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Memorandum



Buckman Direct Diversion

Date:	November 23, 2018
То:	Buckman Direct Diversion Board
From:	Randy Sugrue, BDD Interim Operations Superintendent K \supset
Subject:	Update on BDD Operations for the Month of November 2018

ITEM:

- 1. This memorandum is to update the Buckman Direct Diversion Board (BDDB) on BDD operations during the month of November 2018. The BDD diversions and deliveries have averaged, in Million Gallons Per Day (MGD) as follows:
 - a. Raw water diversions: 5.66 MGD
 - b. Drinking water deliveries through Booster Station 4A/5A: 5.08 MGD
 - c. Raw water delivery to Las Campanas at BS2A: 0.104 MGD
 - d. Onsite treated and non-treated water storage: 0..48 MGD Average
- 2. The BDD is providing approximately 87% percent of the water supply to the City and County for the month.
- 3. The BDD year-to-date diversions are depicted below:



Year-To-Date Comparison



4. Background Diversion tables:

Nov-18		In Acre-Feet									
Month	Total SJC + Native Rights	SP-4842 RG Native COUNTY	SD-03418 RG Native LAS CAMPANAS	SJC Call Total	SP-2847-E SJC Call CITY	SP-2847-N-A SJC Call LAS CAMPANAS	All Partners Conveyance Losses				
JAN	380.137	77.791	0.000	302.346	302.346	0.000	3.023				
FEB	336.287	66.413	0.000	269 .8 74	269.874	0.000	2.699				
MAR	362.730	266.898	0.000	95.832	95.832	0.000	0.958				
APR	661.333	568.669	0.000	92.664	92.664	0.000	0.927				
MAY	933.072	340.260	0.000	592.812	481.647	111.165	5.928				
JUN	873.384	44.160	0.000	829.224	693.960	135.264	8.292				
JUL	807.939	0.000	0.000	807. 9 39	719.953	87.986	11.277				
AUG	731.455	61.799	0.000	669.656	669.656	0.000	6.697				
SEP	741.437	54.635	0.000	686.803	686.803	0.000	6.868				
ОСТ	523.512	60.271	0.000	463.241	454.276	8.964	4.632				
NOV	235.258	8.133	0.000	227.126	221.710	5.415	2.271				
DEC	0.000	0.000	0.000	0.000	0.000	0.000	0.000				
TOTAL	6,586.544	1,549.028	0.000	5,037.516	4,688.721	348.795	53.573				

Buckman Direct Diversion Monthly SJC and Native Diversions

	In Million Gallons (MG)										
Month	Native COUNTY	Native Las Campanas	SJC TOTAL	SJC CITY	SJC Las Campanas	All Partners Diversions BDD					
JAN	28.160	0.000	98.565	98.565	0.000	126.725					
FEB	21.651	0.000	87.979	87.979	0.000	109.629					
MAR	96.617	0.000	31.241	31.241	0.000	127.858					
APR	185.386	0.000	30.208	30.208	0.000	215.595					
MAY	123.174	0.000	193.257	157.017	36.240	316.431					
JUN	14.396	0.000	270.327	226.231	44.096	284.723					
JUL	0.000	0.000	263.388	234.705	28.684	263.388					
AUG	20.147	0.000	218.308	218.308	0.000	238.454					
SEP	19.778	0.000	223.898	223.898	0.000	243.675					
ОСТ	19.648	0.000	151.017	148.094	2.922	170.665					
NOV	2.944	0.000	74.043	72.278	1.765	76.987					
DEC	0.000	0.000	0.000	0.000	0.000	0.000					
TOTAL	531.901	0.000	1,642.230	1,528.523	113.707	2,174.131					

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			Total SJC		Las	Total		
			Available	CITY	Campanas	Native Rio	Total BDD	SJC used
	Total SJC	Convey-	at BDD	Total SJC	Total SJC	Grande	Surface	to offset
	Release	ance Losses	Diversion	Diversion	Diversion	Diversion	Diversion	Buckman
Month	(Ac-ft)	(Ac-ft)	(Ac-ft)	(Ac-ft)	(Ac-ft)	(Ac-ft)	(Ac-ft)	Wells
JAN	328.16	3.03	325.13	325.13		50.54	375.67	
FEB	248.93	2.29	246.65	246.65		77.48	324.13	
MAR	459.31	4.26	455.05	455.05		128.55	583.60	
APR	562.55	5.04	557.51	557.51		145.95	703.46	
MAY	407.82	3.63	404.19	404.19		179.69	583.88	
JUN	291.83	2.66	289.17	191.31	97.86	34.26	323.43	
JUL	360.03	3.26	356.77	251.89	104.87	113.93	470.69	
AUG	133.52	1.22	132.30	88.75	43.55	67.55	199.85	
SEP	313.61	2.52	311.09	311.09		316.73	627.82	
OCT	585.70	4.23	581.47	563.60	17.88	149.97	731.45	
NOV	288.72	2.58	286.14	282.09	4.05	122.83	408.97	
DEC	277.86	2.22	275.64	275.64		109.01	384.65	
TOTALS	4,258.04	36.94	4,221.11	3,952.90	268.21	1,496.49	5,717.60	

Source of SJC Releases in reporting month. Includes conveyance losses.

2016			ABIQUIU	
	Total			Club at
	Release			Las
Month	(Ac-ft)	City	County	Campanas
JAN	328.16	328.16		
FEB	248.93	248.93		
MAR	459.31	459.31		
APR	562.55	562.55		
MAY	407.82	407.82		
JUN	291.83	193.07		98.76
JUL	360.03	254.20		105.83
AUG	133.52	89.57		43.95
SEP	313.61	313.61		
OCT	585.70	567.69		18.01
NOV	288.71	284.63		4.08
DEC	277.86	277.86		
TOTALS	4,258.03	3,987.40		270.63

			Total SJC		Las	Total	
			Available	CITY	Campanas	Native Rio	Total BDD
	Total SJC	Convey-	at BDD	Total SJC	Total SJC	Grande	Surface
	Release	ance Losses	Diversion	Diversion	Diversion	Diversion	Diversion
Month	(Ac-ft)	(Ac-ft)	(Ac-ft)	(Ac-ft)	(Ac-ft)	(Ac-ft)	(Ac-ft)
JAN	246.57	2.40	244.17	244.17		66.12	310.29
FEB	272.15	2.36	269.79	269.79		56.73	326.52
MAR	180.19	1.60	178.59	178.59		178.02	356.61
APR	0.00	0.00	0.00	0.00		40.13	40.13
MAY	226.67	2.15	224.53	224.53		238.73	463.26
JUN	563.77	5.04	558.72	448.40	110.33	128.54	687.27
JUL	299.65	2.70	296.95	234.93	62.02	148.67	445.62
AUG	279.43	2.54	276.89	276.89		213.73	490.62
SEP	552.16	4.98	547.18	547.18		130.85	678.03
OCT	597.48	5.30	592.18	592.18		80.41	672.59
NOV	428.42	3.89	424.52	424.52		66.27	490.79
DEC	197.65	1.76	195.89	195.89		111.20	307.09
TOTALS	3,844.14	34.72	3,809.41	3,637.07	172.35	1,459.40	5,268.82

Source of SJC Releases in reporting month. Includes conveyance losses.

2015			ABIQUIU	
	Total			Club at
	Release			Las
Month	(Ac-ft)	City	County	Campanas
JAN	246.57	246.57		
FEB	272.15	272.15		
MAR	180.19	180.19		
APR	0.00	0		
MAY	226.67	226.67		
JUN	563.76	452.44		111.32
JUL	299.65	237.07		62.58
AUG	279.43	279.43		
SEP	552.16	552.16		
OCT	597.48	597.48		
NOV	428.42	428.42		
DEC	197.65	197.65		
TOTALS	3,844.13	3,670.23		173.90

			Total SJC			Total		
			Available	CITY	COUNTY	Native Rio	Total BDD	SJC used
	Total SJC	Convey-	at BDD	Total SJC	Total SJC	Grande	Surface	to offset
	Release	ance Losses	Diversion	Diversion	Diversion	Diversion	Diversion	Buckman
Month	(Ac-ft)	(Ac-ff)	(Ac-ft)	(Ac-ft)	(Ac-ft)	(Ac-ff)	(Ac-ft)	Wells
JAN	383.35	3.74	390.34	390.34		12.68	403.02	
FEB	349.51	3.28	341.55	341.55		11.38	352.93	
MAR	373.88	3.66	381.69	357.07	34.09	148.83	539.99	
APR	178.75	1.70	176.78	92.46	84.47	227.22	404.15	
MAY	491.46	4.61	480.35	389.13	91.22	374.86	855.21	
JUN	427.50	3.96	412.65	295.07	117.58	292.84	705.49	
JUL	425.22	4.14	431.96	399.51	32.46	72.32	504.29	
AUG	496.68	4.60	479.66	479.66		96.07	575.73	
SEP	552.71	5.40	562.83	562.83		84.85	647.68	
OCT	381.93	3.63	378.30	378.30		142.46	520.76	
NOV	441.14	4.09	426.17	426.17		11.59	437.76	
DEC	423.99	4.13	430.74	430.74		19.56	450.30	
TOTALS	4,926.12	46.94	4,893.02	4,542.83	359.82	1,494.66	6,397.31	

Source of SJC Releases in reporting month. Includes conveyance losses.

