ANIMAS – LA PLATA PROJECT WATER SUPPLY AND DEMAND STUDY

Prepared for

Colorado Water Conservation Board

Denver, Colorado

February 24, 2010

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Project Number 138372

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LIST OF ACRONYMS

A-LP	Animas – La Plata
AF	Acre-Feet
AF/YR	AF per Year
CWCB	Colorado Water Conservation Board
DSJSM	Dolores/San Juan/San Miguel
gpcd	Gallons per capita per day
IBCC	Interbasin Compact Commission
IDC	Interest During Construction
LPAWD	La Plata Archuleta Water District
LPWWA	La Plata West Water Authority
LDWA	Lake Durango Water Authority
M&I	Municipal and Industrial
O&M	Operation and Maintenance
PAWSD	Pagosa Area Water and Sanitation District
SJWCD	San Juan Water Conservancy District
SWSI	State Water Supply Initiative
USBR	United States Bureau of Reclamation

EXECUTIVE SUMMARY

The State of Colorado (State) through the Colorado Water Conservation Board (CWCB) has an allotment of 10,460 acre-feet (AF) of water in the United States Bureau of Reclamation's (USBR) Animas-La Plata (A-LP) Project in southwestern Colorado. In order to acquire this water, the State must either purchase this water directly or identify municipal and industrial (M&I) water suppliers with a demand who are willing to purchase the State's allotment. The cost of Colorado's A-LP Project water is approximately $3,315 per AF for repayment of capital costs and interest during construction (IDC) plus an estimated $36 per acre-year (AF/YR) for O&M costs. If the State does not purchase the A-LP Project water or find buyers for the full 10,460 AF, the remaining water from the State's allocation will reportedly revert to the two Ute Tribes.

The capital costs and IDC must be repaid to the federal government on terms and conditions yet to be negotiated with the USBR. Alternatives for repayment of the capital and IDC appear to range from immediate repayment of all or a portion of the allocation at $3,315 per AF to repayment over a 40-year period at an 8.135 percent discount rate. This $3,315 per AF price will probably be updated by the USBR in late 2010.

A demand investigation was conducted to determine possible sales of the State's A-LP Project allocation to M&I suppliers in southwestern Colorado. The results of this investigation indicate that approximately 500-1,000 AF of the State's allotment can likely be sold under existing conditions, depending on final cost per AF of water. Findings from the Colorado State Water Supply Initiative (SWSI) confirm this as a reasonable estimate: The SWSI estimates a gap between M&I demand and supply of 1,400 AF/YR by 2030.

Other results from the demand investigation include:

- Few of the water providers were aware of the Animas-La Plata Association. If the water provider was aware of the A-LP Project Association and was interested in obtaining A-LP Project water from the CWCB, there was some willingness expressed to participate in the A-LP Project Association.
- The water providers generally expressed a preference to purchase, rather than lease, water and to purchase from the State.

Further results of the marketing investigation indicate that the major limiting factors to marketing the State's allocation of A-LP Project water are:

- Limited demand for M&I water supply in southwestern Colorado.
- Inability, on behalf of municipal water suppliers, to fund construction of facilities to pump/divert A-LP Project water from Lake Nighthorse and/or the Animas River, convey this water to providers' service areas, and treat this water to municipal standards, and
- Limited capital resources available to repay the federal government for the A-LP Project water.

Within the time period available for marketing Colorado's allocation, not much can be done to increase M&I demands in southwestern Colorado. In response to the second and third limiting factors, however, a follow-up program is proposed to increase sales of Colorado's allocation by: (1) assisting water providers in developing feasible means to divert, pump, convey and treat A-LP Project water and make it available in their respective service areas and (2) designing a repayment program to the federal government which is feasible for the water providers. This follow-up study, termed Phase II of the A-LP Project Water Marketing Study,

should be carried out in close coordination with the Southwestern Water Conservation District and interested water providers.

Estimating how much additional A-LP Project water can be sold from the State's allocation with assistance of the Phase II program is difficult because few M&I suppliers contacted by Brown and Caldwell have completed demand forecasts and the SWSI demand forecast is on a regional basis. Based on the information available, however, Brown and Caldwell has concluded that it might be possible with substantial assistance to sell 1,000-2,000 AF in addition to the 500-1,000 AF indicated above.

As part of Phase II, Brown and Caldwell will complete a feasibility level report examining alternatives for marketing and/or using the remaining portion of Colorado's 10,460 AF allocation. This investigation will consider use of the A-LP water for Colorado River Compact compliance purposes benefiting the State of Colorado together with marketing of the water for M&I purposes outside of Archuleta and La Plata Counties and will be completed within a time frame that will allow CWCB to make a decision on the disposition of the unsold portion of the State's allotment.

1. INTRODUCTION AND PURPOSE

1.1 Background on Animas – La Plata Project

The Animas-La Plata Project (A-LP) is located in southwestern Colorado and northwestern New Mexico see Figure 1 Appendix A. The A-LP Project was authorized for further investigation in the 1956 Colorado River Storage Project Act of 1956 and authorized for construction in the 1968 Colorado River Basin Project Act as a three reservoir, 48-mile canal project to deliver water from the Animas Basin to the La Plata Basin for irrigation purposes. In 1986, the Agreement in Principle Concerning the Colorado Ute Indian Water Rights Settlement and Binding Agreement for Animas-La Plata Cost Sharing (1986 Agreement) was executed and included construction of the A-LP Project as part of the federal reserved water rights settlement for the Southern Ute and Ute Mountain tribes. The 1986 Agreement was entered into by United States, the State of Colorado, the Ute Mountain Tribe, the Southern Ute Indian Tribe, the Colorado Water Resources and Power Development Authority, the Animas-La Plata Water Conservancy District, the New Mexico Interstate Stream Commission, the San Juan Water Commission, and Montezuma County, Colorado, and modified the A-LP Project from an irrigation project of 191,200 AF/YR of depletion to a solely municipal and industrial (M&I) water supply project of 57,100 AF/YR of depletion.

The A-LP Project created Lake Nighthorse which has a total storage capacity of 120,000 AF/YR located near Durango, Colorado. Participants' allocations are listed in Tables 1-1 and 1-2. Average annual depletions are for M&I purposes only and may not exceed 57,100 AF.

Table 1-1. Colorado Allocations of A-LP Project Water

	Supply (AF/YR)	Depletion (AF/YR)
Southern Ute Indian Tribe	33,050	16,525
Ute Mountain Ute Tribe	33,050	16,525
Animas-La Plata Water Conservancy District	5,200	2,600
State of Colorado	10,460	5,230
Total[1]	81,760	40,880

Table 1-2. New Mexico Allocations of A-LP Project Water

	Supply (AF/YR)	Depletion (AF/YR)
Navajo Nation	4,680	2,340
San Juan Water Commission	20,800	10,400
La Plata Water Conservancy District	1,560	780
Total[1]	27,040	13,520

[1] Balance of 2,700 AF/YR is evaporation.

In 2000, the U.S. Congress amended the Ute Settlement Act and authorized the final configuration and cost sharing and financing of the A-LP. Funding of the A-LP Project was provided by the United States Department of Interior through the United States Bureau of Reclamation (USBR). The 2000 amendment to the 1986 Agreement discusses non-Tribal municipal and industrial water capital repayment obligations for the A-LP Project. A-LP Project water allocations could be obtained upon payment in full of non-Tribal water capital obligations prior to initiation of construction, based on the appropriated share of water. In such case, the re-paying partner would not be subject to interest accruing on the project during construction. For those non-Tribal parties who did not purchase water prior to initiation of construction, interest on the A-LP Project would accrue during construction.

1.2 Water Supply and Demand Study Purpose

The State of Colorado (State) currently has an allocation of 10,460 AF of A-LP Project and is investigating the potential for marketing this water to local water providers in southwestern Colorado. This includes identifying the quantity of water that water providers in the vicinity would be interested in purchasing, how much these providers would be willing to purchase this water for, and when these parties would anticipate needing this water. This information can also be used to assist the State in determining how much water from the State's A-LP Project allocation could be used for Colorado River Compact compliance purposes.

To assist the State with this water supply and demand study, Brown and Caldwell was contracted by the Colorado Water Conservation Board (CWCB) to complete the following tasks.

Cost Analysis

Because construction of the A-LP Project has been mostly completed, an update of the capital and interest during construction (IDC) costs, which must be repaid for the State's allocation, was required. The USBR expects to transfer the A-LP Project from "construction" to "operations and maintenance" (O&M) status sometime in 2011. This change in status will be a formality which will stop the accrual of IDC. At that point, IDC will become a capitalized cost. In addition to updated capital costs, an analysis of estimated costs for operations, maintenance, and replacement (O, M, & R) were also developed. This information was used to determine the price, or price range, at which the State can market water to local water providers. In addition, the CWCB will use the preliminary information from the cost analysis to determine the feasibility of the State of Colorado purchasing all of the remaining State A-LP Project water for Compact compliance purposes. CWCB will also use the preliminary cost analysis to review the feasibility of allowing the States water to revert to Tribal ownership and then re-selling it to the State or local water providers at a later date.

Demand Survey

Identifying future demands for water is critical to the State's determination of how much water it should purchase from the A-LP. Currently, two water providers in the area, La Plata-Archuleta Water District and La Plata West Water Authority have expressed interest in purchasing a portion of the State's A-LP Project water. In addition to these two water providers, Brown and Caldwell has compiled information identifying M&I water providers in the A-LP Project area as defined by the State. Information sources to be reviewed will include water demand forecasts and other appropriate data and information including State-wide planning data from the State Water Supply Initiative (SWSI) and basin round tables, County planning documents, and local planning documents.

A present and future demand analysis was compiled using this information to develop the most likely list of water providers willing to purchase the State's A-LP Project water. This information was summarized in both tabular and map formats, along with a listing of local providers.

