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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: September 15-17, 2015 Board Meeting

AGENDA ITEM: 23b. CWCB Loan and WSRA Grant
City of Lamar – Repurposing of Wells 12 and 13

Introduction

The City of Lamar (City), acting by and through its water activity enterprise, is applying for a loan to finance the Repurposing of Wells 12 and 13 Project (Project). The purpose of the Project is to convert two existing potable water wells for non-potable municipal irrigation use and construct a pipeline connection to the City's existing non-potable municipal irrigation infrastructure. The total Project cost is estimated to be $400,000.

In June of 2015, the City was recommended by the Arkansas Basin Roundtable for a $136,625 Statewide Grant and a $25,000 Basin Grant from the Water Supply Reserve Account (WSRA). The City is requesting a loan from the CWCB to cover 25% of Project Costs, with remaining costs to be covered by WSRA funds, City funds, and in-kind labor and equipment. See attached Project Data Sheet for a location map and a Project summary.

Staff Recommendation for WSRA Grant

Staff recommends approval of up to $136,625 from the Statewide Account and $25,000 from the Arkansas Basin Account to the City of Lamar, acting by and through its water activity enterprise, to fund the Repurposing of Wells 12 and 13 Project.

Staff Recommendation for CWCB Loan

Staff recommends the Board approve a loan not to exceed $101,000 ($100,000 for project costs and $1,000 for the 1% Loan Service Fee) to the City of Lamar, acting by and through its water activity enterprise, for the Repurposing of Wells 12 and 13 project from the Severance Tax Perpetual Base Fund. Loan terms shall be 10 years at the reduced low-income municipal rate of 1.95% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

Background

The City of Lamar (City) is located in Prowers County in southeastern Colorado. It provides water service to a population of approximately 7,800 people in a four-mile service area. The City, through its Water and Wastewater Department, has been providing water and sewer services to its residents for over 135 years. Although the City has undertaken numerous upgrades, rehabilitation, and expansion projects over the years, most of the existing infrastructure was funded and built during New Deal-era programs. The City's Wells 12 and 13 were developed in the 1950s and used for municipal supply until 2012, when Microscopic Particulate Analysis water quality testing was conducted, resulting in a reclassification of both wells as Ground Water Under Direct Influence of Surface Water (GWUDI) by the Colorado Department of Public Health and Environment (CDPHE). The wells were taken out of service at that time. A Feasibility Study conducted in 2014 concluded that it is feasible to redevelop both wells for non-potable municipal irrigation use. Once this Project is completed, the repurposed water can be used for any non-potable municipal application, including irrigation of a City-owned cemetery and a golf course, both of which are currently watered with a combination of potable and non-potable water.

Loan Feasibility Study

Elise Bergsten of Balanced Management Services Co. prepared the Loan Feasibility Study, titled "Feasibility Study - Repurposing of Lamar Wells #12 and #13" dated August 2015. Technical support was provided by Andrew Sparn, P.E., of JVA, Inc. The study includes an analysis of alternatives and a construction cost estimate. The feasibility study was prepared in accordance with the CWCB guidelines.

Borrower – City of Lamar

The City was founded in 1886. The City's water service is operated as a Water Activity Enterprise servicing 3,000 residential taps and 500 commercial taps. Enterprise revenues come from water sales, facility investment fees, and water leases to farmers.

The Water Conservation Act of 2004 requires an approved Water Conservation Plan, prior to executing a loan with the CWCB, if the City delivers more than 2,000 AF of water annually. In 2013 and 2014, the City's deliveries have averaged at 1740 AF, below the 2,000 AF annual delivery threshold, and thus the status of the City's Water Conservation Plan, approved in 2009, is not a factor to be considered in the City's loan application.

Water Rights

The City owns a portfolio of groundwater and surface water rights. Groundwater rights in the form of wells are primarily used for potable water supplies, and the surface water rights are used for municipal irrigation and augmentation.

Lamar owns 3,200 shares of the Fort Bent Ditch Company, 350 shares of the Lamar Canal Company, and 293 shares of the Lower Arkansas Water Management Association. The City is also able to purchase Fryingpan-Arkansas Project water from the Southeastern Colorado Water Conservancy District.

The City has groundwater rights to 43 wells for use in the water supply system. Of these, 26 are active potable water sources. Raw water from the wells is pumped to a chlorination building and stored post-treatment in above grade storage tanks. The remaining 17 wells are scattered throughout the City and used for park irrigation, the City's maintenance shop, and the airport. The source for Wells 12 and 13 is the Clay Creek Alluvium. The alluvium is recharged from Ft. Bent shares as well as Project Water Recharge.

Project Description

The objective of this project is to repurpose the use of two productive wells from a municipal potable water supply to a municipal irrigation supply. The repurposed non-potable water supply will replace potable water currently being used for municipal irrigation, up to 3.44 acre feet per day during irrigation season. This repurposed non-potable water supply will be used for irrigation of City facilities, freeing up potable sources for municipal demand. This will lessen both demand, as well as operation and maintenance costs, on Lamar's water treatment plant. In addition, the repurposed wells will eliminate the need for, and associated maintenance of, a floating pump at the City's recharge pond that currently serves as the source of irrigation water for the City's piped irrigation distribution system.

