SAN JUAN WATER DISTRICT

Board of Director's Meeting Minutes
February 25, 2015 – 7:00 p.m.

BOARD OF DIRECTORS

Ted Costa	President
Pam Tobin	Vice President (absent)
Ken Miller	Director
Dan Rich	Director
Bob Walters	Director (absent)

SAN JUAN WATER DISTRICT MANAGEMENT AND STAFF

Shauna Lorance	General Manager
Keith Durkin	Assistant General Manager
Kate Motonaga	Finance Manager
Teri Hart	Board Secretary/Administrative Assistant

OTHER ATTENDEES

Mary Lynn Scherrer	Customer
Paul R. Stanbrough	General Interest
Rameen Sared	Student
Caryl Sheehan	Citrus Heights Water District (CHWD)
Bob Churchill	CHWD
Mike McRae	Fair Oaks Water District (FOWD)
Tom Gray	FOWD
Kevin Thomas	Sacramento Suburban Water District
Jason Mayorga	SJWD
Vicki Sacksteder	SJWD

AGENDA ITEMS

I. Public Forum
II. Old Business
III. Committee Reports
IV. Information and Action Items
V. Upcoming Events
VI. Adjourn

President Costa called the meeting to order at 7:00 p.m.

I. PUBLIC FORUM

Ms. Caryl Sheehan (CHWD Director) and Mr. Mike McRae (FOWD President) addressed the Board and presented a written letter regarding their agencies' concerns regarding the Antelope Pump Back Project. President Costa responded that the Board will review the letter and respond appropriately.

II. OLD BUSINESS

1. Meeting Minutes

Ms. Lorance reviewed the staff report regarding meeting minutes and a copy will be attached to the Board meeting minutes. The Board was informed that the Board Secretary spends a significant amount of time preparing meeting minutes and staff recommends changing the style of the meeting minutes. The new style will include the topic, the Board's objective and/or outcome of the discussion and any action items. The Board agreed to change the style of the meeting minutes. The Board will review the revised minutes style over the next few meetings and evaluate if any revisions are necessary.

ACTION AND INFORMATIONAL ITEMS

III. COMMITTEE REPORTS

1. Finance Committee (2/18/15)

Director Costa reported that the committee met on February 10, 2015, and discussed the following:

- Update on Groundwater Pumping Reimbursement (W & R)
- Other Financial Matters
- Public Comment

The committee meeting minutes will be attached to the original board minutes.

Update on Groundwater Pumping Reimbursement (W & R)

President Costa referred to the Finance Committee meeting minutes regarding the Groundwater Pumping Reimbursements. He informed the Board that the committee has requested comments from the wholesale customer agencies and will review the information at the next committee meeting on March 10th then will make recommendations for Board review.

Other Finance Matters (W/R)

There were no other matters discussed.

IV. INFORMATION AND ACTION ITEMS

1. GENERAL MANAGER'S REPORT

1.1 Water Supply Status

Ms. Lorance reported that Folsom Reservoir is at 570 TAF which is slightly over average for this time of year. However, she stressed that snowpack is exceedingly dismal and little or no runoff is expected. The USBR announced that they plan to request approval from NOAA Fisheries to change releases at Folsom from 800 cfs to 700 cfs, then 600 cfs and ending at 500 cfs. This

will increase storage by 70 TAF by September from the projected 210 TAF to 280 TAF. Ms. Lorance will be participating in a conference call regarding CVP allocations. She expects that the District will not have any CVP allocation since the USBR changed the shortage provisions and now shows the District owing back 1,000 AF. Ms. Lorance will keep the Board updated.

For information, no action requested

1.2 Report Back Items

There were no items discussed.

1.3 Miscellaneous District Issues and Correspondence

Ms. Lorance informed the Board that Sacramento Suburban Water District has formed an ad hoc committee to hire an attorney to review the District's legal opinion on use of the District's water rights.

Ms. Lorance reported that a letter was received from Carmichael Water District. A copy will be attached to the meeting minutes. The letter was regarding the proposed merger between San Juan Water District and Sacramento Suburban Water District. She will provide the letter to the 2x2 Water Management Ad Hoc Committee for review under the comment period for the draft report.

Ms. Lorance requested that the Board consider cancelling the April 22nd Board meeting since two Board members will not be in attendance and the meeting's main topic would have been the budget.

Director Miller moved to cancel the April 22nd Board of Directors meeting. Director Rich seconded the motion and it carried with 3 Aye votes and 2 Absent (Tobin, Walters).

2. ASSISTANT GENERAL MANAGER'S REPORT

2.1 Report Back Items

There were no items discussed.

2.2 Miscellaneous District Issues and Correspondence

Mr. Durkin reported that he regularly attended the Corp of Engineers' Technical Workgroup meetings regarding Folsom's Water Control Manual. However, the project manager for the Corp of Engineers resigned approximately nine months ago and the status of the manual development is unknown. The Water Control Manual is the operating instructions for Folsom Reservoir and the new Spillway. There is concern that the Water Control Manual and NEPA review will not be completed prior to the Spillway Project being completed in 2017. The concern is that if the process runs out of time the manual could default back to the existing operations rather than the desired forecast based operation.

3. FINANCE AND ADMINISTRATIVE SERVICES MANAGER'S REPORT

3.1. Report Back Items

Ms. Motonaga reported that the accounts receivable/payable position (accountant) was filled with a start date of March 23, 2015. In addition, the accounting department job descriptions were updated in order to evaluate roles and department needs. Staffing level concerns will be brought back to the Board for review. Ms. Lorance informed the Board that the role of the Finance & Administrative Services Manager position as related to existing staffing levels will be discussed at an upcoming Board Workshop.

Ms. Motonaga reported that the audit is in process and approximately 75-80% complete. The auditors completed a full evaluation of the Tyler system and have some serious concerns on the effect of limited staffing on internal controls.

Ms. Motonaga reported that the budget process will start with basic assumptions and timeline being reviewed at the next Board meeting.

For information, no action requested

3.2. Miscellaneous District Issues and Correspondence

There were no items discussed.

4. LEGAL COUNSEL'S REPORT

4.1 Legal Matters

No report.

5. DIRECTORS' REPORTS

5.1 SGA

Ms. Lorance provided the SGA report at the request of Vice President Tobin. A copy of Vice President Tobin's written report will be attached to the meeting minutes. Ms. Lorance reviewed the Groundwater Management Program Update, an Update on Implementation of the Sustainable Groundwater Management Act, and Using Water for Agriculture.

5.2 RWA

No report.

5.3 ACWA

5.4.1 Local/Federal Government/Region 4 - Pam Tobin
No report.

5.4.2 Energy Committee - Ted Costa
No report.

5.4.3 JPIA - Bob Walters
No report.

5.5 CVP Water Users Association
President Costa reported that the next meeting is April 21, 2015.

5.6 Other Reports and Comments
There were no other reports or comments.

V. UPCOMING EVENTS

1. 2015 ACWA Legislative Symposium
   March 4, 2015
   Sacramento, CA
2. 2015 Water Education Foundation – Executive Briefing
   March 25, 2015
   Sacramento, CA
3. 2015 AWWA Annual Conference & Exposition
   June 7-10, 2015
   Anaheim, CA

VI. ADJOURN

The meeting was adjourned at 7:34 p.m.

EDWARD J. "TED" COSTA, President
Board of Directors
San Juan Water District

ATTEST:

TERI HART, Board Secretary

STAFF REPORT

To: Board of Directors

From: Shauna Lorance, General Manager

Date: February 19, 2015

Subject: Meeting Minutes

RECOMMENDED ACTION
Staff recommends only making audio recordings of Board of Directors meetings. The Board of Directors could elect to record any workshop or committee meeting on a case by case basis.

Staff recommends limiting meeting minutes to the following information:

- Board of Directors meetings - limited to the topic, the Board's objective and/or outcome of the discussion, and any action taken.
- Committee meeting - limited to the topic, the objective and/or outcome of the discussion, and any recommendations to the Board of Directors for action.
- Board workshops - limited to the topic and the objective and/or outcome of the discussion.

BACKGROUND
The Board of Directors requested a discussion on the scope of content to be included in meeting minutes for committee meetings, Board of Directors meetings, workshops, etc.

Board of Director Meetings
The District has historically made an audio recording of the Board of Directors meetings. The amount of detail included in the meeting minutes has varied over the years, from a brief summary of the discussion and action items up to very detailed recounting of the discussion.

The amount of detail currently being included in the meeting minutes for Board of Directors meetings and committee meetings requires a significant amount of staff time. The Board Secretary spends a majority of her time writing the minutes.

A recent Board Secretary conference stated the intent of meeting minutes is to describe the topic, the Board's objective or outcome of the discussion and any action taken.

Staff recommends making an audio recording of the Board of Directors meetings and limiting the meeting minutes to the topic, the Board's objective or outcome of the discussion, and any action taken.

Committee Meetings

Staff has made audio recordings of committee meetings when the agenda and topics will likely require significant discussion. This has allowed staff to provide the detailed minutes that have been developed.

Staff recommends eliminating the audio recording of committee meetings unless there is a special condition that would make the audio necessary. The committee meeting minutes should be limited to the topic, the objective and/or outcome of the discussion, and any recommendations to the Board of Directors for action.

Board Workshops

As the nature of Board workshops are more informal and discussions are more free form, the minutes from Board workshops have varied from minimal to detailed information.

Staff recommends the minutes from the Board workshops be limited to the topic, the objective and/or outcome of the discussion.

DRAFT

Finance Committee Meeting Minutes
San Juan Water District
February 18, 2015
1:00 p.m.

Committee Members: Ted Costa, Director (Chair)
Ken Miller, Director

District Staff: Shauna Lorance, General Manager
Keith Durkin, Assistant General Manager
Kate Motonaga, Finance Manager
Teri Hart, Administrative Assistant/Board Secretary

Members of the Public: Mitch Dion, San Juan Water District (SJWD)
Tony Barela, SJWD
Bob Walters, SJWD Customer
Dave Kane, Citrus Heights Water District
Tom Gray, Fair Oaks Water District
Sharon Wilcox, Orange Vale Water Company (OVWC)
Jim Crowley, OVWC
Joe Duran, OVWC

Topics: Update on Groundwater Pumping Reimbursement (W & R)
Other Finance Matters
Public Comment

1. Update on Groundwater Pumping Reimbursement (W & R)

Ms. Lorance commented that this meeting is to receive an overview on the draft invoice submitted by CHWD and FOWD for groundwater pumping this year and a "readiness to serve" invoice for the previous four years. The committee would receive an overview by Mr. Mitch Dion, along with a recommendation on a modified invoice. No action is requested at this meeting. The next finance meeting the committee would consider an action to recommend an amount to the SJWD Board of Directors. As the invoice covers five years of previously un-invoiced costs, the committee will consider the schedule for payment, and the schedule for invoicing wholesale customer agencies, at a future meeting.

President Costa commented that the Board had reviewed some old bills a few years ago, and although agreed to pay the bill that one time, had adopted a policy to not pay bills that are not submitted in a timely manner.

Mr. Mitch Dion conducted a brief presentation on the groundwater pumping draft invoice and his evaluations of the costs and invoice. A copy of the presentation will be attached to the meeting minutes. Mr. Dion reviewed the background of San Juan Water District's Surface Water Supply and Water Shortage Management Plan (SJWSMP), an overview of the task assigned to him, reviewed the Draft Invoice, and gave an analysis and recommendation to the committee. He provided a list of documents which he used for research, a list of challenges, and assumptions.

Mr. Dion reviewed the invoice amounts that were provided to SJWD by Fair Oaks Water District and Citrus Heights Water District. He then provided the committee with his Hybrid analysis of the invoice. In addition, he provided his recommendations which included scheduling an Annual Water Supply Summit with the wholesale customer agencies to plan out water resources for the coming year.

Ms. Lorance informed the committee that the draft report developed by Mitch Dion will be sent out after the meeting. A copy of the report will be attached to the meeting minutes. The committee discussed the topic and decided to review the report then discuss the topic at the next Finance Committee meeting. To accommodate the additional discussion, the meeting time was changed to start at 3:00 pm on March 10, 2015. The committee requested that the wholesale customer agencies review the report and provide any comments prior to or at the March 10th Finance Committee meeting.

In response to Mr. Gray's comment regarding the need for a new dry year supply agreement, Ms. Lorance suggested that this groundwater invoice task be completed prior to discussing review of the agreement.

2. Other Finance Matters (W/R)

There were no other items discussed.

3. Public Comment

There were no public comments. President Costa commented that Bob Walters joined the meeting as a member of the public and would not be participating in discussions.

The meeting was adjourned at 2:03 p.m.

Ground Water Pumping & Draft Invoice

Mitch Dion

18 February 2015

Today's Overview

- Background of San Juan Water District's Surface Water Supply and Water Shortage Management Plan (SJWSMP)
- Overview of the Task
- Review of the Draft Invoice
- Analysis and Recommendation

Principles of Principals

- Consistent Water Forum Agreement
- Provide a reliable and safe water supply
- Preserve the fishery, wildlife, recreational and aesthetic values

SAN JUAN WAT

Whole

Task:

Provide an independent assessment of the “draft invoice”

Subtasks:

1). Evaluate the invoice and validate methodology and cost allocation

2). Develop or validate methodology to provide fair and predictability for the use of groundwater to augment surface water supplies as a drought response mechanism.

