



**COLORADO**

**Colorado Water  
Conservation Board**

Department of Natural Resources

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**TO:** Colorado Water Conservation Board Members

**FROM:** Anna Mauss, P.E., Project Manager  
Kirk Russell, P.E., Finance Section Chief

**DATE:** November 19-20, 2014 Board Meeting

**AGENDA ITEM:** 27a - Water Project Loans  
Town of Bennett - Well #3 and #6 Replacement Project

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### Introduction

The Town of Bennett (Town), acting by and through its water activity enterprise, is applying for a loan for the Well #3 and #6 Replacement Project (Project). The Town relies on 11 wells for its municipal supply. A recent water study revealed the need to replace two of the existing wells due to the age of the wells and desire for redundancy within the water system. The estimated total Project cost is \$1,600,000. The Town is requesting a loan from CWCB for approximately 90% 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 \$1,454,400 (\$1,440,000 for Project cost and \$14,400 for the 1% service fee) to the Town of Bennett, acting by and through its water enterprise, for engineering and construction cost related to the Well #3 and #6 Replacement Project from the Construction Fund, up to the approved loan amount. The loan terms shall be 30 years at the current middle-income municipal interest rate of 3.25% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.



## Background

The Town, located 25 miles east of Denver, provides water to its residents from the 11 wells drilled into the Denver, Upper Arapahoe, Lower Arapahoe, and Laramie-Fox Hills aquifers. In 2013, Pure Cycle Corporation became the operator of the Town's water system and in 2014 completed a Water Priorities Report. The report identified operational reliability and efficiency issues within the Town's water system. If the Town's primary well were to fail, there would be an inadequate supply to meet summertime demands without severe water restrictions. The report concluded that both well #3 and #6 should be replaced.

As a result of the report, the Town hired Jehn Water Consultants, Inc. to visit the well sites. Jehn Water Consultants verified the location of the wells and recommended locations for drilling.

Well #3 is a Laramie-Fox Hills aquifer well and needs to be re-drilled as it failed due to age. Well #3 historically produced 23 acre-feet annually. It failed in 2005.

Well #6 is a dually completed well drawing water from both the Denver and Upper Arapahoe aquifers. It #6 primarily supplies the commercial water demands in the Town. The well's production has dropped to approximately 40 acre-feet annually. It has not failed, but production has diminished to a point that replacement of the well is necessary.

## Loan Feasibility Study

Trish Stiles, Town Administrator, prepared the Loan Feasibility Study, titled "Feasibility Study, Town of Bennett, Well #3 and Well #6 Replacement Project," dated October 2014. Technical support was prepared by Jehn Water Consultants and Pure Cycle Corporation. The study includes an alternative analysis and construction cost estimate. The feasibility study was prepared in accordance with the CWCB guidelines.

## Borrower - Town of Bennett

The Town was incorporated in 1929 and currently has a population of 2,500 residents. It is governed by Mayor Sue Horn and six members of the Board of Trustees. It manages its water system through a Water Enterprise Fund. User fees fund the enterprise.

The average monthly water bill is approximately \$53. On average, the Town delivers 261 acre-feet annually; therefore it is not a Covered Entity as defined in §37-60-126(1)(b), C.R.S. (2014) and not in need of a water conservation plan in order to execute a loan contract with the CWCB.

## Water Rights

The Town relies on Denver Basin aquifers to meet water demands. It has two water systems: the north and the south system. The permit number and annual appropriation amount for each well are provided in Table 1:

TABLE 1: WATER RIGHTS

Well	Permit No.	Aquifer	Annual Appropriation (AF/yr)
North System			
3	48425-F	Laramie - Fox Hills	207 <sup>a</sup>
4	32481-F	Arapahoe	30 <sup>b</sup>
5	32480-F	Denver/Arapahoe <sup>c</sup>	60 <sup>b</sup>
6	17071-F	Denver/Arapahoe <sup>c</sup>	100 <sup>b</sup>
7	32482-F	Arapahoe	- <sup>b</sup>
8	48424-F	Laramie - Fox Hills	207 <sup>a</sup>

Well	Permit No.	Aquifer	Annual Appropriation (AF/yr)
South System			
9	60555-F	Laramie - Fox Hills	109
10	53691-F	Laramie - Fox Hills	109
11	54164-F	Arapahoe	184
13	64350-F	Arapahoe	184
14	58829-F	Arapahoe	184

- a) Combined annual appropriation of wells #3 and 8 not to exceed 207 AF/yr
- b) Combined annual appropriation of wells #4,5,6 and 7 not to exceed 190 AF/yr
- c) Dually completed in both aquifers

### Project Description

The goal of this Project is to re-drill wells #3 and #6 so the Town can continue providing reliable water to its residents.

**Alternative 1 - Do Nothing:** This alternative was considered unacceptable. Without wells #3 and #6 the Town's water system lacks the desired redundancy to provide water service to its residents in the event that additional wells fail.

**Alternative 2 - Rehabilitate Wells:** Based on video evaluations of wells #3 and #6, it was determined that the wells have deteriorated beyond repair.

**Selected Alternative 3 - Drill Replacement Wells:** Given the need for both wells to service the Town's water a demand and the poor condition of the existing wells, replacing both wells was selected as the preferred alternative.

Well #3 will be drilled into the Laramie-Fox Hills Aquifer within 300-feet of the existing well. It is expected to be a 10-inch well, drilled 1,570 feet deep.

