

## Buckman Direct Diversion Project

*A joint regional project of the City of Santa Fe and Santa Fe County to build a reliable and sustainable water supply.*

# Memo

**Date:** April 16, 2014

**To:** Buckman Direct Diversion Board

**From:** Shannon Jones, Interim BDD Facility Manager 

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### **ITEM AND ISSUE:**

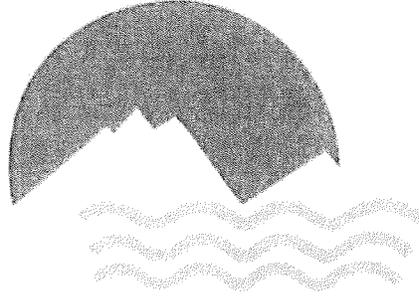
Informational Update of the Buckman Direct Diversion's 2014 Annual Operating Plan.

### **BACKGROUND AND SUMMARY:**

The primary purpose of this Annual Operating Plan (AOP) is to collect and summarize the projected wholesale water delivery orders of the City of Santa Fe (City), Santa Fe County (County), and the Club of Las Campanas, Inc. (CLCI), collectively called the BDD Partners, for calendar year 2014. Additionally, this AOP sets forth specific procedures and coordination requirements among the BDD Facilities Manager, the BDD Project Manager, and the BDD Partners pertaining to water orders, water deliveries, water use accounting, water rights, and limitations on diversions for compliance with legal conditions. The intergovernmental agreements designate the City of Santa Fe's Sangre De Cristo Water Division as the Project Manager through December 1st, 2015.

The Facility Operations and Procedures Agreement (FOPA) at Section 27 requires each BDD Partners to provide its projected daily, weekly, and monthly project water orders for the upcoming year by October 1 of each year. The BDD Facilities Manager will distribute the draft AOP containing a draft delivery schedule with all of the Partners' projected water delivery orders and associated procedures to the BDD Partners for review and comment by December 1 of each year. The calendar year is the period covered by the AOP to correspond to annual state administration of water rights.





## Buckman Direct Diversion Project

# 2014 Annual Operating Plan

BUCKMAN DIRECT DIVERSION PROJECT

2014 Annual Operating Plan

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## Introduction

The Buckman Direct Diversion (BDD) Project has been successfully operating and producing high quality drinking water during 2013. Professional management involves stewardship of the expensive public facilities and compliance with all applicable laws and regulations governing the Project and its diversion of water from the Rio Grande.

The primary purpose of this Annual Operating Plan (AOP) is to collect and summarize the projected wholesale water delivery orders of the City of Santa Fe (City), Santa Fe County independent water utility (County), and the Club of Las Campanas, Inc. (CLCI), collectively called the BDD Partners, for calendar year 2014. Additionally, this AOP sets forth specific procedures and coordination requirements among the BDD Facilities Manager, the BDD Manager (PM), and the BDD Partners pertaining to water orders, water deliveries, water use accounting, water rights, and limitations on diversions for compliance with legal conditions. The intergovernmental agreements designate the City of Santa Fe as the PM through December 1st, 2015.

The Facility Operations and Procedures Agreement (FOPA) at Section 27 requires each BDD Partners to provide its projected daily, weekly, and monthly project water orders for the upcoming year by October 1 of each year. The BDD Facilities Manager, as agent of the PM, will distribute the draft AOP containing a draft delivery schedule with all of the Partners' projected water delivery orders and associated procedures to the BDD Partners for review and comment by December 1 of each year. The calendar year is the period covered by the AOP to correspond to annual state administration of water rights.

Policy direction with regard to the AOP is limited to the following items:

1. Status and approval of the Annual Operating Plan. The BDD Facilities Manager will draft and finalize an AOP and will submit it to each partner for review and comment. The AOP subject matter is limited to water orders and the technical and legal requirements of placing orders, assuring diversions comply with water rights and Endangered Species Act requirements, and accounting for diversions and deliveries of water. It does not establish any new authorities or governance policies and therefore will not be submitted for BDD Board Approval. The final version will be approved by signature of an authorized official of each Partner and the BDD Facilities Manager. It may be amended as needed and as agreed. Amendment requires the same four signatures of approval.
2. Water Rights. The BDD Intergovernmental Agreements require that each BDD Partner own and maintain valid water rights to support its orders for diversion and delivery of its water by the BDD. It is important this structure is literally implemented by the BDD Partners such that the BDD Facilities Manager can rely on the Partners to assure that water is legally available for daily diversion in amounts to meet water orders.

## BDD Partners 2014 Water Delivery Orders

In accordance with the Project Management and Fiscal Services Agreement (PMFSA) at 6.F., the BDD Facilities Manager requested 2014 water orders from each BDD Partner.

Table 1 provides data regarding the BDD Partners' monthly water orders for 2014 in million gallons (mgal) and acre-feet (acft).

2014 BDD Partner Water Orders						
2014	County	CLCI Raw Water via County	CLCI Raw Water	City	Total	
	Million Gallons Per Day				MGD	Acre-feet/day
Jan	0.607	0.000	0.060	3.00	3.67	11.25
Feb	0.614	0.000	0.012	5.40	6.03	18.49
Mar	0.626	0.000	0.260	6.00	6.89	21.13
Apr	0.858	0.000	0.820	3.20	4.88	14.97
May	1.150	0.000	1.050	3.20	5.40	16.57
Jun	1.483	0.000	1.360	4.50	7.34	22.53
Jul	1.465	1.250	0.000	3.00	5.72	17.54
Aug	1.403	0.920	0.000	3.10	5.42	16.64
Sep	1.307	0.670	0.000	6.60	8.58	26.32
Oct	0.979	0.430	0.000	6.30	7.71	23.66
Nov	0.733	0.000	0.120	4.50	5.35	16.43
Dec	0.625	0.000	0.000	4.50	5.13	15.73
<b>Annual Total</b>	<b>361.13 mgal/yr</b>	<b>100.7 mgal/yr</b>	<b>114.14 mgal/yr</b>	<b>1,652.30 mgal/yr</b>	<b>2,228.27 mgal/yr</b>	<b>6,838.30 acft/yr</b>

Figure 1 illustrates the BDD Partners' 2014 water delivery orders per day and month

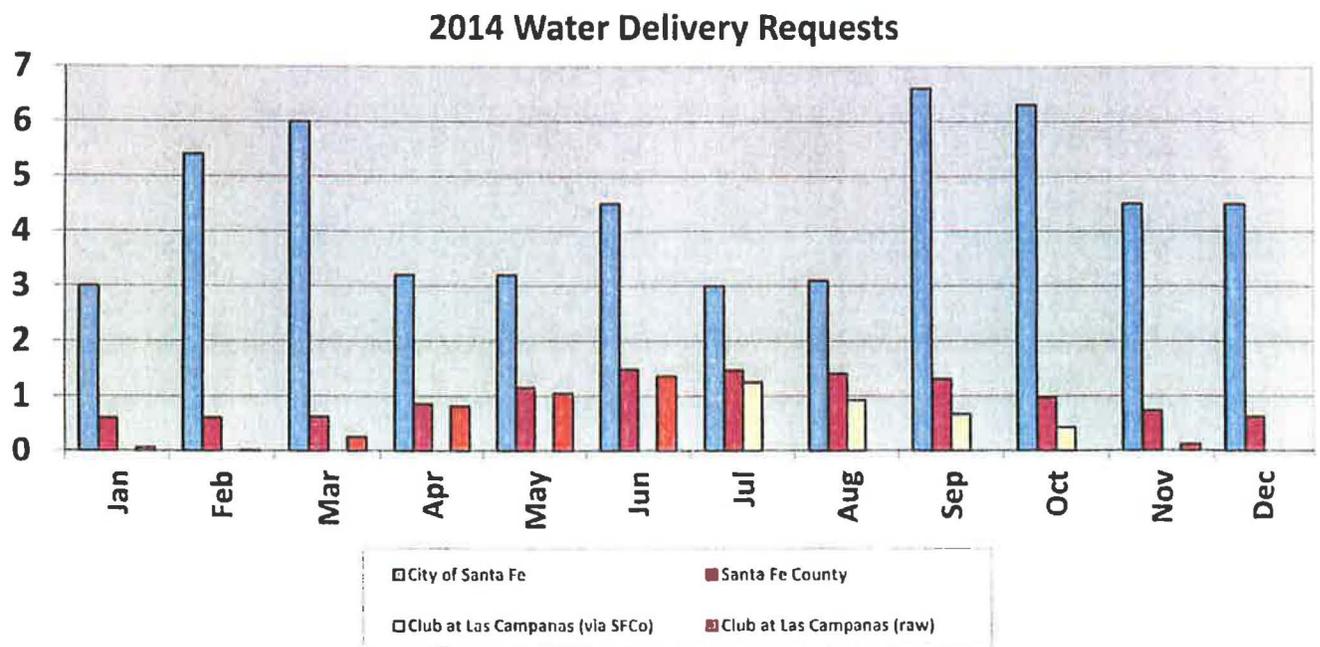
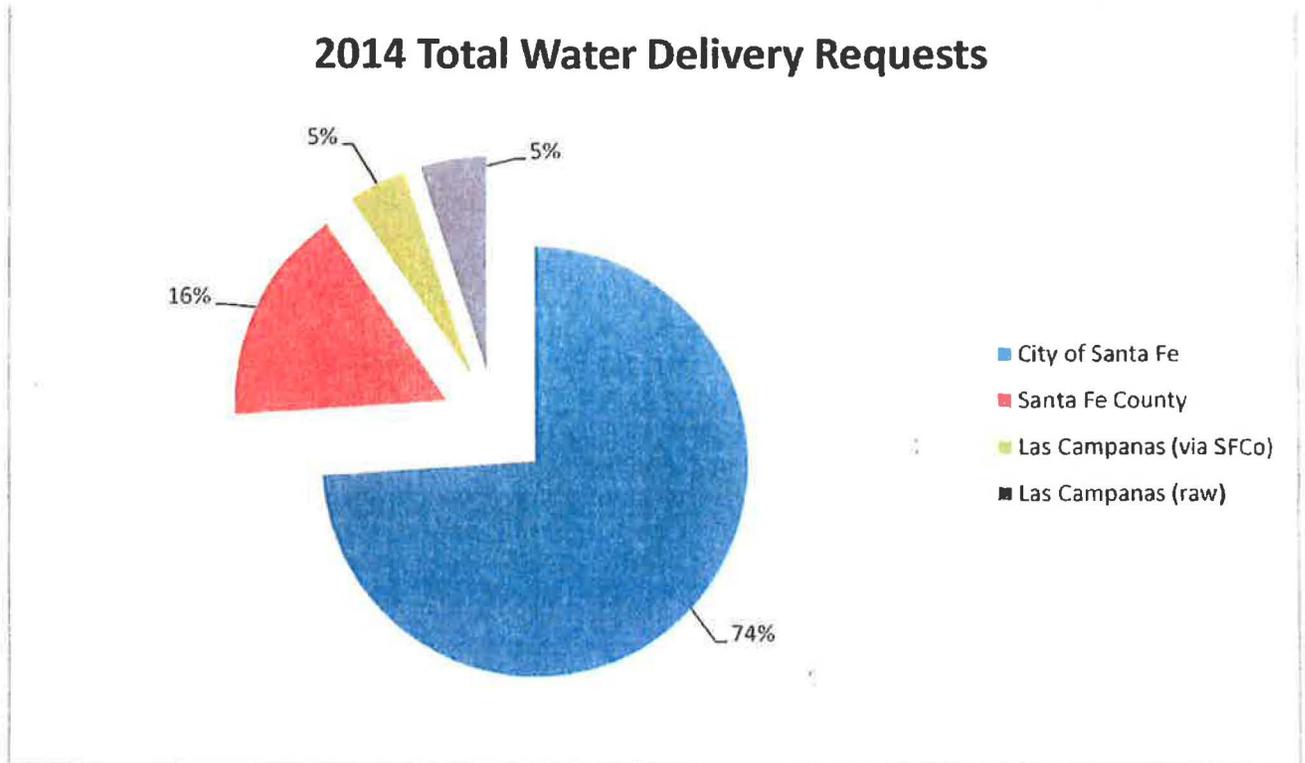


Figure 2 illustrates the BDD Partners' 2013 water delivery orders per year



#### Additional Purposes of this Annual Operating Plan

This fourth year of BDD operations the AOP will address normal operations, unique issues associated with the complex new project's operation, as well as unforeseen and / or one-time need for issues. The BDD Facilities Manager and partners undoubtedly will have to resolve other issues in order for the BDD to fulfill and properly account for Partners' wholesale water delivery orders in 2014 and to provide needed operational flexibility to meet the BDD purposes.

The remainder of this 2014 AOP individually addresses the following topics:

1. BDD Purposes and Adaptive Management to Meet the Partners' Changes to their Orders
2. BDD Facilities Manager Acceptance of CLCI Water Delivery Order
3. Water Rights:
  - a. Description of Partners' Water Rights
  - b. Roles and Responsibilities of Partners Regarding Water Rights
  - c. Native Water Rights Diversion Compliance with the Endangered Species Act
  - d. San Juan-Chama Project Orders, Reservoir Releases Calls and Reconciliation with Actual Use
4. Water Delivery Metering and Accounting

5. Fiscal Responsibilities
6. Adjustment of Daily Water Delivery Orders by the Partners to Reflect Actual Utility Demand
7. Non-Delivery of BDD Wholesale Water Supply Due to Uncontrollable Circumstances
8. Operations Features To Conserve Resources
9. Annual Operating Plan Approval

1. BDD Purposes and Adaptive Management to Meet the Partners Changes to their Orders

BDD purposes include supplying all or part of the public water system base load demand, peak production when needed, and providing a reliable and sustainable source of surface water supply to reduce reliance on groundwater resources. To meet the Partners' water demand, this AOP assumes continuous BDD production whenever the BDD is operational

This AOP recognizes that actual water deliveries by the BDD will deviate from the BDD Partner water orders. While these deviations require active management, adjustments have become part of daily and weekly operating procedure. Deviations may result from BDD facilities shutdowns (planned and unplanned), adjustments to meet monthly delivery targets, adjustment to meet unanticipated demand needs (often due to precipitation or temperature), and/or to allow the City to conserve water in the municipal reservoirs as a pro-active response to drought mitigation.

The BDD will work with the BDD Partners and the BDD Board to adaptively manage BDD water deliveries to meet changes to Partner orders for BDD water deliveries, stay within the approved annual operating budget, and to resolve associated issues and problems.

The City coordinates water deliveries from the BDD with production from its two groundwater well fields and the Canyon Road Water Treatment Plant to provide drinking water to City and County customers, and when necessary, water deliveries to the County pursuant to the 2005 Water Resource Agreement between the City of Santa Fe and Santa Fe County. The Las Campanas Homeowners Water Cooperative Association (Water Coop) is a bulk potable water customer of the County. The Club of Las Campanas Inc. (CLCI) is a raw water customer of the County and the BDD.

2. BDD Facilities Manager Acceptance of CLCI Water Delivery Order

In November 2011, the County entered into a Raw Water Supply Agreement with CLCI to provide up to 600 acft of raw water deliveries for CLCI's golf course irrigation. The County agreed to deliver raw water to Booster Station 2A, where CLCI installed pumps, a 12" pipeline, and meters to convey the water to CLCI's facilities. The raw water delivery system is designed to be operated from both the BDD's and CLCI's SCADA systems. CLCI's maximum pump capacity at BS2A is 3.02 mgd (2100 gpm) and the BDD's minimum raw water pump rate is 4.5 mgd (3,125 gpm). The BDD and Partners have developed and agreed on a revised operating plan to assure continued raw water supply for CLCI when the BDD is not diverting water from the Rio Grande for other Partners.