RELATED READING LIST (RRL):

a) Sacramento Groundwater Authority , *Water Management for the 21st Century Conjunctive Use in the Sacramento Region*
b) Citrus Heights Water District Annual Budget 2014
c) Fair Oaks Water District Annual Budget 2014
d) San Juan water District Annual Budget 2013-2014
e) San Juan Water District *2010 Urban Water Management Plan*
f) Sacramento Suburban Water District *Review of Wholesale Wheeling and Conjunctive Use Water Rates* (HDR Jan 2014)
g) City of Folsom, Drought Probability Analysis (Brown and Caldwell May 2008)
h) Sacramento Suburban Water District *Groundwater Well Facility Asset Management Plan* (Jan 2009)
i) Sacramento Suburban Water District Strategic Energy Management Plan (Feb 2009)
j) San Juan Water District letter, *no subject(request for well pumping capacity)* to Fair Oaks Water District (July 18, 2013)
k) Citrus Heights Water District letter, *Statement Regarding the Use of Remediated Groundwater* (October 16, 2006)
l) Fair Oaks Water District letter, *no subject (water availability)* (February 20, 2009)
m) San Juan Water District letter, *Letter on FOWD Water Supply Update* (March 26, 2014)
n) San Juan Water District Staff Report *SSWD/DJWD Pump Back Project* (October 29, 2014)
o) San Juan Water District letter, *Response to Comments on Proposed Pump Back Project* (June 18, 2014)
p) Citrus Heights Water District letter, *Antelope Pump-Back Booster Pump Station Project* (December 1, 2014)

Challenges

- Agreement was drafted during a period which relationships were less strained
  - Inadequate cost controls
  - Costs consistent with budgeted/audited balances
  - Invoices were for costs without corresponding deficits being reflected in financial statements
- Groundwater pumping should be keenly coordinated to be advantageous to overall water supply reliability
- Agreement lacked usable formula
- Backburner Issue
  - Over Five years without invoice
  - Annual Water Supply Summit did not occur and planning not needed in “good years”

Assumptions:

1. That in the course of five years numerous occurrences have influenced the intentions, plans and operations which have changed the course of actions as planning in 2008 and experienced in 2014 which ultimately triggered the call for groundwater production and ultimately the very delayed invoice. Some of these events were driven internally amongst members but also the State Water and US Water management strategies also evolved making complex relationships and obligations more complex.
2. That after being drafted, follow-on meetings to address specific aspects and develop policy and procedures to remove the ambiguities of the SJWSMP did not occur and that the draft plan may not have been adopted by all agencies, yet there was an understanding of how it would work in concept. And that for a number of reasons, such as mutual aid, regional communications, public satisfaction, etc… there is an expectation for regional cooperation between agencies beyond the explicit obligations and strict interpretations of the documents.
3. That groundwater pumping during water shortage years has a regional value which should be recognized even if no surpluses are made available, due to offsetting the demand upon the surface water supplies.
4. That groundwater pumping at nominal levels has a distorted unit costs because of the high level of fixed costs; capital and O&M which distort comparisons to wells that are pumped closer towards 80% capacity which is a level of optimization and planning often used.
5. Revisions of SSWD {reference (I.)} adjusted to 2014 total cost for groundwater pumping is stated to be $95 total expense.

The methodology to determine costs and payments from the plan is provided:

Rates and Charges for Groundwater

35. Rates and charges to cover the costs of production and delivery of groundwater under this Plan will include the following: (1) Annual Facility Capital Costs for existing Groundwater Production Facilities; (2) Annual Facility Capital Costs for new or replacement Groundwater Production Facilities; (3) Operation and Maintenance Costs; and (4) Commodity Costs.

36. Annual Facility Capital Costs will be determined using the existing value of each Groundwater Production Facility divided by the years of remaining life of the facility (assuming an initial 40-year useful life for wells, piping, and buildings, and 25-year life for pumps, motors and other equipment), which will be added together to determine the total Annual Facility Capital Cost. The Annual Facility Capital Cost will be divided by the total groundwater capacity of the Groundwater Production Facility to calculate the Annual Facility Capital Cost per unit of groundwater. The Annual Facility Capital Cost will be reimbursed based on total groundwater capacity an individual Groundwater Supplier has committed to the Benefiting Agencies (based on the five-year running average of water demands and groundwater needs) under the Plan. An example of this calculation is attached to this Plan as Appendix B.

37. The amount of the Annual Facility Capital Cost and rates and charges for groundwater produced under this Plan to Benefiting Agencies will be recalculated annually. Operation and Maintenance Cost allocations will be based on the percent of each Groundwater Supplier's total groundwater capacity committed to the Benefiting Agency. Commodity Costs will be allocated based on actual per-acre-foot cost basis. An example of this calculation is attached to this Plan as Appendix B.

38. Each Groundwater Supplier will submit to San Juan an invoice documenting Operation and Maintenance Costs and Commodity Costs on a quarterly basis. Credits due to Groundwater Suppliers and payments due by Benefiting Agencies will be determined by San Juan consistent with this Plan, and will be reflected on the billing invoices that San Juan sends to the Member Agencies for charges under the wholesale water supply agreements. Payment of the rates and charges will be a condition to a Benefiting Agency receiving supplemental water supplies under the Plan.

Draft Invoice

Agency	Years	gw af	$/af	$/Year		SJWD-R		OVWC		FOL		CHWD		FOWD	
						$	$	$	$	$	$	$	$	$	$
CHWD	5.58	7,381.38	310.20	$ 410,094	$ 2,289,691	$ 728,428		$ 248,220		$ 77,739		$ 688,624		$ 546,680	
FOWD	5.58	8,572.58	274.63	$ 421,668	$ 2,354,311	$ 751,413		$ 256,242		$ 78,925		$ 713,106		$ 554,624	
TOTAL	5.58	15,953.96	291.09	$ 831,762	$ 4,644,002	$ 1,479,841		$ 504,463		$ 156,664		$ 1,401,730		$ 1,101,303	
$/Year						$ 265,046		$ 90,352		$ 28,059		$ 251,056		$ 197,248	

$ 4,644,002

Results from methodology of SJWSMP Appendix B*

Allocation of Annual Costs

Driest Year Water Shortage

	Dry Condition Target MGD	Groundwater Supply MGD	MGD Shortage	GW Avail. MGD	Deficit MGD	GW Avail. %	GW Offset MGD	$ To	$ From		Adjustment to 67 months: $ to GW Pumpers	Adjustment to 67 months: $ from nonGW Pumpers
CHWD	8.0	9.3	-1.3	9.3	0	50.54%	3.34	$ 91,833			$ 512,733	
SJWD	7.0	0	7.0	0.0	4.2				$115,621			$ 645,553
FOWD	6.0	9.1	-3.1	9.1		49.46%	3.26	$ 89,858			$ 501,707	
OVWC	3.0	0	3.0	0.0	1.8	0.00%	0.00	$ -	$ 49,552			$ 276,666
FOL ASH	1.0	0	1.0	0.0	0.6				$ 16,517			$ 92,222
	25	18.4	6.6	18.4	6.6		6.60	$ 181,691	$181,691		**$ 1,014,440**	$ 1,014,440

*Appendix B example calculation modified for completion

Hybrid Analysis Based upon Invoice Methodology

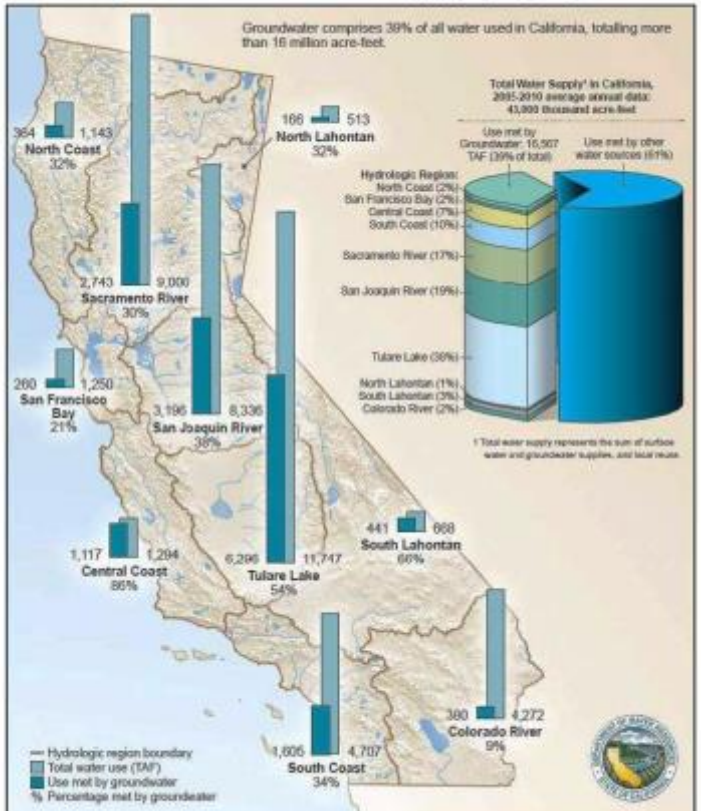
	Total Water Production SW +GW	Proportional Total Water Demand CHWD	FOWD	Folsom	OVWC	SJRetail		Proportional Total Water Cost Assignment CHWD	FOWD	Folsom	OVWC	SJ Retail	
9	46,786.78	32%	26%	4%	10%	29%		$162,636	$ 132,933	$ 17,975.42	$ 48,956.18	$ 148,081.94	
10	43,838.26	31%	27%	3%	10%	29%		$146,600	$ 126,045	$ 14,221.26	$ 46,184.64	$ 135,183.75	
11	42,285.65	31%	26%	3%	10%	30%		$135,615	$ 113,979	$ 13,085.35	$ 44,094.93	$ 128,004.41	
12	45,705.94	31%	25%	3%	10%	30%		$112,984	$ 92,105	$ 12,194.12	$ 37,146.90	$ 110,111.69	
13	48,581.84	31%	25%	3%	10%	31%		$104,678	$ 86,230	$ 9,916.92	$ 35,780.02	$ 105,123.19	
14	21,649.04	33%	25%	3%	10%	29%		$129,016	$ 100,597	$ 11,235.11	$ 41,529.92	$ 113,644.96	
								$791,529	$ 651,889	$ 78,628.18	$ 253,692.57	$ 740,149.92	
							Due CHWD	$384,754	$ 316,877	$ 38,220	$ 123,317	$ 359,779	$ 1,222,947
							Due FOWD	$406,775	$ 335,013	$ 40,408	$ 130,375	$ 380,371	$ 1,292,941
													$ 2,515,889

Comparative Analysis Based upon SSWD

Comparative Cost Analysis @ SSWD

Year	Commodity Cost SSWD	Volume FOWD	Volume CHWD	Value of FOWD @SSWD Rate	Value of CHWD @SSWD Rate	Total Value of GW @SSWD Rate		CHWD	FOWD	Folsom	OVWC	San Juan Retai	Total Value of GW @SSWD
2009	$ 80.34	1,109	2,119.58	$ 89,084	$ 170,287	$ 259,371		$ 82,618	$ 67,529	$ 9,131	$ 24,869	$ 75,224	$ 259,371
2010	$ 83.15	1,194	1,559.89	$ 99,324	$ 129,708	$ 229,032		$ 71,708	$ 61,654	$ 6,956	$ 22,591	$ 66,124	$ 229,032
2011	$ 86.06	1,516	962.38	$ 130,481	$ 82,825	$ 213,305		$ 66,849	$ 56,184	$ 6,450	$ 20,724	$ 63,098	$ 213,305
2012	$ 89.07	1,563	582.83	$ 139,198	$ 51,915	$ 191,114		$ 59,233	$ 48,287	$ 6,393	$ 19,475	$ 57,727	$ 191,114
2013	$ 92.19	1,320	465.33	$ 121,667	$ 42,900	$ 164,566		$ 50,410	$ 41,526	$ 4,776	$ 17,231	$ 50,624	$ 164,566
2014	$ 95.42	1,871	1,691.37	$ 178,500	$ 161,388	$ 339,888		$ 110,728	$ 86,338	$ 9,643	$ 35,643	$ 97,536	$ 339,888
						$ 1,397,277		$ 441,545	$ 361,517	$ 43,349	$ 140,533	$ 410,333	$ 1,397,277
							Due CHWD	$ 214,631	$ 175,730	$ 21,071	$ 68,311	$ 199,459	$ 679,202
							Due FOWD	$ 226,915	$ 185,787	$ 22,277	$ 72,221	$ 210,874	$ 718,075
													$ 1,397,277

Figure 3 - Contribution to California Water Supply by Hydrologic Region



Draft Invoice compared to recommendation

Agency	Years	gw af	$/af	$/Year		SJWD-R	OVWC	FOL	CHWD	FOWD
						$	$	$	$	$
CHWD	5.58	7,381.38	310.20	$ 410,094	$ 2,289,631	$ 728,428	$ 248,220	$ 77,739	$ 688,624	$ 546,680
FOWD	5.58	8,572.58	274.63	$ 421,668	$ 2,354,211	$ 751,413	$ 256,242	$ 78,925	$ 713,106	$ 554,624
TOTAL	5.58	15,953.96	291.09	$ 831,762	$ 4,644,002	$ 1,479,841	$ 504,463	$ 156,664	$ 1,401,730	$ 1,101,303
$/Year						$ 265,046	$ 90,352	$ 28,059	$ 251,056	$ 197,248

