



**COLORADO**

**Colorado Water  
Conservation Board**

Department of Natural Resources

1313 Sherman Street  
Denver, CO 80203

P (303) 866-3441  
F (303) 866-4474

John Hickenlooper, Governor

Robert Randall, DNR Executive Director

Rebecca Mitchell, CWCB Director

**TO:** Colorado Water Conservation Board Members

**FROM:** Jonathan Hernandez, P.E., Project Manager  
Kirk Russell, P.E., Finance Section Chief

**DATE:** September 20-21, 2017 Board Meeting

**AGENDA ITEM:** 15c. Water Project Loans  
Centennial Irrigating Ditch Company – Centennial Diversion Replacement

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### Introduction

The Centennial (sic) Irrigating Ditch Company (Company) is applying for a loan for the Centennial Diversion Replacement (Project). The purpose of the Project is to improve the existing Centennial Ditch diversion structure on the Rio Grande River. The total Project cost is estimated to be \$512,000. This Project is one of the five projects that the Colorado Rio Grande Restoration Foundation grouped together for a single WSRF grant request, titled “Five Ditches: Rio Grande Diversion and Headgate Improvement Project” (Five Ditches). That grant request will be presented as Agenda Item 22j at this Board Meeting. The Company is requesting this loan to cover 100% of its project cost share. See attached Project Data Sheet for a location map and Project summary.

### Staff Recommendation

Staff recommends the Board approve a loan not to exceed \$232,300 (\$230,000 for Project costs and \$2,300 for the 1% service fee) to the Centennial Irrigating Ditch Company for costs related to the Centennial Diversion Replacement Project, from the Severance Tax Perpetual Base Fund. The loan terms shall be 20 years at a reduced agricultural interest rate of 1.50% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.



### **Background**

The Company's diversion and headgate structures are located four miles east of Monte Vista on the Rio Grande. Its irrigation ditch is approximately 22 miles long and irrigates approximately 8,500 acres. The diversion is located within the Rio Grande State Wildlife Area and the Higel State Wildlife Area lies within the ditch's service area. The diversion was highlighted as a river rehabilitation priority in a 2001 study titled "Rio Grande Headwater Restoration Project." That study analyzed the condition of riparian habitats and structures along a 91-mile reach of the Rio Grande from the town of South Fork to Alamosa, and was sponsored by the San Luis Valley Water Conservancy District and funded with a WSRF grant from the CWCB. A 2007 Rio Grande Watershed Restoration Strategic Plan highlighted the importance of continued efforts to implement the recommendations from the 2001 study.

Previous work resulting from the 2001 study includes the Plaza Project; a multi-phased project intended to improve the health and function of the Rio Grande River in the Sevenmile Plaza area through stream bank restoration, wetland restoration, and the replacement of aging and inefficient diversion and headgate structures. The Plaza project included the McDonald Ditch Implementation Project (CWCB loan C150334 and WSRF grant C150492) and the Prairie Ditch Implementation Project (CWCB loan CT2015-134 and WSRF grant CTGG1 2015-295). This Project is not within the Sevenmile Plaza but will be implemented in the same fashion as the Plaza implementation projects.

The Company partnered with the Colorado Rio Grande Restoration Foundation (Foundation), the fiscal agent for the Rio Grande Headwater Restoration Project (RGHRP), to organize and raise funds for the Project. The Foundation similarly worked with four other ditch companies and consolidated those needs into the "Five Ditches" WSRF grant request. The Consolidated Ditch and Headgate Company is one of the five ditches and received approval of a CWCB loan to cover its project cost share at the CWCB July 2017 Board Meeting. The other three ditch companies do not anticipate needing a CWCB loan to cover its respective cost share.

### **Loan Feasibility Study**

Emma Reesor, Executive Director, Rio Grande Headwaters Restoration Project prepared the Loan Feasibility Study titled, "Feasibility Study - Centennial Ditch Implementation Project," dated August 1, 2017. The feasibility study was prepared in accordance with CWCB guidelines. Chris Pitcher, P.E., with Riverbend Engineering, and Laurie Clarke, P.E., with NRCS provided an analysis of alternatives and engineering cost estimates. Financial statements were provided by the Company.

### **Borrower - Centennial Irrigating Ditch Company**

The Company is a Mutual Ditch Company incorporated in 1883. It operates as a nonprofit corporation and exists with the Colorado Secretary of State. The Company is governed by a five-member board of directors responsible for general supervision over the affairs of the Company. Nearly all revenues are derived from annual stockholder assessments.

The Company is made up of 144 shares held by 22 stockholders. Assessments are set annually by the stockholders but the Board has the power to set assessments necessary for the maintenance and repair of the Company's ditch system if the stockholders fail to do so. Additionally, the Board has the power to cease water deliveries until assessments are paid, and may further enforce unpaid assessments through liens and the eventual sale of delinquent stock certificates.

## Water Rights

The Company owns the following water rights:

TABLE 1: CENTENIAL DITCH WATER RIGHTS

Name	Amount (CFS)	Appropriation Date	Adjudication Date	Water Court Case No.
Centennial Ditch	47.4	4/20/1874	5/1/1896	5/1/1896 <sup>1</sup>
Centennial Ditch	35.0	6/23/1879	5/1/1896	5/1/1896 <sup>1</sup>

<sup>1</sup> "5/1/1896" was the historic Rio Grande water court naming convention.

Average annual diversions are 21,700 AF.

## Project Description

The objective of the Project is to replace the deteriorating and inefficient Centennial Ditch diversion structure and stabilize the adjacent streambanks. The Headgate structure was recently improved and no further work is needed. Project stakeholders evaluated to following alternatives.

