Appraisal of Water Rights through Use of Comparable Values

For

Town of South Fork, Colorado

Proposed Municipal Water Project

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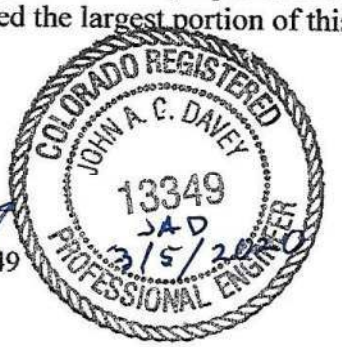
Table of Contents

TABLES

1. Qualifications and Certifications

Mr. Davey has provided engineering assistance in numerous municipal related water right change cases. A few of the larger clients for which assistance has been provided for several years included Pagosa Area Water and Sanitation District located in the San Juan River basin and within the Rio Grande Basin, San Luis Valley Water Conservancy District, Rio Grande Water Conservation District and South Fork Ranches. Mr. Davey, in the current capacity of engineer for the proposed South Fork, Colorado municipal water system project, prepared the largest portion of this document.



John Allen Davey
Professional Engineer No. 13349

Mr. Thompson, P.E., C.C.A. has provided engineering assistance in numerous water right change cases. Many of these change cases involve agricultural producers who are water right holders. A few of his larger clients include the City of Alamosa, the San Luis Valley Irrigation Well Owners Association and the Trinchera Ground Water Management Subdistrict. Mr. Thompson's independent focus related to this document consisted of review, editing and verifying the accuracy of the water augmentation value comparisons.

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2. Introduction

The Colorado Water Conservation Board (CWCB) approved the Town of South Fork's application for a loan to purchase 22 acre feet (AF) of water from the San Luis Valley Water Conservancy District's (SLVWCD) augmentation program for the amount of $440,000. Staff from the CWCB has requested comparable water right sales costs to justify the value of the cost per acre foot of augmentation water. This document provides information on comparable water rights sales costs.

There is considerable duplication from the "Town of South Fork Water Enterprise - Feasibility Study for the Purchase of Water Rights -Municipal Water System – Westerly Phase, Section II. Sponsor and Background" in this Appraisal Document because the reader may not have ready access to the Feasibility Study.

3. Project Purpose and Need

The Town, through studies and data collected, has determined that it is necessary to obtain augmentation water rights as an integral component in their plan to construct a municipal water system to serve the needs of town residents and businesses. Individual wells and "subdivision" sized water systems supplied by wells currently serve these residents and businesses. Several of the supply wells do not have augmentation water to offset their depletions to sources that provide water to senior water rights. As result, wells without augmentation water will not be able to continue operation after April 2021.

4. Background

Settlement of the community of South Fork began in ±1890, however, it was not incorporated as a Town until 1992. As such, most of the water service provided to residential and commercial development within Town limits are provided by small privately owned water systems that were formed before the community was incorporated. The water supplies for these water systems are derived entirely from wells. Water supply for some lot owners are also derived from individual wells.

5. Impact

As mentioned above, failure to acquire augmentation water that is necessary for the proposed municipal water system to operate will result in existing water supply wells for residents and business to be shut off due to lack of compliance with Water Division 3 Water Court Rulings that will be enforced by the Colorado Division of Water Resources.

6. Comparable Water Sales

As mentioned above, Staff from the CWCB has requested comparable water right sales costs to justify the value of the cost per acre foot of augmentation water offered by SLVWCD. Review of appraisals prepared by others for similar purposes indicates that examination of comparable augmentation water sales in the vicinity of the subject sale is

a common appraisal practice.

Comparable plans to SLVWCD's plan were found in the Upper Arkansas Water Conservancy District and the Conejos Water Conservancy District.

San Luis Valley Water Conservancy District Plan

The purchase price for senior rights of augmented water from SLVWCD's augmentation plan is $20,000 per acre-foot as a onetime fee. Other costs include a onetime application fee of $400 and an annual maintenance fee of $300 plus $250 per acre-foot. Further, SLVWCD's plan includes reservoir storage that is sufficient to assure delivery of augmentation water during very significant droughts.

Total costs for 22 acre-feet of water would be a onetime water fee of $440,000, a onetime application fee of $400 and an annual maintenance fee of $5,800. Assuming an annual rate of return of 1.95% (being the same as the CWCB loan interest rate), the present value of the 20-year costs can be calculated. The first year's payment would include the water fee, the application fee and the annual maintenance fee. Future year payments would only include the annual maintenance fee. A twenty-year period of analysis was chosen simply to maintain consistency between the different comparable water sources. The present value of an annuity is calculated as:

$$\text{PV} = \frac{P_1}{1+r} + \frac{P_2}{(1+r)^2} + \cdots + \frac{P_n}{(1+r)^n}$$

where: PV = Present Value of Future Payments
P = Periodic Payment in period n
r = rate of return per period
n = number of periods

As such, the present value of purchasing a SLVWCD water certificate for 22 acre-feet and operating under this certificate for 20 years would be $527,274.