Once water providers were identified, Brown and Caldwell interviewed each likely water provider via telephone to determine their interest and capability in purchasing a portion of the State's allocation. Brown and Caldwell also informed the potential buyers of the CWCB's grant and loan programs for financing the provider's possible acquisition of the A-LP Project water and discussed the options with each potential purchaser during the telephone interview.

A-LP Project Water Supply and Demand Study Area

The A-LP Project is located in southwestern Colorado, within the Dolores/San Juan/San Miguel (DSJSM) Basin. The DSJSM Basin includes Archuleta, Dolores, Hinsdale, La Plata Mineral, Montezuma, San Juan and San Miguel counties. For the purposes of the A-LP Project Water Supply and Demand Study (Study), Brown and Caldwell focused on water demand needs for La Plata and Archuleta counties because of proximity to Lake Nighthorse (Figure 1, Appendix A).

2. COST ANALYSIS

2.1 Capital Cost for A-LP Project Water

The repayment obligation of non-federal entities for a project constructed by the USBR is a detailed and complex subject. The information presented below is correct for the circumstances of the State of Colorado repaying the federal government for all, or a portion, of the 10,460 AF of annual yield from the A-LP Project water to the best of Brown and Caldwell's ability as of the date of this report (January 2010). However, the interested reader is cautioned against extrapolating further conclusions beyond the narrow conditions of this report without exploring these in full with knowledgeable personnel of the USBR.

2.2 SCHEDULE FOR PURCHASING STATE'S ALLOCATION

An inquiry was made to the USBR concerning if there was a deadline by which the State had to indicate it would purchase all or a portion of the 10,460 AF allocation? The response was:

> "The 2000 Settlement Amendments state that the repayment obligation of the non-Tribal entities is subject to final cost allocation. This could be interpreted to mean that the State has until final cost allocation to decide whether or not to participate in the A-LP Project; however, in order to ensure that the final cost allocation is completed in a timely and efficient manner, it is imperative that the State make a commitment regarding its participation in the A-LP Project sooner rather than later."

2.3 CAPITAL COSTS

If the State of Colorado (State) decides to purchase A-LP Project water, the State will have to pay its share of project capital costs. If the State were to purchase all 10,460 AF allotted to the State, this will amount to $27,954,506 (in October 2009 dollars, see note 1, Appendix B).

The State could pay the capital costs in one lump sum payment or make annual payments over a 40-year period at the present interest rate of 8.135 percent which will result in an annual payment of $2,775,556 per year (see note 2, Appendix B). The basis for the 40-year repayment period and the 8.135 percent interest rate is further explained in note 3, Appendix B.

In addition to this annual payment for the capital costs, the State will also be required to pay its share of IDC from the day construction started as explained in the next section.

2.4 INTEREST DURING CONSTRUCTION (IDC)

If the State decides to purchase A-LP Project water, it will have to pay its share of the project IDC costs. IDC is calculated at the 8.135 percent rate. If Colorado decides to make a lump sum payment for the capital costs, the State will still owe its allocated share of accumulated IDC to date.

As of September 30, 2009, the IDC accumulated for Colorado was $6,719,900 (see note 4, Appendix B). The State can avoid making additional IDC and interest payments by making a lump sum payment for the full

amount of $34,674,406 ($6,719,900 + $27,954,506 = $34,674,406). This represents approximately $3,315 per AF or $10.17/1000 gallons).

IDC will stop accruing once the Project is transferred from construction status to operation and maintenance (O&M) status. The IDC costs that have been accrued as of that date will then be treated as capitalized costs. With the current schedule, the USBR anticipates transfer from construction to O&M status to occur sometime in 2011 (email from Patrick Page, USBR, to Leo Eisel, 12.14.09).

The amount of capital cost on which IDC is calculated, is further explained in note 5, Appendix B.

2.5 COLORADO'S FIXED O&M COSTS

There will be O&M costs associated with the purchase of A-LP Project water. It is the State's intention to transfer responsibility for these costs to the water providers who will purchase a portion of the State's allocation. These O&M costs will be collected and managed by the Animas-La Plata Operations and Maintenance Association.

Annual fixed O&M costs are estimated to be approximately $1,200,000, of which Colorado would pay $126,000 (10.5 percent, see note 6, Appendix B) if it buys its full allocation; this includes an annual contribution to an emergency and replacement reserve fund.

2.6 OTHER ("VARIABLE") O&M COSTS

Other O&M costs associated with pumping have been estimated by the Colorado Water Conservation Board (CWCB) to be approximately $250,000/year assuming it had to pump its entire allocation to Lake Nighthorse (see note 7, Appendix B).

2.7 SUMMARY OF O&M COSTS

Therefore the total of Fixed and Variable O&M Costs is estimated to be approximately $376,000 per year in 2009 dollars or approximately $35.95 per AF/YR or $0.11/1,000 gallons if the State were to purchase the entire 10,460 AF.

2.8 SUMMARY

The above discussion does not cover the entire subject of cost reimbursement for Bureau of Reclamation Projects in detail. The above data and information, however, should provide sufficient cost information with which to further explore interest among municipal water suppliers in the A-LP Project area in acquiring additional raw water supply from the State of Colorado's 10,460 AF share of the A-LP Project during 2010. Therefore, it is suggested that a capital cost (including IDC) of $3300 per AF and an O&M cost of approximately $36 per AF/YR be used in discussions with potential buyers.

The above information and data also indicate that the State could repay the capital costs and the IDC over a 40-year period at an interest rate of 8.135 percent.

3. DEMAND SURVEY

3.1 Summary of Demand Studies

Sustainability and growth of communities throughout Colorado is dependent on the availability of water supplies. To identify the water needs and potential water providers interested in purchasing the State's portion of A-LP Project water, a review of current and future water demands was conducted for the study area (Figure 1) which is located in La Plata and Archuleta counties, Colorado.

3.1.1 Statewide Water Supply Initiative

The CWCB completed the Statewide Water Supply Initiative (SWSI) – Phase 1, a comprehensive study of future water needs and how Colorado would meet those needs, in 2004. The objectives of SWSI were not to replace local water planning, but to develop a general understanding of the future needs for the State. Population and water demands for the eight major river basins of the State were analyzed to quantify how much additional water resources were required to meet the current and future needs of Colorado residents up to 2030. Basin Roundtables, an assembly of local interest groups and water experts from municipal users, agricultural users, local governments, water conservation and conservancy districts, recreational and environmental interests, and the business community were created to provide input into water planning efforts. The SWSI Phase 1 study developed nine major water management objectives to evaluate the options for addressing future water needs in Colorado. The SWSI study also identified that the State can meet up to 80% of future water demand in 2030, but assistance in constructing infrastructure, permitting and water conservation assistance will be required. Past 2030, demand projections are more difficult to identify and it is anticipated that more intensive measures are required to secure water supplies.

The preliminary draft Phase 2 of SWSI is tentatively scheduled for completion in late 2010 and further focused on the recommendations to develop in Phase 1 for meeting the State's future water needs. Technical roundtables were developed to focus on water conservation and efficiency, alternative agricultural water transfers, prioritizing environmental and recreational water needs and resources and addressing the water supply gap to meet future water demand.

The A-LP Project is located within the DSJSM Basin. Major SWSI conclusions for the DSJSM Basin highlight that the water supply for future demands is available, but the lack of infrastructure will prohibit the ability to use much of the supply. The SWSI estimates that the gap in demand versus supply for 2030 in the entire DSJSM is 4,900 AF. Additionally, the DSJSM Basin faces rapidly changing demographics for the area with growth pressures causing localized water shortages in the Pagosa Springs – Bayfield – Durango area.

SWSI population and demand data were developed using data available on statewide water use and demographics by county. Population projections were taken from the Colorado State Demographer's Office and are summarized in Table 3-1. A per capita water use number was developed for each basin. For the DSJSM Basin, per capita water use was estimated to be 220 gallons per capita per day (gpcd). This number is based on components such as mean temperature, total precipitation, income and level of tourism.

Table 3-1. Summary of Population Projection from SWSI						
County	2000	2010	2020	2030	Percent Change 2000-2030	Annual Growth Rate
Archuleta	10,028	14,449	19,813	27,048	169.7%	3.36%
La Plata	44,566	54,881	68,385	80,598	80.9%	1.99%

Most demand in La Plata and Archuleta Counties is existing agriculture and municipal and industrial. There is a limited amount of large self-supplied industrial users (SSI) typically for snowmaking. It is important to note that La Plata County demand includes SSI user demands of approximately 400 AF in 2000. That SSI demand is anticipated to increase to approximately 650 AF by 2030.

SWSI concludes that the entire DSJSM Basin will have a shortfall supply of roughly 4,900 AF to meet 2030 demands. For La Plata and Archuleta counties shortfalls in supply versus 2030 demand are approximately 1,000 and 400 AF/YR respectively for M&I and SSI. SWSI found that water providers may have excess supply by implementing water conservation methods.

In Archuleta County, the San Juan Water Conservancy District and Pagosa Area Water and Sanitation District have future water supplies (for 2030) dependent on the construction of the Dry Gulch project. The water supplies are also available through the A-LP Project, but water treatment and transportation are limiting factors in transporting water to the location of the demands.

3.1.2 IBCC/Southwest Roundtable Data

The Interbasin Compact Process was created in 2005 to promote collaboration between the State's eight river basins and created the Interbasin Compact Committee (IBCC) and nine Basin Roundtables, one for each river basin and one for the Denver metropolitan area. The IBCC is composed of 27 members composed of gubernatorial and legislative appointees and two members of each roundtable. The roundtables were created to further study water issues such as sources develop a basinwide consumptive and nonconsumptive water supply needs assessment conduct an analysis of available unappropriated waters within the basin and propose projects within each basin. Roundtables are composed of various water interests including water providers, conservancy districts, environmental interests and local governments. In addition to signing the Interbasin Compact Process, was created to guide discussions between the individual basins.