CLCI diversified its water rights portfolio in 2013 by leasing 600 acft of SJC water and expects to have 600 acft in 2014. CLCI has secured an Abiquiu Reservoir water storage agreement with the City to make the SJC water readily available. During 2014 CLCI will utilize their San Juan-Chama water rights to receive 359.32 acft directly through the BDD and the County will provide CLCI with at least 300 acft of raw water.

BDD, County, and CLCI staff has developed and established operational procedures to provide CLCI with raw water during times when the BRWTP should choose not to accept raw water but the raw water quality meets the BDD's policy requirements. Currently CLCI has approximately a thirty (30) day supply in onsite storage capacity.

### 3. Water Rights

A clear delineation of roles and responsibilities assists in the complex management of water rights and water resources aspects of BDD diversions.

While the BDD is responsible for assuring that its diversions comply with all applicable laws and regulations and accounting of water use associated with cost accounting among BDD Partners, it is the BDD Partners' responsibility to maintain valid water rights to support their water orders.

#### 3a. Description of Partner's Water Rights

##### The City's BDD Water Rights:

In accordance with the BDD Environmental Impact Statement, the City will divert only San Juan-Chama Project water permitted for BDD diversion by State Engineer Permit SP-2847-E. The City's portion of SP-2847-E is 5,125.4 acft/yr. For 2014, the City has State Engineer authorization to divert up to 1,281.35 acft of additional San Juan-Chama water at the BDD.

The BDD calls for the City's San Juan Chama water from Abiquiu Reservoir; the released water incurs a 1.1% conveyance loss before arriving at the BDD. However, when Abiquiu Reservoir is in some types of flood operation modes and no San Juan Chama water can be released, the City will divert native water and then substitute the water diverted with San Juan-Chama water stored in Elephant Butte Reservoir.

The City's 2014 water delivery orders total 5070.7 acft.

##### The County's BDD Water Rights:

During 2014, the County will be utilizing all native Rio Grande water rights (1,108.3 acft) permitted under SP-4842. San Juan Chama Project water permitted under SP-2847-E, is available as necessary. The County's 2014 water delivery orders total 1,108.27 acft.

##### The Club at Las Campanas BDD Water Rights:

The Club will be utilizing a combination of SJC water rights, native Rio Grande water rights (leased from Las Campanas Water Cooperative) and water purchased from the County for diversion at the BDD to be pumped from their pump station at BDD 2A . The Club will utilize San Juan Chama Project Water (up to 600 acft), permitted under SP-284-N-A, 20 acft of leased native water rights, as well as 300 acft of raw water provided by the County.

Las Campanas's 2014 water delivery orders total 659.32 acft. This is comprised of 300 acft provided by Santa Fe County and 359.32 acft leased San Juan Chama and native water rights.

### 3b. Role and Responsibilities of BDD Partners Regarding Water Rights

The BDD intergovernmental agreements identify water rights permitting, permit compliance, and maintenance as the responsibility of each BDD Partner. The Joint Powers Agreement (JPA) requires each Partner to independently provide water rights in good standing to support its water delivery orders. The BDD Board has a specific limitation of authority stated in JPA *Section 9, Limits of Board Authority*:

*The BDD Board's authority and duties do not encompass ... acquisition or permitting of use of water rights or contract water rights.*

The JPA also says in *Section 14. BDD Capacity Allocation*:

*Each entity's diversions shall be based upon its own water right or contract right and each entity is responsible for acquisition and maintenance of its own water rights.*

Therefore, the BDD Facilities Manager, in making actual diversions of water from the Rio Grande, directed by the provisions of the JPA, relies on each of the BDD Partners designating and maintaining sufficient water rights in good standing to support all BDD river diversions required to support the Partners' water delivery orders.

The BDD Facilities Manager will not divert water to partially or wholly satisfy a Partner's water delivery order until that Partner has provided a written list of valid water rights, permitted by the State Engineer to the BDD, that are designated and sufficient for that Partner's water delivery order.

Each Partner, by signature of this plan, agrees to immediately notify the BDD Facility Manager and BDD Chief Operator if those diversions would in any way violate any of the requirements and conditions of any supporting water right(s).

The BDD Facilities Manager, with the cooperation of the Project Manager and the BDD Partners, will report diversions and water right use to the Office of the State Engineer monthly.

The BDD Project Manager is responsible for reviewing and tracking the actual use of water and water rights based on BDD-measured diversions, deliveries, and cost accounting.

Each Partner is responsible for accounting use of specific native Rio Grande water rights as specified under the relevant permit conditions.

The BDD Partners have developed an Optimized Annual Accounting Protocol (Attachment B) to meet project permitting requirements and increase efficiencies of water right accounting and BDD Project Operations.

### 3c. Native Water Rights Diversion Compliance with the Endangered Species Act

The responsibility of complying with Environmental Impact Statement Record of Decision water diversion requirements falls on the BDD Facility Manager. Limitations on the BDD diversions include those provided in the Biological Assessment as submitted by the U. S. Forest Service to the U.S. Fish and Wildlife Service. The BDD Partners have agreed to incrementally curtail diversion of native Rio Grande water under low flow conditions to avoid interference with flows maintained by others for endangered Rio Grande Silvery Minnow habitat. The curtailment is initiated when the 5-

day moving average of Rio Grande flows at the Otowi gage, minus San Juan-Chama Project water ordered for diversion by the BDD and the Albuquerque Drinking Water Project, falls below 325 cfs. The Partners', BDD Facilities Manager's, and BDD Project Manager's roles and responsibilities associated with curtailment are delineated below.

- a. The BDD Facilities Manager will notify relevant BDD Partners if curtailment of their native water diversions is anticipated or has been initiated.
- b. If such a low flow curtailment occurs during a period of time when a Partner's native water rights are being diverted, the BDD will curtail that Partner's diversions in accordance with the project-specific regulatory limits (Attachment A). The BDD Facility Manager will rely on details or changes regarding curtailment requirements provided by those Partners who use Native Rio Grande water rights.
- c. Any Partner with a Native Rio Grande water right order, may with the necessary lead time, replace a native water order with an alternate water source, such as San Juan-Chama Project water. In such a case the BDD Facilities Manager, working with the BDD Project Manager, will place the appropriate San Juan-Chama call with the Bureau of Reclamation.

A copy of the BDD's River Diversion Curtailment Protocol is provided in Attachment A.

#### 3d. San Juan-Chama Project Orders, Reservoir Release Calls, and Reconciliation with Actual Use

- a) The BDD will closely coordinate all calls, monthly accounting and reporting associated with San Juan-Chama project water use with the BDD Project Manager.
- b) The BDD will rely on the Partners to maintain valid SJC water rights so that the BDD can divert water to fulfill each partner's water orders in full compliance with all applicable water rights conditions and limitations.
- c) Each Partner will fulfill its responsibilities, pursuant to the BDD intergovernmental and internal Partners agreements, to identify in the annual order when SJC Project water is to be used to support its water delivery orders.
- d) Each Partners will inform the BDD of any modifications to its daily SJC water order a week or at a minimum 2 working days in advance.
- e) BDD Partners will coordinate with the BDD and BDD Project Manager regarding use of their San Juan-Chama Project water at the BDD diversion in the event of native water diversion curtailments. Partners will endeavor to inform the BDD of replacement water sources a week or at a minimum 2 working days in advance.
- f) The BDD, in coordination with the BDD Project Manager, will measure, track and account for BDD Partner SJC use, as needed for cost accounting.
- g) The BDD and the BDD Project Manager will track SJC water use to report monthly water usage to the Office of the State Engineer. This process will include monthly reconciliation between the BDD diversion data and the RG accounting model.

- h) Each BDD Partner, independently, is responsible for reconciling the actual use of SJC Project water based on measured diversions and deliveries, including monthly and annual reconciliation of San Juan-Chama Project water releases from reservoirs against diversions and groundwater offsets. Reconciliation will also address communications with federal agencies and the State Engineer about San Juan-Chama Project storage accounts in reservoirs.

#### 4. Water Delivery Metering and Accounting

All water diverted at the BDD facility is measured through three intake and one sediment/water return meter. Raw water deliveries to CLCI are metered at Booster Station 2A. All BDD facility delivered potable water is pumped and measured through booster pump stations 4A and 5A. Additional delivery meters allow the BDD Facilities Manager, the BDD Project Manager, and the Partners to differentiate between potable water delivered to the County versus the City. Some delivery meters are owned by the BDD facility (Wild West, 2 meters; South Meadow 10", 1 meter; South Meadow 18" bi-directional, 1 meter; Airport Road, 1 meter), some master meters are owned by the City of Santa Fe (Beckner, 2 meters; Richards, 2 meters; and Agua Fria, 2 meters), and the remaining meters are owned by Santa Fe County; (Water Coop domestic, 1 meter; Aldea/Sunflower, 2, Archeological Building, 1 meter). Until additional master meters are constructed, some of the County's deliveries are the aggregate of the customers in delivery sectors (the West sector, Campos Conejos, Vista Aurora, etc.), with some accommodation of non-revenue water.

For any given period of time, usually a calendar month, the City drinking water deliveries from the BDD facility are calculated as the balance of the BDD facility finished water pumped through booster pump station 4A and 5A minus water delivered to the County independent water utility. The difference between water diverted and water delivered (non-revenue water) is apportioned to each of the BDD Partners according to their respective percentage delivery within an accounting period (usually a calendar month). Under the current accounting method, all non-revenue water (including line flushing, water for system pressurization, etc.) downstream of the BDD delivery location is absorbed by the City; a more equitable way of sharing in non-revenue water may be considered in the future.

The current roles and responsibilities with respect to water delivery metering and accounting are as follows:

- a. The BDD Facilities Manager will measure all diversions of water. These measurements will be continuous. The flows will be recorded and totalized daily.
- b. The BDD Facilities Manager will read those meters associated with bulk water delivery to each Partner as identified above.
- c. The County will provide the BDD with customer usage in "aggregate" areas.
- d. The BDD Project Manager will calculate the deliveries of water to the Partners.
- e. The BDD Facility Manager will report the water use to the OSE and to the Partners monthly.
- f. The BDD Project Manager and the BDD Facility Manager will calculate and report annual BDD water use by Partner.
- g. During times when the BDD cannot meet the County's water order because the BDD is unable to divert water, the County's water orders will be satisfied by the County/City 2005 Water Resources Agreement.
- h. Any day(s) during which the BDD cannot deliver water, the BDD Facilities Manager utilize an average daily flow based upon that months total meter consumption to distinguish between water delivered to the County by the BDD facility versus other City water supply sources.

## 5. Fiscal Responsibilities

- a. The BDD will bill the Partners—based on its actual measured deliveries of raw and/or drinking water during any billing period—for its share, pursuant to the FOPA Partner cost share requirements, of the actual fixed and variable costs of BDD OMR&R during that billing period.

The BDD will bill the City for the water deliveries, including all drinking water that is pumped by the BDD finished water pumps and not delivered to the County via the delivery and master meters. Therefore, BDD may bill the City for more or less water than the City ordered and more or less than the BDD intended to deliver, depending on the accuracies of the County and CLCI water orders with respect to actual County and LCLP water use.

Should the BDD be unable to divert and deliver water, the BDD will provide the Partners with City→ County master meter readings so that the City's Utility Billing Division can bill the County for water delivered under the County/City 2005 Water Resources Agreement.

In order to maintain the financial viability of the BDD facility, Partners will promptly pay for water deliveries.

The Partners will reimburse the BDD facility for the actual monthly costs of BDD operations through a series of advance payments for the budgeted cost of monthly operations followed by reconciliation payments if necessary at the end of each month based on actual monthly costs of BDD facility operations.

CLCI will fully cover all variable costs associated with the delivery of raw water from BS2A to the golf course.

If the Partner water demand during 2014 exceeds the Partner water delivery order, it may be necessary for that Partner to appropriate additional funds to the BDD for the additional water and for the BDD Board to amend its operating budget to incorporate the additional funds necessary to cover additional costs.

For 2014 expenses for raw water deliveries from the diversion structure to BS2A will be addressed as follows:

1. Variable costs for raw water ordered by and delivered to The Club will be billed to The Club (March through May)
  2. Variable costs for raw water ordered by the County and delivered to the Club will be billed to the County (June through December)
6. Adjustment of Daily Water Delivery Orders by the BDD Partners to Reflect Actual Utility Demand

Water demand is not precisely predictable. Spring, summer, and fall actual daily retail customer water demand varies with weather and actual amounts of precipitation prior to and during the demand period. Since the 2014 BDD Partners' actual water demand will vary from their projected

daily water delivery orders, the following steps will be taken to adjust and reconcile water delivery orders during 2014.

1. The Project Manager will endeavor to maintain the BDD delivery volume at the amount set forth in the AOP by operating its other sources of supply to accommodate the expected difference between its prior delivery order and its expected actual water demand.
2. The City may adjust its daily delivery order for the subsequent day no later than 3:00 pm each day. If the City changes its daily delivery order, the BDD Facilities Manager will operate the BDD facilities to meet the adjusted daily demand. If the change is significant, the BDD Facilities Manager may adjust the SJC call accordingly.
3. The County will endeavor to adjust its daily delivery orders no more frequently than monthly, following its monthly comparison of its actual monthly demand with the previously projected monthly water delivery orders.

#### 7. Non-Delivery of BDD Wholesale Water Supply Due to Uncontrollable Circumstances

The BDD will be unable to meet its wholesale customers' orders for waters from time to time due to circumstances beyond the control of the BDD Facilities Manager or the BDD Partners. For example, the BDD will not operate when suspended solids concentrations in the Rio Grande exceed a threshold value beyond which continued operation is not possible or in conflict with limits recommended by the BDD Board Engineer, might result in damage due to deposition of sediment within the raw water system, or would result in unacceptably high costs for removal and disposal of solids in the water treatment process. Similarly, the BDD may not operate when the Los Alamos National Laboratory Early Notification System indicates the Rio Grande may be influenced by runoff from Los Alamos Canyon. Raw water storage (up to 8 million gallons) and drinking water storage (up to 4 million gallons) may allow the BDD to continue to supply water for a short period of time following temporary curtailment of river diversions due to river water quality or other reasons.

During periods of BDD inability to fulfill water delivery orders, the City will supply both, its own and, in accordance with the 2005 County/City Water Resources Agreement, the County's potable water demands from stored drinking water and its other sources of water supply.

#### 8. Operations Features To Conserve Resources

To the extent feasible, raw water pumping will be conducted during PNM electricity 'off-peak' hours in order to avoid contributing to PNM peak system demand and higher electric rates.

City orders for BDD water are weighted to the seasons of the year when the river water is generally much better quality. The cleaner, clearer water is the easier and cheaper to treat.

#### 9. Annual Operating Plan Approval

The AOP will be agreed upon and signed by the BDD Partners. The AOP can be modified by mutual agreement of the BDD Partners as the calendar year progresses.

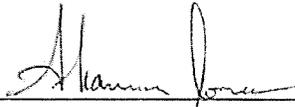
This plan was reviewed and approved by:



\_\_\_\_\_  
Claudia Borchert,  
Public Utilities Division Director, Santa Fe County

4.9.2014

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Date



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Shannon Jones,  
Interim Buckman Direct Diversion Facilities Manager

4-11-2014

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Date



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Nicholas Schiavo, P.E.  
Acting Public Utilities and Water Division Director, City of Santa Fe

4/11/14

\_\_\_\_\_  
Date



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David Loan,  
General Manager for The Club at Las Campanas

4.16.14

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Date

## Attachment A

### Buckman River Diversion Curtailment Protocol

**Only native Rio Grande River flows are affected by the curtailment policy  
Curtailment will only have to take place on the months between March and October.**

**Curtailment requirements are based on a 5-day average**

To monitor native Rio Grande flow the BDD operations team at the Buckman Regional Water Treatment Plant registered with the USGS e-mail notification system and set the threshold to 500cfs at the Otowi gauge.