Upper Arkansas Water Conservancy District Plan

Upper Arkansas Water Conservancy District's (UAWCD) published description of their plan is included at the web site address below. The UAWCD charges a one-time water fee of $3,850 per 0.1 acre-feet. They charge a one-time application fee of $200 and an annual maintenance fee of $165 per 0.1 acre-feet. After performing the calculations below to determine their charge per acre foot, their comparable price for an acre-foot (af) of augmented water is $38,500.

Calculation of charge per acre foot:

Charge for one "Base Unit" of augmentation water, 0.10 acre-feet, is $3,850.

Therefore, The District's charge for 1 acre-foot (af) = 1 af/0.10 af x $3,850 = $38,500 per acre-foot.

Following is the link to the UAWCD web site that describes their augmentation program:

https://www.uawcd.com/augmentation-services.html

Total costs for 22 acre-feet of water would be a onetime water fee of $847,000, a onetime application fee of $200 and an annual maintenance fee of $36,300. As such, the present value of purchasing a UAWCD water certificate for 22 acre-feet and operating under this certificate for 20 years would be $1,427,427.

Conejos Water Conservancy District

Conejos Water Conservancy District (CWCD) operates a plan that sells augmentation water to replace well depletions from the Conejos River. The plan is designed to provide an augmentation water source, primarily for individual home owners that obtain their domestic water from a well that is within the drainage of the Conejos River. At present their service area within which they can sell certificates is limited.

The Conejos Water Conservancy District sells in-house domestic use only certificates for a one-time cost of $5,000 per acre-foot. Other costs include a one-time application fee of $1,750 with no annual maintenance fee. However, the CWCD would not sell to a municipality at this rate because of outside uses and other non-in-house uses.

The CWCD sells commercial use certificates for a one-time application fee of $1,750 and an annual water fee and maintenance fee of $2,500 per acre-foot. To date, the CWCD has not sold water to a municipality but their manager stated the board would probably accept a municipal sell at a rate the same as or similar to a commercial use certificate.

As previously described, SLVWCD is selling water for $20,000 per acre-foot; however, this purchase provides this augmentation water in perpetuity. Where the CWCD has sold their augmentation water on an annual basis at the price of $2,500 per acre-foot, in most situations, the intent has been to renew the annual purchase of their augmentation water for many years in the future. So, if CWCD augmentation water is purchased for 20 years at this rate, the annual cost would exceed that of SLVWCD augmentation water, i.e. 20 years x $2,500 per acre-foot = $50,000 per acre-foot. Further, SLVWCD has a policy that allows an augmentation water buyer to sell the water back to the SLVWCD at any time in the future at the same original purchase price if they no longer need the water. Therefore, even for short term water users, the cost of SLVWCD is cheaper than that sold by the CWCD.

If the CWCD were to sell a certificate to a municipality under the terms of a commercial use certificate, the total costs for 22 acre-feet of water would be a onetime water fee of $0, a onetime application fee of $1,750 and an annual water maintenance fee of $55,000.

As such, the present value of purchasing a CWCD water certificate for 22 acre-feet and operating under this certificate for 20 years would be $905,400.

7. Summary

In summary, the comparable augmentation water sales available from the Conejos Water Conservancy District (CWCD) and the Upper Arkansas Water Conservancy District (UAWCD), as described in Section 6, above, are of greater cost than the augmentation sold by San Luis Valley Water Conservancy District (SLVWCD). See the tables below.

TABLE 7-1

COMPARISON OF PRICE/VALUE OF SOURCES OF AUGMENTATION WATER

Seller	Charge per ac-ft of Augmentation Water	Period of Ownership after Purchase	Price/value 20-yrs after Purchase
SLVWCD	$20,000/af	Perpetuate	$20,000/af
CWCD*	$2,500/af	20-years	$50,000/af**
UAWCD	$38,500/af	Perpetuate	$38,500/af

* Assuming CWCD would sell to a municipality for $2,500 per acre-feet per year.
**Price/value = $2,500 x 20-yrs = $50,000 per acre-foot

Abbrevations:
"SLVWCD" - San Luis Valley Water Conservancy District
"CWCD" - Conejos Water Conservancy District
"UAWCD" - Upper Arkansas Conservancy District

TABLE 7-2

THE TOTAL COSTS FOR PURCHASING 22 ACRE-FEET OF WATER WOULD BE:

Seller	Water Fee ($)	Application Fee ($)	Annual Maintenance Fee ($)	**Present Value for 20 years of Use ($)**
SLVWCD	$440,000	$400	$5,800	**$527,274**
CWCD*	$0	$1,750	$55,000	**$905,400**
UAWCD	$847,000	$200	$36,300	**$1,427,427**

* Assuming CWCD would sell to a municipality for $2,500 per acre-feet per year.

San Luis Valley Water Conservancy District has less total expense over time and is clearly a greater value than the other two comparable water sources. Over a twenty-year period of use, SLVWCD water is 42% cheaper than CWCD water and 63% cheaper than UAWCD water. Therefore, the SLVWCD charge of $20,000 per acre-foot of augmentation water in the upper Rio Grande drainage is clearly justified.