval and contracting of USBR Salinity Program funding anticipated in early 2016. The construction phase is anticipated in early 2017,

concluding prior to irrigation season of the same year. CWCB will be involved in this Project throughout the Design & Construction process. While CWCB loan funds will support only 10% of the overall Project cost, CWCB will review all Project invoicing.

### Financial Analysis

Company shareholder uses are mixed. Ownership is 14% low-income municipal and 86% agricultural. Blending this mix of users under the current interest rates, the Company qualifies for a 1.95% interest rate for a 30-year term.

In addition to the loan, the Company is in the process of applying for additional funding for a WSRA basin grant and a Colorado River District grant. the Bureau grant has been approved and is in the contracting phase. If the Company is unsuccessful in obtaining additional grant funds, it will finance the balance of the Project with a CWCB loan as presented in Table 3. If additional grant funds are received, they will either be disbursed as the Project progresses or the funds will be applied to the loan balance within 30 days of receipt.

TABLE 3: FINANCIAL SUMMARY

Total Project Cost	\$1,430,720
U.S. Bureau of Reclamation Grant (90%)	\$1,280,720
CWCB Loan Amount	\$150,000
CWCB Loan Amount (Including 1% Service Fee)	\$151,500
CWCB Annual Loan Payment	\$6,718
CWCB Annual Loan Obligation (including reserve account)	\$7,390
Annual Loan Obligation per share (17,280 Shares)	\$0.43
Current Assessment per share	\$0.40
Proposed Future Assessment per share with project	\$0.87 <sup>(1)</sup>

*Note (1) - An estimated annual increase of \$1000 in future maintenance expenses is included in projected Company assessments*

**Creditworthiness:** The Company plans to increase assessments significantly in the 2016 water year to accommodate the anticipated CWCB debt service and increased maintenance costs of the improved system. The Company carries no existing debt.

TABLE 4: FINANCIAL RATIOS

Financial Ratio	Past Years	Future w/ Project
Operating Ratio (revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	106% (average) \$8.7K / \$8.2K	101% (average) \$16.8K / \$16.6K
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	NA	103% (average) (\$16.8K-\$9.2K) / \$7.4K
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	62% (average) \$5.1K / \$8.2K	32% (weak) \$5.3K / \$16.6K
Annual Operating Cost per Acre-Foot Diversions (2,750 AF) weak: >\$20 - average: \$10 - \$20 - strong: <\$10	\$2.99 (strong) \$8.2K / 2,750 AF	\$6.04 (strong) \$16.6K / 2,750 AF

**Collateral:** As security for the loan, the Company will pledge its assessment revenues backed by an assessment covenant and the Project itself (including the main diversion structure and new pipeline installed). This complies with CWCB Financial Policy #5 (Collateral).

cc: Paul Kehmeier, Vice president, Orchard Ranch Ditch Company  
Susan Schneider/Jennifer Mele, Colorado Attorney General Office