Rio Grande flow is monitored during March and October. Should river flows fall below 500cfs, the Bureau of Reclamation is contacted to obtain detailed San Juan Chama (SJC) and Native Rio Grande flows.

Native Rio Grande River diversion curtailments, which were required by the Biological Opinion, are addressed in the table below:

Native Rio Grande flows (cfs)	March Max Diversion (cfs)	April Max Diversion (cfs)	May Max Diversion (cfs)	June Max Diversion (cfs)	July Max Diversion (cfs)	August Max Diversion (cfs)	September Max Diversion (cfs)	October Max Diversion (cfs)
> 325	3.82	4.6	6.87	8.55	7.95	7.56	6.57	5.09
300	3.05	3.68	5.50	6.84	6.36	6.05	5.26	4.07
280	2.44	2.95	4.40	5.47	5.09	4.84	4.21	3.26
260	1.83	2.21	3.30	4.10	3.82	3.63	3.16	2.44
240	1.22	1.47	2.20	2.73	2.54	3.42	2.10	1.63
220	0.61	0.74	1.10	1.37	1.27	1.21	1.05	0.81
200	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

For example:

- If in March the 5 day average flow of Native Rio Grande water is greater than 325 cfs, a maximum 5-day peak of 3.82 cfs Native Rio Grande water can be diverted. On the day the 5 day average flow of Native Rio Grande water of less than 325 cfs is reached, a max of 3.05 cfs of Native Rio Grande water can be diverted.
- If in July the 5 day average flow of Native Rio Grande water is greater than 325 cfs, a maximum 5-day peak of 7.95 cfs Native Rio Grande water can be diverted. On the day the 5 day average flow of Native Rio Grande water of less than 325 cfs is reached, a max of 6.36 cfs of Native Rio Grande water can be diverted.
- If in July the 5 day average flow of Native Rio Grande water is less than 240 cfs, a max of 1.27 cfs of Native Rio Grande water can be diverted.

## ATTACHMENT B

### OPTIMIZED ANNUAL WATER RIGHTS ACCOUNTING PROTOCOL

#### Background

One of the principles of the shared nature of the BDD Project is that each of the partners (County, City and Las Campanas Coop 'LC Coop' & The Club at Las Campanas Inc. 'CLCI') provides access to their water rights that they want diverted and delivered to the respective points of interconnection where the BDD Project transmission lines terminate.

This memo is addressed to those persons at each of the 4 partners who have a role in managing the water rights covered by this policy. This memo will be included in the Annual Operating Plan for the BDD Project reviewed and approved by the BDD Project Partners.

The present accounting process for the diversion from the Rio Grande of SJCP and native NM water rights, and then delivery to each of the BDD Partners, has become inefficient and time consuming. In some cases, the complexity of the current accounting process has lead to very significant staff time and reporting errors. The accounting process generally must be coordinated with state and federal agencies and must be done in accordance with BDD Project documents, OSE diversion permits and the Record of Decision for the EIS approval of the BDD Project. The state and federal agency accounting criteria requires the Project to provide detailed reports on volume, and attendant type of water right, that has been diverted.

The methods and procedures for Optimized Annual Water Right Accounting described below are designed to, 1. lessen the time and resources required of staff to meet Project permitting requirements, 2. move the timing of native NM water rights diversions out of the restrictive time periods when conditions might adversely impact Project operations, 3. generally improve the efficiencies of operations and accounting to federal and state agencies as required by the respective permits, 4. improve the efficiencies of compliance with the City and County SJCP diversion permits, 5. generally optimize the use of SJCP water where appropriate and thereby make that SJCP water available for other purposes.

#### Introduction

In order to improve the efficiency of operations and the accounting process, staff has identified that an internal accounting process could be developed that changes the timing of diversions of the combined native NM water right portfolio. This proposal does not require the approval of the state and federal agencies and is designed to fit within the existing permit approvals.

For reporting to the state and federal agencies, this approach would show the native NM water rights being diverted at times of the year that avoid or lessen the low flow curtailment constraints described on pages 11-12 of the BDD Project Biological Opinion (see below). By changing the timing of such diversions, the BDD Partners would create additional operational flexibility for the overall benefit of the BDD Project and staff of both the BDD Project and the agencies who monitor compliance with the existing permits.

Several permitting constraints limit the operational flexibility of the BDD Project. During the spring when the Rio Grande is in flood operations, SJCP water cannot be routed through Abiquiu Reservoir and BDD Project diversions of SJCP water can only be permitted by an inefficient process that requires an accounting 'exchange' for downstream stored water in coordination with state and federal agencies. The Biological Opinion limits the diversion of native NM water rights during times when the Rio Grande experiences low flow conditions. The SJCP diversion permits contain a strict rule that requires exact releases from upstream reservoirs and then exact diversions at the intake. The Optimized Annual Accounting method will provide compliance with the federal and state permits while also allowing for greater flexibility in operations for the Project and the BDD Partners.

The Optimized Annual Accounting method allows for some flexibility in the aggregate diversions since native NM water rights are available for diversion without calling for release. This change will allow native NM water rights to be diverted when they are most useful to meeting the combined BDD Project demands, and also allow SJCP water rights to be diverted when they are most useful to meeting the combined BDD Project demands. For example, the native NM water rights owned by the BDD Partners would be diverted during the likely flood operations time period to meet BDD Partner demand ... and SJCP water rights owned by the BDD Partners would be diverted during the likely low flow time period to meet BDD Partner demand. A discrete amount of native NM water rights would be identified to balance the SJCP calls for delivery, and actual diversions must be within the native NM diversion flow constraint identified in the Biological Opinion. This will simplify the monthly accounting provided to the agencies and avoid changes to BDD Project operations during this time period. A significant part of the native NM water right portfolio will be scheduled for use during the likely flood operation time period to avoid changes in BDD Project operations during this time period. And the balance of the native NM water right portfolio would be used in the fall in order to preserve the combined SJCP water owned by BDD Partners.

#### Review of Permit Compliance

*OSE permits:* The City / County SJCP diversion permit contains the restriction described above, that strictly accounts for upstream reservoir releases and subsequent diversions. From the November 1, 2006 permit:

8. The maximum amount of San Juan-Chama Project water diverted in any day under this permit shall not exceed the amount of the permittees' San Juan- Chama water calculated to be in the Rio Grande at the BDD on that same day. The amount of the permittees' SJCP water available for diversion at the BDD on a particular day shall be calculated as the amount of water released from either Heron or El Vado Reservoir two days prior to diversion at the BDD, less a 2% conveyance loss or the amount of water released from Abiquiu Reservoir one day prior to diversion at the BDD less a 0.9% conveyance loss. The State Engineer expressly reserves the right to adjust the travel time periods as better information becomes available or based on river channel conditions. The permittees shall notify the State Engineer at the time releases of SJC water are ordered to be released or are ordered to be discontinued.

9. The permittees' maximum peak daily surface water diversion rate shall not exceed 32.0 cfs. The State Engineer recognizes that other external factors may further limit the actual diversion rate.

**Note** that 'Otowí Gage native flows' is a defined term from the ROD (discussed below) and is calculated as the total Otowí gage flow less SJCP releases for municipal and industrial uses. This definition of native flow is different from the definition that is used elsewhere in Rio Grande water management.

The proposed Optimized Annual Accounting method does not conflict with the SJCP permit conditions of approval, and is intended to simplify compliance with the permit requirements.

Several native NM water right permits that are permitted for diversion from the BDD were reviewed, and they typically contain two provisions that relate to operations. From a County transfer approved in 2010:

8. The maximum instantaneous rate of diversion from the Buckman Direct Diversion under all permits (San Juan Chama Project water and native water) shall not exceed 32.0 cfs, inclusive of amount of water necessary for sediment removal.

9. Diversion of water under this permit shall be subject to adherence with the Staged Curtailment Schedule (U.S. Department of Interior, Fish and wildlife Biologic Opinion, June 25, 2007 at 12) for the Buckman Project when Otowí Gage native flows are below 325 cfs.

Note that the requirement to comply with the Staged Curtailment Schedule has been the topic of a related work effort, and the OSE will not independently determine compliance with the BO requirement. The proposed Optimized Annual Accounting method does not conflict with the native NM water right permit conditions of approval, and is intended to simplify compliance with the permit requirements.

Staff of the OSE and ISC has indicated that they are not concerned with who is delivered which water rights (under the proposed Optimized Annual Accounting method) as long as the Rio Grande diversions are consistent with the Conditions of Approval of the permits.

*BDD Board documents:* The BDD JPA, City-County WRA and BDD PMFSA do not contain provisions that relate to the Optimized Annual Accounting method. BDD FOPA, section 8, states:

8. Water Rights and Divertable Water Supply. Each BDD Partner shall divert only that amount of water in the system for which water rights are in good standing with the New Mexico State Engineer, subject to the limitations on diversions at low flow set as forth in the BDD Project EIS or other applicable permits. The BDD Partners each recognize an individual responsibility to maintain their own water rights portfolio and to manage any water rights shortage within that portfolio. No BDD Partner shall make any claim or attempt to use another BDD Partner's water rights without the express written consent of that BDD Partner.

The final sentence of this section requires written consent to use another BDD Partner's water rights. In order to address this condition, staff and counsel recommend that the procedures described below be added to the BDD Project Annual Operating Plan. This Plan is prepared annually by the staff of the City, County and Las Campanas (CLCI and LC Coop), and is signed by the respective water utility directors.

*BDD Project Biological Opinion:* The Record of Decision issued by the US Forest Service and Bureau of Land Management incorporated the requirements of the Biological Opinion issued by the Fish and Wildlife Service. Pages 9 through 12 of the Biological Opinion are attached below. In general, the BO prescribes an annual maximum volume of diversion (8,730 afy), an annual maximum volume of SJCP and native NM water rights, and maximum rates of diversion (32 cfs, sediment return/net diversion, RG low flow native NM water right diversion limits). The BO does not contain a provision that limits the Optimized Annual Accounting method, and the proposed method intended to simplify compliance with the permit requirements.

#### Conclusion

In summary, the proposed Optimized Annual Accounting method provides for the full use of the native NM water right portfolio in the near term (providing the beneficial use requirement) and allows the BDD Partners to preserve as much SJCP water as possible in any given year. It provides a simplified and efficient process for staff and agency review, and is consistent with the permits and agreements for the BDD Project that have been reviewed.

#### Implementation of revised Optimized Annual Accounting Process

Staff and counsel recommend that the implementation of the revised accounting process be acknowledged by the respective water utility directors of the BDD Partners through inclusion in future year versions of the Annual Operating Plan (as is described in BDD Project documents).

## Optimized Annual Accounting Procedures

These procedures describe the procedural guidelines that BDD water use and water rights accounting staff will use to implement the Optimized Annual Accounting.

### Accounting Principles:

The Optimized Annual Accounting will follow these principles:

- The BDD will **daily** and **monthly** divert the combination of SJC and native water in any combination necessary to meet the Partners' **annual** water orders, generally by
  - daily diverting a combination of SJC and native water;
  - daily and monthly prioritizing the diversion of ordered and delivered SJC water
  - relying only on native or Elephant Butte “exchange” water when Abiquiu Reservoir is in flood operations;
  - relying mostly on SJC water when Rio Grande flows are low and/or low flow curtailment is in effect; and
  - ordering all SJC from Abiquiu Reservoir (partners need to get their SJC water into Abiquiu so that BDD can call for it).
- The BDD shall monthly account for water delivered to the partners, water diverted for the Partners, and water rights reported to the OSE. The SJC and native diversions reported **monthly** by the BDD Project to the OSE may not equal the quantity of water diverted monthly on behalf of each of the BDD Partners (change in storage for example).
- End-of-year accounting will accurately and fairly match the water rights use and water delivery reported to the OSE with the Partners’ diversions in accordance to their water right portfolio. Any discrepancy to this principle will result in an appropriate debit/credit that will be carried over into the next years accounting calendar.

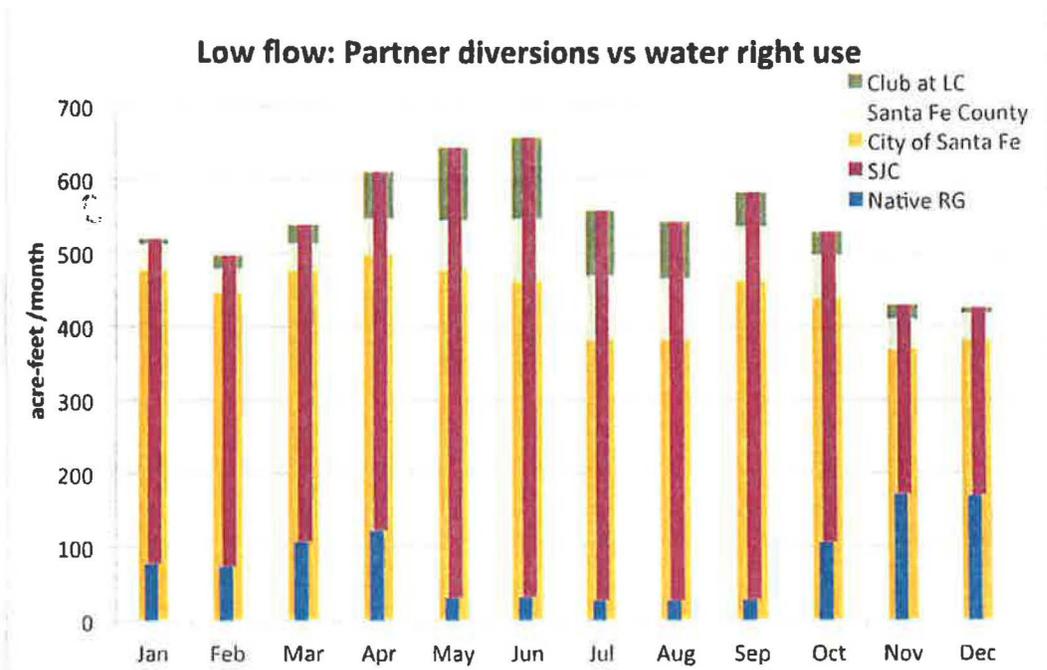
### Accounting Procedure:

- 1) BDD partners place the estimated monthly orders for the subsequent year by September 15<sup>th</sup> of the current year. Orders are incorporated in the BDD Annual Operating Plan.
- 2) BDD water use and accounting management staff will incorporate the Partners' orders into a projected BDD operating schedule by December 15<sup>th</sup> of each year, taking into account water supply forecasts and past BDD operational constraints.
- 3) BDD partners may adjust daily orders as needed up to 48 hours in advance.
- 4) Monthly BDD OSE diversions report is calculated by:
  - a. Total BDD Diversions – City of SF SJC – SF County SJC - CLCI SJC = native water
  - b. Losses of SJC calls in excess of diversions will be proportionally shared among those Partners calling for SJC water, unless specific Partner decisions resulted in the excess.
  - c. Because the OSE only allows SJC over deliveries to credit against the City’s RG-20516 (Buckman Wells) offsets in the current year, the City can, at its discretion, accept SJC over-deliveries for the Buckman well field offsets from other Partners.
- 5) Monthly BDD Partners' deliveries are calculated by:
  - a. total BDD potable deliveries (BS4A+BS5A) – SF County deliveries (total on Master Meters less City redelivery customers) = City delivery.
  - b. monthly readings of the raw water meter at BS2A (at the inlet to CLCI’s 12 inch pipeline at BS2A) = CLCI delivery.
- 6) Monthly BDD Partners' diversions are calculated by:
  - a. the non-metered water (NMW) as = diversion – raw water delivery to BS2A and potable water delivered to BS4A and BS5A.)