The basin roundtable covering the study area is the Southwest Basin, which covers the Dolores/San Juan/San Miguel River Basin. The Southwest Basin Roundtable report was completed in June 2006. Data for the Southwest Roundtable came primarily from the SWSI report and focused on the basinwide scale and did not provide information and data in addition to that which was available in the SWSI report.

3.1.3 County Data

3.1.3.1 Archuleta County

Water resource plans were not available from the county, although population projections were available from planning documents related to parks and recreation plans. Table 3-2 summarizes population projections form the Archuleta County parks and recreation plan.

Table 3-2. Summary of Population Projection from Archuleta County				
County	**2000**	**2015**	**2020**	**2030**
Population	12,000	17,000	20,000	35,000
Demand (AF/YR)	2,957	4,189	4,929	8,625

Projected demands in Table 3-2 were calculated using 220 gpcd estimate from SWSI and the population projections available from county data.

3.1.3.2 La Plata County

La Plata County did not have water resource planning studies available, but water demand estimates were made using population data from the County's 2030 Transportation Integrated Plan (2030 TRIP). These data were, in turn, taken from the State of Colorado Demography section and are summarized in Table 3-3.

Table 3-3. Summary of Population Projection from La Plata County					
County	**2000**	**2010**	**2015**	**2020**	**2030**
Population	43,941	53,282	60,246	68,561	75,079
Demand (AF/YR)	10,828	13,130	14,847	16,896	18,502

Projected demands in Table 3-3 were calculated using 220 gpcd estimate from SWSI and the population projections available from the county data.

3.2 Water Providers with Potential Interest in A-LP Project Water

The SWSI water needs assessment identifies areas and water providers in La Plata and Archuleta Counties with future demands for additional water supply. It is important to note that many of these areas and water providers identified in the SWSI needs assessment: (a) have demands less than 300 AF/YR, (b) are located in unincorporated portions of the county, and/or (c) are located relatively far from the A-LP Project. Because of these factors, Brown and Caldwell has focused in this initial demand study on the larger water providers in Archuleta and La Plata Counties that are within proximity to Lake Nighthorse.

In addition to reviewing this SWSI needs assessment list, Brown and Caldwell was provided with letters of interest to purchase A-LP Project water from the State. This included letters from the La Plata West Water District and La Plata-Archuleta Water Authority.

From this information and data, Brown and Caldwell, the following water providers became the focus of the demand investigation:

- City of Durango, Colorado
- La Plata Archuleta Water District
- La Plata West Water Authority
- Lake Durango Water Authority
- Pagosa Area Water and Sanitation District and San Juan Water Conservancy District
- Town of Bayfield, Colorado

- Town of Ignacio, Colorado

3.3 Survey Questionnaire

In coordination with CWCB, Brown and Caldwell developed questions for interviewing the selected water providers.. The questionnaire included the following:

- What is the range in quantity the water provider would be interested in purchasing in AF per year?
- Water provider's willingness to take the State's Chair on the Association Board?
- The level of interest and the provider's ability to participate in the operation of the Association?
- The range of cost per AF of the provider would be willing to pay?
- When the water supplier would want to begin receiving its water?
- Whether the water provider would consider leasing water from the local tribes?
- From whom the water providers would prefer to buy water if the supplier were in the market?
- Whether the water provider would approve of letting the State's ALP allocation revert to the tribes and then purchase or lease this water from the tribes in the future?
- What are the major obstacles to your organization purchasing ALP Water?
- What would be necessary to eliminate the obstacles to allow you to purchase this water?

Brown and Caldwell modified these questions for each of the water providers based on their future estimated demand and proximity to Lake Nighthorse. A copy of the general questionnaire can be found in Appendix C.

3.3.1 Description of Financing Options

During the telephone interview, Brown and Caldwell also provided the potential buyers with information on CWCB's grant and loan programs for financing the provider's possible acquisition of the A-LP Project water.

3.4 Summary of Interviews and Demand Study

Table 3-4 summarizes results of the interviews with the eight water providers identified as potential purchasers for A-LP Project water. Full interview results can be found in Appendix D.

Future 2030 population projections for Archuleta and La Plata counties anticipate a total population of about 110,000 people. Demand projections for that point in time are variable and dependent on how well water conservation methods are implemented. Data from SWSI indicates there is an approximately 1,400 AF gap in M&I demand versus supply for Archuleta and La Plata Counties. SWSI also indicates that the supply is available, but transporting water to the demand centers is the challenge.

3.4.1.1 La Plata West Water Authority

The La Plata West Water Authority (LPWWA) is a newly created water authority covering the western portion of La Plata County. LPWWA currently has no customers, but has led the effort in the construction of the Lake Nighthorse water intake, in cooperation with the Southern Ute and Ute Mountain Tribes. LPWWA submitted a letter dated April 23, 2009 to the Colorado Department of Natural Resources expressing interest in purchasing A-LP Project water. The letter indicates that anticipated demand will exceed the 700 AF of supply of A-LP Project that LPWWA presently has the option to exercise.

A water demand study is currently underway for the LPWWA potential service area. The LPWWA is represented by Eric Bikis, Bikis Water Consulting, he indicated that future demands will be based on existing homes and estimated with electric meters data. Currently there are about 1,000 homes in the service area. LPWWA also anticipates serving raw water to the Lake Durango Water Authority. LPWWA had been estimating the cost for A-LP Project water to be approximately $1400 per AF (diversion). LPWWA is aware of the A-LP Project Association and would be willing to participate, understanding that this would require an acquisition of at least 780 AF of the State's A-LP Project water. LPWWA has developed a working relationship with the Tribes and would also be amenable to leasing water from the Tribes on a long-term, sustainable lease.

Obstacles to LPWWA utilizing A-LP Project water include:

- Funding the purchase of A-LP Project water.
- Installing pumps and equipping the lake intake at Lake Nighthorse.
- Locating, financing and constructing a municipal water treatment plant.
- Locating, financing, and constructing a pipeline and distribution system to convey water to the service area.

3.4.1.2 La Plata Archuleta Water District

The La Plata Archuleta Water District (LPAWD) is a newly created water provider located in eastern La Plata County and a portion of Western Archuleta County. LPAWD presently (January 2010) has no customers and anticipates the future construction of 4,000 to 10,000 units within their district. This number will vary depending on the final La Plata County growth regulations. LPAWD expressed interest in purchasing 500-1,000 AF of A-LP Project water from the State in their April 9, 2009 letter to CWCB.

LPAWD is represented by Amy Kraft, Harris Water Engineers. Harris Water Engineers have developed a draft water master plan for LPAWD. Demands for 2030 are anticipated to be approximately 2,300 AF and will be supplied using two sources of water. One source of water will be from the Pine River, utilizing treatment from a joint water treatment plant with the Town of Bayfield and the other will be water from the A-LP Project. The LPAWD water master plan estimated costs for acquiring the A-LP Project water to be in the range of $2,500-$3,500 per AF. LPAWD is looking to purchase water supplies for the future and would prefer to purchase this water from the State because it is anticipated that the Tribes will be wanting to lease, and not sell, their A-LP Project water supplies. Ms. Kraft was not aware of the A-LP Project Association and was provided with the contract.

Obstacles to LPAWD utilizing the water from the A-LP Project include:

- Funding for the purchase of A-LP Project water. The District was formed in November 2008 and ballot questions concerning taxes and TABOR questions have been withheld from the ballot until 2010. Consequently, the District does not presently have a source of revenue and is still in the planning stages.
- Construction and equipping of the lake intake at Lake Nighthorse must be completed.
- Locating, financing and constructing a water treatment plant. The District has applied to the USBR for funding for designing and building a water treatment plant for treatment of the A-LP Project water to municipal standards. The funding assistance for the water treatment plant, however, "depends on a USBR program which is still not complete." The water treatment plant is necessary for use of the A-LP Project water supply for M&I purposes.
- A pipeline and distribution system will need to be completed to convey water to the service area.

3.4.1.3 City of Durango, Colorado

The City of Durango (Durango) is located within three miles of Lake Nighthorse. Jack Rogers, Public Works Director for the Durango, indicated that Durango has conducted its future water demand studies and anticipates that its water rights totaling 8,700 AF will sufficiently meet their predicted build-out demand of 40,000 people. Their water sources include 3,800 AF of A-LP Project water acquired through the Colorado Water and Power Authority, 900 AF of Animas River mainstem and 4,000 AF from the Florida River.

Though Durango is not looking for future supplies, Durango would not like to see the State's allocation of the A-LP Project to the tribes. Durango would like to see the State use this water for Colorado River compact compliance purposes.

3.4.1.4 Lake Durango Water Authority

The Lake Durango Water Authority (LDWA) is a recently formed water district located near Lake Durango. LDWA was formed by La Plata County, Durango West Metropolitan District #1 and Durango West Metropolitan District #2. Lake Durango Water Company had a total of 1,435 taps and problems with sufficient water quality and quantity. SWSI demand studies predicted a 2030 supply shortage of 300 AF for Lake Durango Water Company, and a combined shortage of 80 AF for both the Durango West Metropolitan Districts #1 and #2.

Charles Smith, LDWA's General Manager, indicated that there has been a moratorium on the releasing new taps because of supply problems. He also discussed that a preliminary cost estimate for future water supplies has been conducted and is estimated to be $3,000 per AF. LDWA is looking at different alternatives for acquiring new water sources, but did not indicate whether leasing from the Tribes was an option. Currently LPWWA is planning for the LDWA to become a raw water customer.

Obstacles to utilizing water from the A-LP Project include:

- Funding for the purchase of A-LP Project water.
- Equipping of the lake intake at Lake Nighthorse must be completed.
- Locating, financing and constructing improvements to their water treatment plant.
- Distribution system will need to be completed to convey water to the service area.

