

# STATE OF COLORADO

## Colorado Water Conservation Board Department of Natural Resources

1313 Sherman Street, Room 721  
Denver, Colorado 80203  
Phone: (303) 866-3441  
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www.cwcb.state.co.us



July 14, 2011

Mr. Larry Morris  
Thunderbird Water and Sanitation District  
5780 W. Sioux Dr.  
Sedalia, CO 80135

John W. Hickenlooper  
Governor

Mike King  
DNR Executive Director

Jennifer L. Gimbel  
CWCB Director

Re: Lambert Ranch Water Rights Purchase Project  
Contract Number C150320

Dear Mr. Morris:

I am pleased to inform you that on July 13, 2011 the Colorado Water Conservation Board approved your loan request for the Lambert Ranch Water Rights Purchase Project as described in the application and approved Loan Feasibility Study titled "*Thunderbird Water and Sanitation District – Loan Feasibility Study for Water Rights Purchase*," dated April 4, 2011. The Board approved a loan not to exceed \$318,150 (\$315,000 for project costs and \$3,150 for the 1% Loan Service Fee). The loan terms shall be 20 years at an interest rate of 4.25% per annum. I have attached a copy of the updated Board memo dated July 14, 2011, that includes the Board's approval.

After the Board approves a loan there are a few steps that remain in the loan process including:

- A) Contracting: An approved contract must be in place before funds can be disbursed. Vaughn McWilliams will initiate the loan contracting process for this project. When all of the contract conditions are met and the contract is executed the Company may request loan funds to cover eligible project expenses. You can contact Vaughn at (303) 866-3441 x 3227 regarding the requirements.
- B) Design/Construction: You must adhere to the CWCB Design and Construction Administration Procedures. Kirk Russell will contact you regarding this phase of the process. Kirk will make construction site visits, which will be the basis of pay estimates for disbursement of your loan funds. You can contact Kirk at his desk at (303) 866-3441 x 3232 or cell phone (303) 956-5653.

On behalf of the Board, I would like to thank you for your interest in a loan from the Colorado Water Conservation Board.

Sincerely,



Tim Feehan, P.E., Chief  
Finance Section  
Colorado Water Conservation Board



Ryan Edwards, P.E.  
Finance Section  
Colorado Water Conservation Board

Attachment: Updated Board Memo

E-mail Copy (Including Attachments)

Barbara Biggs, Board Member – City & County of Denver  
Eric Wilkinson, Board Member – South Platte River Basin  
Peter Johnson, AGO  
CWCB Finance Section Staff

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TO: Colorado Water Conservation Board Members

FROM: Ryan Edwards, P.E.  
Tim Feehan, P.E., Chief  
Finance Section

DATE: July 1, 2011 (Updated July 14, 2011)

SUBJECT: **Agenda Item 26c, July 12-13, 2011 Board Meeting**  
**Finance Section – New Project Loans**  
**Thunderbird Water and Sanitation District – Lambert Ranch Water Rights Purchase**

#### Introduction

The Thunderbird Water and Sanitation District (District) is applying for a loan for the Lambert Ranch Water Rights Purchase (Project). The purchase will enable the District to enlarge its water supply, thereby increasing system reliability, providing the redundancy necessary to allow for system maintenance, and protecting against depletions within the Denver Basin aquifer. The loan request is for 90% of the estimated \$350,000 total purchase price. See the attached Project Data Sheet for a location map and project summary.

#### Staff Recommendation (Board approved staff recommendation on July 13, 2011)

Staff recommends the Board approve a loan, from the Construction Fund, not to exceed \$318,150 (\$315,000 for project costs and \$3,150 for a 1% Loan Service Fee) to the Thunderbird Water and Sanitation District for the Lambert Ranch Water Rights Purchase. The loan term shall be 20 years at a rate of 4.25% per annum (reduced from a middle-income municipal base rate of 4.50% per a 30-year term). Security for the loan shall be in compliance with CWCB Financial Policy #5.

