STATE OF COLORADO

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TO: Colorado Water Conservation Board Members

FROM: Linda J. Bassi, Chief
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Stream and Lake Protection Section

DATE: September 17, 2012

SUBJECT: **Agenda Item No. 14, September 27-28, 2012 Board Meeting Stream and Lake Protection Section – Proposed Water Rights Acquisition on the Alamosa River**

Introduction

The Alamosa Riverkeepers ("ARK") has offered the CWCB the opportunity to acquire 0.5 cfs of water from Gilbert Lucero's Valdez Ditch Priority 9 water right on the Alamosa River near the town of Capulin in Conejos County, Colorado, Water Division 3. This proposed acquisition is the second water right donated to the CWCB by the ARK as part of the larger Alamosa River Instream Flow Project ("Alamosa ISF Project") to restore flows and replace natural resources damaged by mining operations at the Summitville Mine in the upper Alamosa River watershed.

The CWCB has already accepted two donations in furtherance of the Alamosa ISF Project. In May 2010, the Board accepted from ARK a donation of 2.5 cfs in the Gabino Gallegos Ditch to be used in the Alamosa ISF Project. The CWCB also accepted donation of 2,000 af of storage space in Terrace Reservoir from the Terrace Irrigation Company to allow acquired water rights to be stored and released for instream flow ("ISF") use by the Board to increase stream flows during the late summer through early winter. Terrace Reservoir is located on the Alamosa River upstream from the Valdez Ditch headgate. With this water right and additional water acquisitions, volumes are anticipated to reach the goal of 2,000 acre-feet of water stored for ISF use to be released at rates up to 10 cfs. A map of the area and an offer letter from ARK are attached.

Staff Recommendation

Pursuant to ISF Rule 6b., the CWCB's consideration of this proposal at this meeting will initiate the 120-day period for CWCB review. **No formal action is required at this time.** The initial presentation of this proposal provides an opportunity to the CWCB and the public to identify questions or concerns that Staff or the ARK will address at this or a subsequent meeting.

Brief History

In 1984, Summitville Consolidated Mining Corporation began construction of an open pit gold mine near the headwaters of the Alamosa River. Although this site had been mined for over 100

years, the new owners utilized a cyanide leaching technology to extract gold from the ore. Shortly after it became operational, there were problems with accidental releases of contaminants from the mine. The acid and metal drainage ultimately resulted in a massive fish kill affecting 53 miles of the Alamosa River. The operator abandoned the mine site in December 1992 and filed for bankruptcy. The EPA Emergency Response Branch assumed responsibility, and the Summitville site was added to the National Priorities List of Superfund sites on May 31, 1994. The United States and Colorado initiated litigation under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) to recover remediation for the Summitville site.

From 1992 to 2001, EPA and CDPHE completed several projects to reduce acid mine drainage from the site, and by 2005, site-wide reclamation and contaminant source collection structures were completed. Remediation and reclamation work is still underway at the mine. Summitville Superfund Site received up to $25 million in new funding through the American Recovery and Reinvestment Act of 2009 to construct a new on-site water treatment plant. The treatment plant was completed and dedicated in August 2011, treating up to 1,600 gpm.

In addition to the remediation efforts at the mine, stream channel restoration projects have been completed for 2.5 miles of the River in the reach between Gunbarrel Road and County Road 10. Restoration projects are planned for an additional 2.5 miles of stream in the same area. These restoration projects are designed to improve aquatic habitat and riparian areas along the river, with the expectation that once stream flows are stabilized, the River will be able to support a fishery.

The *Alamosa River Watershed Restoration Master Plan and Environmental Assessment* (Master Plan) was developed to ensure that funds recovered from a litigation settlement would be used in a manner that "comprehensively addresses the restoration needs of the Alamosa River watershed and is implemented in a manner that is fully and consistently integrated into existing and future Alamosa River projects and the Summitville CERCLA cleanup remedy." The Master Plan Final Report, issued by CWCB in 2005, summarized existing environmental conditions in the watershed, identified problems, and developed specific restoration solutions designed to bring about a healthier Alamosa River watershed. The Alamosa ISF Project was one of the highest ranking projects identified by the Master Plan, and was included in the Preferred Restoration Alternative.