3.4.1.5 Pagosa Area Water and Sanitation District and San Juan Water Conservancy District

The Pagosa Area Water and Sanitation District (PAWSD) and the San Juan Water Conservancy District (SJWCD) are located approximately 60 miles away from Lake Nighthorse in Archuleta County. Current plans for this area are to utilize water from the Dry Gulch Project to meet future demands. The Dry Gulch project is currently in lititgation, but is expected to be completed. CWCB has provided funds to the SJWCD to complete the land acquisition required for the project.

Brown and Caldwell spoke with Carrie Weiss, who is a board member of the SJWCD and District Manager of PAWSD. She indicated that both organizations were unaware that the State had this allocation of A-LP Project water. Although the distance of the PAWSD and SJWCD service areas from Lake Nighthorse may make utilization of A-LP Project water cost prohibitive, additional information provided to these Districts would help them determine whether this water could be a new source for them.

3.4.1.6 Town of Bayfield, Colorado

The Town of Bayfield (Bayfield) is located approximately 20 miles from Lake Nighthorse. Bayfield water supply comes from the Vallecito Reservoir and is treated at their water treatment plant, which is nearing

capacity. Bayfield's demand was calculated to be about 500 AF based on the population of 2,000 people in town and the 220 gpcd utilized in SWSI.

Brown and Caldwell discussed future water resource plans for Bayfield with Dirk Nelson, Town Attorney. He indicated that getting A-LP Project Water from Lake Nighthorse would be a huge obstacle in utilizing A-LP Project water. Bayfield has not approached the Tribe about leasing water from them, but this is a possibility.

3.4.1.7 Town of Ignacio, Colorado

The Town of Ignacio (Ignacio) is surrounded on three sides by the Southern Ute Reservation. Ignacio has a population of about 700 people and purchases potable water from the Southern Utes off of the Vallecito Reservoir. In discussions with Balty Quintana, Ignacio's Town Manager, and Dirk Nelson, Town Attorney, it would be highly unlikely that Ignacio would purchase A-LP Project water from the State because they would not want to upset their relationship with the Tribe and use of this water would require the construction of a water treatment plant.

Table 3-4. Interview Results

Question	City of Durango	La Plata Archuleta Water District	La Plata West Water Authority	Lake Durango Water Authority	Pagosa Springs Water and Sanitation District	San Juan Water Conservancy District	Town of Bayfield	Town of Ignacio
What is the range in quantity of A-LP Project water provider would be interested in purchasing?	None. Contract is in place with Colorado Water and Power Authority for supplies.	500-1,000 AF	Unknown. Demand study is underway. LPWWA anticipates LDWA will be a raw water customer.	~400 AF identified by SWSI.	None. Future water supplies will come from the Dry Gulch Project.	None. Future water supplies will come from the Dry Gulch Project.	None. Bayfield has a small demand and has WTP on the Vallecito Reservoir.	None. Ignacio purchases potable water from Utes. Ignacio would prefer to keep relationship with Tribes.
Water provider's willingness to take the State's Chair on the A-LP Project Association Board?	Durango already has a place on the Association Board.	District unaware of A-LP Project Association.	Unknown	Unknown	N/A. District is working on acquiring supplies from Dry Gulch Project.	N/A. District is working on acquiring supplies from Dry Gulch Project.	N/A	N/A
The level of interest and the provider's ability to participate in the operation of the A-LP Project Association?	Durango already has a place on the Association Board.	District unaware of A-LP Project Association.	LPWWA would participate if enough water was leased.	Unknown	N/A	N/A	N/A	N/A
The range of cost per AF of the provider would be willing to pay?	N/A	Estimated range of $2,500-$3,500 per AF.	Originally estimated at $1,400 per AF. They were informed of $3,315	Estimated $3,000 per AF.	Range discussed is feasible, however, distance from source makes acquisition a low probability.	Range discussed is feasible, however, distance from source makes acquisition a low probability.	N/A	N/A
When would the water provider want to begin receiving its water?	N/A	La Plata Archuleta does not have demand at this time, but is looking within the next 10 years.	La Plata West does not have demand at this time, but is looking within the next 10 years.	Authority cannot add new taps without securing additional supply and requires supply immediately.	N/A	N/A	Water treatment plant is nearing capacity, but source is from Pine River. Looking at plant expansion.	N/A
Whether the water provider would consider leasing water from the local tribes?	Durango is not considering leasing water from.	Not considering leasing at this time	La Plata West would consider leasing from Tribes	Not known	N/A	N/A	Unknown	N/A
From whom the water providers would prefer to buy water if the supplier were in the market?	State	State	State or Tribes	State	State	State	State or Tribes	Tribes
Would the water provider approve of letting the State's ALP allocation revert to the Tribes and then purchase or lease this water from the Tribes in the future?	Durango would prefer that A-LP Project water would be used for Colorado River Compact purposes.	Would prefer to own water resources	La Plata West would be amenable to leasing water from Tribes.	Not known	N/A	N/A	Bayfield would be amenable to leasing water from Tribes.	Ignacio would prefer to keep relationship with Tribes.
What are the major obstacles to your organization purchasing some of the State's A-LP Project Water?	Durango is not considering this option.	Capital investment for water and infrastructure costs.	Capital investment for water and infrastructure costs.	Capital investment for water and infrastructure costs.	Distance from A-LP Project .	Distance from A-LP Project .	Distance from A-LP Project.	Distance from A-LP Project.
What would be necessary to eliminate any obstacles to purchasing some of the State's allocation of A-LP Project water?	Durango is not considering, has contract in place.	Assistance in financing.	Assistance in infrastructure development.	Assistance needed for purchasing water and treatment improvements	Assistance with infrastructure construction and O&M costs.	Assistance with infrastructure construction and O&M costs.	Assistance with infrastructure construction and O&M costs.	N/A

4. CONCLUSIONS AND RECOMMENDATIONS

4.1 Sale of the State's Allocation Under Existing Conditions

Based on this investigation, it is Brown and Caldwell's conclusion that a total of approximately 500-1,000 AF of the State's allocation can be sold without further assistance or involvement by the State or other parties (see Table 4-1).

Table 4-1 – Possible Water Sale from State's 10,460 AF Allotment

Water Provider	Possible Water Sale (AF/YR)
City of Durango	0
La Plata Archuleta Water District	500-1000
La Plata West Water Authority	0
Lake Durango Water Authority	0
Pagosa Springs Water and Sanitation District	0
San Juan Water Conservancy District	0
Town of Bayfield	0
Town of Ignacio	0
TOTAL	**500-1000**

For purposes of analyzing the reasons underlying this currently limited sales potential, the group of potential buyers is divided into three categories:

1. No Future Supplies Required

The City of Durango has signed an options contract with the Colorado Water and Power Authority for A-LP Project water supply and is not interested in additional supply at this time. The Town of Ignacio purchases its potable water supply from the Tribes and is not looking at acquiring additional supplies at this point.

2. Expressed Need for Additional Supply

This group consists of La Plata Archuleta Water District, La Plata West Water Authority and Lake Durango Water Authority. These entities have demand for A-LP Project water but face challenges in pumping the water from Lake Nighthorse, providing for water treatment and conveying the water to their service areas. Financial assistance may also be required for acquisition of the A-LP Project water from the State.

3. May Have Interest in Additional Supplies

This group consists of Pagosa Springs Water and Sanitation District, San Juan Water Conservancy District, and the Town of Bayfield. These entities generally have less unmet present and future demand than their counterparts but the longer distances to their service areas is a significant obstacle to utilization of A-LP Project water by these suppliers.

4.2 Increase Sales of the State's Allocation

Repaying the capital costs plus IDC of approximately $3,315 per AF and the annual operations and maintenance cost of approximately $36 per AF/YR do not appear to be the major obstacle to increasing sales of the State's A-LP Project allocation to water providers. The major obstacle appears to be financing the planning, permitting and construction of the required infrastructure for pumping and/or diverting the water from Lake Nighthorse or the Animas River, conveying the water to the suppliers' service areas, and treating the A-LP Project water supply. In some cases, however, it may also be necessary to provide some assistance with repayment of the capital costs for the A-LP Project water to the USBR.

A Phase II program is proposed in the following section to assist water suppliers in overcoming these obstacles and buying additional shares of the State's A-LP Project allocation.

4.3 Recommendations for Phase II A-LP Project Water Marketing Study

The following tasks are recommended for developing a feasible program within the limits of available resources for the State to increase sales of its A-LP Project allocation:

Task 1: Work With USBR

The Bureau of Reclamation can be of assistance in marketing Colorado's 10,460 acre-feet of A-LP Project water by: (1) crafting and interpreting the repayment requirements for the A-LP Project water to facilitate repayment and (2) using existing Bureau of Reclamation programs to assist water providers in building necessary infrastructure to pump, convey, and treat A-LP Project water. Under this task, Brown and Caldwell would: (1) assist CWCB staff in working with the Bureau and water providers to develop feasible repayment contracts, (2) assist CWCB staff in working with the Bureau, water providers, and other federal agencies to obtain funding and assistance to build the necessary infrastructure for pumping, conveying and treating the A-LP Project water and crafting and interpreting the repayment requirements.

Task 2: CWCB Determines Existing Program And Policy Alternatives To Increase Sales

In this task, CWCB will determine the programs and levels of funding currently available to increase sales of the State's share of A-LP Project water supply to M&I providers. These alternatives will include policies and programs to facilitate: (a) implementation of necessary infrastructure to pump and convey the A-LP Project water from Lake Nighthorse to providers' service areas, (b) construction of M&I water treatment facilities, and (c) acquisition of A-LP Project water by the individual M&I providers. This effort should also identify programs and funding available in other departments of state government. A second effort will identify possible longer term funding available to assist with implementation/construction of infrastructure and/or acquisition of A-LP Project water by providers.