Because dually completed wells are no longer allowed by the Division of Water Resources, Well #6 will be replaced with two wells (one in the Denver aquifer and one in the Upper Arapahoe aquifer). Both wells will be located within 100 feet of the existing well. The Arapahoe aquifer well is expected to be a 10-inch well, drilled 740 feet deep. The Denver aquifer well will be 8-inches and 445 feet deep.

TABLE 2: Construction Cost

Task	Cost
Consulting Fees	\$114,562
Drilling/Permitting	\$1,090,838
Pump	\$394,600
<b>Total</b>	<b>\$1,600,000</b>

**Permitting:** Permits are required from the Colorado Division of Water Resources. Well approval from the Water Quality Control Division will also be required prior to using the new wells.

**Schedule:** The Town intends to drill both well #3 and #6 in the spring of 2015. Drilling is expected to take three months.

### Financial Analysis

The Town qualifies the current middle-income municipal interest rate of 3.25% for a 30-year term. Table 3 provides a summary of the Project's financial aspects.

**TABLE 3: FINANCIAL SUMMARY**

Total Project Cost	\$1,600,000
Borrowers Contribution	\$160,000
CWCB Loan Amount	\$1,440,000
CWCB Loan Amount (Including 1% Service Fee)	\$1,454,400
CWCB Annual Loan Payment	\$76,620
CWCB Annual Loan Obligation (1 <sup>st</sup> Ten Years)	\$84,282
Monthly cost of loan (with Reserve Account) per tap (1,093)	\$6.43

**Creditworthiness:** The Town's water enterprise has \$411,549 in existing debt as summarized in Table 4. The CWCB Loan (C150262) was for the re-drilling of Well #5 in 2008. That loan is in good standing. The DOLA loans were for two wells, a storage tank, and the associated piping and metering. The 1995 DOLA loan will be scheduled to be paid in full in 2015; therefore it is not included in the future ratios in Table 5.

**TABLE 4: EXISTING DEBT**

Lender	Original Balance	Current Balance	Annual Payment	Maturity Date	Collateral
DOLA -1995	\$217,500	\$35,222	\$17,453	2015	Water Enterprise Revenues
DOLA- 2004	\$50,000	\$44,132	\$4,012	2024	Water Enterprise Revenues
CWCB (C150262)	\$252,500	\$215,631	\$13,728	2038	Water Enterprise Revenues

**TABLE 5: FINANCIAL RATIOS**

Financial Ratio	Past 3 Years	Future w/ Project
Operating Ratio (revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	161% (Strong) \$780K/\$485K	142% (Strong) \$780K/\$551K
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	946% (Strong) (\$780K-\$449K) \$35K	325% (Strong) (\$780K-\$449K) \$102K
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	180% (Strong) \$873K/\$485K	129% (Strong) \$713K/\$551K
Debt per Tap (1,093 taps) weak: >\$5,000 - average: \$2,500-\$5,000 - strong: <\$2,500	\$270 (Strong) \$295K/1,093	\$1,555 (Strong) \$1.7M/1,093
Average Monthly Water Bill weak: >\$60 - average: \$30 - \$60 - strong: <\$30	\$53.45 (Average)	\$53.45 (Average)

**Collateral:** Security for this loan will be a pledge of the Town's water enterprise revenues backed by a rate covenant and evidenced by annual financial reporting. This is in compliance with the CWCB Financial Policy #5 (Collateral).

cc: Trish Stiles, Town Administrator, Town of Bennett  
Susan Schneider/Jennifer Mele, Colorado Attorney General's Office

Attachment: Water Project Loan Program - Project Data Sheet

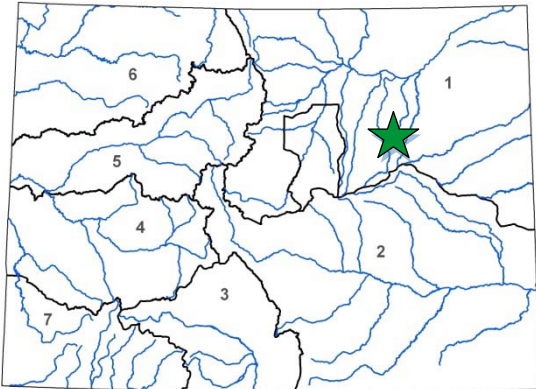


## Wells #3 and #6 Replacement Project

Town of Bennett

November 2014 Board Meeting

L O A N   D E T A I L S	
<i>Project Cost:</i>	\$1,600,000
<i>CWCB Loan (with Service Fee):</i>	\$1,454,400
<i>Loan Term and Interest Rate:</i>	30 Years @ 3.25%
<i>Funding Source:</i>	Construction Fund
B O R R O W E R   T Y P E	
<i>Agriculture</i>	<i>Municipal</i>
0%	0% Low - 100% Mid - 0% High
	<i>Commercial</i>
	0%
P R O J E C T   D E T A I L S	
<i>Project Type:</i>	Well Drilling
<i>Average Annual Delivery:</i>	261 AF



The Town of Bennett provides water to its 2,500 residents from the Denver, Upper Arapahoe and Lower Arapahoe, and Laramie-Fox Hills aquifers. A recent study revealed the need to address operational reliability, efficiency, and safety of the Town of Bennett's well #3 and well #6. The Town currently has 11 wells. The replacement of wells #3 and #6 will provide the Town with additional supply to meet demands and needed redundancy in its water supply system. Both wells need to be replaced due to the age of the existing wells. Construction is expected to occur during the spring of 2015.

L O C A T I O N	
<i>County:</i>	Adams & Arapahoe
<i>Water Source:</i>	Non-Tributary Groundwater
<i>Drainage Basin:</i>	South Platte
<i>Division:</i>	1
<i>District:</i>	1