#### Background

The current water supply system for the District consists of two groundwater wells, Well No. 1 and Well No. 3, and two storage tanks to serve its 175 customers located within the Indian Creek Subdivision. A third well was shut down at the request of the Colorado Department of Public Health and Environment (CDPHE) due to high radon levels. Historically the two functioning wells combined for a yield of approximately 170 gpm (55 gpm for Well No. 1 and 115 gpm for

Well No. 3). In 2002 the District was advised by their consultant that Well No. 1 needed to be replaced due to deterioration in its casing. The well was re-drilled in 2003; however, the average yield of the new well dropped to 25 gpm, a loss of 30 gpm from the initial Well No. 1.

The drop in production has been an ongoing concern for the District in the event that Well No. 3 goes offline due to an emergency or for maintenance purposes. When supplemented by the storage tanks, Well No. 1 is marginally able to sustain the water demand for only indoor use, let alone outside irrigation or fire protection. Upon depletion of the tanks, Well No. 1 would be unable to meet even the daily demands for indoor uses.

In addition to the already reduced well yield, the South Metro Water Supply Study, dated December 2003, concluded that regional ground water levels are dropping. The lower water table and dewatering of the Denver Basin is expected to reduce the yield of existing and future wells. The Study also projects that well to well interference (caused by placing new wells in proximity to existing wells) further reduces well yield projections.

The nearly 990-acre Lambert Ranch (Ranch), adjacent to the northern boundary of the District, has placed a portion of their water rights for sale. The purchase of these water rights is the most economical way for the District to satisfy current and future water supply demands. Adding a well on the Ranch and the infrastructure necessary to tie in to the existing water supply system will provide redundancy for the District's water supply, allowing them to perform required maintenance without forcing water restrictions or minimizing fire protection capabilities as well as protecting customers against aquifer depletions.

#### **Loan Feasibility Study**

Leonard Rice Engineers, Inc. prepared the Feasibility Study titled "Thunderbird Water and Sanitation District – Loan Feasibility Study for Water Rights Purchase", dated April 4, 2011. Assistance was provided by Larry Morris, President of the Thunderbird Waters and Sanitation District. The feasibility study was prepared in accordance with the CWCB guidelines and is accompanied by a ground water rights appraisal, prepared by Leonard Rice and dated March 28, 2011. Leonard Rice prepared a feasibility study addendum letter, dated June 15, 2011, to expand on project history and existing system conditions.

#### **Thunderbird Water and Sanitation District**

The District, governed by a five-member board of directors, is a Title 32 District with taxing authority that provides potable water service for 175 customers within the District boundary. The boundary includes approximately 2,420 acres and serves a residential subdivision in Douglas County that is located two miles west of Sedalia, Colorado.

On average, the District delivers 55 acre-feet (AF) annually, with a peak demand of 75 AF (2002). Based on the reduced yield of Well No. 1 and the anticipated depletions of the existing aquifers, the District has determined the need to expand its capacity in order to maintain a reliable long-term supply to its customers. In a November 2010 ballot, voters approved an increase in real estate taxes to fund the purchase of the Ranch water rights and the future construction of a well and supporting infrastructure.

## Water Rights

Water rights for the District are comprised of pre-Senate Bill 213 water rights that were adjudicated in case W-6333 and changed in Case 90CW200, and Denver Basin water rights decreed in Case 97CW249, for a total of 1,315AF. The District also has pending water court application Case 06CW208 to capture irrigation return flows using alluvial wells. The current water supply for the District is drawn exclusively from the Arapahoe aquifer through wells No. 1 and No. 3.