The Alamosa ISF Project implements several recommendations from the Master Plan and is part of the larger effort to restore and replace damaged resources in the Alamosa River watershed. The Alamosa ISF Project includes:

(1) increasing the Terrace Reservoir spillway capacity to remove a storage restriction;

(2) acquiring senior irrigation water rights on the Alamosa River from willing Sellers;

(3) transferring the irrigation water rights to CWCB for storage in Terrace Reservoir; and,

(4) operating Terrace Reservoir to store and release the acquired water for ISF use by the CWCB in the Alamosa River between Terrace Reservoir and County Road 10.

Once operational, the Alamosa ISF Project is expected to improve the magnitude and duration of surface flows in the river, thereby improving environmental, water resource and recreation values while restoring and replacing resources damaged by operations at the Summitville Mine.

The Alamosa ISF Project is a two-phased, community-based effort spearheaded by the ARK and Terrace Irrigation Company. Phase I includes purchasing senior irrigation water rights,

transferring the water rights to the CWCB, changing the use in water court to ISF use by CWCB, and designing the spillway improvements to Terrace Reservoir. Phase II involves reconstructing the Terrace Reservoir spillway, currently underway, storing the acquired water rights in the reservoir, and releasing the water rights to restore flows in the Alamosa River during the late summer, fall, and early winter months. This proposal helps advance both phases.

The Board's Water Acquisition Procedures

Rule 6 of the Rules Concerning the Colorado Instream Flow and Natural Lake Level Program ("ISF Rules") sets forth the Board's procedures for acquiring water for ISF use. Section 37-92-102(3), C.R.S. (2009) provides 120 days for the Board to determine what terms and conditions it will accept in an acquisition agreement for water, water rights, or interests in water to preserve or improve the natural environment. ISF Rule 6 requires a minimum of two Board meetings to allow for public input prior to taking final action on a proposed acquisition. The Board's initial consideration of this proposal at this Board meeting initiates the 120-day time period for the Board to consider the terms and conditions of the proposed acquisition. Final action on the proposal could occur at the November 2012 Board meeting. ISF Rule 6m.(4) provides that any person may request the Board to hold a hearing on the proposed acquisition, and that such a request must be filed within twenty days of this Board meeting.

ISF Rule 6e. requires the Board to evaluate the appropriateness of the acquisition and determine how best to utilize the acquired water to preserve or improve the natural environment. The Rules list several factors the Board may consider in its evaluation of the acquisition, which factors are addressed in this memo.

Pursuant to statute, Staff has requested recommendations from the Colorado Division of Wildlife ("CDOW"), the Division of Parks and Outdoor Recreation, the U.S. Department of Agriculture and the U.S. Department of Interior. Pursuant to ISF Rule 6m.(1), Staff has provided notice of the proposed acquisition to all persons included on the appropriate ISF Subscription Mailing Lists and provided notice to the State Engineer's Substitute Supply Plan Notification List. The CDOW's recommendation letter is attached as Exhibit B.

1. Water Right Proposed for Acquisition

The water right proposed for this acquisition is Mr. Lucero's 0.5 cfs of the Valdez Ditch, Priority 9, which diverts from the Alamosa River, downstream from Terrace Reservoir, approximately 5 miles northwest of the town of Capulin in Conejos County. Priority 9 of the Valdez Ditch was decreed for irrigation by the Conejos County District Court on July 11, 1888, in the amount of 14 cfs absolute, with an appropriation date of April 10, 1870 (see decree attached as Exhibit E). The proposed Acquisition Agreement is attached as Exhibit C.

The Valdez Ditch diverts from the south side of the Alamosa River approximately five miles downstream from Terrace Reservoir. The ditch flows in a southerly direction to irrigate approximately 17 acres of alfalfa and hay.

2. Proposed Method of Acquisition

The Valle Del Sol Community Center, a Colorado non-profit corporation acting on behalf of ARK has entered into a Purchase and Sale Agreement with the owner of the subject water right ("the Seller). The Seller has executed a Dry-Up Covenant for the lands historically irrigated by the subject water right. The Valle Del Sol / ARK intend to donate the purchased water right to CWCB.

In addition to CWCB's use of Terrace Reservoir to release stored water for ISF purposes, ARK and CWCB are considering options for using the donated right by bypassing the acquired right at the headgate for ISF use until the reservoir is capable of storing the acquired water. During the pendency of water court approval for ISF use of the water right, CWCB and ARK may explore a temporary use of the water for ISF via a substitute water supply plan.