Task 3: Develop Joint Program With Southwestern Water Conservation District:

Meet with representatives of the Southwestern Water Conservation District and the CWCB in either Durango or Denver to develop a joint program to successfully increase the market share of the State's A-LP Project allocation. Brown and Caldwell will provide the staff resources required to develop and implement the joint program involving the Southwestern District.

Task 4: Follow Up With Potential Municipal Water Providers with Interest in A-LP Project Water

Expand the list of potential municipal supply buyers in coordination with Southwestern Water Conservation District and follow up with this expanded list that will include at least the following:

A. Municipal Suppliers Where Little or No Additional Future Water Supply Is Required:

Courtesy letters should be written to the City of Durango and the Town of Ignacio. These letters will provide notice of the State's intent to market this additional water supply.

B. Municipal Suppliers Who Expressed Need for Additional Supply:

La Plata West Water Authority: The LPWWA should be contacted and should receive a response to their April 2009 letter to CWCB requesting A-LP Project water supply. There should be a meeting with the LPWWA in Durango to discuss the Authority's April 2009 letter and its ability to fund and construct the facilities to use the A-LP Project water.

Lake Durango Water Authority: Future use of A-LP Project water by the Authority is dependent on the installation of pumps in the existing structure in Lake Durango. Therefore, it is recommended a meeting be held with LDWA to discuss how the State can assist in obtaining installation of pumps in the existing structure and how the State could possibly assist the Authority in financing acquisition of a share of the A-LP Project water.

La Plata Archuleta Water District: A meeting should be held with the La Plata Archuleta Water District board and its consultants to explore ways to assist the District in acquiring the A-LP Project water including: (a) Determine if CWCB could help resolve some of the uncertainty in the demand forecast because of La Plata County's efforts at changing its Master Plan. (b) Determine how the State could assist the District in securing funding for a water treatment plant from the USBR's existing program

C. Municipal Suppliers That May Have Interest in Additional Future Supply:

Pagosa Area Water and Sanitation District and San Juan Water Conservancy District: Steve Harris, engineer for the San Juan Conservancy District, and Carrie Weiss, District Manager, and Chairman of the San Juan Water Conservancy District Board should be contacted and a meeting arranged. Before having this meeting, Brown and Caldwell should talk to Steve Harris and determine if there are any engineering/hydrology studies concerning the reliability of supply for the proposed San Juan Water Conservancy District's Dry Gulch Project for dry years. Brown and Caldwell could subsequently determine if A-LP Project water could firm the yield from this project in some cost effective manner. The objective would be to determine how A-LP Project water could fit into the District's water supply planning before the meeting with the board. The meeting with the District should also explore possible funding assistance to the

districts for acquisition of a portion of the State's share of A-LP Project supply and for construction of necessary infrastructure to utilize the A-LP Project supply.

Town of Bayfield: It is recommended that follow up phone calls be made in Phase II with the Town's water engineer and Dirk Nelson, Water Treatment Plant Operator. The frequency of demand that Bayfield has for additional water needs to be further investigated to determine if it is economically feasible to provide dry year supplies from A-LP Project water rather than with $250 per AF Vallecito Reservoir water. This possibility/alternative should be further discussed with Dirk Nelson.

d. Group of Possible Buyers Suggested By Southwestern Water Conservation` District:

As part of the effort in setting up a joint program with the Southwestern District, CWCB and Brown and Caldwell will work with the Southwestern District to expand the list of possible buyers of the State's share of A-LP Project project water. These potential buyers will be subsequently contacted and efforts made to assist these potential customers with acquiring a portion of the State's share.

Brown and Caldwell will provide the staff for the meetings, analysis required for this task, and required follow-up as directed by CWCB.

TASK 5: Buyers' Assistance Program:

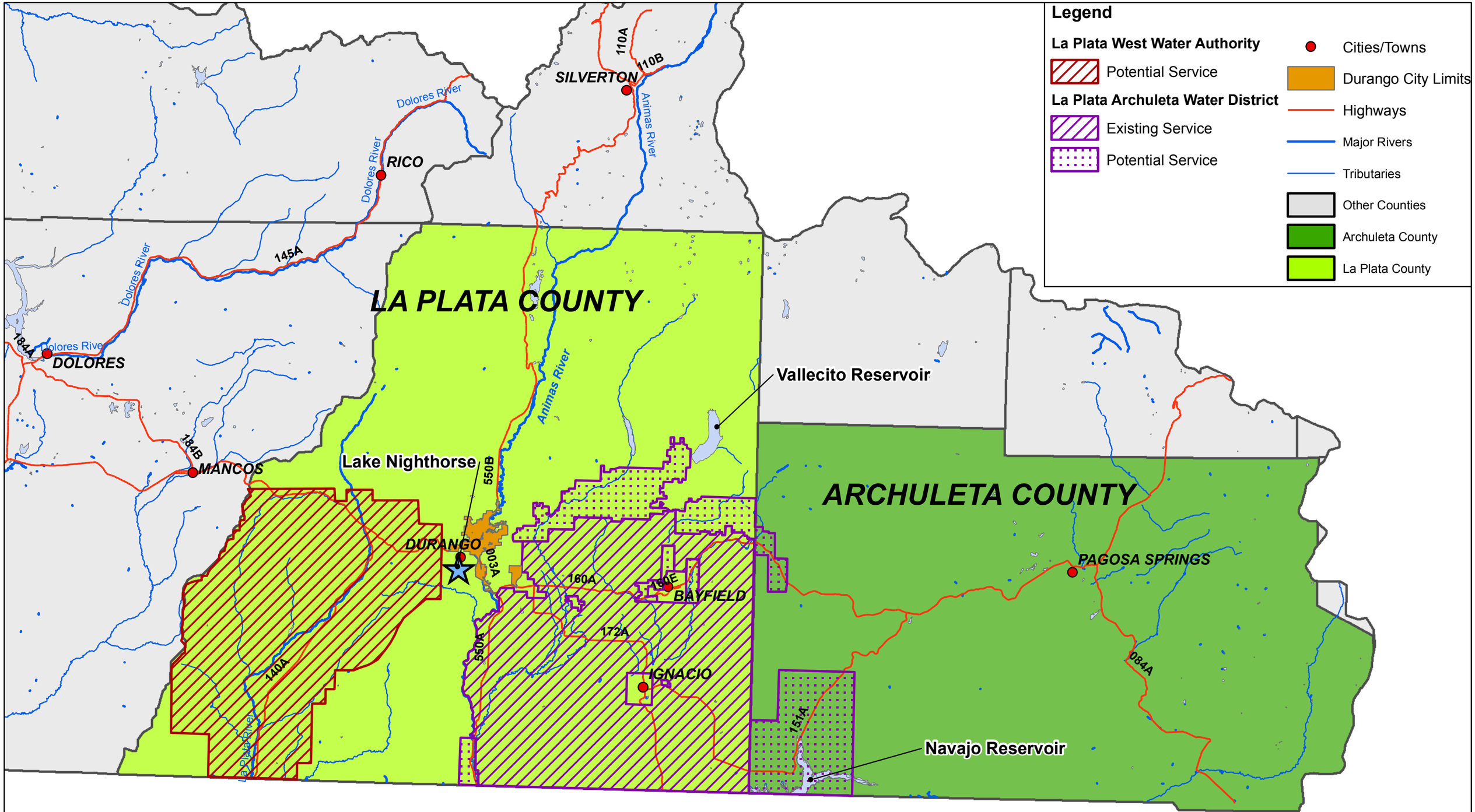
Utilizing the information gained concerning federal and state funding, Brown and Caldwell will design financing programs for identified purchasers of A-LP Project water to assist them in acquiring a share of the State's allocation thereby increasing sales of the State's share of A-LP Project water. This will be done in cooperation with the Southwestern Water Conservation District. This program could include: providing assistance in obtaining loans and grants from Federal sources for pumping, conveyance and water treatment facilities and using available state funds including the CWCB loan fund to facilitate implementation of required facilities for pumping, conveyance, and treatment of the A-LP Project water. With policy direction from CWCB, Brown and Caldwell will provide necessary staff to implement this task.

TASK 6: Design Program To Market Remainder Of State's Allocation

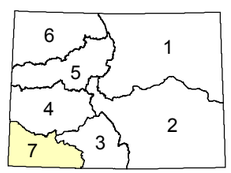
It will be necessary to design a program to market the remainder of the State's share of A-LP Project water. Estimating how much additional A-LP Project water can be sold from the State's share with the above described assistance through the Phase II program is difficult because few M&I suppliers contacted by Brown and Caldwell have completed demand forecasts and the SWSI demand forecast is on a regional basis. Based on the information available, however, Brown and Caldwell believes that it may be possible with assistance to sell 1000-2000 acre-feet in addition to the 500-1000 acre-feet indicated in Table 4-1 above for M&I purposes at the present time. Therefore, CWCB should consider making a decision about the disposition of the remaining 7,460-8,960 acre-feet. Disposition of this remaining portion of the A-LP Project water will need to look at alternatives beyond M&I use within La Plata and Archuleta Counties.

A feasibility investigation of alternatives to market or otherwise use the remaining portion of the State's allocation will have both engineering and legal components because of the suggested use of some of remaining A-LP Project water for meeting the State's Colorado River Compact requirements. Brown and Caldwell proposes to add an attorney, knowledgeable in the Colorado River Compact, to its team for purposes of doing a feasibility investigation for marketing the remainder of Colorado's 10,460 acre-foot allocation of A-LP Project water. Brown and Caldwell will complete a feasibility level report examining the alternatives, including use the remaining portion of the allocation to meet Colorado's Compact requirements, within a time frame that would allow CWCB to make a decision on the disposition of the unsold portion of the State's allotment.