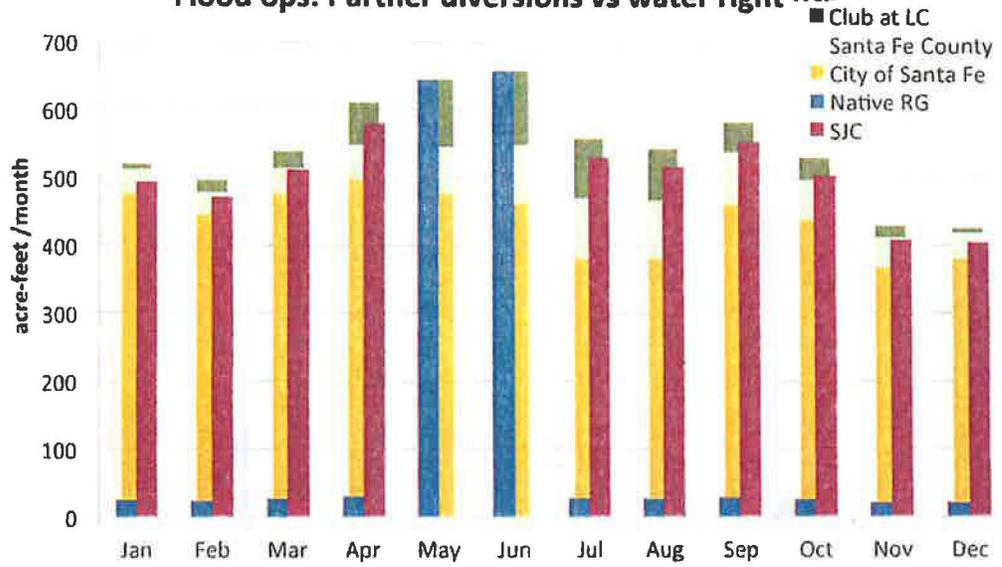
- b. adding the apportioned NMW to each Partner's delivered water Partner's, so that total BDD diversions (less sediment return line) = City diversions + SF County diversions + CLCI diversions.
- 7) By November 15<sup>th</sup>, water accounting management staff will summarize total deliveries and reported water rights to date and develop a SJC ordering schedule for the remainder of the calendar year.
- 8) Previous year's annual Partner's diversions are calculated between January 1 and January 15<sup>th</sup> of the subsequent year by summing up the actual diversions and the reported diversions. Discrepancies between water rights reported and actual individual diversions will be reconciled with a credit/debit carried into the new calendar year.

**Billing:** Billing is based on the percentages of diverted and delivered quantities, which may not directly correlate to the monthly SJC water and water rights used.

Graphic Representation of how the "Annualized" Option would look under 2 different river management scenarios:



### Flood ops: Partner diversions vs water right use



Appendix A

**Non-metered Water (NMW) Calculation:**

NMW = Total Raw Water Diversion – Total Raw Water Diversion for CLCI – Total Finished Water Delivery

**Diversion Calculation:**

Total Raw Water Diversion = RWM1 + RWM2 + RWM3 – SRM1

**Water Deliveries Calculation:**

Raw Water Delivery to CLCI = quantity of water delivered to meter at BS2A

Total Finished Water Delivery = BS4A + BS5A

Finished Water Delivery to SFCo = Master Meters - Delivery to CiSF Redelivery Customers

Finished Water Delivery to CiSF = BS4A + BS5A – Finished Water Delivery to SFCo

**Percentage Calculation:**

CLCI% = Raw Water Delivery to CLCI / (CLCI Raw Water Delivery + Total Finished Water Delivery)

SFCo% = Finished Water Delivery to SFCo / (LC Raw Water Delivery + Total Finished Water Delivery)

CiSF% = Finished Water Delivery to CiSF / (LC Raw Water Delivery + Total Finished Water Delivery)

\*\*\*The percentages above of delivered water is also the same percentage for NMW and diverted water.

**Non-metered Water (NMW):**

CLCINMW = CLCI% x total NMW

SFCo NMW = SFCo% x total NMW

CiSF NMW = CiSF% x total NMW

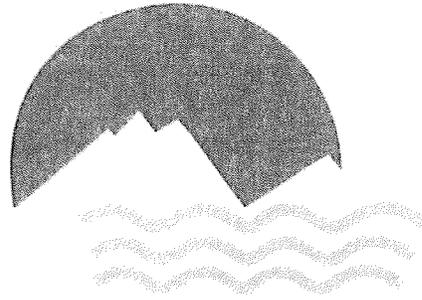
**Water Diversion:**

CLCI Diversion = CLCI% x Total Raw Water Diversion **OR** Raw Water Delivery to CLCI + CLCI UAW

SFCo Diversion = SFCo% x Total Raw Water Diversion **OR** Finished Water Delivery to SFCo + SFCo UAW)

CiSF Diversion = CiSF% of Total Raw Water Diversion **OR** Finished Water Delivery to CiSF + CiSF UAW

**Attachment C**



**Buckman Direct Diversion Project**

**2013 Annual Operating Plan**

## BUCKMAN DIRECT DIVERSION PROJECT

### 2013 Annual Operating Plan

#### Introduction

The Buckman Direct Diversion (BDD) Project has been successfully operating and producing high quality drinking water since January of 2011. Professional management involves stewardship of the expensive public facilities and compliance with all applicable laws and regulations governing the Project and its diversion of water from the Rio Grande.

The primary purpose of this Annual Operating Plan (AOP) is to collect and summarize the projected wholesale water delivery orders of the City of Santa Fe (City), Santa Fe County independent water utility (County), and the Club of Las Campanas, Inc. (CLCI), collectively called the BDD Partners, for calendar year 2013. Additionally, this AOP sets forth specific procedures and coordination requirements among the BDD Facilities Manager, the BDD Manager (PM), and the BDD Partners pertaining to water orders, water deliveries, water use accounting, water rights, and limitations on diversions for compliance with legal conditions. The intergovernmental agreements designate the City as the PM through December 1st, 2015.

The Facility Operations and Procedures Agreement (FOPA) at Section 27 requires each BDD Partners to provide its projected daily, weekly, and monthly project water orders for the upcoming year by October 1 of each year. The BDD Facilities Manager, as agent of the PM, will distribute the draft AOP containing a draft delivery schedule with all of the Partners' projected water delivery orders and associated procedures to the BDD Partners for review and comment by December 1 of each year. The calendar year is the period covered by the AOP to correspond to New Mexico Office of the State Engineer's (OSE) annual administration of water rights.

Policy direction with regard to the AOP is limited to the following items:

3. Status and approval of the Annual Operating Plan. The BDD Facilities Manager will draft and finalize an AOP and will submit it to each partner for review and comment. The AOP subject matter is limited to water orders and the technical and legal requirements of placing orders, assuring diversions comply with water rights and Endangered Species Act requirements, and accounting for diversions and deliveries of water. It does not establish any new authorities or governance policies and therefore will not be submitted for BDD Board Approval. The final version will be approved by signature of an authorized official of each Partner and the BDD Facilities Manager. It may be amended as needed and as agreed. Amendment requires the same four signatures of approval.
4. Water Rights. The BDD Intergovernmental Agreements require that each BDD Partner own and maintain valid water rights to support its orders for diversion and delivery of its water by the BDD. It is important this structure is literally implemented by the BDD Partners such that the BDD Facilities Manager can rely on the Partners to assure that water is legally available for daily diversion in amounts to meet water orders.

**BDD Partners 2013 Water Delivery Orders**

In accordance with the Project Management and Fiscal Services Agreement (PMFSA) at 6.F., the BDD Facilities Manager requested 2013 water orders from each BDD Partner.

Table 1 provides data regarding the BDD Partners' monthly water orders for 2013 in million gallons (mgal) and acre-feet (acft). Water ordered at the Rio Grande is approximately 4% more than water delivery, because of facilities and the system use.

<b>2013 BDD Partner Water Orders</b>						
<b>2013</b>	<b>County</b>	<b>CLCI Raw Water via County</b>	<b>CLCI Raw Water</b>	<b>City</b>	<b>Total</b>	
	<b>Million Gallons Per Day</b>				<b>MGD</b>	<b>Acre-feet/day</b>
Jan	0.442	0.053	0.000	4.40	5.39	16.5
Feb	0.447	0.116	0.000	4.50	5.38	16.5
Mar	0.456	0.263	0.000	4.50	5.66	17.4
Apr	0.625	0.000	0.869	3.00	6.63	20.4
May	0.837	0.000	1.051	5.00	6.78	20.8
Jun	1.080	0.000	1.357	6.80	7.14	21.9
Jul	1.067	1.208	0.000	3.00	5.86	18.0
Aug	1.022	0.893	0.000	3.00	5.71	17.5
Sep	0.952	0.651	0.000	6.40	6.33	19.4
Oct	0.713	0.000	0.368	6.40	5.56	17.1
Nov	0.534	0.000	0.054	4.50	4.66	14.3
Dec	0.455	0.000	0.053	4.50	4.47	13.7
<b>Annual Total</b>	<b>263 mgal/yr</b>	<b>97.7 mgal/yr</b>	<b>114 mgal/yr</b>	<b>1,702 mgal/yr</b>	<b>2,177 mgal/yr</b>	<b>6680 acft/yr</b>

Figure 1 illustrates the BDD Partners' 2012 water delivery orders per day and month

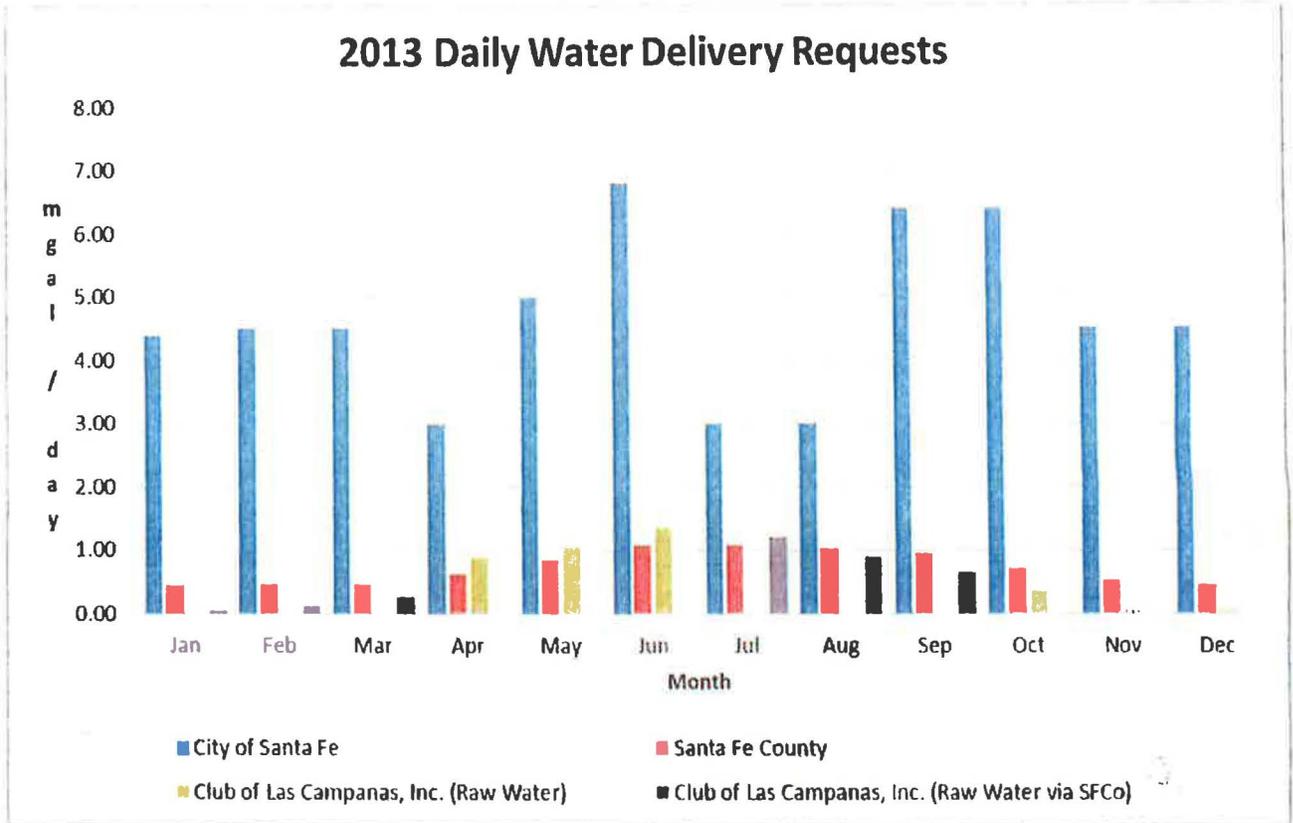
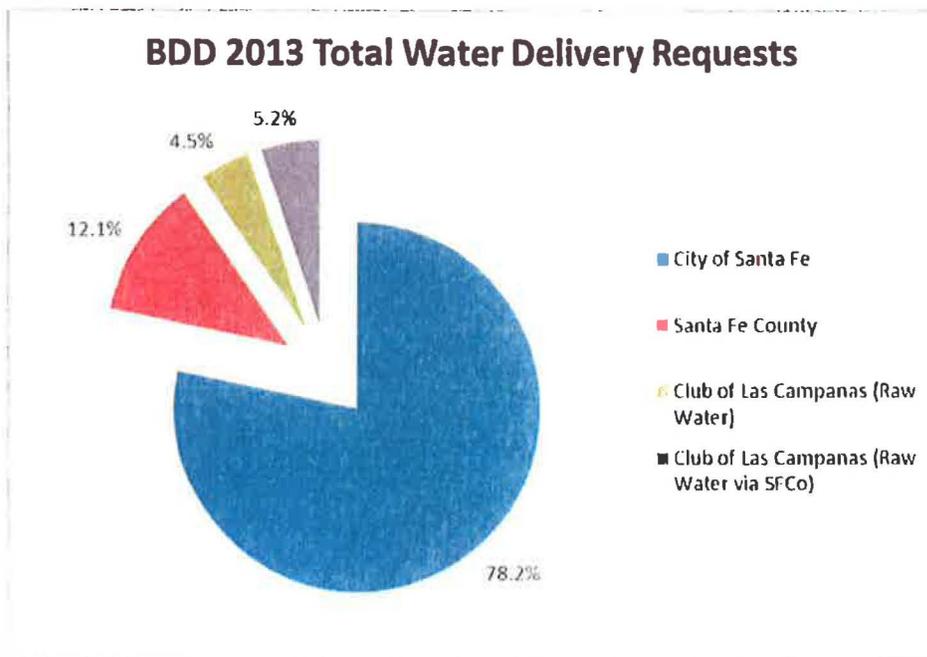


Figure 2 illustrates the BDD Partners' 2013 water delivery orders per year



### Additional Purposes of this Annual Operating Plan

This third year of BDD operations the AOP will address normal operations, unique issues associated with the complex new project's operation, as well as unforeseen and / or one-time need for issues. The BDD Facilities Manager and partners undoubtedly will have to resolve other issues in order for the BDD to fulfill and properly account for Partners' wholesale water delivery orders in 2013 and to provide needed operational flexibility to meet the BDD purposes.