3. Reaches of Stream Proposed for Use of the Acquired Right

The reach of stream proposed for use of the acquired Valdez Ditch water right extends from the outlet of Terrace Reservoir, downstream approximately 16 miles, to the bridge at County Road 10, which includes the restored section of stream channel between Gunbarrel Road and County Road 10. Alternatively, the water right may be bypassed at the headgate for instream use from the headgate downstream approximately 6 miles to County Road 10. The Alamosa River is currently dry most years downstream from Gunbarrel Road (see attached map) during late summer until spring runoff.

4. Natural Flow Regime

The Alamosa River watershed is approximately 148 square miles, and ranges in elevation from over 13,000 feet to about 7,600 feet. The headwaters are located near the Continental Divide, and the river terminates at ditch headgates just east of Highway 285. Stream flow in the Alamosa River is derived primarily from snow melt and local precipitation, with peak flows occurring in June. Surface water in the Alamosa River rarely reaches the Rio Grande, located down valley approximately 15 miles east of County Road 10. Terrace Reservoir is the only mainstem storage facility on the Alamosa River.

In the segment of the Alamosa River downstream from Terrace Reservoir, the river is confined by steep valley walls. Peak flow typically occurs in June, and drops off quickly in July and August of most years. Approximately 2-3 miles downstream from the reservoir, the valley widens, and irrigation diversions pull water from the River. Senior decreed water rights in the reach of the River between Terrace Reservoir and the Town of Capulin total nearly 90 cfs, and significantly reduce stream flows.

5. Existing ISF Water Rights

The CWCB does not currently hold ISF water rights on the Alamosa River downstream from Terrace Reservoir. CWCB holds an ISF water right on the Alamosa River located upstream of the reservoir between Treasure Creek/Cascade Creek and the confluence of Wightman Fork (Case No. 3-82W209), as well as an ISF right located in the adjacent drainage to the south, on Hot Creek (Case No. 3-77W3808), but those water rights will not be affected by this proposal.

6. Existing Natural Environment

The Alamosa River is classified as a large river (between 60-90 feet wide) and habitat surveys indicate the stream environment of the Alamosa River could support a self-sustaining fishery in the future, if current water quality and wintertime water quantity continue to improve. In the past, the Alamosa River in this area supported a healthy fishery. Local residents have reported that prior to 1990, the river near Capulin was a popular place for weekend picnics and recreational fishing.

The CDOW has conducted surveys on the Alamosa River and found the fishery has been severely impacted by metals and acid drainage from the Summitville Mine site, and extremely low wintertime stream flows. Although the natural environment was severely damaged, recent reports by the CDPHE indicate that aquatic life is returning in the lower watershed, and

operation of the new, high capacity treatment plant is expected to achieve the water quality standards and aquatic life goals established for the Alamosa River (CDPHE, March 2009).

7. Proposed Use of the Water Right

This proposed acquisition will require a new point of diversion and new type and method of use for 0.5 cfs of the Valdez water right. The new point of diversion is at Terrace Reservoir, the new type of use is ISF and the new method of use is storage rather than simply direct flow diversion.

This proposal contemplates storage in Terrace Reservoir of up to approximately 145 acre-feet of water. This amount represents the average annual diversions attributable to 0.5 cfs of the Valdez Ditch, Priority 9 water right. Storage will begin in March, when the Valdez right comes into priority. Stored water may be released from Terrace Reservoir to the Alamosa River during late summer, fall, and early winter to maintain flows in the river downstream to County Road 10 (the restoration reach). The amount of water released for ISF use would include the amount historically diverted by the ditch as well as the historical consumptive use amount. The Master Plan has identified a target flow of 10 cfs for the proposed ISF reach based upon interviews with water administration officials and their experience with water deliveries from Terrace Reservoir. This initial target flow is expected to maintain flows through a longer reach of the Alamosa River than historically available. Staff is working with the CPW to establish what amounts are needed to preserve and improve the natural environment.

ISF releases from Terrace Reservoir would be used to preserve and improve the natural environment by providing additional surface stream flows. It is expected that the ISF releases will establish more sustainable stream flows in the Alamosa River, replenish the alluvial aquifer and extend surface flows further downstream to County Road 10. Downstream of County Road 10, dominion and control of the water would be relinquished to other users.

8. Proposed Season of Use

Storage in Terrace Reservoir will begin in March, and continue as long as the Valdez right is in priority. Releases of stored water may be constrained by weather and icing issues, but could generally occur July through December. The Acquisition Agreement and the Terrace Reservoir Storage Agreement both provide for an annual planning meeting to discuss release rates and schedules.