$2,503,038 or 53%

	Total Water Production SW +GW	Proportional Total Water Demand CHWD	FOWD	Folsom	OVWC	SJRetail	Proportional Total Water Cost Assignment CHWD	FOWD	Folsom	OVWC	SJ Retail	
2009	46,786.78	32%	26%	4%	10%	29%	$ 162,636	$ 132,933	$ 17,975.42	$ 48,956.18	$ 148,081.94	
2010	43,838.26	31%	27%	3%	10%	29%	$ 146,600	$ 126,045	$ 14,221.26	$ 46,184.64	$ 135,183.75	
2011	42,285.65	31%	26%	3%	10%	30%	$ 135,615	$ 113,979	$ 13,085.35	$ 44,094.93	$ 128,004.41	
2012	45,705.94	31%	25%	3%	10%	30%	$ 112,984	$ 92,105	$ 12,194.12	$ 37,146.90	$ 110,111.69	
2013	48,581.84	31%	25%	3%	10%	31%	$ 104,678	$ 86,230	$ 9,916.92	$ 35,780.02	$ 105,123.19	
2014	21,649.04	33%	25%	3%	10%	29%	$ 129,016	$ 100,597	$ 11,235.11	$ 41,529.92	$ 113,644.96	
							$ 791,529	$ 651,889	$ 78,628.18	$ 253,692.57	$ 740,149.92	
						Due CHWD	$ 384,754	$ 316,877	$ 38,220	$ 123,317	$ 359,779	$ 1,222,947
						Due FOWD	$ 406,775	$ 335,013	$ 40,408	$ 130,375	$ 380,371	$ 1,292,941
												$ 2,515,889

$1,553,418 or 57 %

CHWD balance due $ 838,193 from non GW Pumpers $ 512,316 verse $ 1,054,387

FOWD balance due $ 957,928 from non GW Pumpers $ 551,154 verse $ 1,086,580

Replay – Due from non GW Pumpers

SMWSMP

CHWD	$	512,733
FOWD	$	501,707

Hybrid Analysis*

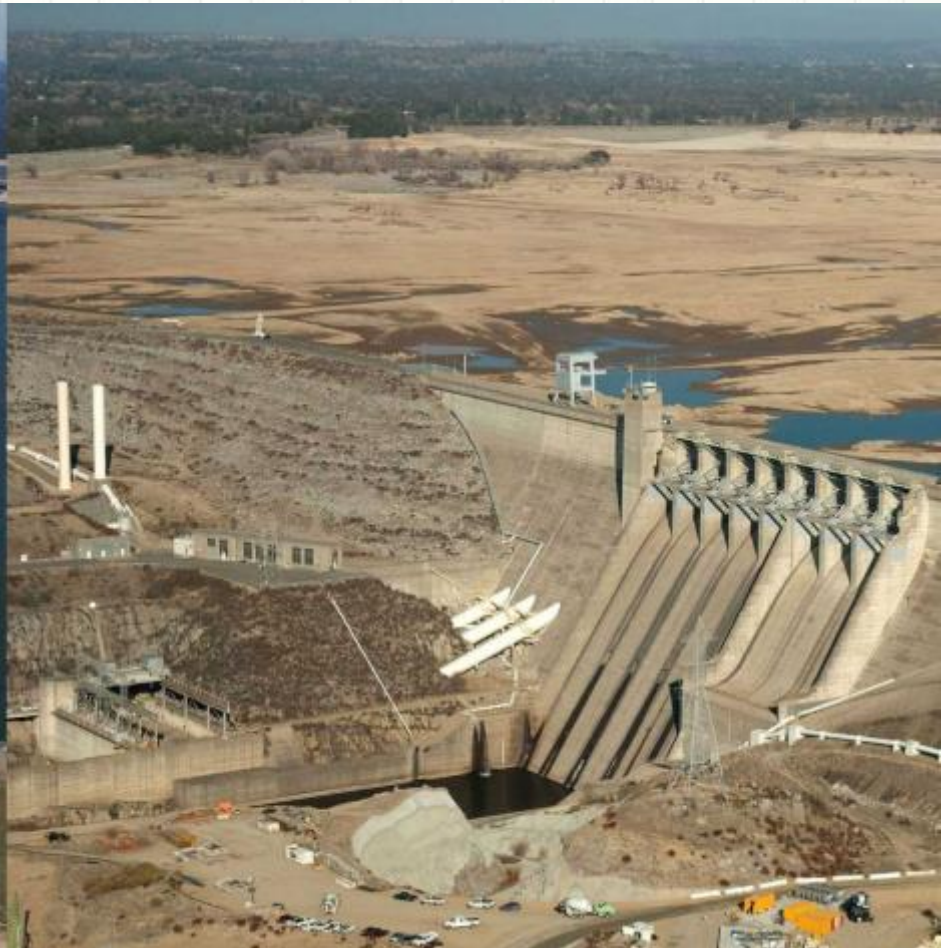
CHWD	$	512,316
FOWD	$	551,154

* Adjusting balance also due from GW Pumpers

Recommendations to the Board of Directors:

1. **That the San Juan Water District reaffirm their obligation to plan for water supplies (surface and groundwater) to meet emergency and drought response for people and properties within the wholesale district boundary.**
2. **That the San Juan Water District defines the service levels and cost methodology for emergency or drought water being provided specific to the benefiting agencies, such as in the Antelope Pump Back Project.**
3. **That ground water pumping expenses for a base amount of groundwater be melded into the water rate covering an increment of capital and operational expenses which best optimize the ready to serve status for the ground water producers.**
4. **That the board considers settlement for the full five years to groundwater pumping agencies made by applying the hybrid rate formula to the specific costs of groundwater pumping needed to satisfy regional demands in 2014 and prior within an appropriate timeframe.**
5. **That an annual water supply summit is conducted in which water supply requests are provided by the member agencies and San Juan Water District can determine the total demand needed from groundwater pumping agencies or other sources.**

QUESTIONS?



Ground Water Pumping and Billing Analysis

Prepared for

San Juan Water District

18 February 2015

ISSUE: Unresolved billing and cost sharing formula for Groundwater to provide water supply augmentation and reliability to the San Juan Water District (wholesale).

TASK:

In approaching this project, there were numerous documents to review and consider implications and intent; these are provided as related reading list, while two key documents are: Draft Memorandum for Discussion Purposes (Invoicing and reimbursement for Groundwater Production) and the San Juan Water District's (SJWD) Surface Water Supply and Water Shortage Management Plan (SJWSMP) which are provided as attachments. Reconciling five years of expenses and accrued obligation without being present in the initial formulation of the agreements and subsequent interaction required a degree of judgment, balanced with application of industry practices which formed the basis of the opinions developed and stated. It is also noted that past precedence for transactions between members of San Juan wholesale and strained relationships also presented some degree of challenge. My goal was to provide an independent assessment and provide at least two alternate methodologies to address the core issue of financing conjunctive use as a water shortage strategy for SJWD from within the current district boundaries.

SUBTASKS:

1). Evaluate the invoice and validate methodology and cost allocation

2). Develop or validate methodology to provide fair and predictability for the use of groundwater to augment surface water supplies as a drought response mechanism.

BACKGROUND: Citrus Heights Water District (CHWD), Fair Oaks Water District (FOWD), and OrangeVale Water Company (OVWC) have had long term investments in developing ground water to serve their customers and provide added regional reliability. Since 1990, the San Juan Water District (SJWD) has recognized the value and assisted these agencies to a small extent in developing ground water facilities with both direct allocation of bond money as well as participation in developing and supporting grant applications which provided significant contributions toward the construction of groundwater water supply facilities. Operation and maintenance of these facilities was borne solely upon the rate payer of the respective districts. OrangeVale Water Company opted to abandon their groundwater pumping facilities facing contamination, increasing costs and reduced yield. Folsom Utilities, Ashland (Folsom) has never had ground water pumping and lack suitable hydrogeology for municipal production.

The geological formations do not favor groundwater production in the Eastern portion of the district, yet in the western portion of the district favorable conditions for groundwater production exist. Overdraft, contamination and tightening water quality regulations are challenges to the groundwater produced in

this area as well as the oversight and coordination of pumping by the Sacramento Groundwater Authority (SGA). The SGA, Water Forum and numerous studies and initiatives have all cited the benefit of developing a conjunctive use program for the portion of the community served by the San Juan Water District and extending westerly. SGA has worked to develop a program as envisioned; conducts monitoring and reporting, developed groundwater banking and exchange protocols, and assisted to obtain funding to enhance modeling and groundwater management. The SGA has never become an active manager of groundwater, but serves as a forum to coordinate and exchange information between agencies as related to groundwater and enabler of conjunctive use. Therefore, agencies have worked directly between other agencies as partners and sometimes competitors to develop groundwater and surface water relationships providing reliability for their customers, and secondarily resiliency to the basin, environmental purposes and achieving broader regional objectives.

San Juan Water has an obligation to plan for and provide reliable water to the member agencies articulated in policy of "parity for all agencies". Currently, there is an effort to be scheduled for the San Juan Board of Directors to consider this aspect and define the role and perhaps cost allocation which best serves the needs of the community. Some member agencies have expressed the opinion that San Juan should only plan for surface water not the total water supple needs of people and properties within its boundaries. Both CHWD and FOWD have expressed a desire for more autonomy in water supply planning, while OVWD and Folsom seek a comprehensive water supply portfolio from the wholesaler.

Two key differentials may contribute to any differences in opinion as to determining cost assignment and recovery. First is the perspective that groundwater must be immediately available as an emergency supply or whether ground water facilities developed for drought response/conjunctive use would have the same permitting, labor, operations, and overall readiness to serve. Secondly, is related to the capital expense or the share costs of capital expense for facilities which the stated primary purpose to serve district needs first implying the surplus would be available for regional needs. To the degree which facilities may have been overbuilt, the lack of cost sharing/recovery may contribute to the margin for a stranded asset has been suggested. Yet, both FOWD and CHWD combined do not offer enough groundwater production to meaningfully off-set the needs of the remaining retail agencies, which have prompted SJWD to enter into agreement and start construction of the "*Antelope Pump-Back Booster Pump Station Project*" (APBSP). Moreover, the cost of water via this project (APBSP) has been cited as similar in costs as/or less expensive than surface water which made the project the preferred alternative for the SJWD.

Several other flaws in the formulation of the reimbursement exist. Primarily, the policy portends to assign cost recovery on a volumetric basis, while the charges are founded on the capacity of the facilities, then distributed volumetrically. This oversimplification promotes a perverse distortion. While solid planning would mandate the use of lowest cost water first and balancing supply with more expensive water. In practice, this often is not the case as the next increment of water (groundwater in this case) is more expensive but also requires a known rate of incentive or cost recovery to warrant development. Similarly, volumetric costs recovery of fix expenses is often problematic and is particularly complicated because of the price differential and the mandate to protect water rights and supply options. In this case, groundwater pumping agencies do not pump enough water to bring a volumetric cost in-line with industry norms. Moreover, as independent agencies, the choices for O&M

costs and production rates and levels are solely determined by the groundwater pumping agencies. The SJWSMP fails to address this, however, with an annual water supply projection meeting as anticipated, water demands and portfolio of supply could have be predetermined and at least one of the parties interviewed believed this was intended.

Secondly, cost recovery of the capital replacement using straight line depreciation assumes there is no value in the fully depreciated asset. While there is an attempt at an macro blending of components which may artificially meld components into the longer decline line the residual value of the assets, lack of consideration for the actual replacement funding policies of the agencies, maintenance protocols, and future funding conditions leave the replacement capital cost calculation in any of the analysis provided to be viewed with circumspect.

The SJWSMP

A determination of the contribution formula may be approached as an *actual cost* based upon the delivery or a *valuation of the service* and reliability provided.

To consider the value of ground water pumping as reliability or a drought insurance mechanism in the portfolio, some base amount of pumping would need to be considered in the overall water supply. The water supply for the San Juan district currently consists of three different surface water allotments from essentially the same watershed. These all have the nearly the same risk profile for emergency interruption and varying degrees in drought. Therefore, conjunctive use of groundwater has been an objective of the agency and other stakeholders which has been documented in several planning documents.

During the course of preparing this report, interviews were conducted with responsible people in each agency to obtain their perspective of both their viewpoint of the issue and the anticipated outcome. Both Fair Oaks Water District and Citrus Heights Water District indicated that as submitted, the “draft” invoice was intended to open the discussion and resolve pending issues which the SJWSMP left open. The comment by both CHWD and FWOD was that the range of compensation initially discussed was derisory. It was also stated that they believed they followed the formula and the intent of the SJWSMP was served in the invoice as provided however they were open to consider alternative view.

Both OrangeVale Water Company and Folsom Utilities were concerned that paying for the past five years, as well as, an undefinable benefit for unquantifiable water or reliability to be determined as surplus by CHWD and FOWD was a very unsuitable basis to consider more than the current year pumping as should be requested by SJWD in the SJWSMP. Moreover, once the Antelope Pump-Back facility is completed, their investment in reliability will provide resiliency of water supply greater than the current agreement and any residual value of groundwater pumpers making more surface water supply available would become moot.