The remainder of this 2013 AOP individually addresses the following topics:

10. BDD Purposes and Adaptive Management to Meet the Partners' Changes to their Orders
  11. BDD Facilities Manager Acceptance of LCLP Water Delivery Order
  12. Water Rights:
    - a. Description of Partners' Water Rights
    - b. Roles and Responsibilities of Partners Regarding Water Rights
    - c. Native Water Rights Diversion Compliance with the Endangered Species Act
    - d. San Juan-Chama Project Water Orders, Reservoir Releases Calls and Reconciliation with Actual Use
  13. Water Delivery Metering and Accounting
  14. Fiscal Responsibilities
  15. Adjustment of Daily Water Delivery Orders by the Partners to Reflect Actual Utility Demand
  16. Non-Delivery of BDD Wholesale Water Supply Due to Uncontrollable Circumstances
  17. Operations Features To Conserve Resources
  18. Annual Operating Plan Approval
9. BDD Purposes and Adaptive Management to Meet the Partners Changes to their Orders

BDD purposes include supplying all or part of the public water system base load demand, peak production when needed, and providing a reliable and sustainable source of surface water supply to reduce reliance on groundwater resources. To meet the Partners' water demand, this AOP assumes continuous BDD production whenever the BDD is operational.

This AOP recognizes that actual water deliveries by the BDD will deviate from the BDD Partner water orders. While these deviations require active management, adjustments have become part of daily and weekly operating procedure. Deviations may result from BDD facilities shutdowns (planned and unplanned), adjustments to meet monthly delivery targets, adjustment to meet unanticipated demand needs (often due to precipitation or temperature), and/or to allow the City to conserve water in the municipal reservoirs as a pro-active response to drought mitigation.

The BDD will work with the BDD Partners and the BDD Board to adaptively manage BDD water deliveries to meet changes to Partner orders for BDD water deliveries, stay within the approved annual operating budget, and to resolve associated issues and problems.

The City coordinates water deliveries from the BDD with production from its two groundwater well fields and the Canyon Road Water Treatment Plant to provide drinking water to City and County customers, and, when necessary, wholesale deliveries of potable water to the County. The 2005 Water Resources Agreement between the City and County provides for delivery of up to 500 acft of wholesale water to the County every year in perpetuity; the County currently takes delivery of wholesale water when the BDD is not operating. The 2005 Water Resources Agreement also provides for drought protection water for the County under drought and catastrophic conditions. The Las Campanas Homeowners Water Cooperative Association (Water Coop) is a bulk potable water customer of the County; CLCI is a raw water customer of the County and the BDD.

#### 10. BDD Facilities Manager Acceptance of CLCI Water Delivery Order

In November 2011, the County entered into a Raw Water Supply Agreement with CLCI to provide up to 600 acft of raw water deliveries for CLCI's golf course irrigation. The County agreed to deliver raw water to Booster Station 2A, where CLCI installed pumps, a 12" pipeline, and meters to convey the water to CLCI's facilities. The raw water delivery system is designed to be operated from both the BDD's and CLCI's SCADA systems. CLCI's maximum pump capacity at BS2A is 3.02 mgd (2,100 gpm) and the BDD's minimum raw water pump rate is 4.5 mgd (3,125 gpm). The BDD and Partners have developed and agreed on a revised operating plan to deliver raw water to CLCI, if necessary including pumping during on-peak, when the BDD is not diverting.

CLCI diversified its water rights portfolio by leasing 600 acft of San Juan-Chama Project (SJC) water from the Jicarilla Apache Nation, and is in the process of seeking a permit with the OSE. . CLCI is simultaneously seeking temporary storage at Abiquiu Reservoir to guarantee this water's availability and to increase management flexibility. During 2013 CLCI plans to utilize 350 acft of their leased SJC water directly through the BDD and rely on the County for at least 300 acft of raw water via the 2011 Raw water agreement.

BDD is considering how to further revise its operating plans and facilities to maximize delivery of raw water under various circumstances. Despite CLCI's diversified water rights portfolio and newly established operational policies to assure raw water supply to CLCI during times the BDD chooses not to divert raw water, it would be advisable for the County and CLCI to develop and establish a back-up water source to accommodate CLCI's golf course irrigation during potential extended periods of operational shutdown or mandatory diversion curtailment. Currently CLCI has approximately one month supply in onsite storage capacity.

#### 11. Water Rights

A clear delineation of roles and responsibilities assists in the complex management of water rights and water resources aspects of BDD diversions.

While the BDD is responsible for assuring that its diversions comply with all applicable laws and regulations and accounting of water use associated with cost accounting among BDD Partners, it is the BDD Partners' responsibility to maintain valid water rights to support their water orders.

#### 3a. Description of Partner's Water Rights

##### The City's BDD Water Rights:

In accordance with the BDD Environmental Impact Statement, the City will divert only SJC water permitted for BDD diversion by State Engineer Permit SP-2847-E. The City's portion of SP-2847-E is for 5125.4 acft/yr. For 2013, the City has State Engineer authorization to divert up to 1,307.5 acft of additional SJC water at the BDD.

The BDD calls for the City's SJC water from Abiquiu Reservoir; the released water incurs a 1.1% loss before arriving at the BDD. However, when Abiquiu Reservoir is in flood operation mode and no SJC water can be released, the City will divert native water and then substitute the water diverted with SJC water stored in Elephant Butte Reservoir.

The City's 2013 water delivery orders total 5,223 acft.

The County's BDD Water Rights:

During 2013, the County will be utilizing native Rio Grande water rights (807 acft) permitted under SP-4842, as well as SJC water (367.5 acft), permitted under SP-2847-E to deliver water to its customers, Water Coop and CLCI.

Las Campanas Coop's BDD Water Rights:

The CLCI will be utilizing a combination of leased SJC water rights and water purchased from the County for diversion at the BDD to be pumped from their pump station at BDD 2A. The CLCI is currently applying to the Office of the State Engineer (OSE) for permitting to allow the use of the leased SJC water at the BDD diversion.

**3b. Role and Responsibilities of BDD Partners Regarding Water Rights**

The BDD intergovernmental agreements identify water rights permitting, permit compliance, and maintenance as the responsibility of each BDD Partner. The Joint Powers Agreement (JPA) requires each Partner to independently provide water rights in good standing to support its water delivery orders. The BDD Board has a specific limitation of authority stated in JPA *Section 9, Limits of Board Authority*:

*The BDD Board's authority and duties do not encompass ... acquisition or permitting of use of water rights or contract water rights.*

The JPA also says in *Section 14. BDD Capacity Allocation*:

*Each entity's diversions shall be based upon its own water right or contract right and each entity is responsible for acquisition and maintenance of its own water rights.*

Therefore, the BDD Facilities Manager, in making actual diversions of water from the Rio Grande, directed by the provisions of the JPA, relies on each of the BDD Partners designating and maintaining sufficient water rights in good standing to support all BDD river diversions required to support the Partners' water delivery orders.

The BDD Facilities Manager will not divert water to partially or wholly satisfy a Partner's water delivery order until that Partner has provided a written list of valid water rights, permitted by the State Engineer to the BDD, that are designated and sufficient for that Partner's water delivery order.

Each Partner, by signature of this plan, agrees to immediately notify the BDD Facility Manager or Chief Operator if those diversions would in any way violate any of the requirements and conditions of any supporting water right (s).

The BDD Facilities Manager, with the cooperation of the Project Manager and the BDD Partners, will report diversions and water right use to the Office of the State Engineer monthly.

The BDD Manager is responsible for reviewing and tracking the actual use of water and water rights based on BDD-measured diversions, deliveries, and cost accounting.

Each Partner is responsible for accounting use of specific native Rio Grande water rights as specified under the relevant permit conditions.

### **3c. Native Water Rights Diversion Compliance with the Endangered Species Act**

The responsibility of complying with Environmental Impact Statement Record of Decision water diversion requirements falls on the PM. Limitations on the BDD diversions include those provided in the Biological Assessment as submitted by the U. S. Forest Service to the U.S. Fish and Wildlife Service. The BDD Partners have agreed to incrementally curtail diversion of native Rio Grande water under low flow conditions to avoid interference with flows maintained by others for endangered Rio Grande Silvery Minnow habitat. The curtailment is initiated when the 5-day moving average of Rio Grande flows at the Otowi gage, minus SJC water ordered for diversion by the BDD and the Albuquerque Drinking Water Project, falls below 325 cfs. The Partners', BDD Facilities Manager's, and PM's roles and responsibilities associated with curtailment are delineated below.

- d. The BDD Facilities Manager will notify relevant BDD Partners if curtailment of their native water diversions is anticipated or has been initiated.
- e. If such a low flow curtailment occurs during a period of time when a Partner's native water rights are being diverted, the BDD will curtail that Partner's diversions in accordance with the project-specific regulatory limits (Attachment A). The BDD Facility Manager will rely on details or changes regarding curtailment requirements provided by those Partners who use Native Rio Grande water rights.
- f. Any Partner with a Native Rio Grande water right order, may with the necessary lead time, replace a native water order with an alternate water source, such as SJC water. In such a case the BDD Facilities Manager, working with the Project Manager, will place the appropriate SJC water call with the Bureau of Reclamation.

A copy of the BDD's River Diversion Curtailment Protocol is provided in Attachment A.

### **3d. San Juan-Chama Project Water Orders, Reservoir Release Calls, and Reconciliation with Actual Use**

- i) The BDD will closely coordinate all calls, monthly accounting and reporting associated with SJC water use with the PM.

- j) The BDD will rely on the Partners to maintain valid SJC water contracts and Abiquiu storage agreements so that the BDD can divert water to fulfill each partner's water orders in full compliance with all applicable water management conditions and limitations.
- k) Each Partner will fulfill its responsibilities, pursuant to the BDD intergovernmental and internal Partners agreements, to identify in the annual order when SJC Project water is to be used to support its water delivery orders.
- l) Each Partners will inform the BDD of any modifications to its daily SJC water order a week or at a minimum 2 working days in advance.
- m) BDD Partners will coordinate with the BDD and PM regarding use of their SJC water at the BDD diversion in the event of native water diversion curtailments. Partners will endeavor to inform the BDD of replacement water sources a week or at a minimum 2 working days in advance.
- n) The BDD, in coordination with the PM, will measure, track and account for BDD Partner SJC use, as needed, for cost accounting.
- o) The BDD and the PM will track SJC water use to report monthly water usage to the Office of the State Engineer. This process will include monthly reconciliation between the BDD diversion data and the RG accounting model.
- p) Each BDD Partner, independently, is responsible for reconciling the actual use of SJC Project water based on measured diversions and deliveries, including monthly and annual reconciliation of SJC water releases from reservoirs against diversions and groundwater offsets. Reconciliation will also address communications with federal agencies and the State Engineer about SJC storage accounts in reservoirs.

## 12. Water Delivery Metering and Accounting

All water diverted at the BDD facility is measured through three intake and one sediment/water return meter. Raw water deliveries to CLCI are metered at Booster Station 2A. All BDD facility delivered potable water is pumped and measured through booster pump stations 4A and 5A. Additional delivery meters, some owned by the BDD facility (e.g. Wild West, 2 meters; South Meadows, 2 meters), some master meters owned by the City of Santa Fe (Beckner, 2 meters; Richards, 2 meters; Sunflower, 2 meters; and Agua Fria, 2 meters), and one County customer meter (Water Coop domestic, 2 meters), allow the BDD Facilities Manager, the PM, and the Partners to differentiate between potable water delivered to the County versus the City.

For any given period of time, usually a calendar month, the City drinking water deliveries from the BDD facility are calculated as the balance of the BDD facility finished water pumped through booster pump station 4A and 5A minus water delivered to the County independent water utility, taking into account the City's water customers on the downstream flow of the County delivery meters. The difference between water diverted and water delivered (non-revenue water) is apportioned to each of the BDD Partners according to their respective percentage delivery within an accounting period (usually a calendar month). Under the current accounting method, all non-revenue water (including line flushing, water for system pressurization, etc.) downstream of the BDD delivery location is absorbed by the City; a more equitable way of sharing in non-revenue water may be considered in the future.

The current roles and responsibilities with respect to water delivery metering and accounting are as follows:

- i. The BDD Facilities Manager will measure all diversions of water at the Rio Grande. These measurements will be continuous. The flows will be recorded and totaled daily.
- j. The BDD Facilities Manager will read all meters associated with water delivery to the Partners.
- k. The PM will calculate the deliveries of water to the Partners.
  - l. The BDD will report monthly water use to the OSE and to the Partners.
- m. The PM and the BDD will calculate and report annual BDD water use by Partner.
- n. During times when the BDD cannot meet the County's water order because the BDD is unable to divert water, the County's water orders will be satisfied by wholesale water per the County/City 2005 Water Resources Agreement.
- o. On the day on which the BDD cannot deliver water, the BDD Facilities Manager will read the BDD delivery and the City → County master meters identified above to distinguish between water delivered to the County by the BDD facility versus other City water supply sources.

### 13. Fiscal Responsibilities

- a. The BDD will bill the Partners—based on its **actual measured deliveries** of raw and/or potable water during any billing period—for its share, pursuant to the FOPA Partner cost share requirements, of the **actual** fixed and variable costs of BDD OMR&R during that billing period.

The BDD will bill the City for the water deliveries, including all drinking water that is pumped by the BDD finished water pumps and not delivered to the County via the delivery and master meters. Therefore, BDD may bill the City for more or less water than the City ordered and more or less than the BDD intended to deliver, depending on the accuracies of the County and CLCI water orders with respect to actual County and LCLP water use.

Should the BDD be unable to divert and deliver water, the BDD will provide the Partners with City → County master meter readings so that the City's Utility Billing Division can bill the County for wholesale water delivered under the County/City 2005 Water Resources Agreement.

In order to maintain the financial viability of the BDD facility, Partners will promptly pay for water deliveries.

The Partners will reimburse the BDD facility for the actual monthly costs of BDD operations through a series of advance payments for the budgeted cost of monthly operations followed by reconciliation payments if necessary at the end of each month based on actual monthly costs of BDD facility operations.

CLCI will fully cover all variable costs associated with the delivery of raw water from BS2A to the golf course.

If the Partner water demand during 2013 exceeds the Partner water delivery order, it may be necessary for that Partner to appropriate additional funds to the BDD for the

additional water and for the BDD Board to amend its operating budget to incorporate the additional funds necessary to cover additional costs.

For 2013 expenses for raw water deliveries from the diversion structure to BS2A will be addressed as follows:

3. Variable costs for raw water ordered by and delivered to The CLCI will be billed to CLCI (March through May)
4. Variable costs for raw water ordered by the County and delivered to the CLCI will be billed to the County (June through December)

14. Adjustment of Daily Water Delivery Orders by the BDD Partners to Reflect Actual Utility Demand

Water demand is not precisely predictable. Spring, summer, and fall actual daily retail customer water demand varies with weather and actual amounts of precipitation prior to and during the demand period. Since the 2013 BDD Partners' actual water demand will vary from their projected daily water delivery orders, the following steps will be taken to adjust and reconcile water delivery orders during 2013.

4. The City will endeavor to maintain the BDD delivery volume at the amount set forth in the AOP by operating its other sources of supply to accommodate the expected difference between its prior delivery order and its expected actual water demand.
5. Any Partner ordering SJC water from Abiquiu may adjust its daily delivery order for the subsequent day no later than 10:00 am each day. If a Partner changes its daily delivery order, the BDD Facilities Manager will operate the BDD facilities to meet the adjusted daily demand. If the change is significant, the BDD Facilities Manager may adjust the SJC call accordingly.
6. The County will endeavor to adjust its daily delivery orders no more frequently than monthly, following its monthly comparison of its actual monthly demand with the previously projected monthly water delivery orders.