Attachment: Water Project Loan Program - Project Data Sheet

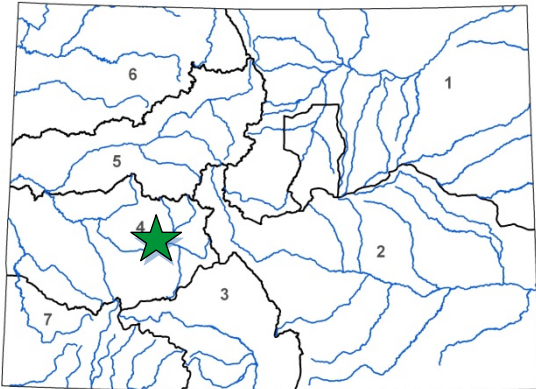


## Orchard Ranch Ditch Pipe Project

Orchard Ranch Ditch Company

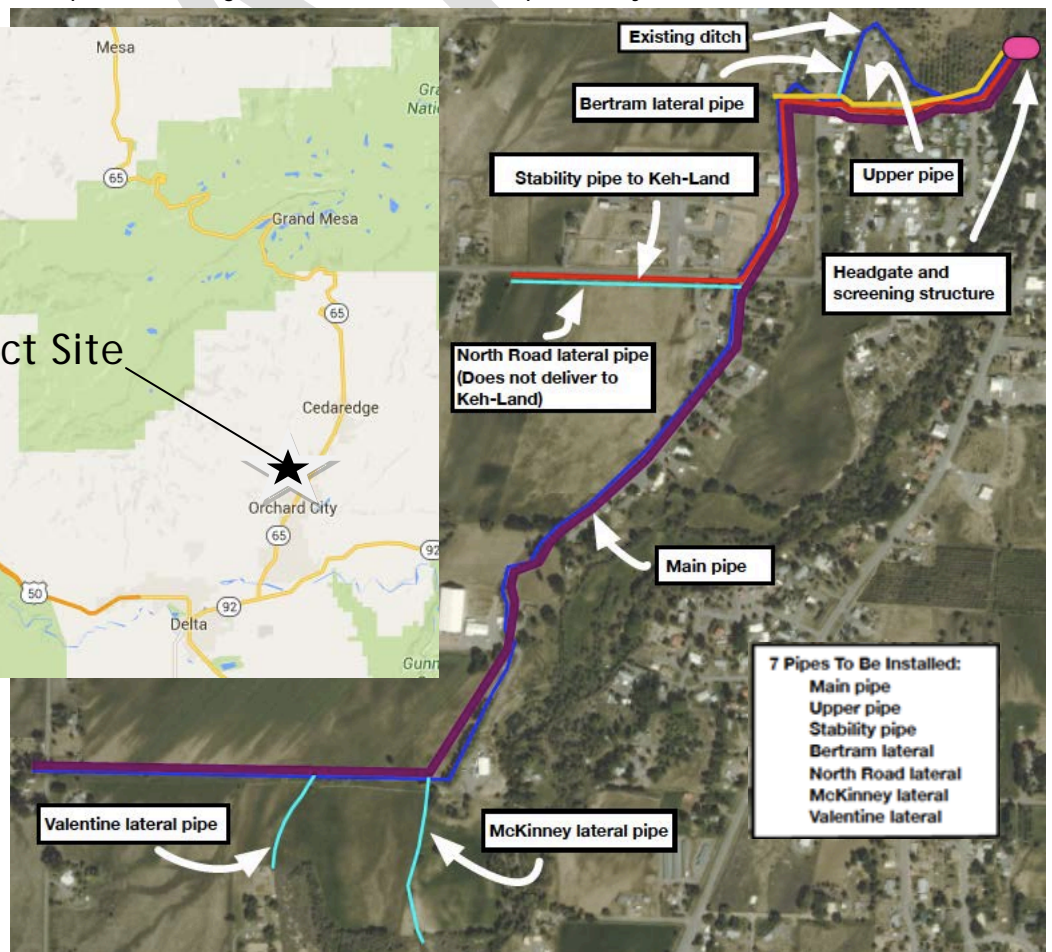
January 2016 Board Meeting

L O A N   D E T A I L S	
Project Cost:	\$1,430,720
CWCB Loan (with Service Fee):	\$151,500
Loan Term and Interest Rate:	30-Years @ 1.95%
Funding Source:	Severance Tax Perpetual Base Fund
B O R R O W E R   T Y P E	
Agriculture	Municipal      Commercial
86%	14% Low - 0% Mid - 0% High      0%
P R O J E C T   D E T A I L S	
Project Type:	Ditch Rehabilitation
Average Annual Delivery:	2,750 AF



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

The Company serves approximately 350 irrigated acres in Delta County, approximately 10 miles north of the town of Delta, diverting all its supplies via a concrete diversion structure on Surface Creek. The Company's ditch was constructed in the late 1800s by a group of early settlers cooperating to get water to their new farms, and has been in continuous operation since that time. The proposed project will pipe the 1.6 mile long main earthen canal and portions of 4 laterals. The project will be done in conjunction with the U.S. Bureau of Reclamation's Colorado River Basin Salinity Control Program. Approximately 90% of project costs will be provided by a grant from the the U.S. Bureau of Reclamation. Construction is expected to begin in mid-2016 with completion by mid-2017.



**7 Pipes To Be Installed:**  
Main pipe  
Upper pipe  
Stability pipe  
Bertram lateral  
North Road lateral  
McKinney lateral  
Valentine lateral