SJWD, OVWC, and Folsom were not in agreement that the method or the basis for the calculations were fair or consistent with the SJWSMP or industry practices. Specifically, accepting the invoice as structured, these agencies would have to pay for both the ground water used in FOWD and CHWD and

the surface water consumed in their agencies. Additionally, they expressed that labor and energy costs were not justifiable as management controls may have reduced expenses which become reimbursements in each of the identified categories.

All agencies indicated they understood that CHWD and FOWD were pumping additional water in 2014 to assist the region and that resolution of the current invoice with latent issues may provide a protocol for completion and adoption of Water Shortage Management Plan with relevant changes made.

In short, the provision for Rates and Charges for Groundwater per the SJWSMP, is inadequate and not executable without interpretations, furthermore the Appendix B is also deficient and elapsed by time, but does map intent to calculate costs on capacity and actual O & M, then distribute on a volumetric basis (yet per acre foot reference in paragraph 37 of the SJWSMP is never completed) correlated with SJWD commodity costs and "reconciled in arrears" as assignments to individual agencies. As the SJWSMP may not have been adopted by some agencies, many of the steps anticipated in the plan were never followed. Such as the provisions to Declare a Water Shortage by San Juan and seeking specific commitments of groundwater augmentation from the pumping agencies, as well as, quarterly invoicing by pumping agencies. In 2014 a variation of this occurred, which resulted in pumping by the agencies without commitments for minimums/maximums or durations, which culminated as confusion in instructions and responses as late storms changed the surface water supply availability and groundwater pumpers frustrated.

Table A.

The methodology to determine costs and payments from the plan is provided:

Rates and Charges for Groundwater

35. Rates and charges to cover the costs of production and delivery of groundwater under this Plan will include the following: (1) Annual Facility Capital Costs for existing Groundwater Production Facilities; (2) Annual Facility Capital Costs for new or replacement Groundwater Production Facilities; (3) Operation and Maintenance Costs; and (4) Commodity Costs.

36. Annual Facility Capital Costs will be determined using the existing value of each Groundwater Production Facility divided by the years of remaining life of the facility (assuming an initial 40-year useful life for wells, piping, and buildings, and 25-year life for pumps, motors and other equipment), which will be added together to determine the total Annual Facility Capital Cost. The Annual Facility Capital Cost will be divided by the total groundwater capacity of the Groundwater Production Facility to calculate the Annual Facility Capital Cost per unit of groundwater. The Annual Facility Capital Cost will be reimbursed based on total groundwater capacity an individual Groundwater Supplier has committed to the Benefiting Agencies (based on the five-year running average of water demands and groundwater needs) under the Plan. An example of this calculation is attached to this Plan as Appendix B.

37. The amount of the Annual Facility Capital Cost and rates and charges for groundwater produced under this Plan to Benefiting Agencies will be recalculated annually. Operation and Maintenance Cost allocations will be based on the percent of each Groundwater Supplier's total groundwater capacity committed to the Benefiting Agency. Commodity Costs will be allocated based on actual per-acre-foot cost basis. An example of this calculation is attached to this Plan as Appendix B.

38. Each Groundwater Supplier will submit to San Juan an invoice documenting Operation and Maintenance Costs and Commodity Costs on a quarterly basis. Credits due to Groundwater Suppliers and payments due by Benefiting Agencies will be determined by San Juan consistent with this Plan, and will be reflected on the billing invoices that San Juan sends to the Member Agencies for charges under the wholesale water supply agreements. Payment of the rates and charges will be a condition to a Benefiting Agency receiving supplemental water supplies under the Plan.

Proposed Methodologies:

In determining the *actual cost* methodology (with is similar in approach laid out in the draft Water Shortage Management Plan and the modified approach provided in the invoice), there are key assumptions which must be applied to the analysis. First is the value of the infrastructure or capital investment needed to produce and supply water should be proportional (volumetric) to the contribution to water reliability. Second, is annual operational costs needed to provide the water on demand or as called upon in a drought response. While the data provided could suggest a one in six year call for water or less, common planning provisions for water systems in this region consider three in ten years as abnormally dry. Because the one in six year utilization for capital investment is not recommended, the data was simply provided as an additional point for perspective (Table C). Similarly, a market value of water for single year purchase is also provided as a data point, not for consideration of reasonable reimbursement based upon the agreement as drafted and other working relations such as mutual aide. This information is provided to be a consideration for future water supply planning (Table B).

SJWD has robust water rights and solid access to surface water which might warrant a less conservative perspective towards valuation of the need, the fact that all the water is surface water from one river watershed provided the vulnerability which many planning documents recognized which supports the notion of a more conservative three in ten or 30% tenet as applied to the need for ground water in at least some part of the system to meet some aspect of the water demand matrices. The SJWSMP recognized the needed for coordinated reliability and established the concept of an Annual Water Supply meeting.

The second methodology was to provide a *valuation of water* as a point of reference to validate the specific categories of each cost, comparison of groundwater pumping costs. The data in these general categories was available from Sacramento Suburban Water. Additionally, an assessment of Carmichael Water District was made to consider costs and O&M practices for an agency with just a few wells (six total, three kept operationally ready, one in standby and two inactive for drought) and nominal production. Carmichael labor, energy and capital expenses produced a commodity rate closer to that of SSWD vice FOWD and CHWD. Again this is provided for a point of the comparison (Table B), as a data point for future planning and mutual interdependence not a formula for reimbursement; further exploration of the Carmichael water was not pursued.

Excerpt from RRL (i.)

Pumping Versus Purchasing

> *SSWD' s wells pumped 12,359 MG in 2007. The electrical energy cost alone equates to $51.5/ac-ft. This cost increases to approximately $75/ac-ft with operations, maintenance, overhead, and CIP costs. Both the City of Sacramento and PCWA sell water to the District. The City of Sacramento charges $195/ac-ft, plus a monthly service charge. PCWA' s water costs approximately $106/ac-ft. This includes $35/ac-ft by PCWA, $21.46 ac-ft from BLM for wheeling the water through Folsom Lake, and $50 ac-ft from the San Juan Water District for treating the water.*

The comparative analysis approach would take into consideration the relative costs of water from other sources. While this methodology can only provide a suggestive base as to the value of service which was provided and left undefined for a period of years. It appears that groundwater costs from agencies such as Sacramento Suburban Water District is produced (O&M, OH, CIP) at $95 to $100 per acre foot in 2014. Considering a 3.5% annual adjustment downwards to $75/acre foot in 2007, table 3 reflects the value of groundwater produced by FOWD and CHWD each year for the years covered in this invoice.

Recognizing the benefit of a reliable water supply for the district, the agencies engaged in a reasonable effort to establish a cost sharing device which was the SJWSMP. Although flawed, it does contain meaningful principles and provides a basis for a reasoned conclusion. The ground water pumping agencies recognized some of these short comings and attempted to address them in the modified approach used in the invoice.

Discussion of Provisions from the SJWSMP

The SJWSMP provided for four categories to be considered in the summation of the financial consideration of "rates and charges to cover the production of groundwater under this plan". (1) Annual Facility Capital Costs for existing Groundwater Production Facilities; (2) Annual Facility Capital Costs for new or replacement Groundwater Production Facilities; (3) Operation and Maintenance Costs; and (4) Commodity Costs and Integrated billing.

Total cost of capital replacement should not be based upon the installation of the facilities but would be more appropriately charged at a rate of depreciation actually funded at each district or a variant which assumes some residual value after the period deprecation. This would be consistent with the development of rates and charges. Whereas deprecation is a purportless calculation in public accounting, unless match by actual allocations to the replacement reserve or an offsetting liability. However, for purposes of this evaluation with the objective to validate the method and costs, I sought to remain as close to the formula provided in the SJWSMP or the invoice as much as possible and accept that the blending provided may likely damper this bias. Therefore the straight line depreciation and assumed years was accepted as provided in each analysis.

An important distinction supported by the SJWSMP and subsequent interviews was that in addition to planned water supply shortages, such as impending drought; an element of the program included immediate response and an unquantified level of readiness was included in the reimbursement. In a catastrophic event such as contamination of the lake or disruption of surface water treatment facilities, some level of response from the groundwater facilities was needed. This reliability factor was derived after the groundwater pumping agencies met their district demands. It could be labeled; "Only pay for what I needed", which may be suitable for mutual aid but not an ongoing water resource planning tool. This is labeled drought pumping analysis and is provided as table C, it is inconsistent with the intent of the agreement taken in whole, but is illustrative of the type of analysis which FOWD and CHWD expressed as an unreasonable approach and not worthy of continued discussion.

The SJWSMP also provided for inclusion of expenses submitted by the Groundwater pumping agencies into the normal SJWD wholesale invoices as debits and credits. In this fashion, groundwater would be included as an element of the wholesale rates and allotted based upon the total water demand. Assigned as part of the whole, the percentages for water demand become slightly different than the invoice, but also the normal San Juan wholesale rate is recouped, indirectly leading to the additional balances due being the differential of costs for groundwater verse the charge for surface water. This is a significant deviation from the formula in the invoice, but consistent with the SJWSMP and the integrated billing as melded into the SJWD wholesale rate.

ATTACHMENTS:

A. **Draft Memorandum for Discussion Purposes (Invoicing and reimbursement for Groundwater Production)**
B. **San Juan Water District's Surface Water Supply and Water Shortage Management Plan (SJWSMP)**

RELATED READING LIST (RRL):

a) **Sacramento Groundwater Authority , *Water Management for the 21st Century Conjunctive Use in the Sacramento Region***
b) **Citrus Heights Water District Annual Budget 2014**
c) **Fair Oaks Water District Annual Budget 2014**
d) **San Juan water District Annual Budget 2013-2014**
e) **San Juan Water District *2010 Urban Water Management Plan***
f) **Sacramento Suburban Water District *Review of Wholesale Wheeling and Conjunctive Use Water Rates* (HDR Jan 2014)**
g) **City of Folsom, Drought Probability Analysis (Brown and Caldwell May 2008)**
h) **Sacramento Suburban Water District *Groundwater Well Facility Asset Management Plan* (Jan 2009)**
i) **Sacramento Suburban Water District Strategic Energy Management Plan (Feb 2009)**
j) **San Juan Water District letter, *no subject(request for well pumping capacity)* to Fair Oaks Water District (July 18, 2013)**
k) **Citrus Heights Water District letter, *Statement Regarding the Use of Remediated Groundwater* (October 16, 2006)**
l) **Fair Oaks Water District letter, *no subject (water availability)* (February 20, 2009)**
m) **San Juan Water District letter, *Letter on FOWD Water Supply Update* (March 26, 2014)**
n) **San Juan Water District Staff Report *SSWD/DJWD Pump Back Project* (October 29, 2014)**
o) **San Juan Water District letter, *Response to Comments on Proposed Pump Back Project* (June 18, 2014)**
p) **Citrus Heights Water District letter, *Antelope Pump-Back Booster Pump Station Project* (December 1, 2014)**

Compendium of summary tables.

Table A.

Water Demands from RRL: (n)

Agency	Target Demand Ave. Day
San Juan Water District – Retail	7 MGD
City of Folsom	1 MGD
Citrus Heights Water District	8 MGD
Fair Oaks Water District	6 MGD
Orange Vale Water Company	3 MGD
Assumed Health and Safety Demand	**25.0 MGD**

Agency	Target Ave. Day Demand	Groundwater Supply	Supply Excess to Capacity	% of Surplus Capacity
Citrus Heights Water District	**8 MGD**	**9.3 MGD**	**1.3 MGD**	**14%**
Fair Oaks Water District	**6 MGD**	**9.1 MGD**	**3.1 MGD**	**34%**

Table B.

Valuation Methodology Groundwater Pumping Alternative

				Comparitive Cost Analysis @ SSWD									
Year	Commodity Cost SSWD	Volume FOWD	Volume CHWD	Value of FOWD @SSWD Rate	Value of CHWD @SSWD Rate	Total Value of GW @SSWD Rate		CHWD	FOWD	Folsom	OVWC	San Juan Retai	Total Value of GW @SSWD
2009	$ 80.34	1,109	2,119.58	$ 89,084	$ 170,287	$ 259,371		$ 82,618	$ 67,529	$ 9,131	$ 24,869	$ 75,224	$ 259,371
2010	$ 83.15	1,194	1,559.89	$ 99,324	$ 129,708	$ 229,032		$ 71,708	$ 61,654	$ 6,956	$ 22,591	$ 66,124	$ 229,032
2011	$ 86.06	1,516	962.38	$ 130,481	$ 82,825	$ 213,305		$ 66,849	$ 56,184	$ 6,450	$ 20,724	$ 63,098	$ 213,305
2012	$ 89.07	1,563	582.83	$ 139,198	$ 51,915	$ 191,114		$ 59,233	$ 48,287	$ 6,393	$ 19,475	$ 57,727	$ 191,114
2013	$ 92.19	1,320	465.33	$ 121,667	$ 42,900	$ 164,566		$ 50,410	$ 41,526	$ 4,776	$ 17,231	$ 50,624	$ 164,566
2014	$ 95.42	1,871	1,691.37	$ 178,500	$ 161,388	$ 339,888		$ 110,728	$ 86,338	$ 9,643	$ 35,643	$ 97,536	$ 339,888
						$ 1,397,277		$ 441,545	$ 361,517	$ 43,349	$ 140,533	$ 410,333	$ 1,397,277
							Due CHWD	$ 214,631	$ 175,730	$ 21,071	$ 68,311	$ 199,459	$ 679,202
							Due FOWD	$ 226,915	$ 185,787	$ 22,277	$ 72,221	$ 210,874	$ 718,075
													$ 1,397,277

Table C.

