



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

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**TO:** Colorado Water Conservation Board Members

**FROM:** Cole Bedford, P.E., Project Manager  
Kirk Russell, P.E., Finance Section Chief

**DATE:** November 20-21, 2019 Board Meeting

**AGENDA ITEM:** 10b Water Project Loans  
Spring Dale Ditch Company - Diversion Structure Replacement Project

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### Introduction

The Spring Dale Ditch Company (Company) is applying for a loan for their Diversion Structure Replacement (Project). Their existing diversion structure diverts from the South Platte, which is then conveyed by Spring Dale Ditch to 3,500 acres of agricultural land between Atwood and Sterling. The diversion and headgate structures are more than 70 years old and cracking and general decay are visible on both. The current configuration of the infrastructure also results in a significant buildup of sediment which will be reduced by replacing the infrastructure. To address these issues, the Company proposes to replace both the diversion structure and headgate with a single, combined structure at the location of existing diversion structure. This new configuration will reduce sediment buildup upstream of the headgate. The Project includes all planning, design, and associated construction costs. The total project cost is estimated to be \$1,210,000. The Company is requesting a loan to cover 100% of the project cost. See attached Project Data Sheet for a location map and Project summary.

### Staff Recommendation

Staff recommends the Board approve a loan not to exceed \$1,222,100 (\$1,210,000 for Project costs and \$12,100 for the 1% loan service fee) to the Spring Dale Ditch Company for the Diversion Structure Replacement Project from the Severance Tax Perpetual Base Fund. The loan terms shall be 30 years at a blended rate of 1.45% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.



### **Borrower - Spring Dale Ditch Company**

The Company is a mutual ditch company incorporated in July 1886 to construct and operate the Spring Dale Ditch. It currently has 51 shareholders with 831.5 total shares and is managed by a board of six directors elected from the body of Company stockholders for three-year terms. The Company is recognized by the Secretary of State as an existing entity.

### **Background**

The Company diverts water from the South Platte to agricultural fields north of the river. Sometime around the 1940's the existing diversion structure and ditch headgate were constructed. Because the headgate was placed several hundred feet down the ditch, rather than at the point of diversion on the river, low velocity flows result in continuous sediment deposition and the need for annual removal. As a result of the 1965 South Platte River flooding, the majority of the river's flow began passing through a southern braid of the river which bypasses the ditch structure. Therefore, the Company started to maintain a sand dam about a mile upstream of the diversion to force the river into the northern channel and into the diversion structure. The Company maintains the dam to this day, which typically requires annual reconstruction after high spring flows.

### **Loan Feasibility Study**

Matt Harris, P.E., with *Harris Engineering Consultants, Inc.*, prepared the Loan Feasibility Study titled, "Feasibility Report: Spring Dale Ditch Company, Diversion Structure Replacement Project," dated September 27, 2019. The feasibility study was prepared in accordance with CWCB guidelines and includes an alternative analysis and construction costs estimates. Financial Statements prepared by *Johnson and Associates, CPAs, PC* for the years 2016, 2017, and 2018 were included as an appendix to the study.

### **Water Rights**

Water is diverted at the Company's headworks located on the north bank of a braided section of the South Platte River at stream mile 77. The average historical diversion is approximately 8,150 acre-feet, however, due to the implementation of augmentation plans and infiltration sites across the service area, diversion rates have increased to an average of 12,780 acre-feet over the last five years.

**TABLE 1: Water Rights**

Name	Amount	Appropriation Date	Adjudication Date	Water Court Case. No.
Spring Dale Ditch	62.275 cfs	07/19/1886	11/15/1894	CA0304

### **Project Description**

The purpose of the Project is to improve the functionality and reliability of the Company's diversion and conveyance infrastructure.

**Alternative 1 - No Action:** If no project is pursued, the headgate and diversion structures will continue to deteriorate and the Company will continue to invest a significant amount of capital each year in maintenance.

**Alternative 2 - Build New Structure Upstream:** This alternative would involve replacing the existing diversion structure and headgate approximately one mile up river, near the location of the existing sand dam. This would also require extending Spring Dale Ditch the additional mile to meet the new headworks. While this alternative would eliminate the need for the sand dam, difficulties are also presented, including the need to acquire easements, to construct a new access road with a potential floodplain impact, and to file a change with the water court. This alternative including planning, design, and construction is estimated to cost \$1,853,000.

**Selected Alternative 3 - Replace Existing Structure at/near Present Location:** Under this alternative, the existing structures would be completely removed and replaced at or near their current location, but with a different orientation to reduce sediment deposition. The new headgate would be integrated into the new diversion structure rather than placed farther down the ditch as is currently the case. Little to no modification of the ditch itself would be required outside of the demolition of the existing headgate. The new infrastructure would consist of a new reinforced concrete structure diversion and headgate structure, a 48-foot long Obermeyer bladder gate in the river channel, a 15-foot Obermeyer gate in the ditch, and a control building housing the gate air supply and control systems. This alternative would leave the upstream sand dam in place and will require the continuation of its annual maintenance. This alternative including planning, design, and construction is estimated to cost \$1,210,000.

Because of the comparative simplicity of construction and its lower cost, Alternative 3 - Replace Existing Structure at/near Present Location is the preferred alternative. The estimated cost of this alternative is \$1,210,000 as shown in Table 2 below.