15. Non-Delivery of BDD Wholesale Water Supply Due to Uncontrollable Circumstances

The BDD will be unable to meet its wholesale customers' orders for waters from time to time due to circumstances beyond the control of the BDD Facilities Manager or the BDD Partners. For example, the BDD will not operate when suspended solids concentrations in the Rio Grande exceed a threshold value beyond which continued operation is not possible or in conflict with limits recommended by the BDD Board Engineer, might result in damage due to deposition of sediment within the raw water system, or would result in unacceptably high costs for removal and disposal of solids in the water treatment process. Similarly, the BDD may not operate when the Los Alamos National Laboratory Early Notification System indicates the Rio Grande may be influenced by runoff from Los Alamos Canyon. Raw water storage (up to 8 million gallons) and drinking water storage (up to 4 million gallons) may allow the BDD to continue to supply water for a short period of time following temporary curtailment of river diversions due to river water quality or other reasons.

During periods of BDD inability to fulfill water delivery orders, the City will supply both, its own and, in accordance with the 2005 County/City Water Resources Agreement, the County's potable water demands from stored drinking water and its other sources of water supply.

**16. Operations Features To Conserve Resources**

To the extent feasible, raw water pumping will be conducted during PNM electricity 'off-peak' hours in order to avoid contributing to PNM peak system demand and higher electric rates.

City orders for BDD water are weighted to the seasons of the year when the river water is generally much better quality. The cleaner, clearer water is the easier and cheaper to treat.

**9. Annual Operating Plan Approval**

The AOP will be agreed upon and signed by the BDD Partners. The AOP can be modified by mutual agreement of the BDD Partners as the calendar year progresses.

This plan was reviewed and approved by:

\_\_\_\_\_  
Patricio Guerrerortiz, P.E.  
Utility Director, Santa Fe County

\_\_\_\_\_  
Date

\_\_\_\_\_  
Erika Schwender,  
Acting Buckman Direct Diversion Facilities Manager

\_\_\_\_\_  
Date

\_\_\_\_\_  
K. Snyder, P.E.  
Public Utilities and Water Division Director, City of Santa Fe

\_\_\_\_\_  
Date

\_\_\_\_\_  
Brian

\_\_\_\_\_  
Mike Sanderson, P.E.  
Las Campanas Limited Partnership

\_\_\_\_\_  
Date

## Attachment A

### Buckman River Diversion Curtailment Protocol

**Only native Rio Grande River flows are affected by the curtailment policy**

**Curtailment will only have to take place on the months between March and October**

**Curtailment requirements are based on a 5-day average**

To monitor native Rio Grande flow the BDD operations team at the Buckman Regional Water Treatment Plant registered with the USGS e-mail notification system and set the threshold to 500cfs at the Otowi gauge.

Rio Grande flow is monitored during March and October. Should river flows fall below 500cfs, the Bureau of Reclamation is contacted to obtain detailed San Juan-Chama (SJC) and Native Rio Grande flows.

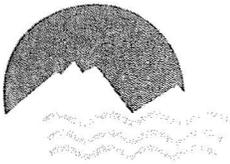
Native Rio Grande River diversion curtailments, which were required by the Biological Opinion, are addressed in the table below:

Native Rio Grande flows (cfs)	March Max Diversion (cfs)	April Max Diversion (cfs)	May Max Diversion (cfs)	June Max Diversion (cfs)	July Max Diversion (cfs)	August Max Diversion (cfs)	September Max Diversion (cfs)	October Max Diversion (cfs)
> 325	3.82	4.6	6.87	8.55	7.95	7.56	6.57	5.09
300	3.05	3.68	5.50	6.84	6.36	6.05	5.26	4.07
280	2.44	2.95	4.40	5.47	5.09	4.84	4.21	3.26
260	1.83	2.21	3.30	4.10	3.82	3.63	3.16	2.44
240	1.22	1.47	2.20	2.73	2.54	3.42	2.10	1.63
220	0.61	0.74	1.10	1.37	1.27	1.21	1.05	0.81
200	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

For example:

- If in March the 5 day average flow of Native Rio Grande water is greater than 325 cfs, a maximum 5-day peak of 3.82 cfs Native Rio Grande water can be diverted. On the day the 5 day average flow of Native Rio Grande water of less than 325 cfs is reached, a max of 3.05 cfs of Native Rio Grande water can be diverted.
- If in July the 5 day average flow of Native Rio Grande water is greater than 325 cfs, a maximum 5-day peak of 7.95 cfs Native Rio Grande water can be diverted. On the day the 5 day average flow of Native Rio Grande water of less than 325 cfs is reached, a max of 6.36 cfs of Native Rio Grande water can be diverted.
- If in July the 5 day average flow of Native Rio Grande water is less than 240 cfs, a max of 1.27 cfs of Native Rio Grande water can be diverted.





**Buckman Direct Diversion Project**

*A joint regional project of the City of Santa Fe and Santa Fe County to build a reliable and sustainable water supply.*

# Memo

**Date:** April 16, 2014

**To:** Buckman Direct Diversion Board

**From:** Shannon Jones, Interim BDD Facility Manager 

**ITEM AND ISSUE:**

Informational Update of the Buckman Direct Diversion's Emergency Reserve Fund Policy and the Major Repair and Replacement Fund Policy.

**BACKGROUND AND SUMMARY:**

The BDD Project Intergovernmental Agreements required the creation of an Emergency Reserve Fund (ERF) and a Major Repair and Replacement Fund (RRF). The intent of these funds is to have funding available to meet the essential needs of the Buckman Direct Diversion. While the funds would be replenished annually, the fund allows level annual budgeting for the City of Santa Fe and Santa Fe County.

The Emergency Reserve Fund (ERF) will provide the cash flow needed for the emergency response to protect facilities from further damage and restore acceptable operational status of facilities. Insurance may provide reimbursement for damage caused by some perils but will not provide the initial cash required for emergency response. Requirements in excess of the Emergency Reserve Fund balance would require additional appropriations, but the \$2,000,000 recommended fund balance should cover likely scenarios for cash flow and encumbrance requirements in the interim period prior to the City of Santa Fe and Santa Fe County appropriation of additional cash or insurance policy reimbursements.

The Major Repair and Replacement Fund is needed to replace, overhaul, or refurbish certain equipment and facilities. These expenditures will be large compared to the equipment maintenance budget, and infrequent in nature. The recommended funding was a 2010 determination based upon the follow assumptions;

Equipment/Facilities	Life-Years	Amount
Variable Speed Pumps Drives – 10% of vaule	10	\$453,000
BS1A Pump Impellers	7	\$160,000
Re-Finish Forebay Tanks (2)	15	\$130,000
RWLS Pump Impellers	5	\$125,000
Roof Replacement (Raw Water)	15	\$115,000
Surge Tank Bladders (5)	15	\$100,000
Sediment Return Grit Pumps Impellers	10	\$50,000



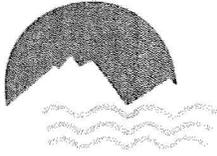
Loader	15	\$120,000
Forklift	15	\$40,000
Granular Activated Carbon	7	\$536,000
Membrane Filters	10	\$509,000
Ozone & Liquid Oxygen System Equipment	15	\$409,000
BS2A Pump Impellers	7	\$160,000
Centrifuges (2)	7	\$156,000
Re-Finish metal Building Walls	15	\$100,000
Membrane Feed Pump Impellers	10	\$100,000
BS4A Pumps	10	\$100,000
BS5A Pumps	10	\$100,000
Computers – SCADA and Operations	5	\$60,000
UV Covers for Floc/Sed Basins	10	\$50,000
Flash Mix Pump Impellers	10	\$40,000
Solids Transfer Pumps	7	\$40,000
Roof Replacement (Treatment Plant)	15	\$250,000

Actual expenditures from both funds will be shared in accordance with the cost sharing principles contained in the Fiscal Operations and Procedures Agreement (FOPA). Because emergency preparedness and major equipment repairs and replacement are integral to the operations of the Buckman Direct Diversion, the Fiscal Operations and Procedures Agreement OMR&R cost sharing percentages are applicable.

As of June 30, 2014 the Major Repair and Replacement Fund has, or will have, been funded to;

FUND	BALANCE
Emergency Reserve Fund	\$2,000,000
Major Repair and Replacement Fund	\$823,624

Both the Emergency Reserve and Major Repair and Replacement Funds are monitored by the BDD Financial Manager and may earn interest income on cash balances as stated in the adopted BDD Working Capital and Billing Policy.



## Buckman Direct Diversion Project

*A joint regional project of the City of Santa Fe and Santa Fe County to build a reliable and sustainable water supply.*

### **Buckman Direct Diversion Emergency Reserve Fund Policy**

In accordance with the BDD Project intergovernmental agreements and in order to secure resources assuring the BDD's timely response to emergencies, which could potentially threaten, reduce, or eliminate the BDD's capacity to meet its customers' demands, the BDD established an Emergency Reserve Fund (ERF) in the amount of two million dollars (\$2,000,000).

While insurance may provide reimbursement of costs associated with some emergency situations, the ERF will provide an immediate infusion of the funds that will be necessary to address the situation without having to first solicit funding from the BDDB partners.

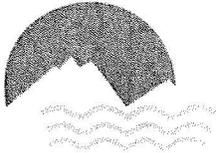
The purpose of this policy is to clarify what constitutes an emergency, how to obtain access to the funds, and how the ERF will be replenished once the funds had been utilized.

#### Definition of Emergency:

An emergency is defined as an Act of God or an unforeseeable equipment or facilities failure that renders the project inoperable or unable to deliver water at the required capacity or quality. The following is a detailed but not all inclusive summary of possible emergency scenarios:

1. Rio Grande flood
  - a. River channel relocation
  - b. Diversion structure being inundated with sediment
  - c. Raw water pump station flooding
  - d. Raw water pumps and pipelines filled with sediment
2. Local Arroyo flood
  - a. Access road destruction
  - b. Facilities damage or destruction
  - c. Pipeline exposure and / or damage
3. Contamination of raw water supply requiring remediation or additional treatment
4. Fire
  - a. Wildfire
  - b. Facilities fire
  - c. Electrical fire in switch gear or motor control center
5. Destructive failure of plant equipment or facilities resulting in major damage
  - a. In-plant mechanical break-down, explosion, electrical malfunction, or complete





## Buckman Direct Diversion Project

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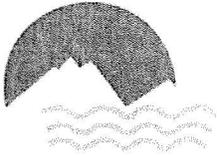
- computer breakdown or loss
  - b. Sabotage
  - c. Errors or omissions by O&M staff
  - d. Earthquake, flood and other natural phenomena
  - e. Chemical spill
6. Broken raw water or finished water pipeline and appurtenances
  7. Design errors and or omissions

### Disbursement of funds:

The ERF shall be designated as a restricted reserve fund. The purpose of the ERF is to provide available cash flow to ensure immediate emergency response without having to first secure funding from the BDDB partners. It is intended that the ERF be sufficient to cover any emergency situation resulting in services, supplies, or parts exceeding \$25,000. In case of an emergency situation, the BDD Project Manager is authorized to approve services and purchases without prior approval of the BDD board and/or partners for purposes of restoration and/or maintenance of service levels in response to a natural disaster and/or emergency. To access the necessary funds in case of an emergency situation the following steps shall be followed:

1. The BDD Project Manager will identify and evaluate the emergency.
2. The BDD Facilities Manager and BDD Project Manager will develop an initial plan of action.
3. The BDD Project Manager will contact the BDD Board Chair within 24 hrs of the occurrence of the emergency and explain the nature of the emergency and initial plan of action.
4. The BDD Project Manager will declare the emergency
5. The BDD Project Manager will access the ERF in accordance with the BDD Project Manager's procurement policy. While certain emergencies do not require the processing of an Emergency Purchase Order (EPO) prior to initiation of emergency response activities, the EPO should be requested within 24 hours of service recruitment or purchases.





## Buckman Direct Diversion Project

*A joint regional project of the City of Santa Fe and Santa Fe County to build a reliable and sustainable water supply.*

6. After the initiation of the emergency response and access to the ERF, the BDD Facilities Manager and BDD Project Manager shall notify the BDDB partners within 24 hours and provide verbal monthly updates to the BDD Board for the duration of the event. Upon resolution of the emergency, the BDD Facilities Manager and BDD Project Manager shall provide a written report to the BDD Board.

### Target balance and maintenance of the Emergency Reserve Fund:

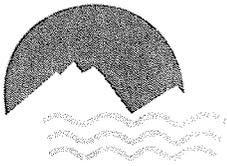
The approved target balance for the Emergency Reserve Fund is \$2,000,000.00 and will be fully funded by the end of FY2013/14. The BDDB partners shall replenish the ERF according to the schedule below. Expenditures from the designated ERF which are subsequently recovered, either partially or fully from insurance and/or any other services, shall be utilized solely for the purpose of refunding the ERF.

Should the ERF balance fall below \$2,000,000 but is greater than \$1,000,000, contributions from all BDDB partners shall bring the ERF balance back to \$2,000,000 at the beginning of the following fiscal year.

Should the ERF balance fall below \$1,000,000, contributions from all BDDB partners shall bring the ERF balance back to \$2,000,000 within 2 Fiscal Years.

All funds will be monitored by the Project Manager and accrue interest that will be added to the fund and accounted for every fiscal year. Interest earned will be credited proportionately to each BDDB partner's required contribution.





## Buckman Direct Diversion Project

*A joint regional project of the City of Santa Fe and Santa Fe County to build a reliable and sustainable water supply.*

### **Buckman Direct Diversion Major Repair and Replacement Fund Policy**

In accordance with the Buckman Direct Diversion's (BDD) Project intergovernmental agreements and in order to secure resources assuring the BDD's ability to cover the repair and replacement cost of capital assets already in existence within the Buckman Direct Diversion. The Major Repair and Replacement Fund allows level annual funding and ensures funding is available to repair and/or replace capital equipment when the capital equipment has reached the end of its effective useful life. Capital equipment is any equipment costing more than five thousand dollars (\$5,000) with a life expectancy of more than three (3) years. Replacement prioritization for the equipment is generally related to a specific time or duration of service identified as the equipment's Life Cycle. Typical examples of capital equipment include: SCADA system hardware, vehicles and heavy equipment, variable speed drives, raw and finished water pumps, solids handling process equipment and other equipment identified in the Buckman Direct Diversion Capital Asset Management Plan.

Actual expenditures from the Major Repair and Replacement Fund will be shared in accordance with the cost sharing principles contained in the Fiscal Operations and Procedures Agreement (FOPA).

The purpose of this policy is to clarify what constitutes a major repair or replacement, how to obtain access to the funds, and how the Repair and Replacement Funds will be monitored and reported.

#### Definition of a Major Repair:

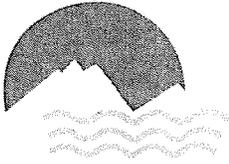
A major repair is defined as a repair, or proposed repair,

- (1) which is infrequent in nature and,
- (2) to equipment that's failure will significantly affect performance and/or operation of the Buckman Direct Diversion or,
- (3) where the complexity of the repair may significantly affect performance and/or operation of the Buckman Direct Diversion or,
- (4) that cannot be performed by BDD staff or under point repair contracts.

#### Disbursement of funds:

The Repair/Replacement Fund (RRF) shall be designated as a restricted reserve fund. The purpose of the RRF is to provide available cash flow to ensure major repairs and replacement of





## Buckman Direct Diversion Project

*A joint regional project of the City of Santa Fe and Santa Fe County to build a reliable and sustainable water supply.*

equipment which life cycle has expired can immediately be addressed without having to first secure funding from the BDD partners. It is intended that the RRF be sufficient to cover any major repair or replacement of an asset resulting in services, supplies, or parts exceeding twenty thousand dollars (\$20,000). To access the necessary funds for major repair or replacement situation the following steps shall be followed:

1. The BDD Facility and Equipment Maintenance Superintendent will identify and evaluate all major repairs and replacements.
2. The BDD Facility and Equipment Maintenance Superintendent and BDD Facilities Manager will develop an initial plan of action.
3. After initial plan of action is developed, the BDD Facility Manager shall notify the BDDDB partners.
4. The BDD Facility Manager will access the RRF in accordance with the BDD Project Manager's procurement policy.
5. Upon resolution of the major repair or replacement, the BDD Facilities Manager and BDD Financial Manager shall provide a written report to the BDD Board in the next regularly scheduled board meeting.