Only Drought year reimbursement

	Annual Facility Capital Costs $	Annualized Groundwater as a % of Total Water Supply	Annualized Facility Capital Costs per	Average 5 year pump acft	2014 Water Shortage production acft	Budgeted O & M and Commodity per AcFt	2014 Commody Water Shortage	Surface Water Differential	2014 Commodity Balance
CHWD	82269	3%	$ 67	1138	553	$ 124		$ 30.68	
		2440.15					$ 68,572		$ 16,966
FOWD	84800	3%	$ 59	1340	530	$ 158		$ 64.68	
		2921.42					$ 87,374		$ 34,280

Table D.

Summary Actual Cost Methodology Analysis based upon Appendix B of Attachment B (SJWSMP).

Allocation of Annual Costs

Driest Year Water Shortage

Adjustment to 67 months

	Dry Condition Target MGD	Groundwater Supply MGD	MGD Shortage	GW Avail. MGD	Deficit MGD	GW Avail. %	GW Offset MGD	$ To	$ From	$ to GW Pumpers	$ from nonGW Pumpers
CHWD	8.0	9.3	-1.3	9.3	0	50.54%	3.34	$ 91,833		$ 512,733	
SJWD	7.0	0	7.0	0.0	4.2				$115,621		$ 645,553
FOWD	6.0	9.1	-3.1	9.1		49.46%	3.26	$ 89,858		$ 501,707	
OVWC	3.0	0	3.0	0.0	1.8	0.00%	0.00	$ -	$ 49,552		$ 276,666
FOL ASH	1.0	0	1.0	0.0	0.6				$ 16,517		$ 92,222
	25	18.4	6.6	18.4	6.6		6.60	$ 181,691	$181,691	$ 1,014,440	$ 1,014,440

Table E.

Summary Actual Cost Methodology modification based upon Draft Invoice

CHWD	GW Pumped AcFt	GW Labor Costs	Personnel Cost/AcFt	GW Production	Production Cost/AcFt	GW O&M/AcFt	SurfaceWater	Commodity	Capital Value Total	Capital Value	Capital Regional	Capital Value Regional/AcF	Sum of Regional	Gross Sum Regional Value
2009	2119.58	$ 251,622	$ 119	$ 221,264	$ 104	$ 223.10	$ 77.71	$ 145.39	$43,629.00	$ 20.58	0	$ -	$ 145.39	$ 308,174
2010	1559.89	$ 204,040	$ 131	$ 192,540	$ 123	$ 254.24	$ 86.25	$ 167.99	$43,629.00	$ 27.97	0	$ -	$ 167.99	$ 262,040
2011	962.38	$ 107,499	$ 112	$ 162,835	$ 169	$ 280.90	$ 90.60	$ 190.30	$43,639.00	$ 45.34	0	$ -	$ 190.30	$ 183,143
2012	582.83	$ 62,885	$ 108	$ 130,129	$ 223	$ 331.17	$ 90.60	$ 240.57	$43,629.00	$ 74.86	0	$ -	$ 240.57	$ 140,209
2013	465.33	$ 46,162	$ 99	$ 133,950	$ 288	$ 387.06	$ 90.60	$ 296.46	$43,629.00	$ 93.76	0	$ -	$ 296.46	$ 137,953
2014	1691.37	$ 193,153	$ 114	$ 143,598	$ 85	$ 199.10	$ 93.32	$ 105.78	$82,269.00	$ 48.64	$ 11,518.00	$ 6.81	$ 112.59	$ 190,430
	1230.23		$ 114		$ 166	$ 279							192.2168716	$ 1,221,949
														49%
FOWD														
2009	1108.84	$ 134,877	$ 122	$ 124,812	$ 113	$ 234.20	$ 77.71	$ 156.49	$84,800.00	$ 76.48	$ 28,888	$ 26.05	$ 182.54	$ 202,409
2010	1194.49	$ 149,978	$ 126	$ 130,353	$ 109	$ 234.69	$ 86.25	$ 148.44	$84,800.00	$ 70.99	$ 28,888	$ 24.18	$ 172.62	$ 206,194
2011	1516.12	$ 201,589	$ 133	$ 156,467	$ 103	$ 236.17	$ 90.60	$ 145.57	$84,800.00	$ 55.93	$ 28,888	$ 19.05	$ 164.62	$ 249,583
2012	1562.72	$ 178,789	$ 114	$ 158,238	$ 101	$ 215.67	$ 90.60	$ 125.07	$84,800.00	$ 54.26	$ 28,888	$ 18.49	$ 143.55	$ 224,332
2013	1319.71	$ 140,990	$ 107	$ 153,463	$ 116	$ 223.12	$ 90.60	$ 132.52	$84,800.00	$ 64.26	$ 28,888	$ 21.89	$ 154.41	$ 203,775
2014	1870.7	$ 229,391	$ 123	$ 121,887	$ 65	$ 187.78	$ 93.32	$ 94.46	$84,800.00	$ 45.33	$ 28,888	$ 15.44	$ 109.90	$ 205,593
	1428.76		$ 121		$ 101	$ 222								$ 1,291,887
														51%
														$ 2,513,836

Proportional Total Water Demand						Proportional Total Water Cost Assignment					
CHWD	FOWD	Folsom	OVWC	SJRetail		CHWD	FOWD	Folsom	OVWC	SJ Retail	
32%	26%	4%	10%	29%		$ 162,636	$ 132,933	$17,975.42	$ 48,956.18	$ 148,081.94	
31%	27%	3%	10%	29%		$ 146,600	$ 126,045	$14,221.26	$ 46,184.64	$ 135,183.75	
31%	26%	3%	10%	30%		$ 135,615	$ 113,979	$13,085.35	$ 44,094.93	$ 128,004.41	
31%	25%	3%	10%	30%		$ 112,984	$ 92,105	$12,194.12	$ 37,146.90	$ 110,111.69	
31%	25%	3%	10%	31%		$ 104,678	$ 86,230	$ 9,916.92	$ 35,780.02	$ 105,123.19	
33%	25%	3%	10%	29%		$ 129,016	$ 100,597	$11,235.11	$ 41,529.92	$ 113,644.96	
						$ 791,529	$ 651,889	$78,628.18	$ 253,692.57	$ 740,149.92	
					Due CHWD	$ 384,754	$ 316,877	$ 38,220	$ 123,317	$ 359,779	$ 1,222,947
					Due FOWD	$ 406,775	$ 335,013	$ 40,408	$ 130,375	$ 380,371	$ 1,292,941
											$ 2,515,889

Assumptions:

1. That in the course of five years numerous occurrences have influenced the intentions, plans and operations which have changed the course of actions as planning in 2008 and experienced in 2014 which ultimately triggered the call for groundwater production and ultimately the very delayed invoice. Some of these events were driven internally amongst members but also the State Water and US Water management strategies also evolved making complex relationships and obligations more complex.
2. That after being drafted, follow-on meetings to address specific aspects and develop policy and procedures to remove the ambiguities of the SJWSMP did not occur and that the draft plan may not have been adopted by all agencies, yet there was an understanding of how it would work in concept. And that for a number of reasons, such as mutual aid, regional communications, public satisfaction, etc… there is an expectation for regional cooperation between agencies beyond the explicit obligations and strict interpretations of the documents.
3. That groundwater pumping during water shortage years has a regional value which should be recognized even if no surpluses are made available, due to offsetting the demand upon the surface water supplies.
4. That groundwater pumping at nominal levels has a distorted unit costs because of the high level of fixed costs; capital and O&M which distort comparisons to wells that are pumped closer towards 80% capacity which is a level of optimization and planning often used.
5. Revisions of SSWD {RRL (n)} adjusted to 2014 total cost for groundwater pumping is stated to be $95 total expense and is consistent with value reported by SSWD.

Findings:

1. That the San Juan Family of Agencies recognized the value of groundwater pumping by member entities as a strategy to address surface water supply shortages and implement conjunctive use practices as envisioned in the Water Forum Agreement and articulated in goals of Sacramento Groundwater Authority which each agency are also members.
2. That the San Juan Water District relied upon the groundwater pumping agencies to provide diversity to the water supply portfolio from 2009 through 2014 and that the cost of that reliability was not communicated to San Juan Water District until September 22, 2014.
3. That in 2008, San Juan Water District developed a Surface Water Supply and Water Shortage Management Plan which established principles and general protocols for implementing the shortage plan including categories for reimbursement of groundwater pumping expenses, but did not define terms or practices well enough to avoid dispute.
4. That the San Juan Water District Surface Water Supply and Water Shortage Management Plan obligated the San Juan Water district to estimate “how much groundwater” would be needed to meet desired service levels after a shortage is declared.
5. That the San Juan Water District Surface Water Supply and Water Shortage Management Plan obligated the groundwater pumping agencies to determine how much groundwater they have available for deliveries that are surplus after satisfying the water demands of their service areas.

6. That the SJWSMP both conceptualized and defined actions and events which did not occur and due to the extended time (five years) of inactivity, many of the specifics have been overcome by events, but the foundational principles and underlying tenants are traceable and respected to the degree feasible.
7. That the distinction between immediate shortage and planned shortage is not articulated in the SJWSMP but is addressed in similar fashion in other planning documents, such as the 2010 URWMP.
8. That the cost implications for the level of readiness are significant, primarily due to standby power rates charged by SMUD and need to periodically pump water to the degree determine by the groundwater pumping agencies.
9. That the groundwater pumping agencies have maintained and managed these assets in high level of readiness and provide immediate response to the water supply threat or shortage which is added value beyond the drought planning anticipated in the SJWSMP.
10. That SJWD committed to pay a reasonable and fair cost for the additional groundwater pumped by FOWD and CHWD during 2014.
11. That the decision to pump ground water and how much is the discretion of the groundwater pumping agencies and that groundwater within the pumping agencies is committed to meet the water supply for those agencies first.
12. That during moderate droughts or temporary emergency conditions there is value to non-ground water agencies when the groundwater agencies pump so long as there is off-setting surface water available.
13. That current ground water pumping capacity by the groundwater pumping entities within the San Juan Agencies cannot meet ascertained levels of health and safety for the District.
14. That both Citrus Heights and Fair Oaks Water Districts have additional groundwater pumping assets in planning and construction. And that even with these assets, the nominal health and safety demand as determined for the District could not be met.
15. That SJWD has conducted planning and initiated water reliability projects to provide for additional groundwater supply to provide for uniform levels of service within the district with cost allocations to beneficiaries.
16. That San Juan has participated with Sacramento Suburban Water District in the Pump-Back Booster Pump Station Project on behalf of the non-groundwater producing agencies. And that when completed is will provide approximately the same nominal reliability available to the groundwater pumping agencies needed to satisfy the water demand for their own service area first, consistent with the SJWSMP.
17. That Citrus Heights Water District has stated its' emergency water needs at 10 MGD for its customers, yet during most of the period covered by invoice Citrus Heights pumping could only achieve 6.1 MGD and 9.3 MGD during 2014 which would have made no surplus beyond the emergency demand of their own customers that would be available as a regional asset.
18. That SJWD has calculated the emergency supply surplus available from Citrus Heights at 1.3MGD or 14% of the CHWD groundwater pumping capacity would be available as a regional asset.

19. That the emergency water needs for Fair Oaks Water District are 6 MGD for its customers making approximately 3.1 MGD or 34% of its groundwater pumping capacity would be available as a regional asset.
20. That the determination of amount to be reimbursed is a decision of the San Juan Water District Board of Directors.

Recommendations for the Board of Directors of the San Juan Water District:

1. That the San Juan Water District reaffirm their obligation to plan for water supplies (surface and groundwater) to meet emergency and drought response for people and properties within the wholesale district boundary.
2. That the San Juan Water District define the service levels and cost methodology for emergency or drought water being provided specific to the benefiting agencies, such as in the Antelope Pump Back Project.
3. That ground water pumping expenses for a base amount of groundwater be melded into the water rate covering an increment of capital and operational expenses which best optimize the ready to serve status for the ground water producers.
4. That the board considers settlement for the full five years to groundwater pumping agencies made by applying the hybrid rate formula to the specific costs of groundwater pumping needed to satisfy regional demands in 2014 and prior within an appropriate timeframe.
5. That an annual water supply summit is conducted in which water supply requests are provided by the member agencies and San Juan Water District can determine the total demand needed from groundwater pumping agencies or other sources.

Conclusions:

Evaluate the invoice and validate methodology and cost allocation

The agreement was intended to be volumetrically based to achieve fairness between the agencies. The basis of the volumetric of the SJWSMP is the proportional demand and the pumping capacity of the wells not the volume of water actually produced. The significance in charging for volume (dynamic cost) pumped verse the capacity (relatively fixed cost) is an important concept which was errant in the SJWSMP which purportedly was to be volumetric (which would be consistent in achieving the overarching SJWD goal of using as much surface water as possible.) Carrying percentage of water use vice setting a price per unit consumed may have yielded a slightly different result but certainly would have yielded more attention as the comparable to retail measurement of CCF of water would approach $0.70 for a wholesale price.