2014			ABIQUIU	
	Total			Club at
	Release			Las
Month	(Ac-ft)	City	County	Campanas
JAN	383.35	383.35		
FEB	349.51	349.51		
MAR	373.74	346.37		27.37
APR	178.83	93.42		85.41
MAY	491.82	399.41		92.41
JUN	427.82	307.54		120.28
JUL	425.22	397.13		28.09
AUG	496.68	496.68		
SEP	552.71	552.71		
OCT	381.93	381.93		
NOV	441.14	441.14		
DEC	423.99	423.99		
TOTALS	4,926.74	4,573.18		353.56

2013 Bu	2013 Buckman Direct Diversion Monthly SJC and Native Diversions									
			Total SJC			Total				
			Available	CITY	COUNTY	Native Rio	Total BDD	SJC used		
	Total SJC	Convey-	at BDD	Total SJC	Total SJC	Grande	Surface	to offset		
	Release	ance Losses	Diversion	Diversion	Diversion	Diversion	Diversion	Buckman		
Month	(Ac-ft)	(Ac-ff)	(Ac-ft)	(Ac-ft)	(Ac-ft)	(Ac-ft)	(Ac-ft)	Wells		
JAN	439.04	4.24	441.79	441.79		44.09	485.88			
FEB	261.03	2.47	257.94	257.94		10.49	268.43			
MAR	353.69	3.30	343.57	343.57		75.66	419.23			
APR	680.73	6.34	661.33	661.33		89.47	750.80			
MAY	1,045.27	9.88	1,030.46	1030.46		22.86	1,053.32			
JUN	817.91	7.85	734.56	734.56	83.44	260.03	1,078.03			
JUL	606.85	5.90	397.47	397.47	78.83		476.30	138.43		
AUG	108.68	0.91	41.68	41.68	36.91		78.59	16.46		
SEP	136.77	1.43	63.86	63.86	53.76		117.62	31.68		
OCT	255.24	2.46	213.87	213.87	42.66	72.92	329.45			
NOV	196.45	1.88	187.02	187.02	8.48	117.33	312.83			
DEC	293.76	2.63	274.19	274.19		12.25	286.44			
TOTALS	5,195.42	49.29	4,647.74	4,647.74	304.08	705.10	5,656.92	186.57		

Source of SJC Releases in reporting month. Includes conveyance losses.

2013			ABIQUIU	
	Total			Club at
	Release			Las
Month	(Ac-ft)	City	County	Campanas
JAN	439.04	439.04		
FEB	261.03	261.03		
MAR	353.69	353.69		
APR	680.73	680.73		
MAY	1,045.27	1045.27		
JUN	817.90	729.3		88.6
JUL	606.85	473.27		133.58
AUG	108.68	65.21		43.47
SEP	136.77	83.87		52.9
OCT	255.24	211.15		44.09
NOV	196.46	186.31		10.15
DEC	293.76	293.76		
TOTALS	5,195.42	4,822.63		372.79

			Total SJC	x	Total		
			Available		Native Rio	Total BDD	SJC used
	Total SJC	Convey-	at BDD	Total SJC	Grande	Surface	to offset
	Release	ance Losses	Diversion	Diversion	Diversion	Diversion	Buckman
Month	(Ac-ft)	(Ac-ft)	(Ac-ft)	(Ac-ft)	(Ac-ft)	(Ac-ft)	Wells
JAN	448.09	4.06	447.00	411.56	5.02	416.58	35.44
FEB	210.29	1.97	216.94	208.13	32.21	240.34	8.81
MAR	335.75	2.94	323.61	312.85	59.21	372.06	10.76
APR	528.63	4.72	519.90	519.90	108.61	628.51	
MAY	660.18	6.24	651.05	651.05	145.51	796.56	
JUN	722.36	6.79	692.21	692.21	120.92	813.13	
JUL	152.03	2.23	191.75	157.16		157.16	34.60
AUG	86.08	0.58	60.90	60.90	239.96	300.86	
SEP	637.17	6.05	630.92	630.92	110.07	740.99	
OCT	747.21	7.14	744.87	744.87	50.82	795.69	
NOV	479.19	4.63	482.65	482.65	120.91	603.56	
DEC	442.67	4.17	434.71	434.71	119.44	554.15	
TOTALS	5,449.65	51.52	5,396.51	5,306.91	1,112.68	6,419.59	89.61

Source of SJC Releases in reporting month. Includes conveyance losses.

2012		HER	ON	ELV	VADO	ABIO	JUIU
	Total						
	Release						
Month	(Ac-ft)	City	County	City	County	City	County
JAN	448.09					448.09	
FEB						210.29	
MAR						335.75	
APR						528.63	
MAY						660.18	
JUN			27.21			695.15	
JUL			21.42			130.61	
AUG						86.08	
SEP						637.17	
OCT						747.21	
NOV						479.19	
DEC						442.67	
TOTALS	448.09		48.63	[5,401.02	

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Memorandum



Buckman Direct Diversion

Date:	December 6, 2018
То:	BDD Board
From:	Bernardine R. Padilla, BDD PR Coordinator 🏷
Subject:	2018 BDD Public Relations Outreach Events and Tours Summary

Item and Issue:

Update on BDD public relations and marketing efforts and educational offerings

Background and Summary:

This public relations and outreach summary shows events, tours, education and outreach for calendar year 2018.

Key highlights include:

- BDD Total Outreach: 5,256 people learned about and/or toured the BDD Drinking Water Facility
 - o **1,448** Total Youth outreach by BDD tours and events
 - 438 Private and public school students toured BDD onsite
 - 280 SFPS 4th grade students toured through the Water Conservation Passport Program
 - o 227 Adult visitors toured BDD students, industry professionals, community members
 - o 80 University students toured BDD
- **6** 37 Total BDD Tours
 - 16 Industry professionals tours
 - o **11** Youth tours
 - o 5 Community member tours
 - 4 University level tours
 - 4 Private School student tours
- 9 Community Outreach event opportunities
 - 3 Youth offsite educational events
- 3 Professional Staff enrichment opportunities; staff provided educational outreach to NMED and NM Short School students for CEUs
- 2 Awards BDD recognized for Outstanding Achievement at the New Mexico Water and Wastewater Association 2018 Annual Short School Conference in February



Date	Group or Event	Description	Out- reach	Түре
1/9	OSE, LANL, LA County Tour	Tour through A Erdman	10	Professional
1/24	NMWWA Conference	BDD received 2 awards at LC conference	0	Recognition
1/30	Western Ecosystems Technology, Inc.	Debbie Lee through Rick Carpenter Tour	3	Professional Tour
2/5	St. Mike's Environ. Science Class	Tour of local water resources management	15	Youth Tour
2/16	Teen Job Fair	Provide info on water treatment jobs; WWT, BDD, Conservation	60	Youth Event
2/21	Individual Tour	Student of SFCC water technology interested in BDD	1	Community Tour
3/6	Mayor's Youth Advisory Board	BDD presentation and tour of BDD and WWTP	8	Youth Tour
3/15	Community Member Tour	Community family tour of BDD	3	Community Tour
3/15	NMED Train Operators	NMED onsite	2	Professional Tour
3/15	Legal Team tour	Tour for legal team to prep per CV	3	Professional Tour
4/3	SFCC water tech/Biology tour	Tour for water technology students	18	College Tour
4/9	Santa Rosa Mayor & Admin	Santa Rosa Mayor and management team tour	15	Professional Tour
4/9	Souder, Miller, Associates	Tour of the BDD Solar array at BS2A	4	Professional Tour
4/19	Legal Team tour	Per CV new BDD legal team tour	3	Professional Tour
4/26	Waldorf School Juniors and Seniors	SF's water resources, technology and skills of plant ops	24	Youth Tour
4/29	Green Water Summit	Event focusing on Sustainability; water bottles given	100	Community Event
4/30	GGI Contractor Tour	CV brief tour of plant only for contractor	2	Professional Tour
5/7	NNM Short School class taught	CV taught surface water class	80	Professional Education
5/9	NNM Short School Tour	BDD presentation and tour of BDD	30	College Tour
5/20	Century Bike Ride	Provide water tank for riders and volunteers - 1 station	3000	Community Event
5/21	SF County	San Idelfonso and SF County presentation	10	Professional Tour
5/31	Traveler's Insurance Rep tour	Representative site tour	1	Professional Tour
6/2	SF County	Trailhead ribbon cutting event	50	Community Event
6/19	El Castillo Senior Residence	Senior Resident tour and presentation	15	Community Tour