The City considered the following alternatives:

Alternative 1 – No-action: This alternative was considered unacceptable as it does not provide for the optimization of water resources by the City, and puts undue strain on City infrastructure during high demand periods. The City's water treatment capacity is at maximum during the peak irrigation system and struggles to keep up with demand. By continuing to use Lamar's potable drinking water as irrigation supply, the City will continue to unnecessarily treat up to 3.44 acre feet per day for municipal irrigation.

Alternative 2 – Relocate/Re-drill Wells 12 and 13 as a potable water source: This alternative would seek to re-drill Wells 12 and 13 at new locations so they are no longer classified as GWUDI. This would allow their use as a potable water supply. This alternative was not considered feasible because a change in location of more than 200 feet requires a water rights change case in water court and there would remain a risk of uncertainty in water quality at the new location. The estimated cost of this alternative is $245,000.

Selected Alternative 3 – Repurposing of Wells 12 and 13: Under this alternative the City will use the wells within its non-potable municipal irrigation system. New pumps and well casings will be installed at Wells 12 and 13. The original casings will be removed, and City crews will install new well casings utilizing their own recent well experience and installation equipment. New pumps will be dropped into the wells and the discharge lines will be tied into existing above-ground risers within the well pump houses. Outside the well houses, the existing discharge lines will be exposed, cut, and tied into a new transmission line.

The two wells will be connected to each other via 1,175 LF of new piping and will be connected to the existing irrigation system infrastructure via approximately 1,975 LF of new piping. Power will be extended to the wells from existing adjacent transmission lines, utilizing existing transformers located in the original control buildings located at each well site. Finally, digital communication will be provided to each of the well houses via an unused existing supervisory control and data acquisition (SCADA) system currently owned by the City of Lamar Water Department.

TABLE 1: ESTIMATED PROJECT COSTS

Task	Cost
Design and Permitting	$34,000
Construction	$366,000
TOTAL COST	**$400,000**

TABLE 2: PROJECT FUNDING SUMMARY

	Percent of total project costs	Funding
CWCB Construction Fund Loan	25%	$100,000
CWCB Water Supply Reserve Grant - Basin Account	6%	$25,000
CWCB Water Supply Reserve Grant - Statewide Account	34%	$136,625
In-Kind Labor and Equipment	22%	$86,700
Borrower Cash Match	12%	$51,675
TOTAL	**100%**	**$400,000**

CWCB Grant funds will be disbursed at a cumulative maximum 40% of the total of all invoices submitted for reimbursement.

Permitting: Permitting is not required for this project since the City owns the associated property, easements, and rights of way. A change of use for the wells will not be required as they are decreed for municipal use, a use which will not change.

Schedule: The City will begin the Project upon execution of the grant and loan contracts. The Project is expected to be completed within one year from Notice to Proceed.

Water Supply Reserve Account Grant

Applicant & Fiscal Agent: Lamar Water/Wastewater Department

Water Activity Name: Repurposing of Wells 12 and 13

Water Activity Purpose: Municipal/Industrial

County: Prowers

Drainage Basin: Arkansas

Water Source: Clay Creek Alluvium

At the June 2015 Arkansas Basin Roundtable meeting, the Roundtable recommended approval of the Repurposing of Wells 12 and 13 project application request for the following Basin and Statewide Funds:

Amount Requested/Source of Funds:

$25,000	Arkansas Basin Account
$136,625	Statewide Account
$161,625	Total Grant Request

Matching Funds: Basin Account Match: $25,000 = 15.5% of total grant request (meets 5% min);
Basin Account & Applicant Match: $263,375 = 163% of total grant request (meets 25% min);
Applicant Match: $238,375 = 60% of total project costs ($400,000)
(refer to *Funding Summary/Matching Funds* section)

Objectives:

- Take unused previously-potable water wells, rehabilitate them for irrigation use, and tie those wells to the existing irrigation system via new piping. Repurposing the wells will reduce use of the City's potable water supplies for irrigation purposes, thus reducing the load on the potable water system by 3.44 AF during the irrigation season, repurposing those flows for non-potable use during the irrigation season.

- Improve water efficiency; this project will repurpose water for other uses in the City including non-potable municipal irrigation of City cemetery and golf course facilities.

Discussion: This project aligns with the Goals and Measurable Outcomes as described in the Arkansas Basin Implementation Plan (Section 1; Table 1.6.2: Municipal Goals; 1. Meet the Municipal Supply Gap in each county within each Basin; page 15). The City is a prior recipient ($152,721 spent, $200,000 approved) of WSRA Grant funding for the Lamar Raw Water Transmission Line Replacement Project (CTGG1 2015-485), concluded in 2014.

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria:
The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:
Staff has reviewed and evaluated the applicant's response to the Statewide Account Supplemental Scoring Matrix and has determined that it satisfies the Evaluation Criteria. Please refer to WSRA Application for applicant's detailed response.