**TABLE 1a: EXISTING WATER RIGHTS**

Case	Designation	Denver Aquifer (AF)	Arapahoe Aquifer (AF)	Laramie-Fox Hills Aquifer (AF)
W-6333/Case 90CW200	Nontributary	256	64	---
Case 97CW249	Not nontributary	217	449	---
Case 97CW249	Nontributary	---	24	305
<b>TOTAL</b>		<b>473</b>	<b>537</b>	<b>305</b>

With this project the District is looking to expand its portfolio by purchasing 895.9 AF of the ground water rights decreed in Case No. 87CW300 from Valley Development Group, LLC. The purchase will include Denver Basin decreed ground water that underlies the property known as Lambert Ranch. The Ranch consists primarily of native vegetation and is home to several low-density residential properties. The proposed purchase accounts for approximately 73% of the overall 1,230 AF decreed, and includes the following:

**TABLE 1b: CASE NO. 87CW300 PROPOSED WATER RIGHTS PURCHASE**

Aquifer	Designation	Average Annual Amount (AF/yr)	Decreed Use
Denver	Not Nontributary	333.6	Multi-purpose
Arapahoe	Nontributary	420.8	Multi-purpose
Laramie-Fox Hills	Nontributary	141.5	Multi-purpose
<b>TOTAL</b>		<b>895.9</b>	

The water rights are decreed to be used, reused, successively used and otherwise disposed of for all purposes including: municipal, domestic, industrial, commercial, fire protection, irrigation, stock watering, recreation, fish and wildlife purposes, sanitary purposes, storage, augmentation and exchange. The District anticipates drilling an Arapahoe aquifer well to put this water to use for municipal and domestic purposes by the end of 2013.

## Project Description

The District considered the following alternatives for addressing the groundwater supply shortage:

**Alternative No. 1 – No immediate action:** This alternative would allocate the Ranch water rights to any future purchaser of the property, likely resulting in further reductions of well yields within the District.

**Alternative No. 2 – Divert from Meadows Ditch:** Meadows Ditch on Indian Creek is the closest surface water to the District. The ditch is approximately 0.4 miles downstream from the northern boundary of the District. This option is not economically feasible, nor reliable as the surface rights are intermittent and would require a network of pipes, pumps and storage facilities. Additionally, the distance required to divert water (surface or non-tributary ground water) from other neighboring sources is not economically feasible.

**(\*Selected\*) Alternative No. 3 – Purchase of Lambert Ranch water rights:** This alternative includes a \$315,000 purchase of 895.9 AF of Denver Basin ground water that underlies the Ranch. A proposed well site and corresponding access easements are included in the purchase agreement for the water rights. With a projected yield of 50-90 gpm from the Arapahoe aquifer, this alternative satisfies the District goal of enlarging its water supply in order to address current and future needs. The appraised value of the water rights is estimated between \$315,000 and \$506,000 per the ground water rights appraisal prepared by Leonard Rice Engineers, Inc. The District plans to have the design and construction of the new well and associated infrastructure necessary to connect to the existing water supply system within two years of purchasing the water rights.

**TABLE 2: TOTAL PROJECT COST SUMMARY**

Task	Cost
Water Rights Purchase	\$315,000
Engineering and Administrative Services	\$35,000
Total	\$350,000

### Financial Analysis

Based on the median household income of the area, the interest rate for the District is the middle-income municipal interest rate of 4.50% based on a 30-year term. The District has chosen a 20-year term, thereby reducing the interest rate to 4.25% (per Financial Policy #7).

**TABLE 3: FINANCIAL SUMMARY**

Total Project Cost	\$350,000
CWCB Loan Amount (90% of total Project cost)	\$315,000
CWCB Loan Amount (including 1% Service Fee)	\$318,150
CWCB Annual Loan Payment	\$23,931
CWCB Loan Obligation (including 10% debt reserve funding)	\$26,324
Number of Taps	175
Annual Increase in Real Estate Tax to Cover Project*	up to \$35,000
Project Cost per AF (895.9 AF)	\$391

\*per 2010 Ballot

**Creditworthiness:**

The Company has two outstanding loans with the Colorado Water Resources and Power Development Authority (CWRPDA) for the drilling and installation of Well No. 3 and re-drilling of Well No. 1. The loans, issued in 1999 and 2002 respectively, have an outstanding balance totaling \$404,878 (\$170,146 for Well No. 3 and \$234,732 for Well No. 1). The combined annual payments total \$49,132 and both loans are in good standing with the Authority. Both are 20-year loans with a general obligation pledge for collateral.