### Target balance of the Major Repair and Replacement Fund:

The approved target balance for the Major Repair and Replacement Fund is \$411,812.00 in annual contributions and will be fully funded by the end of each fiscal year.

All funds will be monitored by the BDD Financial Manager and The Major Repair and Replacement fund may earn interest income on cash balances as stated in the adopted BDD Working Capital and Billing Policy.





# Memo

Date: May 27, 2014

To: Buckman Direct Diversion Board

From: Shannon Jones, BDD Interim Facility Manager and Maintenance Superintendent

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## **ITEM AND ISSUE:**

Informational Update of Amendment No. 2 to PSA # 13-0754 with Alpha Southwest, Inc. to increase the contract amount by \$45,284.87 plus NMGRY.

## **BACKGROUND AND SUMMARY**

The Buckman Direct Diversion requires services from a licensed firm to provide on-call repair, replacement, fabrication, and modification services for mechanical and electrical equipment, piping, valves, instrumentation, pumps, and motors. On July 3, 2013 the Buckman Direct Diversion Board approved PSA #13-0754 with Alpha Southwest in the amount of \$50,000 plus NMGRY, the terms of the contract were through June 30, 2014. On February 6, 2014, the Buckman Direct Diversion Board approved amendment No. 1 to this contract in the amount of \$50,000 plus NMGRY. This contract was utilized to rebuild three (3) pumps located in the 1A Booster Pump Station, two (2) pumps located in the 2A Booster Pump Station and remove one (1) pump from the Raw Water Lift Station. In May of 2014, this contract was amended in the amount of \$45,284.87 to complete the repairs of the Raw Water Lift Station Pump, construct a Box Weldment Intake Access and to rebuild one (1) additional pump at Booster Station 2A. Funding for this work was available in the 2013/2014 budgeted fiscal year under Prof. Services BUill 7280000.510300.930020.

<b>Project</b>	<b>Total Cost</b>
BSIA Pump # 2	\$20,521.00
BSIA Pump # 3	\$13,688.11
BSIA Pump # 4	\$15,117.49
BSIA Pump # 4	\$16,000.00
BSIA Pump # 1	\$16,000.00
BSIA Pump # 2	\$16,000.00
BSIA Pump # 3	\$37,517.84
Diversion Box	\$ 16,700.00

**BUCKMAN DIRECT DIVERSION BOARD  
AMENDMENT No. 2 TO  
PROFESSIONAL SERVICES AGREEMENT  
WITH ALPHA SOUTHWEST, INC.**

This AMENDMENT No.2 (the "Amendment") is made to the PROFESSIONAL SERVICES AGREEMENT, dated 7/11/13 (the "Agreement"), between the Buckman Direct Diversion Board (the "BDDDB") and Alpha Southwest, Inc. (the "Contractor"). The date of this Amendment shall be the date when it is executed by the BDDDB.

**RECITALS**

A. Under the terms of the Agreement, Contractor has agreed to provide professional services to the BDDDB.

B. Pursuant to Article 16 of the Agreement, and for good and valuable consideration, the receipt and sufficiency of which are acknowledged by the parties, the BDDDB and the Contractor agree as follows:

**1. CONTRACT SUM**

Article 3, of the Agreement is amended to increase the contract sum by a total of Forty-five thousand two hundred eighty-four and .87/100 dollars (\$45,284.87), plus applicable gross receipts tax, so that Article 3, paragraph A reads in its entirety as follows:

A. The BDDDB shall pay to the Contractor in full payment for services rendered, a sum not to exceed One hundred forty-five thousand two hundred eighty-four and .87/100 dollars (\$145,284.87), plus applicable gross receipts tax.

**2. AGREEMENT IN FULL FORCE**

Except as specifically provided in this Amendment, the Agreement remains and shall remain in full force and effect, in accordance with its terms.

IN WITNESS WHEREOF, the parties have executed this Amendment No. 2 to the Professional Services Agreement as of the dates set forth below.

***[BALANCE OF PAGE INTENTIONALLY LEFT BLANK; SIGNATURE PAGE FOLLOWS]***

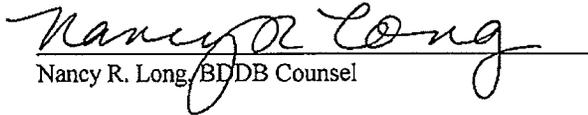
**BUCKMAN DIRECT DIVERSION BOARD**

By: \_\_\_\_\_  
Shannon Jones, Facilities Manager

Date: \_\_\_\_\_

**ATTEST:**

**APPROVED AS TO FORM:**

  
Nancy R. Long, BDDB Counsel

**APPROVED:**

\_\_\_\_\_  
Marcos A. Tapia, City Finance Director

\_\_\_\_\_  
Business Unit/Line Item

**ATTEST:**

\_\_\_\_\_  
Yolanda Y. Vigil, City Clerk  
File Date: \_\_\_\_\_

**CONTRACTOR:**

**Alpha Southwest, Inc.**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

NM Taxation & Revenue

CRS # \_\_\_\_\_

City of Santa Fe Business

Registration # \_\_\_\_\_



## Buckman Direct Diversion Board Summary of Contracts, Agreements, & Amendments

**Section to be completed by department for each contract or contract amendment**

1 **FOR:** ORIGINAL CONTRACT  or CONTRACT AMENDMENT

2 Name of Contractor Alpha Southwest

3 Complete information requested  Plus GRT  
 Inclusive of GRT

Original Contract Amount: \$50,000.00

Termination Date: June 30, 2014

Approved by BDDB Date: \_\_\_\_\_

or by Project Manager Date: July 11, 2013

**Contract is for:** installation and repair of BDD Equipment.

Amendment # 2 to the Original Contract# 13-0754

Increase/(Decrease) Amount \$ 45284.87

Extend Termination Date to: na

Approved by BDDB Date: pending

or by Project Manager Date: \_\_\_\_\_

**Amendment is for:** increase comp

4 **History of Contract & Amendments:** (option: attach spreadsheet if multiple amendments)  Plus GRT  
 Inclusive of GRT

Amount \$ 50,000.00 of original Contract# 13-0754 Termination Date: 06/30/2014

Reason: \_\_\_\_\_

Amount \$ 50,000.00 amendment # 1 Termination Date: na

Reason: increase comp

Amount \$ 45,284.87 amendment # 2 Termination Date: na

Reason: \_\_\_\_\_

Amount \$ \_\_\_\_\_ amendment # \_\_\_\_\_ Termination Date: \_\_\_\_\_

Reason: \_\_\_\_\_

Total of Original Contract plus all amendments: \$ 145,285



# Buckman Direct Diversion Board Summary of Contracts, Agreements, & Amendments

5 **Procurement Method of Original Contract:** (complete one of the lines)

RFP# Piggy back of City's RFP Date: \_\_\_\_\_

RFQ  \_\_\_\_\_ Date: \_\_\_\_\_

Sole Source  \_\_\_\_\_ Date: \_\_\_\_\_

Other \_\_\_\_\_

6 **Procurement History:** \_\_\_\_\_  
example: (First year of 4 year contract)

7 **Funding Source:** \_\_\_\_\_ **BU/Line Item:** \_\_\_\_\_ 7280000

8 **Any out-of-the ordinary or unusual issues or concerns:**  
none  
(Memo may be attached to explain detail.)

9 **Staff Contact who completed this form:** Maya Martinez  
Phone # 955-4271

10 **Certificate of Insurance attached.** (if original Contract)

**Submit to City Attorney for review/signature**

Forward to Finance Director for review/signature  
Return to originating Department for Committee(s) review or forward to City Manager for review  
and approval (depending on dollar level).

**To be recorded by City Clerk:**

Contract # \_\_\_\_\_

Date of contract Executed (i.e., signed by all parties): \_\_\_\_\_

Note: If further information needs to be included, attach a separate memo.

**Comments:**



# MEMORANDUM

**TO:** City of Santa Fe Public Utilities Committee  
City of Santa Fe Water Conservation Committee  
Buckman Direct Diversion Board

**FROM:** Rick Carpenter, Water Resources and Conservation Manager 

**VIA:** Nick Schiavo, Acting Public Utilities Department and Water Division Director

**DATE:** May 22, 2014

**SUBJECT:** 33<sup>d</sup> Monthly Update on Drought and Water Resource Management

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## CURRENT UPDATE – GENERAL WATER RESOURCE MANGEMENT

As the Committee/Board is aware, our region is still suffering through a severe drought. Our region has gone through three consecutive years of record drought and heat. It is now apparent that we are in a fourth consecutive year of severe drought and abnormal heat which will present significant challenges to all water purveyors, utilities, and irrigators going forward into the rest of this year. Weather prediction models had indicated that, at least through the early part of this summer, if not longer, drought conditions in the southwest (especially Arizona and New Mexico) should be neutral to below average precipitation and above average temperatures. However, many models are now predicting the likelihood of a return of an El Nino weather pattern (75% chance). This could mean increased precipitation for the coming months. Fire season is also expected to be very challenging which could have significant water quality implications for the BDD water treatment plant and/or Canyon Road water treatment plant.

This current drought is extreme, but what sets it apart from previous extreme droughts is that, the region will enter into summer without very much carry-over water from the previous year in regional reservoirs – they are at low levels (except for the local McClure reservoir in Santa Fe). For example, Heron reservoir (San Juan-Chama Project water) is currently at about 31% of capacity. However, runoff forecasts from the San Juan watershed seem to indicate substantial accumulation into Heron from this year's snow pack. BoR is predicting that SJCP contractors should receive about 85% of normal deliveries.

It is worth noting, however, the City of Santa Fe has invested in a robust and diverse portfolio of four distinct water supply sources that allows for flexibility in meeting demand: Buckman well field, City well field, Canyon Road Water Treatment Plant on the Upper Santa Fe River, and the Buckman Direct Diversion on the Rio Grande. Supply from these groundwater and surface water sources are expected to be adequate in meeting local demands through the coming high-demand season.

## LOCAL CONDITIONS

### Source of Supply Utilization Summary

February 2014

City Wells	0.00mg/m	0.00af/m
Buckman Wells	0.00mg/m	0.00af/m
CRWTP	146.01mg/m	448.09af/m
BRWTP	97.44mg/m	299.03af/m
<i>Other Wells(Osage, MRC, etc)</i>	<i>0.04mg/m</i>	<i>0.13af/m</i>

### Upper Santa Fe River/CRWTP

	Total Combined Reservoir Level	Santa Fe Snow Gage	Reservoir Inflow
March 24, 2014	32.10%	17.0 inches	5.88 MGD
5-Year Average for This Date (2009 – 2013)	46.95 %	22.0 inches	8.75 MGD

As of May 21<sup>st</sup>, and due to the heavy rains in mid-September and some minor winter snow storms, total combined storage in Nichols and McClure reservoirs is up to 32.1% (or about 1,280 acre-feet of storage). Flows are being by-passed due to construction on the new intake facilities. Inflows are expected to continue for the near future and so the reservoirs have been releasing water to allow for water treatment plant production, active construction, and draining/drying.

### **Buckman Regional Water Treatment Plant**

Flows in the Rio Grande are relatively low but the BDD Project is able to divert water. Turbidity and suspended solids are relatively low and raw water quality is good. Flows in the Rio Grande were temporarily increase over the second and third week of May to mimic snow melt runoff in order to create advantageous conditions for silvery minnow spawning. As of the date of this memo, Wild Earth Guardians has not filed any legal suites pursuant to their recently filed notices of intent to sue.

## REGIONAL CONDITIONS

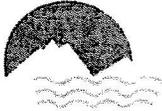
### **Rio Grande Basin**

Surface flows in the Rio Grande and its tributaries have been well below normal, (except for temporary releases for the silvery minnow spawn), storage levels in regional reservoirs are very low currently. Native flows in the Rio Grande will likely be low to very low through the spring and summer.

## **San Juan Basin**

It should be stressed that, conditions could significantly worsen for San Juan Chama Project deliveries next year, if the drought persists, due to a lack of carry-over storage in Heron Reservoir and other reservoirs in the system. Heron Reservoir is currently at a very low level of 31% of capacity for this time of year. It is still too early in the year to quantify with a lot of confidence, but the Bureau of Reclamation has recently indicated that it is very likely that SJCP deliveries this year will be at or near 85% due to good snow pack in the San Juan watershed, high soil moisture, and the storage that was already in Heron at the beginning of the snow melt season.





Buckman Direct Diversion Project

A joint regional project of the City of Santa Fe and Santa Fe County to build a reliable and sustainable water supply.

## Memo

**DATE:** May 1, 2014  
**TO:** Buckman Direct Diversion Board  
**FROM:** Mackie Romero, BDD Financial Manager *MR*  
**SUBJECT:** 3<sup>rd</sup> Quarter Financial Statement

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### **PURPOSE:**

This memo is intended to update the BDD Board and its partners on our 3<sup>rd</sup> Quarter financial position as of March 31, 2014.

**Budget Overview** – A financial plan that quantifies our current and future operations.

- Approved Budget – FY13/14 Adopted Budget, includes approved budget adjustment requests
- Expended – Expenses per quarter for services and/or goods received as of 3/31/2014.
- Encumbrances – Executed purchase orders for goods and services.
- Projected – Projected salary and benefits as currently staffed, pending requisitions and or contracts to be executed within the fiscal year.
- Available Balance – Represents vacancy savings and uncommitted budget balance as of 3/31/2014.

**90 Day Cash** – Represents the cash target for the FY13/14 adopted budget year as per BDD Working Capital and Billing Policy.

**Cash Balance** – Cash receipts held by the fiscal agent, to pay current and future obligations.

**Pre-Bills** – As per the BDD Working Capital and Billing Policy, each partner is billed 1/12 of their share of the adopted budget.

**Actual Expenses** - Expenses for services and/or goods received as of March 31, 2014.

**Outstanding Accounts Receivables** - Represents the dollar amount owed by each partner as of March 31, 2014 for the monthly pre-bills.

**Other Funds** – The Major Repair and Emergency Reserve funds have reached the targeted budget for the fiscal year. The Major Repair and Replacement Fund will continue to be billed beginning July 1, 2014.

BDD will continue to provide quarterly updates with useful financial information to provide the highest level of transparency to our partners and the Buckman Direct Diversion Board.

If you feel any additional information should be included in our report, please contact me.