9. Stacking Evaluation

The CWCB does not currently hold ISF water rights for the Alamosa River downstream from Terrace Reservoir; therefore, no stacking evaluation is needed for existing ISF water rights. However, as CWCB acquires and adjudicates water rights for ISF use on the Alamosa River in this area, the water rights will be "stacked," as they are separate water rights to be used at the same time in the same reach of stream.

10. Historical Use and Historical Return Flows

Ken Knox of Knox Water Consultants, LLC has evaluated the historical use and historical return flows of the Valdez Ditch water right. (See the KWC Report attached as Exhibit F).

The KWC report evaluated the historical use and historical return flows associated with the 0.5 cfs of the Valdez, Priority 9 water right. The subject water right has been used to flood irrigate approximately 17 acres of alfalfa and hay. Diversions begin in March and extend into November. Records indicate the Valdez Ditch is able to provide a full irrigation water supply in most years. The KWC report indicates average annual diversions for the 0.5 cfs of Mr. Lucero's

Valdez Ditch right amounts to approximately 145 acre-feet, and a historical consumptive use of approximately 27 acre-feet.

The KWC report evaluated return flows from the use of Mr. Lucero's 0.5 cfs Valdez Ditch right, and found no evidence of excess surface water runoff from the irrigated fields. The report indicates that the land in this area of the valley is relatively flat, and KWC concluded that any irrigation water not consumed by the crop percolates through the soil and accrues to the unconfined aquifer, not to the surface water. Therefore, maintenance of surface return flows should not be required by this change case because there were no surface return flows historically. The location and amount of groundwater return flows will be maintained by using the entire diversion amount for ISF, allowing the historic return flow amounts to percolate near the same location as historically occurred. The timing of the groundwater return flows may change slightly from a historical irrigation use in spring to mid-summer to a changed practice of ISF use in late summer to early fall. The slight change in timing should not cause any injury to wells because the changed timing of recharge to the groundwater will be absorbed by the groundwater in storage, which will dissipate the seasonal change in timing. It is possible that the historical groundwater return flows may have reached the Rio Grande, but groundwater return flows that may have eventually accrued to the Rio Grande would likely take many years to decades after application to the irrigated field(s) to reach the river due to the minimal hydraulic gradient, distance and permeability through the geologic materials. The changed use to ISF will provide return flows to the groundwater in the same vicinity and will eventually accrue to the Rio Grande in a similar manner to the former irrigation practice many years to decades after application to ISF. It is highly unlikely that the slight change in seasonal return flow timing will change the timing of return flow accrual to the Rio Grande River.

11. Location of Other Water Rights

There are five large irrigation diversions located between Terrace Reservoir and County Road 10 where this water right will be used for ISF. These five structures include the Terrace Main Canal, El Viego Ditch, Alamosa Creek Canal, and the Gabino Gallegos Ditch, and the Capulin Ditch. See attached map. The senior Capulin Ditch is located approximately 5 miles downstream from the Valdez Ditch, and is decreed for 31.37 cfs.

12. Material Injury to Existing Rights

To prevent material injury to existing water rights, protective terms and conditions will be included in any water court change decree that allows use of this water for ISF purposes. This proposed acquisition will require a new point of diversion and new type and method of use for 0.5 cfs of the Valdez water right. The proposed Terrace Reservoir Storage Agreement contains a provision limiting diversion of the water right into storage to times when the right is in priority and there is physical water available at the historical headgate (not counting any simultaneous ISF releases).

Water users located both upstream and downstream from the Valdez Ditch would be entitled to protection from potential injury from this change of water right, including potential expansion of use and maintenance of return flows as a result of a water court change of the Valdez water right. The KWC Report evaluated return flows from the historically irrigated lands and concluded that "[d]ue to the rather unique circumstances…natural hydrology of the Alamosa River…there is no apparent evidence the return flows migrate back to the stream and contribute toward fulfilling downstream water rights during periods of time in which they are in priority and could apply

water to a beneficial use." The ISF flow releases will naturally percolate into the stream channel and recharge the unconfined aquifer.

13. Effect on Interstate Compact Issues

Water rights in Water Division 3 are subject to the water delivery obligations of the 1938 Rio Grande Compact. However, in a 1983 decision, the Colorado Supreme Court determined that the compact negotiators did not include the Alamosa River since "practically no water from [La Jara Creek or Alamosa Creek] reaches the Rio Grande except during periods of flooding." *Alamosa-La Jara Water Users Protection Association v. Gould*, 674 P.2d 914, 925-26 (Colo. 1983). The Division 3 Engineer has confirmed that the Valdez Ditch is not subject to the requirements of the Rio Grande Compact. Because use of the acquired water is fully contained on the Alamosa River, Staff believes the proposed acquisition will not impair the State's ability to meet its compact delivery obligations.