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6/21	NMED Train Operators	NMED train the trainer P&Ps	30	Professional Education
6/26	Summer Recreation Youth	Youth summer rec program tour	25	Youth Tour
7/20	Marty Sanchez Golf Tourney	Anniversary golf tourney water tank participation	100	BDD PR
7/25	Summer Recreation Youth	Water tank and booth water bottle give away to kids 700 kids/+ volunteers, staff	700	Youth Event
8/1	PUC host meeting and tour	Tour for the PUC committee members	10	Professional Tour
8/11	La Familia Health Fair	Water tank coordination for City Water (estimate)	50	Community Event
8/31	FORE Golf Tourney	Marty Sanchez booth, water tank, bottle giveaway at Peso's corner	121	Community Event
9/8	National Drive Electric Event	Water bottle give away by SF County	50	Community Event
9/21	Rio Grande School	BDD Presentation and Tour	21	Youth Tour
9/25	Milagro Middle School	BDD Presentation and Tour	65	Youth Tour
9/27	SF County Land Planning	BDD Presentation and Tour	7	Professional Tour
10/2	SF Kids Water Fiesta	2 day kids water presentation for 250 students	250	Youth Event
10/9	Pinon Elementary Tour	SFPS Kids Water Passport program tour	60	Youth Tour
10/10	NM Highlands University	BDD Tour and City Sources of Water B.Schneider	18	College Tour
10/11	Nina Otero/Pinon Elem Tour	SFPS Kids Water Passport program tour	60	Youth Tour
10/18	Atalaya Elementary Tour	SFPS Kids Water Passport program tour	55	Youth Tour
10/23	CH2M Hill Attorney Tour	Tour coordinated by Nancy for legal	2	Professional Tour
10/25	Nina Otero Elementary Tour	SFPS Kids Water Passport program tour	55	Youth Tour
10/29	Las Campanas Board Member	Tour for new Board members and Bryan Romero	4	Community Tour
10/30	USBR/ Army Corps of Engineers	Tour of BDD, water sources, CRWTP, B.Schneider	11	Community Tour
10/30	Colorado River Basin Salinity representatives	Tour and presentation to 7 SW States representatives in SF for conference	25	Professional Tour
11/2	US Army Corps of Engineers	Tour for 2 staff; new monitoring gage @ BDD intake	2	Professional Tour
11/7	Nava/Acequia Madre Elem.	SFPS Kids Water Passport program tour	50	Youth Tour
11/8	EPA DWSRF Tour	BDD featured in EPA report; helped finance BDD build	6	Professional Tour
12/6	NNM Community College Tour	Environmental Chem studies tour of BDD/ Rio Grande	14	College Tour
		Total Outreach	5256	





Buckman Direct Diversion

Date:	December 6, 2018
То:	Buckman Direct Diversion Board
From:	Mackie Romero, BDD Financial Manager
Subject:	1 st Quarter Financial Statements

Information Item:

This report is to update the BDD Board and its partners on the 1st Quarter financial position as of September 30, 2018.

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

- Beginning Budget FY18/19 Adopted Budget includes any budget adjustments.
- Expended Expenditures for services and/or goods received as of 09/30/2018.
- 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.
- Percentage Represents percentage of projected expended budget balance.

90 Day Cash Reserve Credit – Represents the partners cash reserve credit, which is used to fund current and future obligations as per the BDD Working Capital and Billing Policy.

Fixed & Variable Costs – Expenses to be billed to our partners for services and/or goods received as of September 30, 2018. Billing for project wide costs are calculated at the end of the fiscal year.

Other Funds - Major Repair & Replacement and Emergency Reserve Fund monthly contributions, cash balances and budget overview of funds authorized by the BDDB for expenditure.

Carve-Out Budget - Budget overview of funds budgeted and expenditures as of 09/30/2018.

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

If you require any additional information to be included in this report, please contact me.



Buckman Direct Diversion

1st Quarter Financial Statement – Operations (07/01/2018-09/30/2018)

Budget Overview

	BEGINNING	EXPENDED	ENCUMB	PROJECTED		BALANCE	EXP
CATEGORY	BUDGET	Quarter	09/30/2018	06/30/2019	TOTAL	AVAILABLE	8DG1 %
Employee Salaries &	2,372,849	495,662	-	1,576,094	2,071,756	301,093	87%
Benefits	1,198,824	253,053	*	844,922	1,097,975	100,849	92%
Electricity	1,200,000	353,660	846,340	-	1,200,000	-	100%
Chemicals	336,000	123,600	-	212,400	336,000	-	100%
Solids	120,000	16,730	-	103,270	120,000	-	100%
Materials & Supplies	851,239	59,190	235,892	323,100	618,182	233,057	73%
Other Operating Costs	950,952	286,035	411,626	192,425	890,086	60,866	94%
Litigation Costs	1,690,000	148,928	1,541,072	-	1,690,000	-	100%
Fiscal Agent Fees	318,760	-	-	312,463	312,463	6,297	98%
TOTAL	9,038,624	1,736,858	3,034,930	3,564,674	8,336,462	702,162	92%
DOE Federal Grant	96,000	1,895	94,105	-	96,000		100%
	0/00/00/0						

Total Expenses thru 9/30/2018

1,738,753

90-Day Cash Reserve Credit

	Balance
City of Santa Fe	1,492,079
Santa Fe County	473,340
LC - Club	73,319
LC - Соор	14,895
	2,053,633

Fixed & Variable Cost - Operations

July - September	Total	Fixed	Variable (Projected)
Partner Revenue			
City of Santa Fe	686,192	311,619	374,572
Santa Fe County	188,692	112,240	76,452
LC - Club	24,839	10,407	14,433
LC - Coop	13,430	13,430	*
Total	913,153	447,697	465,457
Project Wide thru Sept Unbilled	811,641		
Other Revenue			
PNM Solar Rebate	12,064		
DOE Federal Grant	1,895		
Total	13,959		
Grand Total	1,738,753		







1st Quarter Financial Statement – Other Funds (07/01/2018-09/30/2018)

Pre-Bills - Major Repair & Replacement Fund (Yearly Contribution)

	ľ			Las Campanas	Las Campanas
	Total	City of SF	SF County	Соор	Club
Major Repair Fund	626,706	445,545	156,494	13,898	10,769
	626,706	445,545	156,494	13,898	10,769

Financial Position - Cash

	*Emergency Reserve	Major Repair
Balance at 06/30/2018	2,063,495	1,570,854
18/19 Yearly Contributions - Pending	-	626,706
Total	2,063,495	2,197,560
Beginning Budget		617,870
Projected Cash Balance		1,579,690

* Emergency Reserve Fund has reached the funding target, per the established policy.

Budget Overview - Major Repair and Replacement Fund

	FY18/19	Π	EXPENDED	ENCUMB	BALANCE
			1st	Thru	
CATEGORY	BUDGET		Quarter	09/30/2018	AVAILABLE
Engineering Services	4,776	Π	3,923	853	-
System Equipment	384,102		-	384,102	-
Rep & Maint System Equip	156,714		88,865	67,849	-
Vehicles < 1.5 Ton	72,278		-	69,342	2,936
TOTAL	617,870	١ſ	92,788	853	2,936

Budget Overview - Capital Carve-out Budget

CATEGORY	FY18/19	EXPENDED 1st	ENCUMB Thru	BALANCE
CATEGORY	BUDGEI	Quarter	09/30/2018	AVAILABLE
Legal Services	50,000	692	20,996	28,313
Professional Services	284,811	-	~	284,811
Consulting Services	10,000	1,249	4,173	4,579
TOTAL	344,811	1,940	25,169	317,702



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Buckman Direct Diversion

Date:	December 6, 2018
То:	Buckman Direct Diversion Board
From:	Mackie M. Romero, BDD Financial Manager
Subject:	Payment to the Bureau of Land Management

ITEM AND ISSUE:

Request approval of payment to the Bureau of Land Management in the amount of \$68,004.32 for BDDB Right-of-Way rental fees.