**Buckman Direct Diversion Project**

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**3<sup>rd</sup> Quarter Financial Statement – Operations (Cumulative)**  
 (Unaudited 07/01/2013-3/31/2014)\*

**Budget Overview**

CATEGORY	APPROVED	EXPENDED	EXPENDED	EXPENDED	ENCUMB	PROJECTED	TOTAL	BALANCE
	BUDGET	1st Quarter	2nd Quarter	3rd Quarter	Thru 03/31/2014	EXPEND		AVAILABLE
Salaries & Benefits	2,706,248	651,376	699,224	551,316	-	663,095	2,565,011	141,237
Electricity	1,361,255	269,013	246,339	298,313	544,871	-	1,358,536	2,719
Chemicals	327,283	36,089	48,702	42,396	-	200,000	327,186	97
Solids	121,800	20,006	50,316	11,914	-	39,500	121,736	64
Materials & Supplies	763,529	54,414	96,806	150,391	273,832	118,471	693,914	69,615
Other Operating Costs	1,653,992	208,053	182,494	274,060	556,392	431,745	1,652,744	1,248
Fiscal Agent Fees	103,496	25,874	25,874	25,874	-	25,874	103,496	-
<b>TOTAL</b>	<b>7,037,603</b>	<b>1,264,825</b>	<b>1,349,755</b>	<b>1,354,264</b>	<b>1,685,502</b>	<b>1,478,685</b>	<b>6,822,624</b>	<b>214,979</b>

**90-Day Cash Target**

	Total
City of Santa Fe	1,285,334
Santa Fe County	365,466
Las Campanas	84,499
<b>Total</b>	<b>1,735,299</b>

**Cash Balance\***

	Balance
Cash at 3/31/2014	1,269,189

**Pre-Bills - Operations**

	Total	1st Quarter	2nd Quarter	January	February	March
City of Santa Fe	3,900,278	1,386,125	1,285,648	382,065	383,609	462,831
Santa Fe County	1,163,256	435,120	368,704	119,623	118,994	120,815
Las Campanas	170,041	77,142	48,560	13,871	13,878	16,591
<b>Total</b>	<b>5,233,576</b>	<b>1,898,387</b>	<b>1,702,912</b>	<b>515,559</b>	<b>516,481</b>	<b>600,237</b>

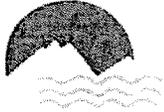
**Actual Expenses – Operations**

	Total	1st Quarter	2nd Quarter	January	February	March
3rd Quarter Expenses	3,968,843	1,264,825	1,349,754	309,167	457,411	587,686

**\*Outstanding Accounts Receivable**

	as of 3/31/14
City of Santa Fe	-
Santa Fe County	-
Las Campanas	-
<b>Total</b>	<b>-</b>

\*Note: FY12/13 Ending balances have not been included in presentation of statement, except for cash.



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### 3<sup>rd</sup> Quarter Financial Statement – Other Funds (Cumulative) (Unaudited 07/01/2013-3/31/2014)

#### Pre-Bills – Major Repair & Emergency Reserve Funds

	Total	1st Quarter	2nd Quarter	City of SF	SF County	Las Campanas
Major Repair Fund	240,219	102,951	102,951	24,320	8,646	1,351
Emergency Reserve Fund	583,339	250,002	250,003	54,431	21,218	7,686
	<b>823,558</b>	<b>352,953</b>	<b>352,954</b>	<b>78,751</b>	<b>29,864</b>	<b>9,036</b>

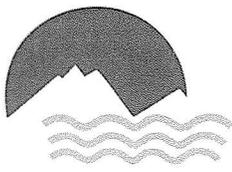
#### Financial Position

	Emergency Reserve	Major Repair
Balance at 06/30/2013	1,416,678	583,389
1st Quarter Billing	250,002	102,951
2nd Quarter Billing	250,003	102,951
3rd Quarter Billing	83,317	34,333
Total	2,000,000	823,624
Target Balance	2,000,000	823,624
Remaining Balance	-	-

#### \*Outstanding Accounts Receivable

	as of 3/31/14
City of Santa Fe	-
Santa Fe County	-
Las Campanas	-
	-





## Buckman Direct Diversion Project

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# Memo

**Date:** May 16, 2014

**To:** Buckman Direct Diversion Board

**From:** Shannon Jones, Interim BDD Facility Manager 

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### **ITEM AND ISSUE:**

Request approval of amended Support Agency Selection Process Timeline.

### **BACKGROUND AND SUMMARY:**

On July 11, 2013, the BDD Board directed BDD staff to create a Project Manager Selection Process Committee, with the task of developing a process by which the BDD Board can make a thoughtful and reasoned selection of the next BDD Project Manager. On August 8, 2013 the BDD Board approved the Project Manager Selection Process Committee. The Committee met for the first time on August 12, 2013, and every month thereafter.

On April 3, 2014, the BDD Board approved:

1. The "Process for Selecting the BDD Project Manager"
2. The appointment of the (above listed) Project Manager Selection Process Committee to the Project Manager Selection Process Implementation Committee.
3. Recommendations from the
  - a. References to "Project Manager" or "PM" should be changed to "Operational Support Entity" or "Support Agency" in order to clarify and separate roles and responsibilities of Project Manager and Facility Manager.
  - b. Transition from one Project Manager to another should occur at the end of the fiscal year.
  - c. BDDDB should develop an independent Personnel Policy Manual to establish consistency regarding working conditions, employee benefits, and policies affecting employment regardless of selected Project Manager.
  - d. Assign selection committee to identify structural discrepancies (pot holes) within the existing agreement. This is to avoid running into some of the same issues we have experienced in the past.



As of May 16, 2014, the committee has continued to meet and is finalizing the review of the roles and responsibilities of the Support Agent. In addition, the committee had developed and distributed a work sheet to the City of Santa Fe and Santa Fe County to collect data to quantify costs and structure to provide the support services to the Buckman Direct Diversion.

**DISCUSSION**

With the April 3, 2014 Board approval the existing PMFSA will be extend through June 30, 2016, staff has modified the Support Agency Selection Process Timeline to reflect this extension.

**FINANCIAL IMPLICATIONS**

There are no financial implications associated with approving the Amended Support Agency Selection Process Timeline.

**ACTION REQUESTED**

Staff requests approval of amended Support Agency Selection Process Timeline.

**ATTACHMENTS**

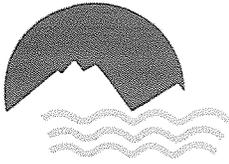
1. Amended Support Agency Selection Process Timeline.

# Support Agency Selection Process Timeline



Amended May 16, 2014





## Buckman Direct Diversion Project

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### MEMORANDUM

Date: May 22, 2014

To: Buckman Direct Diversion Board

From: Rick Carpenter, BDD Project Manager *RC*

Subject: **Contract Amendment of \$70,171.00 (Exclusive on NM GRT) for Geosystems Analysis, Inc., for Unanticipated and On-going/Extended Habitat Restoration Efforts for the BDD Project**

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#### BACKGROUND

The BDD Project is required to perform certain environmental mitigation measures pursuant to the Project's NEPA Environmental Impact Statement. Generally, the BDD is required to remove certain non-native vegetation, re-vegetate the areas with native riparian and upland species, and maintain the newly restored habitat until it becomes naturally self-sufficient. The BDD Project is required to restore approximately 7 acres of habitat.

#### **Unanticipated and On-going/Extended/Expanded Efforts (Total of \$70,171.00):**

An unanticipated delay of one year resulting from a legal challenge to the NEPA documents, and also the prolonged and unprecedented drought, caused extended and expanded levels of effort, and increased complexity. These delays and additional effort have resulted in the need for additional vegetation survival monitoring, herbicide effectiveness monitoring, groundwater and soil moisture monitoring, and general technical support through June, 2015, at which point it is anticipated that the project should be self-sustaining.

#### RECOMMENDATION

Staff recommends approval of the requested contract amendment in the amount of \$70,171.00 (exclusive of NM GRT).



## SCOPE OF WORK

**Task 1. Vegetation Survival Monitoring:** GeoSystems Analysis (GSA) will monitor survival and health of tree and shrub species planted in winter 2014. Monitoring will be conducted once per month through summer 2014 to estimate percent survival and general health status of different species. Counts of live individuals will be compared to actual planted numbers to generate percent survival. Information obtained from monthly visual inspections of plant health will be used to determine if adaptive management actions are necessary to improve vigor of individual plants deemed “unhealthy”. GSA will deliver a technical memo in October 2014 summarizing monitoring results.

**Task 2. Herbicide Effectiveness Monitoring:** GSA will perform site visits to visually evaluate effectiveness of herbicide control winter 2014 cut-stump treatments and mid-summer root sprout herbicide treatments on Russian olive, saltcedar and Siberian elm trees, as well as girdling treatments on large Siberian elms. Visual surveys of noxious herbaceous weeds will also be performed each month through summer 2014. Detected noxious weed patches will be recorded with GPS, marked on the ground with flagging, and an action plan will be developed to ensure timely and effective control. GSA will estimate percent control of woody and herbaceous weeds in order to determine need and timing for additional herbicide treatments. A technical memo will be developed that describes field methods and results.

**Task 3. Groundwater and Soil Moisture Monitoring:** GSA will monitor groundwater piezometers and soil moisture sensors at the project site through June 2015. Piezometer data will be checked manually each month and data from automated data loggers from both the piezometers and from soil moisture sensors will be downloaded quarterly. Groundwater data will be plotted against stream discharge data obtained from the USGS Gage at Otowi and against the weather station established at the BDD water diversion facility. Soil moisture data will be summarized graphically in relation to the weather station data and the summer plant-watering schedule.

**Task 4. Avian Monitoring:** GSA will monitor bird use of the project area in summer 2014. Avian monitoring will involve point-count surveys in different habitats across the 15-acre riverside restoration area. Data will be compared to 2013 summer avian surveys, and a technical summary memo will be developed and submitted.

**Task 5. General Technical Support:** GeoSystems will provide up to 120 hours of general technical support for coordinating and participating in meetings, conference calls, and on-site field visits with BDD staff, federal agencies, and others as appropriate. Anticipated activities include: 1) developing site amenities; 2) issues surrounding livestock and vehicle access management; 3) signage regarding restoration activities and restricted public access; 4) developing project status updates; 5) identifying and coordinating site maintenance issues; 6) identifying and coordinating adaptive management needs to ensure project success (e.g., additional revegetation, herbicide applications, other habitat enhancements); 7) meeting and coordinating volunteer groups; 8) other relevant management issues.

<b>TASK</b>	<b>COST (Labor + Expenses)</b>
1. Vegetation Survival Monitoring	\$13,059
2. Herbicide Effectiveness Monitoring	\$13,059
3. Groundwater and Soil Moisture Monitoring	\$13,038
4. Avian Monitoring	\$10,805
5. General Technical Support	\$20,209
<b>TOTAL COST (excluding NMGRT)</b>	<b>\$70,171</b>

**BUCKMAN DIRECT DIVERSION BOARD  
AMENDMENT No. 3  
TO THE PROFESSIONAL SERVICES AGREEMENT  
WITH GEOSYSTEMS ANALYSIS, INC.**

THIS AMENDMENT No. 3 (the "Amendment") to the PROFESSIONAL SERVICES AGREEMENT, dated September 13, 2012 (the "Agreement"), is entered into between the Buckman Direct Diversion Board (the "BDDDB") and GeoSystems Analysis Inc. ("Contractor"). The date of this Amendment shall be the date when it is executed by the BDDDB.

**RECITALS**

A. Under the terms of the Agreement, Contractor has agreed to provide professional services to the BDDDB.

B. Pursuant to Article 17 of the Agreement, and for good and valuable consideration, the receipt and sufficiency of which are acknowledged by the parties, the BDDDB and the Contractor agree as follows:

**1. SCOPE OF SERVICES:**

Article 1 of the Agreement is amended so that the Agreement adds Tasks 6, 7, 8, 9 and 10 as described in Exhibit "A" attached hereto.

**2. COMPENSATION.**

Article 4 of the Agreement is amended to increase the amount of compensation by a total of seventy thousand one hundred seventy one (\$70,171.00), plus New Mexico Gross Receipts Tax so that Article 4 shall read as follows:

A. The BDDDB shall pay to the Contractor in full payment for services rendered, a sum not to exceed one hundred eighty seven thousand three hundred sixty six dollars (\$187,366.00), plus New Mexico Gross Receipts Tax.

B. The Contractor shall be responsible for payment of gross receipts taxes levied by the State of New Mexico on the sums paid under this Agreement.

C. Invoices for services will be made on a monthly basis. Payment shall be made upon receipt and approval by the BDDB of detailed statements containing a report of services completed. Compensation shall be paid only for services actually performed.

**3. TERM.**

Article 5 of the Agreement is deleted and replaced with the following:

This Agreement shall terminate on December 31, 2014, unless terminated sooner pursuant to Article 6 of the Agreement.

**4. AGREEMENT IN FULL FORCE.**

Except as specifically provided in this Amendment, the Agreement remains and shall remain in full force and effect, in accordance with its terms.

IN WITNESS WHEREOF, the parties have executed this Amendment No. 3 to the Professional Services Agreement as of the dates set forth below.

**BUCKMAN DIRECT DIVERSION BOARD**

**CONTRACTOR:**

Geosystems Analysis, Inc.

By: \_\_\_\_\_  
BDDDB Facilities Manager

Date: \_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**APPROVED AS TO FORM:**

  
\_\_\_\_\_  
Nancy R. Long, BDDDB Counsel

**APPROVED:**

\_\_\_\_\_  
Marcos A. Tapia, City Finance Director

**ATTEST:**

\_\_\_\_\_  
Yolanda Y. Vigil, City Clerk

File Date: \_\_\_\_\_

728000  
Business Unit/Line Item



## Buckman Direct Diversion Board Summary of Contracts, Agreements, & Amendments

**Section to be completed by department for each contract or contract amendment**

1 **FOR:** ORIGINAL CONTRACT  or CONTRACT AMENDMENT

2 Name of Contractor Geosystems Inc.

3 Complete information requested  Plus GRT  
 Inclusive of GRT

Original Contract Amount: \$81,395.00

Termination Date: \_\_\_\_\_

Approved by BDDB Date: June 30, 2013

or by Project Manager Date: \_\_\_\_\_

**Contract is for:** Mititagtion

Amendment # 3 to the Original Contract# 12-1008

Increase/(Decrease) Amount \$ 70171

Extend Termination Date to: June 30, 2015

Approved by BDDB Date: \_\_\_\_\_

or by Project Manager Date: Pending

**Amendment is for:** Increase scope, compe and extend term

4 **History of Contract & Amendments:** (option: attach spreadsheet if multiple amendments)  Plus GRT  
 Inclusive of GRT

Amount \$ 81,395.00 of original Contract# 12-1008 Termination Date: 06/30/2013

Reason: \_\_\_\_\_

Amount \$ 0.00 amendment # 1 Termination Date: 06/30/2014

Reason: term extension

Amount \$ 35,800.00 amendment # 2 Termination Date: na

Reason: Increase comp and scope

Amount \$ \_\_\_\_\_ amendment # \_\_\_\_\_ Termination Date: \_\_\_\_\_

Reason: \_\_\_\_\_

Total of Original Contract plus all amendments: \$ 187,366



# Buckman Direct Diversion Board Summary of Contracts, Agreements, & Amendments

5 **Procurement Method of Original Contract:** (complete one of the lines)

RFP# \_\_\_\_\_ Date: \_\_\_\_\_

RFQ  \_\_\_\_\_ Date: \_\_\_\_\_

Sole Source  \_\_\_\_\_ Date: \_\_\_\_\_

Other \_\_\_\_\_

6 **Procurement History:** \_\_\_\_\_  
example: (First year of 4 year contract)

7 **Funding Source:** \_\_\_\_\_ **BU/Line Item:** \_\_\_\_\_ 7280000

8 **Any out-of-the ordinary or unusual issues or concerns:**  
none  
(Memo may be attached to explain detail.)

9 **Staff Contact who completed this form:** Maya Martinez  
Phone # 955-4271

10 **Certificate of Insurance attached.** (if original Contract)

**Submit to City Attorney for review/signature**

Forward to Finance Director for review/signature  
Return to originating Department for Committee(s) review or forward to City Manager for review  
and approval (depending on dollar level).

**To be recorded by City Clerk:**

Contract # \_\_\_\_\_

Date of contract Executed (i.e., signed by all parties): \_\_\_\_\_

Note: If further information needs to be included, attach a separate memo.

**Comments:**