It appears that some costs provided in the invoice are overstated particularly compared to the levels anticipated in Appendix B of the SJSDMP and industry practices. A significant mitigating reason is that the low levels of pumping distort costs when aligned volumetrically. However, the cost of the O & M components as well as capital are not calculated or distributed equitably relative to direct or indirect benefit, just pumping capacity as a surrogate for a more complex matrix. Because the SJWSMP did not anticipate some of the conditions experienced by the pumpers nor the lack of financial control and

oversight by benefiting agencies it is difficult to challenge determinations made within the invoice, such as the amount of labor or the amount of pumping actually needed. It does appear the cost of labor as invoiced is excessive and other management decisions may have favored better cost containment as used in other groundwater pumping agencies within the region. Moreover, it appears some degree of costs beyond nominal permitting and operational readiness also did occur, but the agreement did not address capping the accumulation of this liability and validating 5 year old data is circumspect. The data does reflect efforts by CHWD to minimize pumping and increase use of surface water which was consistent with the SJWD overarching goals. Citrus Heights pumping record reflect significant variance in the minimal pumping required as they pursued an objective to minimal pumping, however, the O & M costs associated with more pumping were not significant factors in either formula as outlined (capacity based not volumetric). Therefore, a full autopsy of these costs seems unwarranted and not material to the final analysis. Leaving open-ended costs is not a reasonable standard for future agreements.

While cumulating costs for over five years without invoicing or responding to requests for invoices is outside of the industry norms for making payments or balancing with water payments. But the record reflects San Juan did rely upon the Groundwater Pumping Agencies both as a contingency in prior years and for actual water supply as in 2014. Therefore, consideration of the full period of recovery should be addressed; however, mitigation to this delinquent billing should also be negotiated in a payment schedule as proposed in the draft invoice.

Develop or validate methodology to provide fair and predictability for the use of groundwater to augment surface water supplies as a drought response mechanism.

Groundwater pumping as a cornerstone of water supply reliably for San Juan Water District is a solid concept. Developing groundwater resources in collaboration of the member agencies was an amiable goal, but in execution has floundered or perhaps failed. While the key test of water made available was successful; however water at any cost would not be a prudent public policy nor consistent with the underlying principles of the SJWSMP. Yet the sequence of events advanced in an unintended manner resulting in a cumulative invoice for over five years of expenses being tabulated but not communicated by the groundwater pumping agencies. While the basis and methods for making the calculation contemplated were left unconsummated or simply out of date due to other events. Expecting consideration and reimbursement for expenses incurred over five years requires a high degree of trust and partnership which examining the Invoicing and Reimbursement for Groundwater Production is also unveils some of the difficulties being experience by SJWD and the member agencies.

The Groundwater Pumping agencies have made long term investments which can be of direct assistance to the other member agencies for periods of water shortage, due to drought or short-term emergency conditions. Yet, the value of this resource must be fair and competitive to if the non-ground water pumping agencies are to be exposed to the degree of risk and financial obligation without representation of the degree of reliance which may be pursued on their behalf by SJWD. The SJWSMP identified the need for “call for water supply” annually. It was represented that all agencies would state their demand and SJWD would identify which demand should be met by groundwater pumping. This

process should occur and a formula to reimburse the groundwater pumping agencies for the nominal pumping that is required should be determined.

Recognizing that events likely to occur in the near future, such as the SSWD Antelope Pump Back Project, CHWD Skycrest Well, FOWD Madison Avenue Well, and possible consolidation of SSWD and SJWD will alter the underlying assumptions, it is likely that an iterative process to address the SJWSMP be pursued. If all the anticipatable events occur, the agencies will provide the community a sound and redundant water supply. The future predicates that the unanticipated will likely occur and flexible planning and adaptive management for water supply planning require a level of size and competency which can be defined organizationally or as matrix of relationships ensuring resiliency. In business resilience planning modeling we can define the future and develop the strategies to explain how the unexpected occurs balance upon models built upon a scenario of seemingly predictable events. The future formulas for water rates as groundwater or surface water mandate consideration of a variety of circumstances, both likely and unlikely to provide proof of fairness and equitable assignment of benefit verse liabilities which was not present in the SJWSMP.

The hybrid of the modified draft invoice may be useful as a revision to the Appendix B of the SJWSMP. However, it fails to completely factor the value of the surface water demand which is off-set while the member agencies are producing groundwater and other factors. As the Antelope Pump back project is completed, the groundwater provided to the non-pumping agencies must be charged a rate of at least as much as CVP water supplied from San Juan. In that operational paradigm, the comparison methodology for cost assignment and recovery may become a simpler formula to consider and would be tempting. But this approach would leave the region without full benefit of the groundwater resources and miss the opportunity to maximize the benefits to the community served.

As drought event frequency will increase and the competing demands for Folsom Lake water storage becomes more intense, the effective use of groundwater by San Juan Water District is no longer a back burner item. A well-managed conjunctive use program will provide a high level of reliability for the customers of the district and the retail agencies. Even when the pump-back project is functional and groundwater is available to serve the upper elevations, the off-setting dependency from surface water made by groundwater pumping agencies is a fungible commodity which should not be neglected. Similarly, with groundwater banking and the accounting framework of the SGA, other value may be accumulated by the pumping agencies that is not equally assigned to the non-pumping agencies. Yet, in the absence of a robust conjunctive use program or a coordinated management effort these groundwater assets are an expensive but necessary instrument in the nascent water supply marketing and regional balance of the important commodity which water has become in California.

ATTACHMENTS:

A. **Draft Memorandum for Discussion Purposes (Invoicing and reimbursement for Groundwater Production)**
B. **San Juan Water District's Surface Water Supply and Water Shortage Management Plan (SJWSMP)**

SAN JUAN WATER DISTRICT
SURFACE WATER SUPPLY AND WATER SHORTAGE MANAGEMENT PLAN

APPENDIX B

METHOD AND ALLOCATION OF COSTS
(Updated SMUD Standby Cost in Section B, Sampling Cost in Section D & Admin Overhead in Section E)
Draft: March 5, 2008

A. Annual Facility Capital Cost

Agency	Well	MGD	GPM	Total Cost	Contributions	Net Cost	Annualized Years: 40		Contrib. Notes
							Cost/Year	Cost/MGD	
CHWD	Palm	1.7	1,210	$ 350,000	$ 261,481	$ 88,519	$ 2,213	$ 1,270	GO Bond
CHWD	Sylvan	2.2	1,550	$ 450,000	$ 392,004	$ 57,996	$ 1,450	$ 650	GO Bond
CHWD	Sunrise	1.3	895	$ 350,000	$ 206,645	$ 143,355	$ 3,584	$ 2,781	GO Bond
CHWD	Mitchell	1.1	750	$ 1,983,152	$ 527,846	$ 1,455,306	$ 36,383	$ 33,688	Prop 13
FOWD	New York	1.2	830	$ 350,000	$ -	$ 350,000	$ 8,750	$ 7,321	
FOWD	Northridge	1.4	1,000	$ 350,000	$ 187,449	$ 162,551	$ 4,064	$ 2,822	GO Bond
FOWD	Town	3.6	2,500	$ 1,941,358	$ 730,000	$ 1,211,358	$ 30,284	$ 8,412	Prop 13
FOWD	Heather	2.9	2,000	$ 2,398,092	$ 730,000	$ 1,668,092	$ 41,702	$ 14,480	Prop 13
OVWC	No. 2	1.4	995	$ 350,000	$ 105,508	$ 244,492	$ 6,112	$ 4,266	GO Bond
TOTAL		16.9	11,730	$ 8,522,602	$ 3,140,933	$ 5,381,669	$ 134,542	**$ 7,965**	

B. Annual Fixed Cost for Standby Power

	GW		Standby Power Cost		
	MGD	GPM	Total $	$/MGD	$/GPM
CHWD	6.3	4,405	$ 35,520	$ 5,600	$ 8.06
FOWD	9.1	6,330	$ 35,520	$ 3,897	$ 5.61
OVWC	1.4	995	$ 8,880	$ 6,198	$ 8.92
TOTAL	16.9	11,730	$ 79,920	**$ 4,731**	$ 6.81

		GW		SMUD Service Charge	
		MGD	GPM	Monthly	Annual
CHWD	Palm	1.7	1,210	$ 740	$ 8,880
CHWD	Sylvan	2.2	1,550	$ 740	$ 8,880
CHWD	Sunrise	1.3	895	$ 740	$ 8,880
CHWD	Mitchell	1.1	750	$ 740	$ 8,880
FOWD	New York	1.2	830	$ 740	$ 8,880
FOWD	Northridge	1.4	1,000	$ 740	$ 8,880
FOWD	Town	3.6	2,500	$ 740	$ 8,880
FOWD	Heather	2.9	2,000	$ 740	$ 8,880
OVWC	No. 2	1.4	995	$ 740	$ 8,880
TOTAL		16.9	11,730	$ 6,660	$ 79,920

C. Annual Fixed Cost for Maintenance Labor & Equipment

	GW		Annual Maintenance Labor & Equipment		
	MGD	GPM	Total $	$/MGD	$/GPM
CHWD	6.3	4,405	$ 16,640	$ 2,623	$ 3.78
FOWD	9.1	6,330	$ 16,640	$ 1,826	$ 2.63
OVWC	1.4	995	$ 4,160	$ 2,903	$ 4.18
TOTAL	16.9	11,730	$ 37,440	**$ 2,217**	$ 3.19

		GW		Maintenance Labor & Eq.		Weekly Hours	Labor	Equipment	Total
		MGD	GPM	Weekly	Annual		$/Hour	$/Hour	$/Hour
CHWD	Palm	1.7	1,210	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
CHWD	Sylvan	2.2	1,550	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
CHWD	Sunrise	1.3	895	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
CHWD	Mitchell	1.1	750	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
FOWD	New York	1.2	830	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
FOWD	Northridge	1.4	1,000	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
FOWD	Town	3.6	2,500	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
FOWD	Heather	2.9	2,000	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
OVWC	No. 2	1.4	995	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
TOTAL		16.9	11,730		$ 37,440				

D. Other Fixed Costs

	Monthly per Well	Annually per well	Total for all wells	MGD	$/MGD
Utilities	$ 100	$ 1,200	$ 10,800		
Security	$ 50	$ 600	$ 5,400		
SCADA	$ 50	$ 600	$ 5,400		
CA Dept of Public Health		$ 500	$ 4,500		
Water Quality Sampling		$ 500	$ 4,500		
Real Estate					
Maintenance less frequently than annual					
TOTAL			$ 30,600	16.9	**$ 1,812**

Wells: 9

E. Summary of Annual Costs per MGD

Section		$/MGD	$/GPM	$/AF	%
A.	Annual Facility Capital Cost	$ 7,965			45.24%
B.	Annual Standby Power Cost	$ 4,731			26.88%
C.	Annual Maintenance Labor & Equipment	$ 2,217			12.59%
D.	Other Fixed Costs	$ 1,812			10.29%
	Administrative Overhead as % Total	$ 880			5.00%
	TOTAL ANNUAL COSTS PER MGD	$ 17,605			100.00%

F. **Allocation of Annual Costs**

Driest Year Water Shortage

			MGD Shortage	GW Avail. MGD	Deficit MGD	GW Avail. %	GW Offset MGD	$ To	$ From
CHWD			2.5	5.0		37.59%	1.84	$ 32,430	
SJWD			4.6	0.0	4.6				$ 80,982
FOWD			0.9	7.2		54.14%	2.65	$ 46,699	
OVWC			0.8	1.1		8.27%	0.41	$ 7,135	
FOL ASH			0.3	0.0	0.3				$ 5,281
			9.1	13.3	4.9		4.90	$ 86,263	$ 86,263

G. **Commodity Cost for Water Produced**

Power
Chemicals
Labor & Equipment

Discussion: Equate Groundwater production cost to SJWD surface water commodity rate: $69.38 per acre foot in 2008
or reconcile to actual cost in arrears

A. **CAPITAL COSTS**

Agency	Well	MGD	GPM	Total Cost	Contributions	Net Cost	Life Years	Cost/Year $	Cost/MGD $	st $	Notes
CHWD	Palm	1.7	1,210	$ 350,000	$ 261,481	$ 88,519	40	$ 2,213	$ 1,270		GO Bond
CHWD	Sylvan	2.2	1,550	$ 450,000	$ 392,004	$ 57,996	40	$ 1,450	$ 650		GO Bond
CHWD	Sunrise	1.1	760	$ 350,000	$ 206,645	$ 143,355	40	$ 3,584	$ 2,781		GO Bond
CHWD	Mitchell	1.1	750	$ 1,983,152	$ 527,846	$ 1,455,306	40	$ 36,383	$ 33,688		Prop 13
CHWD	4 Wells	6.1	4,270	$ 3,133,152	$ 1,387,976	$ 1,745,176		$ 43,629			
CHWD	Bonita	3.2	2,200	$ 2,051,791	$ 506,225	$ 1,545,566	40	$ 38,639	$ 12,075		Prop 13
CHWD	5 Wells	9.3	6,470	$ 5,184,943	$ 1,894,201	$ 3,290,742		$ 82,269			
								CHWD	$ 5,426		
FOWD	New York	1.2	830	$ 350,000	$ -	$ 350,000	40	$ 8,750	$ 7,292		
FOWD	Northridge	1.4	1,000	$ 350,000	$ 187,449	$ 162,551	40	$ 4,064	$ 2,903		GO Bond
FOWD	Town	3.6	2,500	$ 1,941,358	$ 730,000	$ 1,211,358	40	$ 30,284	$ 8,412		Prop 13
FOWD	Heather	2.9	2,000	$ 2,398,092	$ 730,000	$ 1,668,092	40	$ 41,702	$ 14,380		Prop 13
FOWD	4 Wells	9.1	6,330	$ 5,039,450	$ 1,647,449	$ 3,392,001		$ 84,800			
								FOWD	$ 3,625		
								Combined	$ 4,535		