BACKGROUND AND SUMMARY:

The Buckman Direct Diversion Board currently has several right-of-way (ROW) grant agreements with the Bureau of Land Management.

NMNM 107524 Payment period (01/01/2019-12/31/2019) Buckman Water Treatment Plant & Solar Site (22.60 acres)	Annual fee \$63,000.00
NMNM 108316 03 Payment period (01/01/2019-12/31/2019) Booster Station 2A Solar Site (4.80 acres) (Includes Photovoltaic capacity fee)	Annual fee \$4,605.68
NMNM 120617 Payment period (01/01/2019-12/31/2019) Fiber optic line (12.30 acres)	Annual fee: \$398.64

The rental fees for these agreements were included in the FY18/19 BDD operating budget and will continue to be part of the annual budget request.

ACTION REQUESTED:

Staff recommends approval of payment to the Bureau of Land Management in the amount of \$68,004.32 for payment period 01/01/2019-12/31/2019.

Approved by BDDB December 6, 2018

Councilor Peter Ives, BDDB Chair





UNITED STATES DEPARTMENT OF THE INTERIOR	Bill Number: 2019002431		
	BUREAU OF LAND MANAGEMENT	D-4-10/04/2019	
	Bill for Collection	Date: 10/24/2018	
BUREAU OF LAND MANAGEMENT Bill for Collection Make Remittance Payable To DOI/BLM and Mail To: TAOS FIELD OFFICE 226 CRUZ ALTA RD TAOS, NM 87571 (575)758-8851 Payor: BUCKMAN DIRECT DIVERSION BOARD PO BOX 909 SANTA FE, NM 87504 US			Please include bill number on all remittances.

DATE DESCRIPTION		AMOUNT
NMNM 10381603		\$4,605.68
01/01/2019 - 12/31/2019		
RENTAL: ROW-SOLAR DEV GRANT; SANTA FE COUNTY - 4.80 ACRES	\$311.18	
CAPACITY FEE: PHOTOVOLTAIC; PHASE 1 - 1.5 MEGAWATTS; PHASE-IN PAYMENT YEAR 3+ 100% OF ANNUAL PAYMENT DUE.	\$4,294.50	
BLM CONTACT: BLM OFFICE, (575)758-8851		<u></u>
AMOUNT	DUE THIS BILL:	\$4,605.68
DATE DUE:		01/01/2019
• BLM Tax ID #84-0437540		
• A late payment fee of \$25 or 10% of the unpaid amount, whichever is greater not received in a BLM office within 15 calendar days of the Due Date per 42 CFR 2806.13(c), if the BLM does not receive your rent and payment, late par fees within 90 calendar days after the payment was due, the BLM may termi 2807.17 of this part and you may not remove any facility or equipment without	er, will be assessed if 3 CFR 2806.13(a). P ayment fee and any a mate your grant or le out written permission	f full payment is fursuant to 43 administrative ease under section on from the BLM

per section 2807.19 of this part. The payment due, late payment fee and any administrative fees remain a debt that you owe to the United States.

• Payment is due immediately upon receipt of this bill; however, payment must be received no later than the due date shown above.

• Please return a copy of this Bill for Collection with payment or include the Bill Number on your remittance.

- Payment can be made by cash, check, money order or credit card (VISA, MasterCard, Discover, and American Express) or by Electronic Fund Transfer (EFT) via automated clearing house (ACH) or wire transfer. Make checks or money orders payable to DOI/BLM. To pay by credit card, complete the credit card payment form (attached) and return to the billing office or call the office listed above to pay by phone. You may use debit cards with the VISA or MasterCard logo. To make an electronic payment, see attached document.
- Effective June 1, 2015 credit card payments can only be accepted for amounts of \$24,999.99 or less.

	UNITED STATES DEPARTMENT OF THE INTERIOR	Bill Number: 2019002433	
	BUREAU OF LAND MANAGEMENT	D-4 10/04/0019	
	Bill for Collection	Date: 10/24/2018	
Make Ret TAOS FIE 226 CRU2 TAOS, NI (575)758-1	mittance Payable To <i>DOI/BLM</i> and Mail To: ELD OFFICE Z ALTA RD M 87571 8851		
BUCKMAN DIRECT DIVERSION BOARD Payor: PO BOX 909 RICK CARPENTER SANTA FE, NM 87504 US			Please include bill number on all remittances.

DATE	DESCRIPTION	AMOUNT
	NMNM 107524	\$63,000.00
	01/01/2019 - 12/31/2019	
	RIGHT OF WAY RENTAL: SANTA FE COUNTY - 22.60 ACRES \$63,000.00	
	BLM CONTACT: BLM OFFICE, (575)758-8851	
	AMOUNT DUE THIS BILL:	\$63,000.00
	DATE DUE:	01/01/2019

• BLM Tax ID #84-0437540

- A late payment fee of \$25 or 10% of the unpaid amount, whichever is greater, will be assessed if full payment is not received in a BLM office within 15 calendar days of the Due Date per 43 CFR 2806.13(a). Pursuant to 43 CFR 2806.13(c), if the BLM does not receive your rent and payment, late payment fee and any administrative fees within 90 calendar days after the payment was due, the BLM may terminate your grant or lease under section 2807.17 of this part and you may not remove any facility or equipment without written permission from the BLM per section 2807.19 of this part. The payment due, late payment fee and any administrative fees remain a debt that you owe to the United States.
- Payment is due immediately upon receipt of this bill; however, payment must be received no later than the due date shown above.
- Please return a copy of this Bill for Collection with payment or include the Bill Number on your remittance.
- Payment can be made by cash, check, money order or credit card (VISA, MasterCard, Discover, and American Express) or by Electronic Fund Transfer (EFT) via automated clearing house (ACH) or wire transfer. Make checks or money orders payable to DOI/BLM. To pay by credit card, complete the credit card payment form (attached) and return to the billing office or call the office listed above to pay by phone. You may use debit cards with the VISA or MasterCard logo. To make an electronic payment, see attached document.
- Effective June 1, 2015 credit card payments can only be accepted for amounts of \$24,999.99 or less.
- See attached Notice of Actions in Event of Delinquency.

UNITED STATES DEPARTMENT OF THE INTERIOR	Bill Number: 2019002437		
BUREAU OF LAND MANAGEMENT Bill for Collection		Date: 10/24/2018	
BUREAU OF LAND MANAGEMENT Bill for Collection Make Remittance Payable To DOI/BLM and Mail To: TAOS FIELD OFFICE 226 CRUZ ALTA RD TAOS, NM 87571 (575)758-8851 Payor: BUCKMAN DIRECT DIVERSION BOARD PO BOX 909 SANTA FE, NM 87504 US			Flease include bill number on all remittances.

DATE	DESCRIPTION	AMOUNT
	NMNM 120617	\$398.64
	01/01/2019 - 12/31/2019	
	RIGHT OF WAY RENTAL: SANTA FE COUNTY - 12.30 ACRES \$398.64	
	BLM CONTACT: BLM OFFICE, (575)758-8851	
	AMOUNT DUE THIS BILL:	\$398.64
	DATE DUE:	01/01/2019

• BLM Tax ID #84-0437540

- A late payment fee of \$25 or 10% of the unpaid amount, whichever is greater, will be assessed if full payment is not received in a BLM office within 15 calendar days of the Due Date per 43 CFR 2806.13(a). Pursuant to 43 CFR 2806.13(c), if the BLM does not receive your rent and payment, late payment fee and any administrative fees within 90 calendar days after the payment was due, the BLM may terminate your grant or lease under section 2807.17 of this part and you may not remove any facility or equipment without written permission from the BLM per section 2807.19 of this part. The payment due, late payment fee and any administrative fees remain a debt that you owe to the United States.
- Payment is due immediately upon receipt of this bill; however, payment must be received no later than the due date shown above.
- Please return a copy of this Bill for Collection with payment or include the Bill Number on your remittance.
- Payment can be made by cash, check, money order or credit card (VISA, MasterCard, Discover, and American Express) or by Electronic Fund Transfer (EFT) via automated clearing house (ACH) or wire transfer. Make checks or money orders payable to DOI/BLM. To pay by credit card, complete the credit card payment form (attached) and return to the billing office or call the office listed above to pay by phone. You may use debit cards with the VISA or MasterCard logo. To make an electronic payment, see attached document.
- Effective June 1, 2015 credit card payments can only be accepted for amounts of \$24,999.99 or less.
- See attached Notice of Actions in Event of Delinquency.
- Interest will be assessed at the rate of 1% per year if full payment is not made.