APPENDIX A: FIGURE 1 – STUDY AREA



BROWN AND CALDWELL



0 2.5 5 10 15 20 Miles

N

Figure 1

A-LP Water Supply and Demand Study Area

APPENDIX B: NOTES ON COST ANALYSIS

NOTES

(1) The $27,954,506 comes from a November 18, 2009 telephone conference with Pat Page, U.S. Bureau of Reclamation, Durango, Colorado. This is presumed to be an updated number for 2009 and is comparable to the $27,600,000 capital cost (October 2008 dollars) repayment which appears in the July 14, 2009 Randy Seaholm memo to the CWCB.

(2) From Pat Page, U.S. Bureau of Reclamation, Durango, Colorado, December10, 2009)

(3) An enquiry was made concerning the basis of the 40-year repayment period and the 8.135 percent interest rate. The response received from Patrick Page in a December 14, 2009 e-mail was:

> "The 40-year repayment period is established through Section 4 of the CRSP Act of April 11, 1956 which provides that contracts relating to municipal water supply be made pursuant to Section 9(c) of the 1939 Act, and that section provides for the 40-year repayment period. The project interest rate is established through Section 5(f) of the CRSP Act which states:
>
> > "The interest rate applicable to each unit of the storage project and each participating project for purposes of computing interest during construction and interest on the unpaid balance shall be determined by the Secretary of the Treasury, as of the beginning of the fiscal year in which construction is initiated,…"

(4) This $6,719,900 for IDC is from Pat Page, USBR in a November 18, 2009 telephone call.

(5) December 14, 2009 e-mail response from Patrick Page:

Question from Leo Eisel: What amount of capital is the IDC calculated on?

Response: "The amount of capital varies with each feature of the Project. IDC is calculated (as simple interest) on the annual disbursements made for construction costs of each project facility allocated to the State's statutory water supply. Those allocations are as follows:

Ridges Basin Dam and Lake Nighthorse = 5.409%

Durango Pumping Plant = 6.479 %

Ridges Basin Inlet Conduit =6.545%

Permanent Operating Facilities =6.545%

Sunk Costs = 6.108%.

(6) The $1.2 million is from the July 2009 CWCB Board Memo. The basis for the 10.5% is found in Exhibit A of Concepts and Principles for the Operation and Allocation of the OM&R Costs of the A-LP Project, page 5 of 7. This is attached to the Intergovernmental Agreement Establishing the A-LP Operations and Maintenance Association.

(7) The Bureau of Reclamation refers to these costs as "Variable OM&R Costs". These are discussed on pages 6 of 7 in the Concepts and Principles for the Operation and Allocation of the OM&R Costs of the Animas-La Plata Project and are primarily pumping costs for pumping from the Ridges Basin Reservoir. These have been estimated by the State to be approximately $250,000 per year (see July 14, 2009 CWCB memo to the Board from Randy Seaholm). The basis for this estimate is presently unknown.

APPENDIX C: INTERVIEW QUESTIONNAIRE

INTERVIEW QUESTIONS FOR A-LP (12.14.09)

1. **City of Durango**:

   a. This is mainly a courtesy call to ascertain if they need any additional water.

   b. Do they have all their funding in place?

   c. If there were funding assistance from the State, would you be interested in obtaining more water at this time?

   d. Do you know of other M&I water suppliers who may require additional water supply to meet future demands who could be interested in an A-LP contract with the State?

   e. Would you be willing to become involved in the A-LP Operations, Maintenance, and Replacement Association (A-LP OM&R Association)?

   f. Would you be willing to take the take the State's chair?

2. **La Plata Archuleta Water District (500-1000 acre-feet of diversion /year) and La Plata West Water District Authority (780 acre-feet of CU/year) =1560 af/yr of diversion)**

   - The primary purpose is to assist these two entities in making these acquisitions; e.g., assist with funding and/or obtaining loans.
   - Interview Questions:

     1. DEMAND: How long in the future will the quantities of water that you have requested meet your demands? What is your current demand?

     2. DELIVERY: How do you plan to take delivery of your water and convey it to your site?

     3. CAPITAL COSTS: The capital costs to be reimbursed to the federal government are expected to be in the range of approximately $3600/acft.

        a. Are these costs within your budgeted cost range for a new water supply?

        b. How do you plan to pay this reimbursement?

        c. Could the State's CWCB construction loan program or similar loan program be of assistance?

d. In addition to these capital costs, the water will have to be transported/conveyed to your town or district and necessary facilities will have to be constructed and operated for this purpose. How do you plan to convey the water to your town/district and how do you plan on financing that required infrastructure?.

4.OM&R COSTS: The OM&R costs to be paid to the Animas La Plata Operations Association are expected to be approximately $36 /acft./year. This includes both the "Fixed OM&R costs from the Bureau of Reclamation plus the pumping and other non-federal OM&R costs.

a. Is this $36/af reasonable and acceptable? Are you planning on these costs?

b. In addition to this $36/af, there will be other OM&R costs of treatment, distribution systems costs, etc. that will have to be factored in. Are you planning on these costs?

c. Would you be willing to become involved in the A-LP Operations Assoc?

d. Would you be willing to take the take the State's chair?

5. GENERAL:

a. Would you be willing to purchase water from one of the local tribes if the State allowed the A-LP water to revert to the tribes?

b. From whom would you prefer to purchase water: State, tribes, ALPWCD, or the City of Durango? From past discussions it has been indicated to me that the tribes will most likely only lease water. Would the District be uncomfortable leasing water and not owning it?

3. <u>San Juan Conservancy District, Town of Bayfield, Town of Ignacio, Pagosa Springs</u>

a. Do you have a water supply plan? What is the district and communities current source of water and demand?

b. What is the range of water supply that you require in future years to fully meet your town's or conservancy district's forecast demands? For example, what is your demand forecast, in acre-feet/year or mgd, for 2020?

c. Could the State of Colorado's 10,460 acre-feet of A-LP supply be a possible source of future water supply for your town or district?

d. CAPITAL COSTS: The capital costs for the A-LP water are expected to be in the range of approximately $3600/acft. Are these costs within your budgeted cost range for additional water supply?

e. Do you have a source of revenue to assist in paying for additional water supply?

f. Would help from the State, for example through the CWCB's Construction Grant/Loan Program, assist your involvement in taking A-LP water?

g. If the State allowed it's A-LP water to revert to the Tribes, would you be willing to acquire your water supply from the Tribes? From past discussions it has been indicated to me that the tribes will most likely only lease water. Would the District/Communities be uncomfortable leasing water and not owning it?

APPENDIX D: TELEPHONE INTERVIEW RESULTS

City of Durango

La Plata West Water District

La Plata Archuleta Water District

Town of Bayfield

Town of Ignacio

Lake Durango Water Authority

San Juan Water Conservancy District

Pagosa Area Water and Sanitation District

REVISED INTERVIEW QUESTIONS FOR A-LP

City of Durango, Colorado

Contact: Jack Rogers, Public Works Director
Date/Time: December 16, 2009

1. **<u>City of Durango</u>**:

    a. Do they have all their funding in place?

Response: No. The City still owes "$4-$5million for the A-LP water."

Durango has options contract with Water and Power Authority for 3800 af of ALP water (Water and Power Authority has contract for total of 5200af). Jack Rogers indicated that this ALP water together with their additional sources of supply (4000 af/yr from the Florida River, 900 from the Animas mainstem) will give them sufficient supply for 40,000 population). Current population of their service area is about 20,000. (The reason the population of the service is so small is because there are a number of small providers using ground water providing water supply near-by).

    b. If there were funding assistance from the State, would you be interested in obtaining more water at this time?

Response: No.

    c. Do you know of other M&I water suppliers who may require additional water supply to meet future demands who could be interested in an A-LP contract with the State?

Response: Jack Rogers indicated that the Water and Power Authority has contacted La Plata West Water Authority concerning purchase of 700 af of depletion. This is the same amount of depletion requested by La Plata West Water Authority.

    d. Would you be willing to become involved in the A-LP Operations, Maintenance, and Replacement Association (A-LP OM&R Association)?

Response: They plan to become a member or partial member of the association after they sign a full contract. At present they just have an options contract with the Water and Power Authority.

e. If the State allowed its A-LP water to revert to the Tribes, would you be willing to lease your water supply from the Tribes? From past discussions it appears that the tribes will most likely only lease water. Would the District/Communities be uncomfortable leasing water and not owning it?

Response: The City does not want the A-LP water to revert to the Tribes. The City recommends that the State buy the water and use it for Compact purposes.

REVISED INTERVIEW QUESTIONS FOR A-LP

La Plata West Water Authority

Contact: **Eric Bikis, Ryan Huggins, Bikis Water Consultants, Consultants for La Plata West Water Authority**
Date: **December 23, 2009**

Background: La Plata West Water Authority LPWWA) is located use in the western part of the La Plata county from Ridges Basin Reservoir west to edge of county. Area potentially includes Lake Durango Water Authority as a customer. This would require a 2-3 mile raw water pipeline raw water to the Lake Durango WTP. Intake shaft was spearheaded by LPWWA. The 2 tribes contributed 3 southern Ute million and 1.5 million Ute Mtn. and approx 1.5 million $2.0 million was contributed by LPWWA. Pumps and Power and a pipeline are needed to get this to the Lake Durango Water Authority who would be a customer.

Primary target would be to supply water into the Animas River Basin. Eric's client present demand is zero. They would supply water to Lake Durango WA along the way.

In the La Plata, there are about 1000 water users who are getting there water from some place (hauling water from springs, shallow wells, etc). LPWWA would target connecting these water users to its system.

LPWWA utilized funds from the Tribes, CWCB and a portion of their own to construct the intake structure from the Lake Nighthorse. The capacity is 18 million gallons/day.

Is La Plata West WA working closely with the Tribes to build a water distribution system to serve the tribes?
Response: Yes based cooperative project for the Lake Nighthorse intake project.