B. Annual Fixed Cost for Standby Power

	GW		Standby Power Cost		
	MGD	GPM	Total $	$/MGD	$/GPM
CHWD	9.3	6,470	$ 44,400	$ 4,766	$ 6.86
FOWD	9.1	6,330	$ 35,520	$ 3,897	$ 5.61
TOTAL	18.4	12,800	$ 79,920	**$ 4,336**	$ 6.24

		GW		SMUD Service Charge	
		MGD	GPM	Monthly	Annual
CHWD	Palm	1.7	1,210	$ 740	$ 8,880
CHWD	Sylvan	2.2	1,550	$ 740	$ 8,880
CHWD	Sunrise	1.1	760	$ 740	$ 8,880
CHWD	Mitchell	1.1	750	$ 740	$ 8,880
CHWD	Bonita	3.2	2,200	$ 740	$ 8,880
FOWD	New York	1.2	830	$ 740	$ 8,880
FOWD	Northridg	1.4	1,000	$ 740	$ 8,880
FOWD	Town	3.6	2,500	$ 740	$ 8,880
FOWD	Heather	2.9	2,000	$ 740	$ 8,880
TOTAL		18.4	12,800	$ 6,660	$ 79,920

C. **Annual Fixed Cost for Maintenance Labor & Equipment**

Reported Actual Pr

67 months

C $ 984,316

F $ 845,220

$ 1,829,536

	GW		Annual Maintenance Labor & Equipmer		
	MGD	GPM	Total $	$/MGD	$/GPM
CHWD	9.3	6,470	$ 176,295	$ 18,922	$ 27.25
FOWD	9.1	6,330	$ 151,383	$ 16,608	$ 23.92
TOTAL	18.4	12,800	*$ 327,678*	**$ 17,778**	$ 25.60

		GW		Maintenance Labor & Eq.		Weekly Hours	Labor	Equipment	Total
		MGD	GPM	Weekly	Annual		$/Hour	$/Hour	$/Hour
CHWD	Palm	1.7	1,550	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
CHWD	Sylvan	2.2	760	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
CHWD	Sunrise	1.1	750	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
CHWD	Mitchell	1.1	750	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
FOWD	New York	1.2	1,000	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
FOWD	Northridg	1.4	1,000	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
FOWD	Town	3.6	2,500	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
FOWD	Heather	2.9	2,000	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
CHWD	Bonita	3.2	2,200	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
TOTAL		18.4	12,510		*$ 37,440*				

D. Other Fixed Costs

	Monthly per Well	Annually per well	Total for all wells	MGD	$/MGD
Utilities	$ 100	$ 1,200	$ -		
Security	$ 50	$ 600	$ -		
SCADA	$ 50	$ 600	$ -		
CA Dept of Public Health		$ 500	$ -		
Water Quality Sampling		$ 500	$ -		
Real Estate					
Maintenance less frequently than annual					
TOTAL			$ -	18.4	**$ -**

E. Summary of Annual Costs per MGD

Section		$/MGD	$/GPM	$/AF	%
A.	Annual Facility Capital Cost	$ 4,535			16.47%
B.	Annual Standby Power Cost	$ 4,336			15.75%
C.	Annual Maintenance Labor & Equipment	$ 17,778			64.58%
D.	Other Fixed Costs	$ -			0.00%
	Administrative Overhead as % Total	$ 880			3.20%
	TOTAL ANNUAL COSTS PER MGD	$ 27,529			100.00%

F. Allocation of Annual Costs

Driest Year Water Shortage

Adjustment to 67

	Dry Condition Target MGD	Groundwater Supply MGD	MGD Shortage	GW Avail. MGD	Deficit MGD	GW Avail. %	GW Offset MGD	$ To	$ From	$ to GW Pumpers
CHWD	8.0	9.3	-1.3	9.3	0	50.54%	3.34	$ 91,833		$ 512,733
SJWD	7.0	0	7.0	0.0	4.2				$ 115,621	
FOWD	6.0	9.1	-3.1	9.1		49.46%	3.26	$ 89,858		$ 501,707
OVWC	3.0	0	3.0	0.0	1.8	0.00%	0.00	$ -	$ 49,552	
FOL ASH	1.0	0	1.0	0.0	0.6				$ 16,517	
	25	18.4	6.6	18.4	6.6		6.60	$ 181,691	$ 181,691	$ 1,014,440

6 months

61 months

67 months

oduction Costs

	Annual
$	176,295
$	151,383
$	327,678

7 months

$ from nonGW Pumpers
$ 645,553
$ 276,666
$ 92,222
$ 1,014,440

SAN JUAN WATER DISTRICT
SURFACE WATER SUPPLY AND WATER SHORTAGE MANAGEMENT PLAN

APPENDIX B

METHOD AND ALLOCATION OF COSTS
(Updated SMUD Standby Cost in Section B, Sampling Cost in Section D & Admin Overhead in Section E)
Draft: March 5, 2008

A. Annual Facility Capital Cost

Agency	Well	MGD	GPM	Total Cost	Contributions	Net Cost	Annualized Years: 40		Contrib. Notes
							Cost/Year	Cost/MGD	
CHWD	Palm	1.7	1,210	$ 350,000	$ 261,481	$ 88,519	$ 2,213	$ 1,270	GO Bond
CHWD	Sylvan	2.2	1,550	$ 450,000	$ 392,004	$ 57,996	$ 1,450	$ 650	GO Bond
CHWD	Sunrise	1.3	895	$ 350,000	$ 206,645	$ 143,355	$ 3,584	$ 2,781	GO Bond
CHWD	Mitchell	1.1	750	$ 1,983,152	$ 527,846	$ 1,455,306	$ 36,383	$ 33,688	Prop 13
FOWD	New York	1.2	830	$ 350,000	$ -	$ 350,000	$ 8,750	$ 7,321	
FOWD	Northridge	1.4	1,000	$ 350,000	$ 187,449	$ 162,551	$ 4,064	$ 2,822	GO Bond
FOWD	Town	3.6	2,500	$ 1,941,358	$ 730,000	$ 1,211,358	$ 30,284	$ 8,412	Prop 13
FOWD	Heather	2.9	2,000	$ 2,398,092	$ 730,000	$ 1,668,092	$ 41,702	$ 14,480	Prop 13
OVWC	No. 2	1.4	995	$ 350,000	$ 105,508	$ 244,492	$ 6,112	$ 4,266	GO Bond
TOTAL		16.9	11,730	$ 8,522,602	$ 3,140,933	$ 5,381,669	$ 134,542	**$ 7,965**	

B. Annual Fixed Cost for Standby Power

	GW		Standby Power Cost		
	MGD	GPM	Total $	$/MGD	$/GPM
CHWD	6.3	4,405	$ 35,520	$ 5,600	$ 8.06
FOWD	9.1	6,330	$ 35,520	$ 3,897	$ 5.61
OVWC	1.4	995	$ 8,880	$ 6,198	$ 8.92
TOTAL	16.9	11,730	$ 79,920	**$ 4,731**	$ 6.81

		GW		SMUD Service Charge	
		MGD	GPM	Monthly	Annual
CHWD	Palm	1.7	1,210	$ 740	$ 8,880
CHWD	Sylvan	2.2	1,550	$ 740	$ 8,880
CHWD	Sunrise	1.3	895	$ 740	$ 8,880
CHWD	Mitchell	1.1	750	$ 740	$ 8,880
FOWD	New York	1.2	830	$ 740	$ 8,880
FOWD	Northridge	1.4	1,000	$ 740	$ 8,880
FOWD	Town	3.6	2,500	$ 740	$ 8,880
FOWD	Heather	2.9	2,000	$ 740	$ 8,880
OVWC	No. 2	1.4	995	$ 740	$ 8,880
TOTAL		16.9	11,730	$ 6,660	$ 79,920

C. Annual Fixed Cost for Maintenance Labor & Equipment

	GW		Annual Maintenance Labor & Equipment		
	MGD	GPM	Total $	$/MGD	$/GPM
CHWD	6.3	4,405	$ 16,640	$ 2,623	$ 3.78
FOWD	9.1	6,330	$ 16,640	$ 1,826	$ 2.63
OVWC	1.4	995	$ 4,160	$ 2,903	$ 4.18
TOTAL	16.9	11,730	$ 37,440	**$ 2,217**	$ 3.19

		GW		Maintenance Labor & Eq.		Weekly Hours	Labor	Equipment	Total
		MGD	GPM	Weekly	Annual		$/Hour	$/Hour	$/Hour
CHWD	Palm	1.7	1,210	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
CHWD	Sylvan	2.2	1,550	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
CHWD	Sunrise	1.3	895	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
CHWD	Mitchell	1.1	750	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
FOWD	New York	1.2	830	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
FOWD	Northridge	1.4	1,000	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
FOWD	Town	3.6	2,500	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
FOWD	Heather	2.9	2,000	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
OVWC	No. 2	1.4	995	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
TOTAL		16.9	11,730		$ 37,440				

D. Other Fixed Costs

	Monthly per Well	Annually per well	Total for all wells	MGD	$/MGD
Utilities	$ 100	$ 1,200	$ 10,800		
Security	$ 50	$ 600	$ 5,400		
SCADA	$ 50	$ 600	$ 5,400		
CA Dept of Public Health		$ 500	$ 4,500		
Water Quality Sampling		$ 500	$ 4,500		
Real Estate					
Maintenance less frequently than annual					
TOTAL			$ 30,600	16.9	**$ 1,812**

Wells: 9

E. Summary of Annual Costs per MGD

Section		$/MGD	$/GPM	$/AF	%
A.	Annual Facility Capital Cost	$ 7,965			45.24%
B.	Annual Standby Power Cost	$ 4,731			26.88%
C.	Annual Maintenance Labor & Equipment	$ 2,217			12.59%
D.	Other Fixed Costs	$ 1,812			10.29%
	Administrative Overhead as % Total	$ 880			5.00%
	TOTAL ANNUAL COSTS PER MGD	$ 17,605			100.00%

F. **Allocation of Annual Costs**

Driest Year Water Shortage

			MGD Shortage	GW Avail. MGD	Deficit MGD	GW Avail. %	GW Offset MGD	$ To	$ From
CHWD			2.5	5.0		37.59%	1.84	$ 32,430	
SJWD			4.6	0.0	4.6				$ 80,982
FOWD			0.9	7.2		54.14%	2.65	$ 46,699	
OVWC			0.8	1.1		8.27%	0.41	$ 7,135	
FOL ASH			0.3	0.0	0.3				$ 5,281
			9.1	13.3	4.9		4.90	$ 86,263	$ 86,263

G. **Commodity Cost for Water Produced**

Power
Chemicals
Labor & Equipment

Discussion: Equate Groundwater production cost to SJWD surface water commodity rate: $69.38 per acre foot in 2008
or reconcile to actual cost in arrears

A. **CAPITAL COSTS**

Agency	Well	MGD	GPM	Total Cost	Contributions	Net Cost	Life Years	Cost/Year $	Cost/MGD $	st $	Notes
CHWD	Palm	1.7	1,210	$ 350,000	$ 261,481	$ 88,519	40	$ 2,213	$ 1,270		GO Bond
CHWD	Sylvan	2.2	1,550	$ 450,000	$ 392,004	$ 57,996	40	$ 1,450	$ 650		GO Bond
CHWD	Sunrise	1.1	760	$ 350,000	$ 206,645	$ 143,355	40	$ 3,584	$ 2,781		GO Bond
CHWD	Mitchell	1.1	750	$ 1,983,152	$ 527,846	$ 1,455,306	40	$ 36,383	$ 33,688		Prop 13
CHWD	4 Wells	6.1	4,270	$ 3,133,152	$ 1,387,976	$ 1,745,176		$ 43,629			
CHWD	Bonita	3.2	2,200	$ 2,051,791	$ 506,225	$ 1,545,566	40	$ 38,639	$ 12,075		Prop 13
CHWD	5 Wells	9.3	6,470	$ 5,184,943	$ 1,894,201	$ 3,290,742		$ 82,269			
								CHWD	$ 5,426		
FOWD	New York	1.2	830	$ 350,000	$ -	$ 350,000	40	$ 8,750	$ 7,292		
FOWD	Northridge	1.4	1,000	$ 350,000	$ 187,449	$ 162,551	40	$ 4,064	$ 2,903		GO Bond
FOWD	Town	3.6	2,500	$ 1,941,358	$ 730,000	$ 1,211,358	40	$ 30,284	$ 8,412		Prop 13
FOWD	Heather	2.9	2,000	$ 2,398,092	$ 730,000	$ 1,668,092	40	$ 41,702	$ 14,380		Prop 13
FOWD	4 Wells	9.1	6,330	$ 5,039,450	$ 1,647,449	$ 3,392,001		$ 84,800			
								FOWD	$ 3,625		
								Combined	$ 4,535		