Memorandum



Date:	November 27, 2018
То:	Buckman Direct Diversion Board
From:	Kyle Harwood, Counsel
Subject:	Colorado River Drought Contingency Plans (DCPs)

ITEM/ISSUE:

Deliveries to New Mexico's San Juan Chama Project come from New Mexico's share of the Colorado River. Under delivery at Lee Ferry on the Colorado River will impact New Mexico's ability to receive its share of Colorado River water, and the DCPs, which are currently in development, are designed to reduce the likelihood of such a shortage. The DCPs will expire in 2025, when the 2007 Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead expire (2007 Interim Guidelines).

BACKGROUND:

After 19 years of historic drought the main Colorado River reservoirs – Lake Powell and Lake Mead – elevations are approaching critically low levels. If the elevations of these reservoirs fall below these critical levels, deliveries to the seven Colorado River Basin States (Basin States) and Mexico will be curtailed as required by the 2007 Interim Guidelines. See Hanna Grover, *Drought Contingency Plan Could Have Major Impact on San Juan County*, The Daily Times, November 10, 2018 attached as Exhibit A.

To prevent the reservoirs from falling to their respective critical levels the Basin States, in coordination with Mexico, have developed a series of agreements that are commonly referred to as the DCPs. For the Upper Basin States, including New Mexico, the DCPs are an effort to avoid a Compact delivery curtailment under the 1922 Colorado River Compact, which requires the Upper Basin States to deliver 75 million acre-feet of water in ten consecutive years to the Lower Basin States at Lee Ferry below Lake Powell. In the event of such a shortage water rights developed after the Compact may be curtailed to ensure delivery to the Lower Basin States. The San Juan-Chama Project is in this category of projects that may be curtailed. Exhibit A.

DROUGHT CONTINGENCY PLANS:

The Law of the Colorado River, the federal law and agreements governing the Colorado River, is an incredibly complex body of law of which the DCPs are a new and evolving element. The DCPs are made up of the Upper Basin DCP and the Lower Basin DCP. The Lower Basin DCP addresses the Lower Basin States' use of Lake Mead, and would require the Lower Basin states to contribute water to Lake Mead to avoid critically low elevations. Upper Colorado River Commission at http://www.ucrcommission.com/RepDoc/DCP.html.

The Lower Basin DCP is in negotiation, with conflicting positions of certain Arizona water users currently blocking progress on its approval. Paige Blankenbuehler, *Arizona Delays the Colorado River Drought Agreement*, High Country News, October 11, 2018 attached as Exhibit B.

The Upper Basin DCP is most relevant to the Buckman Direct Diversion project, as it seeks to prevent critically low elevations on Lake Powell that could result in the Upper Basin States violation of the Compact. The Upper Basin DCP consists of two documents, the Agreement for Drought Response Operations at the Initial Units of the Colorado





River Storage Project Act and the Agreement Regarding Storage at Colorado River Storage Project Act Reservoirs under an Upper Basin Demand Management Program. The Upper Basin States, the Upper Colorado River Commission (UCRC), and the Secretary of the Interior must approve these documents. With respect to Drought Management Storage, these documents provide for the creation and storage of conserved water in an amount up to 500,000 acre feet in the Initial Units of the Colorado Storage Project Act which include Glen Canyon Dam, Flaming Gorge Dam, the Aspinall Unit, and Navajo Dam, and the ability to release stored water to support the elevation of Lake Powell to prevent it falling to critically low levels. This conserved water is currently intended to come from voluntary conservation programs, however there is debate whether such voluntary programs will be adequate considering the amount of water needed to insure Lake Powell levels. The Drought Response Operations Agreement is not summarized in this memo. Laura Paskus, *On the Colorado River, Will New Mexico be left in the Dust?*, New Mexico Political Report, October 24, 2018 attached as Exhibit D.

NEXT STEPS:

The DCP process is currently ongoing. In order for the parties to implement the operational and management tools set forth in the Upper and Lower Basin DCPs the agreements must be signed by the states, the Secretary of the Interior, and for the Upper Basin DCP the UCRC, in addition the parties must seek and receive the approval of congress for the DCPs as they seek to modify the current law of the river.

As noted above the Lower Basin DCP is currently be held up by intra-state negotiations in Arizona, and none of the DCPs have been finalized. Between the submittal of this memo to the Board and the meeting at which it is to be presented it is foreseeable that further developments will have occurred, and which I will be prepared to discuss.

Attached Exhibits:

Exhibit A: Hanna Grover, Drought Contingency Plan Could Have Major Impact on San Juan County, The Daily Times, November 10, 2018

Exhibit B: Paige Blankenbuehler, Arizona Delays the Colorado River Drought Agreement, High Country News, October 11, 2018

Exhibit C: Laura Paskus, On the Colorado River, Will New Mexico be left in the Dust?, New Mexico Political Report, October 24, 2018.

Exhibit A

Delivery alert

There may be an issue with the delivery of your newspaper. This alert will expire at NaN. Click here for more info.

Drought contingency plan could have major impact on San Juan County

By Hannah Grover / The Daily Times

Saturday, November 10th, 2018 at 4:22pm



The San Juan River, one of the tributaries of the Colorado River, as it flows along N.M. 511 near Navajo Dam. There are about 40 million people who rely on the Colorado River and its tributaries for water. (Eddie Moore/Albuquerque Journal)

FARMINGTON – Approximately 19 years of drought in the Colorado River basin have led the seven states that rely on water from the river and its tributaries to look at ways they can avoid severe water crises.

That could have major impacts for San Juan County residents, according to Rolf Schmidt-Petersen, who serves as the bureau chief for the Colorado River basin for the Interstate Stream Commission.

"The issue that we're talking about today and the plans that we are talking about today are very important for the Upper Colorado basin," said Schmidt-Petersen during a San Juan Water Commission meeting Wednesday.

There are about 40 million people who rely on the Colorado River and its tributaries for water.

The drought could challenge the ability of upper-basin states – Colorado, Wyoming, Utah and New Mexico – to meet the requirements of the 1922 Colorado River Compact.

The upper-basin states are required to ensure an average of 7.5 million acre-feet of water reaches Lee's Ferry in Arizona each year over the course of 10 years. That would mean the lower-basin states – Arizona, Nevada and California – would receive 75 million acre-feet of water over 10 years.

If the upper-basin states do not meet that requirement, they will be required to make up the difference.

That would mean any water rights allocated after 1922 become junior rights, which means they are not prioritized. In that year, the seven states that rely on Colorado River water signed a compact that outlined how much water each of those states could take.

That potential junior rights designation could impact many water rights in San Juan County. Schmidt-Petersen cited the Navajo-Gallup project and the water rights in the Hammond area near Bloomfield as some of the post-1922 water rights.

The potential challenges the seven states that rely on the Colorado River could face in the future led to the two basins drafting drought contingency plans, which were released in October.

The upper-basin plan has two aims – ensuring the water level in Lake Powell does not drop below a certain point and developing a system for storing water in certain reservoirs, including Navajo Lake.

Schmidt-Petersen said Navajo Nation was not included in the process of drafting the plan.

The draft drought contingency plan can be read at ucrcommission.com.

The upper-basin plan will focus on maintaining the water level in Lake Powell while the lower-basin plan will focus on Lake Mead. The upper basin would use reservoirs including Navajo Lake, Flaming Gorge and Blue Mesa to help keep the water level up in Lake Powell.

Schmidt-Petersen said if one reservoir, such as Navajo Lake, releases water to balance the level in Lake Powell, it would not be required to release water again until the other two reservoirs had made similar releases.

Schmidt-Petersen said if the water level falls below 3,480 feet in Lake Powell, it will impact the ability to generate hydropower.

That hydropower electricity is used by Farmington electric customers, as well as Aztec customers. In addition, the revenue from the hydropower

https://www.abqjournal.com/1245129/drought-contingency-plan-could-have-major-impact-on-s...?utm_source=abqjournal.com&utm_medium=sidebar+-+post+list+-+north&utm_campaign=post+list Page 1 of 3

sales helps fund conservation programs, including the San Juan River Recovery Implementation Program in New Mexico. The program is used to maintain habitat for endangered fish species.

"We have to be concerned about Lake Powell because of the things it triggers for us if it gets too low," Schmidt-Petersen said.

In addition to working on their drought contingency plan, the upper-basin states are hoping to obtain storage-capacity rights in certain reservoirs, including Navajo Lake. That storage would allow them to keep water in the reservoirs even if the lower-basin states demand that more water be released from the upper basin.