1. PRESENT DEMAND AND SUPPLY: What is your present annual demand and what is your source of supply?

Response: Zero. There district presently has no annual supply or customers to date.

Question: What about the Authority's existing "Option" for 700 af of ALP CU from the A-LP WCD?

Response: This is via the Water and Power Development Authority.

Question: The Authority is requesting another 780 af of CU from the State's share of A-LP ?

Response: Bikis Consulting is working on demand study, but no draft was available. An estimated 780 af of consumptive use is estimated (and also allows the water provider to be included on the A-LP Board). It appears their demand is based on existing electric meters and base buildout on this.

1350 taps for Lake Durango Water service area at Buildout. Eric is doing a demand forecast at present. This is what prompted the letter.

The tribes have not yet demanded that their water be used.

When will demand study be finished?

Response: The future work is all tied into the engineering.

2. DEMAND: How long in the future will the quantities of water that you have requested meet your demands?

Response: They don't know yet.

3. DELIVERY: How do you plan to take delivery of your water and convey it to your site?

Response: Major point to consider is that the Tribes have put major money into building the intake structure, which is still unequipped, and so why should the tribes allow the state to sell the State's water? The tribes would want to lease/sell the tribe's water.

The Tribes have already paid a major portion of the cost for the intake structure for getting the water out of the lake. Consequently, why would the tribes want the State to get its water pumped? Why wouldn't the tribes want to lease their own water?

4. CAPITAL COSTS: The capital costs to be reimbursed to the federal government are expected to be in the range of approximately $3600/acft.

a. Are these costs within your budgeted cost range for a new water supply?

Response: They were surprised at the $3600. They were looking at $1400/af for diversion.

b. How do you plan to pay this reimbursement?

Response: LPWWA has no bonding capacity and no income. The authority would look at borrowing from the State. They would borrow from the State.

c. Could the State's CWCB construction loan program or similar loan program be of assistance?

Response: Yes.

d. In addition to these capital costs, the water will have to be transported/conveyed to your town or district and necessary facilities will have to be constructed and operated for this purpose. How do you plan to finance these facilities?

Response: From federal funding and Tribes, etc.

4. OM&R COSTS: The OM&R costs to be paid to the Animas La Plata Operations Association are expected to be approximately $36 /acft./year. This is for pumping from the River into the River.This includes both the "Fixed OM&R costs from the Bureau of Reclamation plus the pumping and other non-federal OM&R costs.
5. Response: this $36 does not shock Eric.

There have been cost estimates done for distribution costs and OM&R costs done. Backbone infrastructure OMR = $150,000/year.

a. Is this $36/af reasonable and acceptable? However, this $36/acft could be reduced by the A-LP Operations Assoc?

Response: That is anticipated.It's okay.

b. In addition to this $36/af, there will be other OM&R costs of treatment, distribution systems costs, etc. that will have to be factored in. Are you planning on these costs?

c. Are you planning on being becoming involved in the A-LP Operations Assoc?

Response: Yes, depending on the amount of A-LP water purchased.

5. GENERAL:

a. Would you be willing to lease water from one of the local tribes if the State allowed the A-LP water to revert to the tribes? From past discussions it has

been indicated that the Tribes will most likely only lease water. Would the District be uncomfortable leasing water and not owning it?

Response: They want to own the water. The lease would have to be renewable and would have to be long term.

b. From whom would you prefer to purchase water: State, Tribes, ALPWCD, or the City of Durango?

Response: No preference, but would prefer to own water.

Summary

1. ***I asked if Eric could contact his Board and get permission to talk further with us about the demand and supply and answer the rest of our questions by middle of next week (12.28.09) We should probably call and hassle him about 12.28.***
2. ***This entire interview was pretty informal because he wants to have permission from the La Plata west Water Authority Board before he really talks to us.***
3. ***When he does call us back we need to talk to him further about cooperation with the Lake Durango Water Authority.***

4. ***Jack Rogers, City of Durango, indicated that the Water and Power Authority has contacted La Plata West Water Authority concerning purchase of 700 af of depletion. This is the same amount of depletion requested by La Plata West Water Authority.***

5. ***Good point was made that the intake structure was built before the reservoir was filled. If it had not been built before the reservoir filled then it would have been more difficult to pump releases from the reservoir.***

6. ***Bottom line is that LPWWA has no customers, no money and has already under budgeted for what the repayment will be to the USBR.***

REVISED INTERVIEW QUESTIONS FOR A-LP

La Plata Archuleta Water District

Contact: **Amy Kraft, Harris Consulting, Consultants for La Plata Archuleta Water District**
Date: **December 16, 2009**

La Plata Archuleta Water District (500-1000 acre-feet of diversion /year) has written to the State requesting 500-1000 af of A-LP diversions per year, dependent on cost.

1. PRESENT DEMAND AND SUPPLY: What is your present annual demand and what is your source of supply?

Response: The district is not formed now and is not serving anyone at present. They will get future supply from ALP and Vallecito Reservoir. They will send copy of the Master Plan. They are not operational at present.

They have delayed a vote that was to have taken place in November 2009 concerning taxing authority because of the economy.

Bayfield and Ignacio will not be served although they are in the District. It also sounds like there are lots of small districts served by wells which also opted out of the district.

We should contact Steve Harris to see if he has some ideas on selling more water.

La Plata County is in the process of revising its plans. They are looking at serving 4-10,000 new lots. 350gpd/unit. (I didn't get all of this. We can get the details off of their Master plan.) The point is the County is in the process of changing its master plan which is causing uncertainty for the District concerning the District's future demands. This is the reason for the wide range of 500- 1000 af.)

They hope for a dual system to serve landscape irrigation through much of this area. Also they believe that people are concerned that M and I will take too much water. Therefore this is the force behind the proposed dual system.

Approximately one half of supply will come from Vallecito Reservoir and one-half from ALP. They will build new treatment plant with Bayfield. This will be at the base of the ALP dam. Bayfield got to pick its service area. Ignacio also

selected its service area. The District was formed last November. The District still needs to vote on the tax question. However, the economy slowed this down. They need to vote on the Tabor questions and the Tax questions in 2010.

Buildout period of 2030 mainline period. 2060. This is spelled out in the Master plan.

They have proposal into the Bureau for the WTP. However, funding assistance for this WTP depends on a Bureau program which is still not complete. Maybe there is potential for assistance from the State here.

The County is presently redefining their land use plan which is responsible for the large range in demand (500-2000 af). This may happen over the next year. They are trying to focus growth toward existing centers.

2. DEMAND: How long in the future will the quantities of water that you have requested meet your demands?

Response: Amy provided the draft master plan and demands are presented in the table below. The District should secure at least 2,300 acre feet (AF) per year to meet the 2060 demand from a combination of the two preferred sources.

Year	Reasonable Demand AF	EU Served with 200 g/EU/d Use	EU Served with 350 g/EU/d Use
2010	0	0	0
2030	900	4000	2300
2060	2300	10270	5900

3. DELIVERY: How do you plan to take delivery of your water and convey it to your site?

Response: They are talking about two water treatment plans. One on Pine River potentially with Bayfield and the other to treat A-LP Water.

4. CAPITAL COSTS: The capital costs to be reimbursed to the federal government are expected to be in the range of approximately $3600/af.

Response: They were looking at $2500-3500. The $3600/acre-foot did not come as a shock.

a. Are these costs within your budgeted cost range for a new water supply?
Response: Yes

b. How do you plan to pay this reimbursement?

Response: Bonds and mill levee. They are working with George K. Baum and company on the financing.

c. Could the State's CWCB construction loan program or similar loan program be of assistance?

Response: They will pursue all financing options. The USBR has a "Rural Water Program" which if it got going would provide assistance for building the WTP.

d. In addition to these capital costs, the water will have to be transported/conveyed to your town or district and necessary facilities will have to be constructed and operated for this purpose. How do you plan to finance these facilities?

Response: The USBR has some kind of program in the works for assisting in the financing of theWTP. Maybe talk to Steve Harris about this. The USBR was working on this in 2009

e. Could the State's CWCB construction loan program or similar loan program be of assistance in financing these transportation/conveyance facilities?

Response: Yes.

4. OM&R COSTS: The OM&R costs to be paid to the Animas La Plata Operations Association are expected to be approximately $36 /acft./year. This includes both the "Fixed OM&R costs from the Bureau of Reclamation plus the pumping and other non-federal OM&R costs.

a. Is this $36/af reasonable and acceptable? However, this $36/acft could be reduced by the A-LP Operations Assoc?

b. In addition to this $36/af, there will be other OM&R costs of treatment, distribution systems costs, etc. that will have to be factored in. Are you planning on these costs?

c. Are you planning on being becoming involved in the A-LP Operations Assoc?

Response: Yes they are planning on being involved. Amy did not know much about it. I said that we would send them a copy of the A-LP Operations Assoc. Agreement

5. GENERAL:

a. Would you be willing to lease water from one of the local tribes if the State allowed the A-LP water to revert to the tribes? From past discussions it has been indicated that the Tribes will most likely only lease water. Would the District be uncomfortable leasing water and not owning it?

b. From whom would you prefer to purchase water: State, Tribes, ALPWCD, or the City of Durango?

Response: The district would want to buy the water and not lease.

REVISED INTERVIEW QUESTIONS FOR A-LP

Town of Bayfield, Colorado

Contact: Ron Faba, Water Manager – No response.
Date/Time: December 16, 2009

Additional Contact: Dirk Nelson, Town Attorney
Date/Time: December 30, 2009

1. **San Juan Conservancy District, Town of Bayfield, Town of Ignacio, Pagosa Springs, Lake Durango Water Authority.**

   a. What is the District's and/or community's current water demand and source of water supply?