Funding Summary/Matching Funds:

	Cash	In-kind	Total
City of Lamar	$51,675	$86,700	$138,375
CWCB Loan	$100,000	n/a	$100,000
Sub-total matching funds	**$151,675**	**$86,700**	**$238,375**
Arkansas Basin Account	$25,000	n/a	$25,000
WSRA Statewide Account	$136,625	n/a	$136,625
Total	**$313,300**	**$86,700**	**$400,000**

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform. In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

Reporting: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Deliverable: At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

Engineering: All engineering work (as defined in the Engineers Practice Act (§12-25-102(10) C.R.S.)) performed under this grant shall be performed by or under the responsible charge of professional engineer licensed by the State of Colorado to practice Engineering.

CWCB Loan Program

Financial Analysis

The City qualifies for the current low-income municipal interest rate of 2.45% for a 30-year term; however, because the City chose a 10-year term, the interest rate will be reduced to 1.95% (per Financial Policy #7). Table 3 provides a summary of the Project's financial aspects.

TABLE 3: FINANCIAL SUMMARY

Total Project Cost	$400,000
Borrowers Contribution – Cash	$51,675
Borrowers Contribution – In Kind Labor & Equipment	$86,700
CWCB Water Supply Reserve Grant - Basin Account	$25,000
CWCB Water Supply Reserve Grant - Statewide Account	$136,625
CWCB Loan Amount	$100,000
CWCB Loan Amount (Including 1% Service Fee)	$101,000
CWCB Annual Loan Payment	$11,215
CWCB Annual Loan Obligation (including reserve account)	$12,336
Annual volume of repurposed water	3.44 AF
Project cost per acre-foot of repurposed water	$166,279

Creditworthiness: The City's water activity enterprise has $9,834,292 in existing debt as summarized in Table 4. The City's existing CWCB Loan was for a raw water pipeline with an original loan amount of $2,900,251 with a first payment due October 2015. It should be noted that the City's Interest During Construction (IDC) payment of $4,177 was received 9 months late. An increase in water rates is not planned in anticipation of this project.

TABLE 4: EXISTING DEBT

Lender	Project	Current Balance	Annual Payment	Maturity Date	Collateral
UMB Bank	Water revenue bonds	$690,000	$180,000	2019	Water revenues
Colorado Water Resources & Power Development Authority (WIOF253, D09Z253, D09F253)	Relocation of chlorine building & storage tank improvements	$5,499,634	$194,788	2030	Water Activity Enterprise revenues
Bank of America	Honeywell acquisition lease	$3,027,664	$181,926	2027	Equipment
CWCB (C150367)	Water line	$616,994	$28,504	2044	Water Activity Enterprise revenues
		$9,834,292	**$585,219**		

TABLE 5: FINANCIAL RATIOS

Financial Ratio	Past 3 Years	Future w/ Project
Operating Ratio (revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	118% (average) $2.40M / $2.03M	118% (average) $2.40M / $2.05M
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	163% (strong) ($2.40M-$1.45M) / $585K	160% (strong) ($2.40M-$1.45M) / $598K
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	56% (average) $1.14M / $2.03M	71% (average) $1.45M / $2.05M
Debt per Tap (3,500 taps) weak: >$5,000 - average: $2,500-$5,000 - strong: <$2,500	$2,800 (average) $9.8M/3,500	$2,829 (average) $9.9M/3,500
Average Monthly Water Bill weak: >$60 - average: $30 - $60 - strong: <$30	$31 (average)	$31 (average)

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

cc: John Sutherland, Jr., Administrator, City of Lamar
Patrick Mason, Public Works Director, City of Lamar
Susan Schneider/Jennifer Mele, Colorado Attorney General's Office

Attachment: Water Project Loan Program – Project Data Sheet

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Department of Natural Resources

Repurposing of Wells 12 and 13

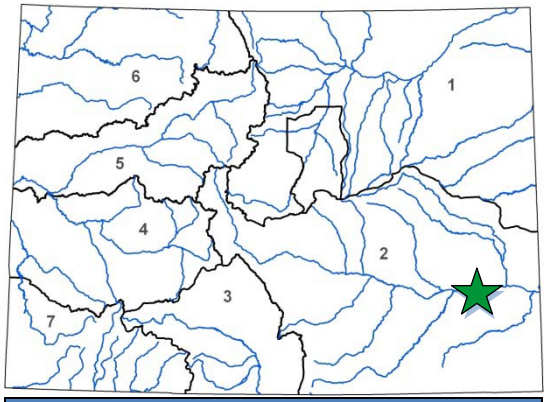
City of Lamar

September 2015 Board Meeting

LOAN DETAILS	
Project Cost:	$400,000
CWCB Loan (with Service Fee):	$101,000
Loan Term and Interest Rate:	10 Years @ 1.95%
Funding Source:	WSRA & Sev. Tax Perpetual Base Fund

BORROWER TYPE		
Agriculture	*Municipal*	*Commercial*
0%	100% Low - 0% Mid - 0% High	0%

PROJECT DETAILS	
Project Type:	Municipal & Industrial
Average Annual Delivery:	2,005 AF



LOCATION			
County:			Prowers
Water Source:			Arkansas River
Drainage Basin:			Arkansas River
Division:	2	*District:*	67

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