The water placed in storage would come through a program that would pay farmers to voluntarily and temporarily allow their fields to go fallow.

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Drought contingency plan could have major impact on San Juan County | Albuquerque Journal

11/12/18, 10:00 AM

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Exhibit B High Country News

FOR PEOPLE WHO CARE ABOUT THE WEST

Arizona delays the Colorado River drought agreement

Interests of a few dozen farmers are contributing to postponements in basin-wide plan.

Paige Blankenbuehler | NEWS | Oct. 11, 2018

This week, the Bureau of Reclamation released the draft

(http://cwcb.state.co.us/Documents/ShortTermHomePage/20181008_DCP%20Agreements%20Final%20Review%20Draft.pdf) Colorado River Drought Contingency Plan, drawn up by the states within the river's watershed.

The seven states that rely on Colorado River water are nearing completion of an ambitious two-part plan to protect water in the West, as the already over-allocated Colorado River faces further shrinking due to drought and climate change. The draft plan could spread the burden of exceptionally dry years across all communities that draw from the overtaxed river — if only warring factions inside Arizona could finalize their own portion of the agreement.

The plan aims to conserve more water and store it in Lake Powell so that the Colorado River system, which supports the water needs of more than 40 million people, doesn't collapse. Seven states plus Mexico need to agree to the plan. Documents released this week lay out two drought-contingency plan proposals. One is from the Upper Basin states — Colorado, New Mexico, Utah and Wyoming— which has already been signed. The second part of the agreement is the proposal from the Lower Basin states: Arizona, Nevada and California. Those states still need to finish hammering out an agreement.

While the release of the draft plan signifies a step toward a final agreement, Arizona remains mired in within-state negotiations. The plan requires cutbacks in water use, and Arizona water managers are still negotiating to determine how cities, farming districts and tribes could spread around the impacts of the deal.



In Page, Arizona, Lake Powell sits behind the Glen Canyon Dam Bridge. <u>Al HikesAZ/Flickr</u>

The most difficult hurdle the state has yet to clear is the fate of a relatively small group of farmers in central Arizona, who share some of the lowest priority water rights in the Lower Colorado River Basin. In 2004, Pinal County farmers signed an agreement that gave up permanent contracts for Colorado River water in return for temporary access at a steep discount. As a result, they stand to lose their water if there is a shortage, which could be declared as soon as 2020. Now, those farmers hope to negotiate for stipulations in the final agreement that will prevent them from losing their water supplies all together.

Despite the delay, local water managers who have been meeting regularly to hash out plan details feel optimistic that by January, Arizona will be able to sign off on the agreement. Tom Buschatzke, the director of the state Department of Water Resources, told the *Arizona Republic* that the idea is to reach a compromise that "more equitably spreads around the pain and the benefits" of the proposed Drought Contingency Plan. "I think the vast majority of people are trying to find ways to make this happen," Buschatzke said.

Paige Blankenbuehler is an assistant editor for High Country News. Email her at <u>paigeb@hcn.org</u> (mailto:paigeb@hcn.org) or submit a <u>letter to the editor (https://www.hcn.org/feedback/contact-us)</u>. Follow @PaigeBlank (https://twitter.com/PaigeBlank?ref_src=twsrc%5Etfw)

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On the Colorado River, will New Mexico be left in the dust?

By Laura Paskus

Laura Paskus

Colorado River at the Hoover Dam

The Colorado River supplies water for more than 36 million people in two countries and seven states, including New Mexico. As river flows and reservoir levels decline due to drought, warming and over-demand, states are wrangling over how to voluntarily conserve water use—before reservoir levels reach critically low levels and trigger mandatory cutbacks. New Mexico is one of the states most vulnerable to the impacts climate change is wreaking on the river. Yet, it's unclear what the state is doing when it comes to drought management in the state and basin-wide negotiations on the Colorado. The seven states subject to the Colorado River Compact are divided into Upper Basin states—Wyoming, Colorado, New Mexico and Utah—and Lower Basin states—Arizona, Nevada and California. The Lower Basin's planning has been sprawling and public, as the three states have tried to agree on a drought contingency plan that will keep Lake Mead's levels high enough to keep farmers in southern California and central Arizona and cities like Las Vegas, Phoenix and San Diego from having their water supplies curtailed.

Meanwhile, Upper Basin states are working out a drought contingency plan, too.

NM officials silent on Colorado River

Under the Colorado River Compact, New Mexico is allocated 11 ¹/₄ percent of the Upper Basin's annual allocation of 7.5 million acre feet. Though the Colorado River itself does not flow through the state, some of its tributaries do, including the San Juan River, which supplies the San Juan-Chama Project. That federal project delivers water to cities like Albuquerque and Santa Fe and the Middle Rio Grande Conservancy District. Aztec, Farmington and Bloomfield also rely on water from the San Juan River, and both the Navajo Indian Irrigation Project and the Navajo-Gallup Water Supply Project, which is still being built, rely on water from the Colorado River Basin.

Unlike other Upper Basin states, New Mexico has fully allocated its share of the system's water, although not all that water has been fully developed yet. That means there's no wriggle room in the system when it comes to water shortages.

In <u>Colorado</u>, discussions on how to cut its share of water use have generated conflict among water users and between Front Range water users and the more rural Western Slope. <u>Utah's governor</u> just declared a state of emergency over drought. And earlier this month, <u>Wyoming's State Engineer warned</u> water users along the Green River, a tributary of the Colorado, that drought could force regulators to curtail diversions if voluntary limits don't pan out first. According to a new story, State Engineer Patrick Tyrell told stakeholders that the Colorado River Basin system is at "risk of severe disruption." To understand New Mexico's current role in Colorado River discussions and drought planning, *NM Political Report* contacted New Mexico Interstate Stream

Commission Director John Longworth, the agency's public information officer (PIO), Melissa Dosher and a state employee believed to work on Colorado River issues. The employee emailed that interview requests need to be handled by the PIO. But neither Dosher nor Longworth responded to messages.

Protecting Powell

The Upper Basin's drought contingency plan has three main elements, said Amy Haas, executive director of the Upper Colorado River Commission, including drought operations, demand management and weather modification.

The plan's cornerstone, drought operations, involves managing key reservoirs, such as Flaming Gorge Reservoir in Wyoming, the Aspinall Unit on the Gunnison River in western Colorado and New Mexico's Navajo Reservoir to make sure Lake Powell doesn't drop too low.

Backed up behind Glen Canyon Dam, water is stored in Utah's Lake Powell to allow Upper Basin states to meet their obligations under the <u>Colorado River Compact</u> and send more than 8 million acre feet downstream each year.

To do that, Haas said, models show Lake Powell must stay above an elevation of 3,525 feet.

"Below 3,525," she said, "all bets are off."

As of October 22, Lake Powell's elevation was at 3,591 feet, storing 10,946,807 acre feet of water.

The Upper Basin's drought contingency plan also looks at how to reduce water demands, including through voluntary water conservation programs.

At the end of the year, the commission wraps up a pilot program that paid farmers in Wyoming, Colorado, New Mexico and Utah to conserve water. Through the program, the commission paid farmers about \$200 per acre foot of water for water they saved by fallowing fields. It was an<u>experiment</u>, she said, to see if water conservation would help boost storage in Lake Powell.

The commission learned that farmers are interested in compensated conservation programs—but also that those water savings won't make up for the losses from drought and climate change.

During the four-year pilot project, Haas estimated the Upper Basin will have conserved about 50,000 acre feet. But addressing the deficit at Lake Powell requires about 200,000 to 500,000 acre feet.

Haas said the commission is also exploring weather modification, such as how cloud seeding could increase precipitation in certain areas and at certain times. "We're not going to see the storage savings we would out of drought management or even drought operations," she said. "It has not been our focus, but it is still the third leg of our drought contingency plan stool."

'Front and center'

As executive director of the Upper Colorado River Commission, Haas represents the interests of the entire basin—with input from attorneys from the four states and federal technical experts—not any one state. But prior to becoming executive director of the Upper Colorado River Commission, she served as general counsel and deputy director of the New Mexico Interstate Stream Commission and also as New Mexico's commissioner to the Upper Basin.

Though it's no longer her job to represent the interests of only New Mexico, Haas spoke about the importance of the river system to New Mexicans.

Because New Mexico has fully allocated its share of Colorado River water, the state is in a "different boat" from the other Upper Basin states that haven't come close to fully developing their Colorado River water rights, Haas said: "It's critical that New Mexicans understand that any sort of shortage as a result of this now-19 year-long drought that we're in—this aridification and the 'new normal' [of climate change]—could disproportionately affect New Mexico."