TABLE 2: ESTIMATED PROJECT COST

Task	Total
Planning, Design, and Legal	\$61,500
Construction	\$1,148,500
<b>TOTAL</b>	<b>\$1,210,000</b>

**Permitting:** All work will occur within the existing long-standing ditch right-of-way and no additional easements will be required. The Company does not anticipate the need to obtain any permits for this Project and they expect exemption from 404 permitting by Statutory Exemption, 33 CFR Section 323.4(a)3, addressing construction and maintenance projects not requiring permits.

**Schedule:** Construction will occur between the 2020 and 2021 irrigation seasons. In preparation, design work and ordering of long-lead-time items will take place in the summer of 2020. Bidding and contracting is expected to take place in late summer with the contractor on the ground in the fall.

#### Financial Analysis

Table 3 provides a summary of the Project's financial aspects. The Company qualifies for a blended interest rate of 1.45% (Ownership: 97% agricultural, 2% low-income municipal, <1% commercial) and for a 30-year term.

**TABLE 3: FINANCIAL SUMMARY**

Total Project Cost Estimate	\$1,210,000
CWCB Loan Amount	\$1,210,000
CWCB Loan Amount (Including 1% Service Fee)	\$1,222,100
CWCB Annual Loan Payment	\$50,527
CWCB Annual Loan Obligation (1 <sup>st</sup> Ten Years)	\$55,580
Number of Assessed Shares	831.5
Annual Loan Obligation per Share	\$67/share
Current Assessment per Share	\$25/share

**Creditworthiness:** If the Company were to increase their assessments to cover the entire loan obligation, their total assessment per share would be \$92/share. However, because they currently have a strong operating ratio and debt service coverage ratio, increasing the assessment by the total obligation is not necessary. A more likely scenario would see the Company raise their assessment to about \$26/share. In October 2019, the Company paid off its only long term debt. This was a loan with CWCB (C150145) for \$45,325 with annual payments of \$2,151. They paid this loan off in 16 years out of the original 30-year loan term. The Company has not increased its assessments to stockholders in more than five years. Financial indicator ratios for the Company are shown in Table 4 below.

**TABLE 4: FINANCIAL RATIOS**

Financial Ratio	Prior Years	Future w/ Project <sup>1</sup>
Operating Ratio (revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	166% (strong) \$136K/\$82K	100% (average) \$137K/\$137K
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	3929% <sup>2</sup> (strong) (\$136K-\$81K) \$1.4K	100% (average) (\$137K-\$82K) \$55K
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	344% (strong) \$282K/\$82K	205% (strong) \$282K/\$137K
Annual Operating Costs per Acre-Foot (12,780 AF) weak: >\$20 - average: \$10 - \$20 - strong: >\$10	\$6 (strong) \$82K/12.8K AF	\$11 (average) \$137K/12.8K AF

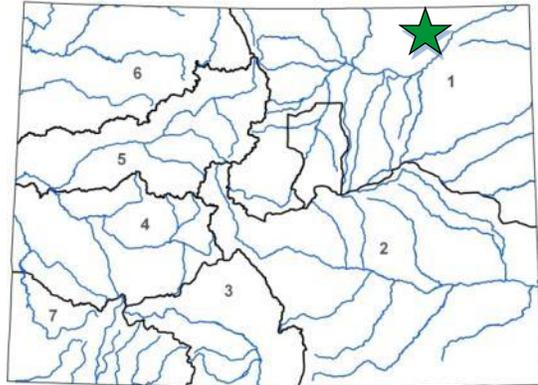
1. Assuming an assessment rate of \$26/share
2. The Company's single outstanding loan was fully repaid in 2019

**Collateral:** Security for this loan will be a pledge of assessment revenues and the project itself (new combined headgate and diversion structure). This security is in compliance with the CWCB Financial Policy #5 (Collateral).

cc: Ken Fritzler, President, Springdale 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:	\$1,210,000
CWCB Loan (with 1% Service Fee):	\$1,222,100
Loan Term and Interest Rate:	30 years at 1.45%
Funding Source:	Severance Tax Perpetual Base Fund
B O R R O W E R   T Y P E	
Agriculture	Municipal      Commercial
97%	2% Low - 0% Mid - 0% High      <1%
P R O J E C T   D E T A I L S	
Project Type:	Ditch Rehabilitation
Average Annual Diversions:	12,780 AF



L O C A T I O N	
County:	Logan
Water Source:	South Platte River
Drainage Basin:	South Platte
Division:	1      District: 64

The Springdale Ditch Company (Company) is a mutual ditch company and a non-profit corporation that was incorporated in 1886. The Company, located in Logan County, operates the Springdale Ditch for the benefit of 51 shareholders by providing direct flow of irrigation water from the South Platte River to approximately 3,500 acres by means of a diversion structure on the South Platte and a headgate, located approximately 350 feet downstream of the diversion. Both structures are well maintained, but are showing signs of deterioration. There are also operational concerns, due to system configuration, and operational safety concerns.

The project will include complete removal of the existing structures, and replacement with a single new structure near the existing diversion structure. The new structure will include an inflatable crest gate spillway, intake structure, headgate, and a control building for automated control of the system. The new structure will provide multiple benefits over the current system, including restoration of channel continuity, improved sediment transport along the river, improved fish passage, and a reduction in required dredging activities. Construction is expected to begin in the fall of 2020 and be completed by the spring of 2021.