**Alternative 1 - No Action:** This alternative was not selected because the diversion dam is in poor condition and unable to divert sufficient water during low flow. The Company currently installs wood planks, straw bales, and other material in order to divert its water which has been both hazardous and inefficient.

**Alternative 2 - Concrete Diversion Dam:** This alternative would be designed by NRCS and resemble the McDonald diversion structure recently installed as part of the Plaza project. A 2009 NRCS cost estimate approximated this alternative to cost \$1.3 Million. This alternative was not selected because the cost was prohibitive for the Company.

**Selected Alternative 3 - Grouted Rock Diversion Dam:** This alternative, designed by Riverbend Engineering, would resemble the Prairie diversion structure recently installed as part of the Plaza project. Project components include the diversion, a rock deflector, channel shaping, and streambank stabilization.

The existing diversion dam will be replaced with a grouted rock diversion dam spanning the width of the river. The dam will include a low flow channel to allow for sediment transport. Project stakeholders worked with Colorado Parks and Wildlife (CPW), and at CPW's request, final design will incorporate a partial fish barrier to protect native fish upstream from downstream non-native predators such as the pike. A plunge pool will be constructed for energy dissipation and a rock sill will be installed in the bed of the channel to reduce erosion.

In addition to the diversion dam, the existing rock deflector above the Company's headgate will be enhanced to better facilitate the movement of debris and sediment downstream. Eroding streambanks within the project area will be sloped, stabilized, revegetated, and fish habitat structures will be installed. Willow transplants will be planted throughout the project site for bank protection and improved riparian habitat.

The total cost estimate associated with the Project is \$512,000 as shown in Table 2.

**TABLE 2: ESTIMATED PROJECT COST**

Task	Total
Final Design	\$28,000
Diversion Replacement	\$407,000
Channel Shaping & Streambank Stabilization	\$6,000
Monitoring (Construction Management)	\$43,000
Outreach and Education	\$3,000
Administration	\$25,000
<b>TOTAL</b>	<b>\$512,000</b>

**Permitting:** Work will occur within existing ditch easements and rights-of-way. Project partners have met with the US Army Corps of Engineers and work is planned to fall under the Nation Wide Permits.

**Schedule:** Final design will be completed by fall 2017. Construction is anticipated to occur between the 2017 and 2018 irrigation seasons.

#### **Financial Analysis**

Table 3 provides a summary of the Project's financial aspects. The Company qualifies for an agricultural interest rate of 1.75% for a 30-year term. The Company is seeking a 20-year term and thus the interest rate will be reduced by 0.25% to 1.50% per CWCB Financial Policy #7 (Lending Rate Determination).

**TABLE 3: FINANCIAL SUMMARY**

Total Project Cost	\$512,000
RGHRP (In-Kind)	\$9,000
WSRF Grant (Centennial's Share)	\$273,000
CWCB Loan Amount	\$230,000
CWCB Loan Amount (Including 1% Service Fee)	\$232,300
CWCB Annual Loan Payment	\$13,530
CWCB Annual Loan Obligation (1 <sup>st</sup> Ten Years)	\$14,884
Number of Shares	144
Annual Loan Obligation per Share	\$103
Current Assessment per Share	\$300

**Creditworthiness:** The Company has no existing debt.

TABLE 4: FINANCIAL RATIOS

Financial Ratio	Past 3 Years	Future w/ Project <sup>1</sup>
Operating Ratio (revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	113% (average) \$43.3K/\$38.4K	100% (average) \$53.4K/\$53.3K
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	NA	101% (average) (\$53.4K-\$38.4K) \$14.9K
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	110% (strong) \$42.4K/\$38.4K	80% (average) \$42.4K/\$53.3K
Annual Operating Cost per Acre-Foot (21,700 AF) weak: >\$20 - average: \$10 - \$20 - strong: <\$10	\$1.77 (strong) \$38.4K/21,700 AF	\$2.46 (strong) \$53.3K/21,700 AF

<sup>1</sup>Assumes an increase of assessments by \$70/share for a total assessment of \$370/share.

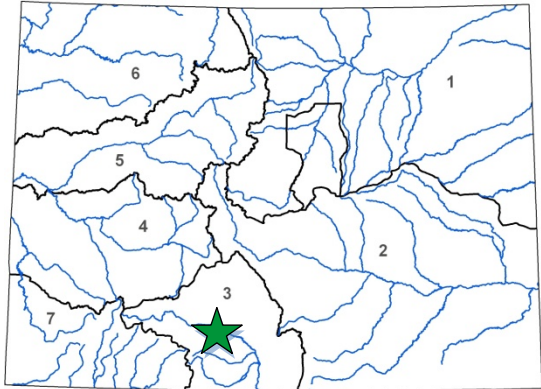
**Collateral:** Security for this loan will be a pledge of assessment revenues back by a rate covenant and the Project Itself (diversion dam). This security is in compliance with the CWCB Financial Policy #5 (Collateral).

cc: James Higel, President, Centennial Irrigating Ditch Company  
Jennifer Mele, Colorado Attorney General's Office

Attachment: Water Project Loan Program - Project Data Sheet



L O A N   D E T A I L S	
Project Cost:	\$512,000
CWCB Loan (with Service Fee):	\$232,300
Loan Term and Interest Rate:	20 Years @ 1.50%
Funding Source:	Severance Tax PBF and WSRF Grant
B O R R O W E R   T Y P E	
Agriculture	Municipal      Commercial
100%	0% 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:	21,700 AF



L O C A T I O N	
County:	Rio Grande
Water Source:	Rio Grande
Drainage Basin:	Rio Grande
Division:	3      District: 20

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