The Colorado River system supplies water to cities, farmers, utilities and Native American tribes, she said, adding that a 2014 economic survey of the importance of Colorado River water showed it contributes \$60 billion in annual economic activity to New Mexico, and about \$30 billion more in labor. There's also money from recreation and jobs related to building the Navajo-Gallup pipeline. As one of the poorest states, New Mexico shouldn't take that economic contribution lightly, she added.

"I can't overestimate the importance of this water to New Mexico," she said. "Colorado River issues should be front and center for New Mexicans."

That same <u>2014 study</u> shows that 60 percent of the water used in New Mexico for industrial and municipal uses comes from the Colorado River, as well as 15 percent of the water used for farming.

Losing Colorado River water isn't outside the realm of possibility.

In 2017, a study showed that between 2000 and 2014, annual Colorado River flows averaged 19 percent below the 1906-1999 average. The models also showed that warming will continue to drive declines in river flows—by between 20 to 30 percent by mid-century and 35 to 55 percent by 2100. More recently, authors from the University of California-Los Angeles and Colorado State University found that 53 percent of the decrease in runoff is attributable to warming; the rest to reduced snowfall within regions that feed into the system.

And the effects of climate change on the basin are occurring at a more accelerated rate than people had previously thought, Haas said. "These are things that should be of immediate concern to us," she said. "It's absolutely a wake up call."

'Not enough water for all the lawyers to be right'

John Fleck, director of the Water Resources Program at the University of New Mexico, and an expert on Colorado River issues, pointed out that one-third of the water flowing through a crucial section of the Rio Grande in New Mexico this year was imported from the Colorado River system. That San Juan-Chama water, for example, is what has <u>kept</u> the Middle Rio Grande flowing through Albuquerque this fall.

Laura Paskus

The Rio Grande in Albuquerque on Monday

"The seven states are engaged in this incredibly important set of negotiations that will go on for a long time, about how we go about scaling back our use of Colorado River water across the basin in a way that reflects the hydrological reality that there's just less water in this river than we all came to expect," Fleck said. "It's really important that folks in state government in New Mexico take that seriously, and it's really important and incumbent on them to engage in a public discussion about what our risks are and what our choices are."

That's so important, he explained, because it's entirely likely that the river's rules will be tweaked in coming years to account for the fact that as there is less water in the system, there is less water available for the states.

That discussion needs to be a public one, he said, and can't be left to attorneys advocating that their clients hang on to their full entitlements. "There's not enough water for all the lawyers to be right," he said. "We need to be up front about the fact that [cuts] are needed, and we're going to have to play along with the rest of the basin."

These discussions are playing out in states like Colorado and Arizona, he said. "I'm a little concerned we don't have a very robust discussion within New Mexico, about the implications for our Colorado River water users," he said. "Part of this comes back to this broader question, of the need here in the Middle [Rio Grande] Valley for us to be having broader discussions about what we want our water future to be."

New Mexicans face incredibly difficult choices, he said, about how much water is available for agriculture, how much water is available for municipalities and how much water is available for rivers and the environment.

"We've just been patching that together by draining reservoirs and trying to comply with the Endangered Species Act, and haven't had a very broad community conversation about our values and what we want out of our water," he said. "And the Colorado River is a part of that."

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Date:	December 6, 2018
To:	Buckman Direct Diversion Board
From:	Nick Schiavo, Interim BDD Facilities Manager
Subject:	MOU Between BDD Board and USACE

ITEM AND ISSUE:

Request for approval of the Memorandum of Understanding between the BDD Board and USACE concerning the installation of USACE Rio Grande Water Quality Station at the BDD.

BACKGROUND AND SUMMARY:

Long-term and high-frequency water quality monitoring networks provide the temporal and spatial resolution to understand linkages between catchment hydrology, water chemistry, and instream ecosystem processes (Kirchner et al. 2004, Krause et al. 2015). The U.S. Army Corps of Engineers, Albuquerque District (Corps), funds eight multi-parameter water quality sensors (sondes) on the Rio Grande and Rio Chama. The network encompasses approximately 170 km along the Rio Grande, with records from 2006 (five sites downstream of Cochiti) or 2012 (three sites downstream of Cochiti) to the present. At each station, water temperature, specific conductance, dissolved oxygen (DO), pH, and turbidity is monitored year-round at 15-minute intervals. Stations within the network are collaboratively maintained by the Corps, U.S. Geological Survey New Mexico Water Science Center (USGS), and University of New Mexico Biology and Civil Engineering Departments (UNM).

A station upstream of Cochiti Reservoir (i.e., downstream of the confluence with Cochiti Canyon) was maintained from 2012-2018. However, due to considerable aggradation, channel narrowing, and drought conditions this sub-reach is no longer viable to maintain a water quality station. To reestablish a station upstream of Cochiti Reservoir, the Corps proposes to install and maintain a station at the Buckman Direct Diversion (BDD) intake.

ACTION REQUESTED:

Staff recommends approval of the MOU (attached) as it will be beneficial to the agencies mentioned in this Memo as well as to the BDD.









1	MEMORANDUM OF UNDERSTANDING BETWEEN
3	BUCKMAN DIRECT DIVERSION BOARD AND
4	THE UNITED STATES ARMY CORPS OF ENGINEERS
-	
5	A. Introduction
6	Whereas, the parties to this Memorandum of Understanding("MOU") are the
7	Buckman Direct Diversion Board (BDDB) and the United States Army Corps of Engineers
8	(USACE);
0	Whereas the USACE Albuquerque District has installed a network of eight multi-
10	narameter water quality sensors (stations) on the Rio Grande and Rio Chama:
11	Whereas, the network encompasses approximately 170 kilometers along the Rio
12	Grande;
13	Whereas, at each station water temperature, specific conductance, dissolved oxygen.
14	pH. and turbidity are monitored vear-round at 15-minute intervals:
15	Whereas, stations within the network are collaboratively maintained by the USACE,
16	U.S. Geological Survey New Mexico Water Science Center, and University of New Mexico
17	Biology and Civil Engineering Departments (UNWI);
18	Whereas, long-term and high-frequency water quality monitoring networks provide
19	the temporal and spatial resolution to understand linkages between catchment hydrology,
20	water chemistry, and in-stream ecosystem processes; and
21	Whereas the USACE wishes to establish a station in the network at the Buckman
21	Direct Diversion (BDD) facility intake
ha ha	Dheet Diversion (DDD) facinity make.
23	Now Therefore, in order to: (1) establish a water quality station upstream from
24	Cochiti Reservoir, and (2) establish roles and responsibilities for each party in this project, the
25	parties agree as follows:
26	B. Purnose and Objectives
27	One station in the USACE network located, upstream of Cochili Reservoir (i.e.,
2ð 20	downstream of the confidence with Coefficient Canyon) was maintained from 2012-2018. However, due to considerable aggredation, channel narrowing, and drought conditions the
49 20	location is no longer viable for maintenance of a water quality station. To re-establish a
30	station upstream of Cochiti Reservoir, the USACE proposes to install and maintain a station at
32	the BDD intake
war best	

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33		C. <u>Authorities</u>
34 35 36	BDD Board. The BDD Board is authorized to enter into this MOU pursuant to the March 7, 2005, Joint Powers Agreement between Santa Fe County and the City of Santa Fe and associated state, county and municipal laws related thereto.	
37 38	USACE. USACE is authoriz 86-645.	zed to operate Cochiti Reservoir pursuant to Public Law
39		D. <u>Contacts</u>
40 41	BDD Board Contacts:	Nick Schiavo, BDD Interim Facilities Manager, 505-955-4507, naschiavo@ci.santa-fe.nm.us
42 43		Daniela Bowman, BDD Regulatory Compliance Officer, 505-955-4504, dkbowman@santafenm.gov
44 45	USACE Contacts:	Justin Reale, US Army Corps of Engineers, 505-342-3138, Justin.K.Reale@usace.army.mil
46 47		Bruno Quirici, US Army Corps of Engineers, 505-342-3200, Bruno.A.Quirici@usace.army.mil
48 49	UNM Contact:	David Van Horn, University of New Mexico, 505-803-6729, vanhorn@unm.edu
50	E. <u>P</u> 1	roject Design and Siting
51 52 53 54 55 56	The USACE water quality station shall be installed on the north side of the BDD intake structure upstream from cell #5. It will be permanently mounted to the concrete foundation of the intake. The main components of the station will be a mounting frame, water quality equipment, power generating unit(s) and communication unit(s). A preliminary drawing of the station is provided in Appendix A. The USACE may revise this design as necessary to accomplish the objectives of the project.	
57	F.	Regulatory Approval
58 59 60	The BDD has obtained approval to lease a portion of its facility from the United States Forest Service (USFS) under Section III.C "Leasing" of the BDDB's USFS Special Use Permit.	
61	G. Agreement Principles	
62	1. USACE will be respo	onsible for the design and costs of installing the station.
63 64 65	2. USACE will notify B concrete foundation at the intake, e. generating unit. The notification wi	BDDB in advance of any work which involves the BDD g., relocating the mounting frame or work on the power ill be at least three (3) days in advance of any work.
66	3. USACE will be respo	onsible for maintaining the station in working order.
67 68	4. The BDDB will prov installation, relocation, or decommin	ide staff assistance and equipment necessary for the ssioning of the station.