   Response: Pine River. Town has own direct flow right and they buy some from an irrigation district in dry years from Vallecito Reservoir . They treat their own water . Bayfield's demand is about half that of Ignacio's because there are 2,000 people in town. (BC calculated demand to be roughly 500 af/yr based on population and 220 gpcd.)

   b. What is the range of water supply that you require in future years to fully meet your town's or conservancy district's forecast demands? For example, what is your demand forecast, in acre-feet/year or mgd, for 2020?

   Response: Problem is delivery. They are 18 miles from the Animas River . What about exchange or substitution. Dirk thinks this could be difficult. They do have 3-5% growth rate. They do have conditional rights. They have Peter Foster as their water engineer.

   c. Could the State of Colorado's 10,460 acre-feet of A-LP supply be a possible source of future water supply for your town or district? The capital costs for the A-LP water are expected to be in the range of approximately $3600/acft. Is this a reasonable cost for your district/town for additional/future water supply?

   Response: They are paying $250/af from the irrigation district water. Transportation/conveyance of the water to the Town is the big deal.

   d. Do you have a source of revenue to assist in paying for additional water supply?

   N/A

e. Would help from the State, for example through the CWCB's Construction Grant/Loan Program, assist your involvement in taking A-LP water?

Response: He spoke about the group in the west (La Plata West, i.e. Eric Bikis) of the county who is trying to put together a group of interested utilities/towns.

f. If the State allowed its A-LP water to revert to the Tribes, would you be willing to lease your water supply from the Tribes? From past discussions it appears that the tribes will most likely only lease water. Would the District/Communities be uncomfortable leasing water and not owning it?

Response to questions d, e and f:
They have not approached the Tribe, but this is a possibility. They are 10 miles north of Ignacio. They did not voice any objections to buying/leasing from the tribe.

REVISED INTERVIEW QUESTIONS FOR A-LP

Town of Ignacio, Colorado

Contact: **Balty Quintana, Water Manager – Referred Brown and Caldwell to Town Attorney, Dirk Nelson.**
Date/Time: **December 18, 2009**

Additional Contact: Dirk Nelson, Town Attorney
Date/Time: **December 30, 2009**

1. **San Juan Conservancy District, Town of Bayfield, Town of Ignacio, Pagosa Springs, Lake Durango Water Authority.**

Dirk Nelson, 970 884 9561 dnelson@frontiere.net calling back for Ignacio

Dirk Nelson, Ignacio, on the Pine Reservation. The Town of Ignacio buys treated water from the tribe. They have about 700 people. 34,000,000 gallons of treated water. There is a dual system. The Town operates the non-potable system from the Pine River. The relationship has been up down and up. They are 25 miles away. He is calling in lieu of Balty. Vallecito Res is willing to do contracts for M&I . The Town would have to its own treatment system for ALP water. They built the dual system approx 15 years ago under a Water and Power Authority loan. Dirk Nelson, 970 884 9561 dnelson@frontiere.net Bottom LINE: this is probably a long shot for selling ALP water because of the need to build a WTP and to transport the water to Ignacio.

a. What is the District's and/or community's current water demand and source of water supply.

Response:

- ***Current supply is from Vallecito Reservoir.***
- ***Their present supply comes from Master meter from the tribes through Vallecito.***
- ***It's not real clear on whether they own their own water rights. It appears the Tribe may own the water rights. They are right in the heart of the Southern Ute reservation. They work closely with the Tribe as a result. The tribe treats their water at present***
- ***They have a population of 800.***
- ***Balty will call us back after the first of the year. After he talks to their attorney concering whether the Town might have any interest in buying some of the ALP water.***
- ***This is probably going to be a tough sell because of their close relationship with the tribe.***
- ***He is concerned. He will contact their attorney. Dirk Nelson is their attorney. This is the same attorney for Bayfield***

b. What is the range of water supply that you require in future years to fully meet your town's or conservancy district's forecast demands? For example, what is your demand forecast, in acre-feet/year or mgd, for 2020?

Response: N/A

c. Could the State of Colorado's 10,460 acre-feet of A-LP supply be a possible source of future water supply for your town or district? The capital costs for the A-LP water are expected to be in the range of approximately $3600/acft. Is this a reasonable cost for your district/town for additional/future water supply?

Response: N/A

d. Do you have a source of revenue to assist in paying for additional water supply?

Response: N/A

e. Would help from the State, for example through the CWCB's Construction Grant/Loan Program, assist your involvement in taking A-LP water?

Response: N/A

f. If the State allowed its A-LP water to revert to the Tribes, would you be willing to lease your water supply from the Tribes? From past discussions it appears that the tribes will most likely only lease water. Would the District/Communities be uncomfortable leasing water and not owning it?

Response: N/A

REVISED INTERVIEW QUESTIONS FOR A-LP

Lake Durango Water Authority

Contact: Charlie Smith, Manager
Date/Time: December 23, 2009

a. What is the District's and/or community's current water demand and source of water supply?

Response: They Service 1435. This includes 263 which are not active. 610 are bulk customers. Actual individual taps are about 580.

They receive water from the La Plata river via the Pine Ridge Ditch which is their main source. It would make sense to cooperate with Eric Bikis because they are located nearer to the Lake than Eric's District. The Lake Durango district is located in the Animas district and Eric's is located in the La Plata river drainage.

b. What is the range of water supply that you require in future years to fully meet your town's or conservancy district's forecast demands? For example, what is your demand forecast, in acre-feet/year or mgd, for 2020?

Response: They have some money to do a water demand forecast study which they will do this year.

The water authority took over in July with the 1435 taps. They can't go and serve more taps. They are supply limited. They have to have more supply first before they can increase the number of taps they supply. . They will be doing a new safe yield analysis. Their service area is defined. They have a waiting list of 70 people who would like to buy taps. They want to go out and find new sources of supply. The drought years of 2002 indicated the need for new sources of supply

c. Could the State of Colorado's 10,460 acre-feet of A-LP supply be a possible source of future water supply for your town or district? The capital costs for the A-LP water are expected to be in the range of approximately $3600/acft. Is this a reasonable cost for your district/town for additional/future water supply?

Response: He accepted the costs as being reasonable. Charles Did some calcs based on $3000/af. So he was not shocked by the costs. The pumping station has been built, but not the pumps.

d. Do you have a source of revenue to assist in paying for additional water supply?

Response: They would borrow it and have to demonstrate it.

e. Would help from the State, for example through the CWCB's Construction Grant/Loan Program, assist your involvement in taking A-LP water?

Response: They have had talks with "Colorado Rural Water " about low interest loans." They first need to evaluate Lightner Creek water, wells, etc. Their service area is retail special districts. And single owners. The La Plata West authority has some overlap. They have not yet done a demand forecast but plan to do later in 2010. There is a common board member witjh La Plata West.

f. If the State allowed its A-LP water to revert to the Tribes, would you be willing to lease your water supply from the Tribes? From past discussions it appears that the tribes will most likely only lease water. Would the District/Communities be uncomfortable leasing water and not owning it?

Response: Yes, they could be interested in actually replacing their existing water from the La Plata River. They would also be interested in supplying future growth once they are allowed to do so. It would depend on the economics. They pay a water royalty fee that is increasing with the consumer price index. The water fee starts in year 1 at $0.45cents/1000 and quickly increases to $1.35 /1000 for the next year. He will send me a link to this information on the Authority's webpage. Water from ALP could be feasible for the authority and a good deal here. The present sources of supply are expensive for the Authority. Lakedurango.org

They could likely be a market for a few hundred acre-feet to replace their existing expensive sources plus additional water to serve future demand at such time that they can serve additional taps.

REVISED INTERVIEW QUESTIONS FOR A-LP

Pagosa Area Water and Sanitation District and San Juan Water Conservancy Distrcit

Contact: **Carrie Weiss, District Manager for Pagosa Area Water and Sanitation District and board member of San Juan Water Conservancy District**
Date: **ecember 16 2009**

a. What is the District's and/or community's current water demand and source of water supply?

Response:

Current source of supply is San Juan River plus reservoirs. They just finished enlarging Stevens Reservoir to 1800 AF, but they are not finished with the Wetlands. They have Hatcher Reservoir.

Current demand is about 1800 AF/year. They have kept demand less than 2000 AF/year because of conservation since drought of 2002.

The CWCB has given a $1million grant for land acquisition for Dry Gulch reservoir. They have acquired 80 percent of the land for dry gulch. They need another 100 acres of private land; they need some forest service land.
Trout Unlimited has gone to water court Demands have been overstated. This has been remanded to District Court. This has been remanded back to District Court again. This has been based on State Demographers projections. The State Demo office has not taken into account the peak demands.
Dry Gulch is a trib to Dry gulch

b. What is the range of water supply that you require in future years to fully meet your town's or conservancy district's forecast demands? For example, what is your demand forecast, in acre-feet/year or mgd, for 2020?

Response: Conservancy District has 6,300 AF water right in Dry Gulch. The application is for 29,000 AF water right. This would take them through 2055.

c. Could the State of Colorado's 10,460 acre-feet of A-LP supply be a possible source of future water supply for your town or district? The capital costs for the A-LP water are expected to be in the range of approximately $3600/acft. Is this a reasonable cost for your district/town for additional/future water supply?

Response: Purchasing water from ALP is an option and price is within range, but, they are well underway with the Dry Gulch Project. Both boards were

unaware that State had this water allocation to exercise. A letter from the State to both boards would be necessary to provide information. Transportation of water to that area may be cost prohibitive.

d. Do you have a source of revenue to assist in paying for additional water supply?

Response: Yes, but may be a stretch because Dry Gulch Project is well underway. Transporting water to the area would also be cost prohibitive.

e. Would help from the State, for example through the CWCB's Construction Grant/Loan Program, assist your involvement in taking A-LP water?

Response: Yes.

f. If the State allowed its A-LP water to revert to the Tribes, would you be willing to lease your water supply from the Tribes? From past discussions it appears that the tribes will most likely only lease water. Would the District/Communities be uncomfortable leasing water and not owning it?

Response: Unknown.

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