The District generates revenue from the collection of usage fees and real estate taxes from its constituents. In November 2010, the residents voted in favor of increasing District taxes up to \$35,000 per year to finance a CWCB loan for the purchase of the Ranch water rights and up to \$45,000 per year for construction of water supply infrastructure. The infrastructure costs are estimated at \$500,000 and will be financed in full by the voter approved tax.

**TABLE 4: FINANCIAL RATIOS**

Financial Ratio	2007-2009	Future w/ Project
<b>Operating Ratio (operating revenues/operating expenses)</b> weak: <100% - average: 100% - 120% - strong: >120%	145% (strong) \$177K/\$122K	143% (strong) \$212K/\$148K
<b>Debt Service Coverage Ratio</b> (operating revenues - operating expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	212%* (strong) (\$177K-\$73K)/\$49K	185%** (strong) (\$212K-\$73K)/\$75K
<b>Cash Reserves to Current Expenses</b> weak: <50% - average: 50% - 100% - strong: >100%	332% (strong) \$405K/\$122K	250% (strong) \$370K/\$148K
<b>Average Residential Water Bill (monthly)</b> weak: >\$60 - average: \$30 - \$60 - strong: <\$30	\$41.93 (average)	\$41.93 (average)
<b>Debt per Tap (Total Debt Service/taps)</b> weak: >\$5,000 - average: \$2,500-\$5,000 - strong: <\$2,000	\$2,314 (average) \$405K/175	\$4,132 (average) \$723K/175

\* Past Debt Service totals \$49,132 and is comprised of two revolving loans with the CWRPDA; from 1999 (current balance of \$170,146, with an annual payment of \$24,310, maturity date of 2019) and 2002 (current balance of \$234,732, with an annual payment of \$24,822, maturity date of 2022).

\*\* Future Debt Service (\$75,456) includes the Past Debt Service (\$49,132) in addition to the Proposed Debt Service (\$26,324)

**Collateral:** As collateral for the loan, the District will pledge its full faith and credit and a property tax mill levy, in accordance with its November 2010 voter-approved ballot question, and annual financial reporting. This is in compliance with the CWCB Financial Policy #5 (Collateral).

**Staff Recommendation (Board approved staff recommendation on July 13, 2011)**

Staff recommends the Board approve a loan, from the Construction Fund, not to exceed \$318,150 (\$315,000 for project costs and \$3,150 for a 1% Loan Service Fee) to the Thunderbird Water and Sanitation District for the Lambert Ranch Water Rights Purchase. The loan term shall be 20 years at a rate of 4.25% per annum (reduced from a middle-income municipal base rate of 4.50% per a 30-year term). Security for the loan shall be in compliance with CWCB Financial Policy #5.

cc: Larry Morris, President, Thunderbird Water and Sewer District  
Susan Schneider, AGO  
Peter Johnson, AGO

Attachment: Water Project Loan Program – Project Data Sheet



## Water Project Loan Program – Project Data Sheet

**Borrower:** Thunderbird Water and Sanitation District

**County:** Douglas

**Project Name:** Lambert Ranch Water Rights Purchase

**Project Type:** Water Rights Purchase

**Drainage Basin:** South Platte, District 8

**Water Source:** Denver Basin Aquifer

**Total Project Cost:** \$350,000

**Funding Source:** Construction Fund

**Type of Borrower:** Middle-Income Municipal

**Avg. Annual Delivery:** 55 AF

**CWCB Loan:** \$318,150 (w/ 1% service fee)

**Interest Rate:** 4.25% **Term:** 20 years

The Thunderbird Water and Sanitation District (District) provides potable water service for the Indian Creek Ranch subdivision, consisting of 2,420 acres and 175 customers. The District is applying for a loan to purchase 895.9 AF of Denver Basin decreed ground water rights that underlie the property known as Lambert Ranch. On average, the District delivers approximately 55 AF annually. The increase would enable the District to enlarge its available supply; thereby increasing system reliability, providing the redundancy necessary to allow for system maintenance and protect against aquifer depletions.

**Location Map**