BDDB & USACE MOU Page 3

69 70	5. The BDDB will provide regular security checks of the station as part of its security detail of the BDD facility.	
71 72	6. The BDDB will notify the US damage to the station.	SACE promptly, within 12 hours, of any observed
73	H. Administration	
74 75	1. This MOU is effective upon the date of the last signature of the BDDB or USACE as shown below.	
76 77 78	2. The BDDB and USACE may modify this MOU by written amendment and in the same manner as this MOU was executed. This MOU may not be amended or superseded by other formal agreements without the consent of the parties.	
79 80	3. Either the BDDB or USACE notice.	may terminate this MOU upon 90 days written
81	I. <u>Other Provisions</u>	
82 83 84 85 86 87	1. Nothing in this MOU is intended to conflict with current requirements of the parties or applicable laws. Any such conflicting term shall be invalid, but the remainder of the MOU shall remain in effect. If a term is deemed invalid, the parties shall immediately review the MOU and take appropriate action, including amendment or termination of the MOU. The activities described in this Memorandum are consistent with, and will be carried out subject to, all known policies, regulations, and applicable laws that pertain to the parties.	
88 89 90 91 92 93	2. This MOU describes the basis on which the parties will cooperate on the topics described herein. This MOU is not a financial obligation that serves as a basis for expenditures, and any financial obligations necessary to carry out the activities described herein shall be addressed in other documents internal to each party. Expenditures of funds, human resources, equipment, supplies, facilities, training, public information, and technical expertise will be provided by each party as necessary to fulfill its obligation under this MOU.	
94 95 96 97 98 99 100	3. This MOU is not legally enfo legal obligation on the part of either party. T private right, or cause of action, for or by an recognize that USACE must operate in acco funding limitations. All actions taken by US the availability of funds, and nothing in this violation of the Anti-Deficiency Act.	rceable and shall not be construed to create any his MOU shall not be construed to provide a y person or entity. The parties to this MOU rdance with authorized project purposes and SACE in accordance with this MOU are subject to MOU shall be interpreted as constituting a
101 102	NOW, in witness whereof, each of the BDDB and USACE has caused this MOU to be executed and delivered by its duly authorized representatives as of the last date shown below.	
103	Buckman Direct Diversion Board	United States Army Corps of Engineers
104 105	Councilor Peter Ives, Chair	
106 107	Date	Date

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Approved as to Form

Nancy R. Long, BDDB Counsel

APPENDIX A

Proposed Long-Term and High-Frequency Water Quality Monitoring Station Rio Grande at the Buckman Direct Diversion

November 5, 2018

Justin Reale, Army Corps of Engineers, 505.342.3138, Justin.K.Reale@usace.army.mil David Van Horn, University of New Mexico, 505.803.6729, vanhorn@unm.edu

Background

Long-term and high-frequency water quality monitoring networks provide the temporal and spatial resolution to understand linkages between catchment hydrology, water chemistry, and in-stream ecosystem processes (Kirchner et al. 2004, Krause et al. 2015). The U.S. Army Corps of Engineers, Albuquerque District (Corps), funds eight multi-parameter water quality sensors (sondes) on the Rio Grande and Rio Chama. The network encompasses approximately 170 km along the Rio Grande, with records from 2006 (five sites downstream of Cochiti) or 2012 (three sites downstream of Cochiti) to the present. At each station, water temperature, specific conductance, dissolved oxygen (DO), pH, and turbidity is monitored year-round at 15-minute intervals. Stations within the network are collaboratively maintained by the Corps, U.S. Geological Survey New Mexico Water Science Center (USGS), and University of New Mexico Biology and Civil Engineering Departments (UNM). Additional information documenting the station locations, monitoring protocol, data validation, data availability, reports, and publications is available in the scope of work (Appendix A).

A station upstream of Cochiti Reservoir (i.e., downstream of the confluence with Cochiti Canyon) was maintained from 2012-2018. However, due to considerable aggradation, channel narrowing, and drought conditions this sub-reach is no longer viable to maintain a water quality station. To reestablish a station upstream of Cochiti Reservoir, the Corps proposes to install and maintain a station at the Buckman Direct Diversion (BDD) intake. Below documents the proposed installation, and incorporates guidance provided by BDD staff on 2-NOV 2018.

Site Location and Installation Methods

The proposed location (35.836282°, -106.161845°) is upstream of BDD intake 5 along the abutment (Fig. 1 & 2). At this site, we propose to drive a 3" x 3"x $\frac{3}{4}$ " x 15' metal angle at 45°, 3-4' into the sediment (Fig. 3). The top of the angle will be affixed to the abutment using a metal L- bracket and two $\frac{3}{4}$ " diameter, 4" long wedge bolts. If we are unable to drive the metal angle 3-4' into the sediment at 45°, we propose to drive the angle vertically and affix a cross member to the abutment using three $\frac{3}{4}$ " diameter, 4" long wedge bolts (Fig. 4). A 4.5" diameter, 12' long, stainless steel casing will be affixed to the angle using bolts and hose clamps (Fig. 3 & 4) to secure the sonde. The casing will have numerous slots (approximately 12"x 1 $\frac{1}{4}$ ") to enhance flow and minimize sedimentation. A small stainless steel enclosure and 30 W solar panel will be mounted to a 3" diameter 10' long pole. The pole will be mounted to the abutment using four $\frac{3}{4}$ " diameter, 4" long wedge bolts (Fig. 3 & 4). All bolt holes will be overdrilled by $\frac{1}{2}$ ". Please see figures 3 and 4 for additional design details.

A placard on the enclosure will be added for informational and emergency purposes. The enclosure will house the data logger, charge controller, cellular modem, and battery used to operate the station. All instrument electrical cables will be protected (e.g., using flexible PVC conduit). BDD has offered to provide 120 V power to the site. In the future, under the supervision of BDD electricians and engineers, the station may be connected to existing grid, after which, the solar panel will be removed from the pole.

The stainless steel casing will secure a YSI EXO2 water quality sonde that measures temperature, conductivity, pH, dissolved oxygen, and turbidity at 15-minute intervals. Total suspended sedIment (TSS; mg L⁻¹) will be estimated using turbidity values from the sonde and the relationship between turbidity and TSS at the site developed by BDD staff. Additional sensors (e.g., FDOM (fluorescent dissolved organic matter), nitrate, chloride, phosphate etc.) may be added to the station, as needed, in coordination with BDD.

The sonde will be deployed year-round. Site maintenance will be performed every 2-4 weeks as needed by either a New Mexico state employee (David Van Horn - UNM) or Corps employee (Justin Reale, Matt Segura, or TBD). Provisional data from the sonde will be made available real-time to the public via the MRG ET Toolbox

(<u>https://www.usbr.gov/uc/albuq/water/ETtoolbox/riogrande.html</u>). All final records will be posted to the website after a thorough review and approval process has been completed using Aquarius Time-Series (Aquatic Informatics, Vancouver, Canada).

The Corps anticipates maintaining the station for multiple years, unless funding restricts operation and maintenance. The Corps will notify BDD if there is a pause in data collection (e.g., due to sonde malfunction) upon returning from the site. The Corps will provide a written notification one month prior to site decommission. Upon completion of the project, all infrastructure will be removed and all bolts will be driven flush with the concrete and sealed with Sikaflex concrete sealant.



Figure 1: Construction limits for the proposed water quality monitoring station on the Rio Grande at the Buckman Direct Diversion (BDD). Modified from design drawings provided by BDD (2008).



Figure 1: Construction limits for the proposed water quality monitoring station on the Rio Grande at the Buckman Direct Diversion (BDD). Modified from design drawings provided by BDD (2008).



Figure 3: Proposed design of a water quality monitoring station on the Rio Grande at the Buckman Direct Diversion (BDD).



Figure 4: Alternative design of a water quality monitoring station on the Rio Grande at the Buckman Direct Diversion (BDD).