B. Annual Fixed Cost for Standby Power

	GW		Standby Power Cost		
	MGD	GPM	Total $	$/MGD	$/GPM
CHWD	9.3	6,470	$ 44,400	$ 4,766	$ 6.86
FOWD	9.1	6,330	$ 35,520	$ 3,897	$ 5.61
TOTAL	18.4	12,800	$ 79,920	**$ 4,336**	$ 6.24

		GW		SMUD Service Charge	
		MGD	GPM	Monthly	Annual
CHWD	Palm	1.7	1,210	$ 740	$ 8,880
CHWD	Sylvan	2.2	1,550	$ 740	$ 8,880
CHWD	Sunrise	1.1	760	$ 740	$ 8,880
CHWD	Mitchell	1.1	750	$ 740	$ 8,880
CHWD	Bonita	3.2	2,200	$ 740	$ 8,880
FOWD	New York	1.2	830	$ 740	$ 8,880
FOWD	Northridg	1.4	1,000	$ 740	$ 8,880
FOWD	Town	3.6	2,500	$ 740	$ 8,880
FOWD	Heather	2.9	2,000	$ 740	$ 8,880
TOTAL		18.4	12,800	$ 6,660	$ 79,920

C. **Annual Fixed Cost for Maintenance Labor & Equipment**

Reported Actual Pr

67 months

C $ 984,316

F $ 845,220

$ 1,829,536

	GW		Annual Maintenance Labor & Equipmer		
	MGD	GPM	Total $	$/MGD	$/GPM
CHWD	9.3	6,470	$ 176,295	$ 18,922	$ 27.25
FOWD	9.1	6,330	$ 151,383	$ 16,608	$ 23.92
TOTAL	18.4	12,800	*$ 327,678*	**$ 17,778**	$ 25.60

		GW		Maintenance Labor & Eq.		Weekly Hours	Labor	Equipment	Total
		MGD	GPM	Weekly	Annual		$/Hour	$/Hour	$/Hour
CHWD	Palm	1.7	1,550	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
CHWD	Sylvan	2.2	760	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
CHWD	Sunrise	1.1	750	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
CHWD	Mitchell	1.1	750	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
FOWD	New York	1.2	1,000	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
FOWD	Northridg	1.4	1,000	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
FOWD	Town	3.6	2,500	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
FOWD	Heather	2.9	2,000	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
CHWD	Bonita	3.2	2,200	$ 80.00	$ 4,160	2	$ 35.00	$ 5.00	$ 40.00
TOTAL		18.4	12,510		*$ 37,440*				

D. Other Fixed Costs

	Monthly per Well	Annually per well	Total for all wells	MGD	$/MGD
Utilities	$ 100	$ 1,200	$ -		
Security	$ 50	$ 600	$ -		
SCADA	$ 50	$ 600	$ -		
CA Dept of Public Health		$ 500	$ -		
Water Quality Sampling		$ 500	$ -		
Real Estate					
Maintenance less frequently than annual					
TOTAL			$ -	18.4	**$ -**

E. Summary of Annual Costs per MGD

Section		$/MGD	$/GPM	$/AF	%
A.	Annual Facility Capital Cost	$ 4,535			16.47%
B.	Annual Standby Power Cost	$ 4,336			15.75%
C.	Annual Maintenance Labor & Equipment	$ 17,778			64.58%
D.	Other Fixed Costs	$ -			0.00%
	Administrative Overhead as % Total	$ 880			3.20%
	TOTAL ANNUAL COSTS PER MGD	$ 27,529			100.00%

F. Allocation of Annual Costs

Driest Year Water Shortage

Adjustment to 67

	Dry Condition Target MGD	Groundwater Supply MGD	MGD Shortage	GW Avail. MGD	Deficit MGD	GW Avail. %	GW Offset MGD	$ To	$ From	$ to GW Pumpers
CHWD	8.0	9.3	-1.3	9.3	0	50.54%	3.34	$ 91,833		$ 512,733
SJWD	7.0	0	7.0	0.0	4.2				$ 115,621	
FOWD	6.0	9.1	-3.1	9.1		49.46%	3.26	$ 89,858		$ 501,707
OVWC	3.0	0	3.0	0.0	1.8	0.00%	0.00	$ -	$ 49,552	
FOL ASH	1.0	0	1.0	0.0	0.6				$ 16,517	
	25	18.4	6.6	18.4	6.6		6.60	$ 181,691	$ 181,691	$ 1,014,440

6 months

61 months

67 months

oduction Costs

	Annual
$	176,295
$	151,383
$	327,678

7 months

$ from nonGW Pumpers
$ 645,553
$ 276,666
$ 92,222
$ 1,014,440

AGENDA ITEM IV-1.3

CARMICHAEL WATER DISTRICT

7837 FAIR OAKS BOULEVARD
CARMICHAEL, CALIFORNIA 95608
TELEPHONE: (916) 483-2452
FAX: (916) 483-5509

February 17, 2015

Mr. Edward J. Costa,
President SJWD Board of Directors
9935 Auburn-Folsom Road
Granite Bay, CA 95746

Mr. Neil W. Schild,
President SSWD Board of Directors
3701 Marconi Avenue #100,
Sacramento, CA 95821

Dear Mr. Costa and Mr. Schild,

We appreciated the opportunity to meet with both Districts' General Managers on Tuesday, January 27, 2015. The purpose of this letter is to inform both boards of our discussions and formalize our thoughts on the issues that we expressed at the meeting.

Fundamentally, Carmichael Water District (CWD) is not opposed to a merger between San Juan Water District (SJWD) and Sacramento Suburban Water District (SSWD). At this time, however, CWD is not interested in merging Carmichael with San Juan and Sac Suburban.

There are, however, numerous issues that need further clarification before Carmichael Water District will feel comfortable that the proposed merger will not cause harm to the District's long-term water management interests. Specifically, CWD management and staff are very concerned that the merger and the proposed integration of San Juan's and Sacramento Suburban's water assets will affect Carmichael's short-term and long-term water supply reliability. As Mr. Roscoe expressly stated at our meeting, there has been *no formal analysis* commissioned to demonstrate that the proposed integration of water assets would have no impact to Carmichael's, or any other regional water users', water supply reliability. This fact is deeply concerning.

At the meeting, Mr. Roscoe and Ms. Lorance indicated that San Juan Water District is free to manipulate its pre-1914 surface water assets and CVP Project Supply water assets in any way it chooses without consideration of the effects on other water users in the region or outside of the region. This conclusion is simply misguided. Specifically, any significant change in use of a water asset requires that such a change not injure other

legal users of water. Carmichael Water District is a legal user of water and has significant concerns that there is no analysis detailing precisely how the changes in water management contemplated by San Juan and Sac Suburban may impact the region's overall water supplies. The ongoing three-year drought, expanding regional population growth, changes in Delta water quality and flow requirements, the BDCP efforts, and the prospect of climate change may threaten the region's water supply reliability even with no changes to existing uses under existing rights. And modifying the places of use and amount of water used under one or more of San Juan Water District's water assets may further exacerbate regional tensions and problems both now and in the future. In short, any change in usage of one water asset in the region that harms another user's water supply reliability is simply not acceptable. The planned merger group has not conducted any water supply analysis that lends insight into these issues.

Mr. Roscoe and Ms. Lorance also indicated that there would be little change to the groundwater conditions in the region as a result of the merger – yet they indicated that in dry years, SSWD would be pushing much more groundwater into the San Juan service area to offset reductions in the San Juan family's surface water use. Large changes in groundwater operations, such as the one described by Mr. Roscoe and Ms. Lorance, require analysis – especially in light of the 2014 groundwater legislation as well as the presence of the Aerojet-Rocketdyne contaminant plume within the region. The new groundwater legislation impacts every groundwater user in the region and greatly expanded groundwater operations in dry years, as mentioned in the discussion, may further challenge our regional groundwater management efforts. Moreover, aggressive pumping in one location in dry conditions may impact the Aerojet plume's migration, causing further harm to entity's already affected. Accordingly, the potential regional implications of expanded groundwater pumping and delivery require technical and regulatory analysis before the integration of these water assets can be sanctioned.

As we indicated above, the merger of the two districts simply for administrative purposes appears logical. But the implications of the merger – the changes in point of diversion, place of use, volume of use, and timing of use of the various water assets used by the two districts and the San Juan family – requires a much more thorough assessment. Assuming that those issues will "resolve themselves" after the merger takes place is not a tenable planning position and certainly not grounds where CWD can sanction the merger. CWD implores you to conduct a detailed water management analysis before progressing with the proposed merger so that the region can be assured that the changes in water asset management and use that have been proposed are good for all of our regional partners and stakeholders.

Sincerely,

Steve Nugent,
General Manager

cc: Rob Roscoe, SSWD General Manager
Shauna Lorance, SJWD General Manager

Director Tobin's Report 2/25/2015

1 SGA – FEB 12, 2015

GROUNDWATER MANAGEMENT PROGRAM UPDATE

Rob Swartz, manager of Technical Services gave a presentation on the groundwater management Program. Staff has completed the final document which was distributed. The GMP update is also available on line at www.sgah2o.org.

The board approved a motion that authorizes the Executive Director to submit a finding of exemption for the update to the SGA groundwater management plan under the California Environmental Quality Act.

Staff also provided a summary of continued groundwater monitoring during drought conditions, water quality issues, outreach activities and the status of the SGA Water Accounting Framework.

- Construction of a new monitoring well at PFE & Walerga Rd to measure Hexavalent Chrome by the City of Roseville.
- With a flat gradient in the basin contaminates move to the cone of depression
- There are 8 agencies that rely on 90,000 acre feet of ground water: Carmichael, Sacramento City & County, Cal American, Del Paso, Garden State, Rio Linda and Sac Suburban.

UPDATE ON IMPLEMENTATION OF THE SUSTAINABLE GROUNDWATER MANAGEMENT ACT

Staff is still working on many areas of issues for implementation of the Sustainable Groundwater Management Act of 2014. It was submitted to the board and John Woodling gave a presentation on what will take place to be compliant with the DWR Implementation Act.

- Regulation Development – Rule making process
    - DWR will define basin boundaries by Jan 2016
    - SGA will develop plans, coordinate with multiple agencies by 2016

  Requirements

    - DWR wants SGA to establish a Groundwater Sustainability Agency by June 30, 2017
    - By Jan 2021 SGA must adopt and implement a groundwater sustainability plan
    - SGA was formed as part of the groundwater element as part of the Water Forum Agreement and it identified the North, South and Central Basin. DWR will be looking at ways that the basins of Western Placer County and Sutter County basins can be included in the Sacramento Basin as part of the new plan.
    - SGA believes that County boundaries may work better than DWR's Counties boundaries.

USING WATER FOR AGRICULTURE

On Saturday, February 21, 2015 Yolo County hosted an annual event called “Duck Days”. The tour of the DeWitt farms was just one of the tours offered in this day long celebration of water, wild life, people and farming.

Jack DeWitt invited me and guests (my husband Jim and Vicki Sacksteder) to be his guests as he lead the tour given on his rice farm. The balance of water, land use, the economy of rice sales and exports, the agricultural aspects of feeding America and other points in the world and the eco balance that involved the wildlife and migrating water fowl.

While Jack DeWitt farms over 5,000 acres, as a result of the drought they planted only 3,000 acres in 2014. Their water is supplied by groundwater wells. He’s one of the very few farmers to install a state of the art flow meter to track how much water his rice production uses. He described events that might cause the necessity of one field to be drained to save rice plants when weather doesn’t cooperate and due to unstable conditions the crop could suffer. Instead of discharging the water in a particular field of concern, that field is drained and water is moved to nearby fields. Rice grows in approx. 8-10 inches of water and that water controls weeds and pests. The rice fields have a base of clay or decomposed granite that keeps water from leaching into the ground and then top soil is on top of the base and soil nutrients are scientifically analyzed before planting takes place. Fields are rotated to maximize the best crop results.

There are many different varieties of rice. He explained the differences between white rice and brown rice and that wild rice is really a grass and not actually a rice. Brown rice has more protein than white rice because the bran has been removed and that bran is recycled into other products and animal food.

We toured the fields and the variety of equipment used in the production on the farm. There must be careful planning, marketing, growing, harvesting, drying, storing and getting the product to the markets, both here and Japan where some of his product is exported.

The fields had water being pumped into them and there were sandpiper cranes, speckled belly geese, coots and other species of ducks. As wetlands have been on the decline this practice of flooding fields prior to fertilizing is important to provide a habitat for migrating birds. Rice seed is being stored in soaking bins which is necessary in order to germinate prior to planting. Shortly, the fields will be drained, fertilized and then the fields will be filled again the fields will come alive once more with wildlife activity. It’s important to know that California water is not just about residential consumption. It’s about farming, wildlife and the eco system, recreation and feeding people here at home and all over the country as well as the world.

ACWA FEDERAL AFFAIRS

Currently in Washington D.C. as part of the ACWA Federal Affairs Committee.