14. Effect on Maximum Utilization of Waters of the State

The 0.5 cfs of the Valdez Ditch water right was historically used to irrigate alfalfa and hay. The changed water right will be directly put to beneficial use as an ISF to preserve and improve the natural environment to a reasonable degree. This proposal is an integral first component of the Alamosa ISF Project, which will ultimately provide increased water level in the aquifers, thus contributing to maintaining a more sustainable aquifer and associated base flow condition in the river. The water will be available for use by others downstream of County Road 10, where dominion and control of the water will be relinquished.

15. Availability for Downstream Use

The Alamosa River is a losing stream in the reach downstream from Terrace Reservoir. Most of the surface flow is either diverted for irrigation use or lost through the stream bed to groundwater. Although the proposed acquisition is expected to increase stream flows through a longer reach of stream, the additional stream flows provided by this water acquisition will also percolate into the stream bed of the Alamosa River and accrue to the unconfined aquifer. For that reason, there will be little surface water available for subsequent, downstream use.

16. Administrability

CWCB staff has discussed administration of this proposal with Craig Cotten, the Division Engineer, and the District 21 Water Commissioner. Although there are several large diversion structures within the proposed ISF reach, water officials believe the ISF releases from Terrace Reservoir will be administrable. A state-operated satellite gage, Station ID 8236500, located on the Alamosa River approximately 0.5 mile downstream from Terrace Reservoir will facilitate administration.

17. Potential Benefits of This Proposed Acquisition

This proposed acquisition is just one step of the larger Alamosa ISF Project to restore flows to the Alamosa River. Additional water acquisitions are anticipated in order to bring the ISF storage up to 2,000 acre-feet. The potential benefits of the proposed Alamosa ISF Project are described in detail in the Master Plan and Environmental Assessment, and include:

- Releases of stored water will restore the highly altered hydrologic regime of the Alamosa River which impairs natural functions and values;
- The Project is designed to improve the natural environment that was injured by release of hazardous substances from the Summitville Mine site;

- Existing riparian habitat along the lower Alamosa River will be enhanced and new habitat created due to introduction of more sustained and dependable stream flows and increased ground water levels;
- Improving stream flow characteristics in the lower Alamosa River will improve biological resources, with the goal of eventually recovering a sustainable fishery;
- Increasing the duration of stream flows in the lower Alamosa River should increase alluvial groundwater levels adjacent to the stream; and
- Preservation and improvement of riparian areas, stream restoration, and ISF would benefit waterfowl, sparrows, warblers, raptors, beaver and other species known to inhabit the riparian zone.

Additionally, the CPW determined that this water right acquisition "will potentially increase the amount of time of each year that the Alamosa River has sufficient streamflows to support and maintain a fishery;" that it "will also extend the amount of flowing stream habitat (reach length);" and that "the Valdez Ditch acquisition is an important step towards recovery" of the Alamosa River. CPW's recommendation letter is attached as Exhibit B.

18. Cost to Complete Transaction

CWCB has already demonstrated commitment and has contributed significant sums toward restoration of the Summitville Mine and the Alamosa River. This water right acquisition was contemplated in Phase I of the Alamosa ISF Project, which was funded in part by a grant from the Summitville Natural Resource Damage (NRD) account. Phase II of the Alamosa ISF Project, which includes rehabilitation of the Terrace Reservoir spillway, has been funded and construction should be completed by the end of this year.

Potential CWCB costs could include analysis of the water right acquisition proposal, as well as costs associated with preparing, filing, and prosecuting a change of water right application for the acquired water right. CWCB may also incur costs associated with monitoring any bypasses at the headgate and ISF releases from Terrace Reservoir. Additional outside funding or partnership opportunities may be available.

The CWCB has historically supported the Alamosa River watershed restoration project. In addition to partial funding and management of the $250,000 Master Plan, the Board provided assistance to ARK in the amount of $100,000 in matching funds from the Severance Tax Operational Account to add to NRD monies for the Alamosa ISF Project. By accepting this water donation, CWCB can continue to support this important restoration project and maximize benefits from its previous expenditures.

Attachments:
A – ARK offer letter
B – CPW recommendation letter
C – Draft acquisition agreement
D – Storage agreement
E – Original decree
F – KWC Engineering Report