



AGENDA

**REGULAR MEETING OF THE BOARD OF DIRECTORS
LA PUENTE VALLEY COUNTY WATER DISTRICT
112 N. FIRST STREET, LA PUENTE, CALIFORNIA
MONDAY, APRIL 10, 2017, AT 5:30 PM**

1. CALL TO ORDER

2. PLEDGE OF ALLEGIANCE

3. ROLL CALL OF BOARD OF DIRECTORS

President Hastings____ Vice President Rojas____ Director Aguirre____
Director Escalera____ Director Hernandez____

4. PUBLIC COMMENT

Anyone wishing to discuss items on the agenda or pertaining to the District may do so now. The Board may allow additional input during the meeting. A five-minute limit on remarks is requested.

5. ADOPTION OF AGENDA

Each item on the Agenda shall be deemed to include an appropriate motion, resolution or ordinance to take action on any item. Materials related to an item on this agenda submitted after distribution of the agenda packet are available for public review at the District office, located at the address listed above.

6. APPROVAL OF CONSENT CALENDAR

There will be no separate discussion of Consent Calendar items as they are considered to be routine by the Board of Directors and will be adopted by one motion. If a member of the Board, staff, or public requests discussion on a particular item, that item will be removed from the Consent Calendar and considered separately.

- A. Approval of Minutes of the Regular Meeting of the Board of Directors Held on March 27, 2017.
- B. Approval of District Expenses for the Month of March 2017.
- C. Approval of City of Industry Waterworks System Expenses for the Month of March 2017.
- D. Receive and File District's Water Sales Report for March 2017.
- E. Receive and File City of Industry Waterworks System's Water Sales Report for March 2017.
- F. Receive and File Report on Director Expenses for the First Quarter of 2017.

7. ACTION / DISCUSSION ITEMS

- A. Consideration of Resolution No. 245 Approving the 2017 Baldwin Park Operable Unit (BPOU) Project Agreement.

Recommendation: Approve Resolution No. 245 Authorizing the District to Enter into the 2017 BPOU Project Agreement and the General Manager to Execute the Project Agreement in a Form Substantially Similar to the Draft 2017 BPOU Project Agreement Approved by the Board.

- B. Consideration of the Purchase of Computer Equipment to Support the Meter Read Collection System Project.

Recommendation: Authorize the General Manager to Purchase Computer Equipment from Highroad Information Technology for a Price of \$16,753.00.

- C. Review and Discussion on the Final Draft of the Water Master Plan Document.

Recommendation: Board Discretion.

- D. Update on the Recycled Water Project.

Recommendation: Board Discretion.

8. GENERAL MANAGER'S REPORT

Recommendation: Receive and File Report.

9. OTHER ITEMS

- A. Upcoming Events.

- B. Information Items.

10. ATTORNEY'S COMMENTS

11. BOARD MEMBER COMMENTS

- A. Report on Events Attended.

- B. Other Comments.

12. FUTURE AGENDA ITEMS

13. CLOSED SESSION

Conference with Legal Counsel – Existing Litigation Pursuant to Government Code § 54956.9(d)(1). One Case: *Louise Marie Corona; Marina Rangel v. Raymond Rene Arvizo; La Puente Valley County Water District, et al.*, Los Angeles Superior Court Case No. BC646342.

14. REPORT ON CLOSED SESSION

15. ADJOURNMENT

POSTED: Friday, April 7, 2017

President David Hastings, Presiding.

Any qualified person with a disability may request a disability-related accommodation as needed to participate fully in this public meeting. In order to make such a request, please contact Mrs. Rosa Ruehlman, Board Secretary, at (626) 330-2126 in sufficient time prior to the meeting to make the necessary arrangements.

Note: Agenda materials are available for public inspection at the District office or visit the District's website at www.lapuentewater.com.



**MINUTES OF THE REGULAR MEETING OF
THE BOARD OF DIRECTORS OF THE
LA PUENTE VALLEY COUNTY WATER DISTRICT**

A regular meeting of the Board of Directors of the La Puente Valley County Water District was held on Monday, March 27, 2017 at 5:30 at the District office, 112 N. First St., La Puente, California.

Meeting called to order:

President Hastings called the meeting to order at 5:33 pm.

Pledge of Allegiance

President Hastings led the meeting in the Pledge of Allegiance.

Directors present:

David Hastings, President; William Rojas, Vice President; Charles Aguirre, Director; John P. Escalera and Henry Hernandez, Director.

Staff present:

Greg Galindo, General Manager; Rosa Ruehlman, Board Secretary; Gina Herrera, Customer Service/Accounting Supervisor; Roy Frausto, Compliance Officer/Project Engineer and Roland Trinh District Counsel.

Others Present:

Al Contreras, Director of Upper San Gabriel Valley Municipal Water District and Marie A. Contreras with the City of Baldwin Park.

Public Comment:

Mr. Contreras shared that he is available if the Board has any questions or concerns. Mr. Galindo asked if the Upper District's surcharge is going to increase in 2018. Mr. Contreras responded it appears to be leaning towards an increase. He shared his concerns that the cost for water will continue to increase.

Adoption of Agenda:

President Hastings asked for the approval of the agenda.

Motion by Director Aguirre seconded by Vice President Rojas, that the agenda be adopted as presented.

Motion approved by following vote:

Ayes: Hastings, Rojas, Aguirre, Escalera and Hernandez.

Nays: None.

Consent Calendar:

President Hastings asked for the approval of the Consent Calendar:

- A. Approval of the Minutes of the Regular Meeting of the Board of Directors held on March 13, 2017.

Motion by President Hastings, seconded by Director Hernandez, to approve the consent calendar as presented.

Motion approved by following vote:

Ayes: Hastings, Rojas, Aguirre, Escalera and Hernandez.

Nays: None.

Financial Reports:

A. Summary of Cash and Investments as of February 28, 2017.

- Mr. Galindo presented the cash and investment summary. The District's total cash and investments are over \$3.3M and Industry Public Utilities Water Operations is \$655,174.

During the discussion, Director Escalera asked if the Master Plan will be effective this year. Mr. Galindo responded he plans to finalize the document in the next month and will plan to do a rate study and identify what projects will be achieved in the coming years.

Motion by Vice President Rojas, seconded by Director Hernandez, to receive and file the Statement of the District's Revenues and Expenses as of February 28, 2017 as presented.

Motion approved by following vote:

Ayes: Hastings, Rojas, Aguirre, Escalera and Hernandez.

Nays: None.

B. Statement of the District's Revenues and Expenses as of February 28, 2017.

- Mrs. Herrera summarized the Statement of Revenues and Expenses for the District and Treatment plant operations.

Motion by Director Escalera, seconded by Vice President Rojas, to receive and file the Statement of the District's Revenues and Expenses as of February 28, 2017 as presented.

Motion approved by following vote:

Ayes: Hastings, Rojas, Aguirre, Escalera and Hernandez.

Nays: None.

C. Statement of the City of Industry Waterworks System's Revenues and Expenses as of February 28, 2017.

- Mrs. Herrera summarized the Statement of Revenues and Expenses for the City of Industry Waterworks System.
- Mr. Galindo added that staff began drafting the 2016-17 Budget and it is scheduled to be submitted to City of Industry by April 7, 2017.

Motion by President Hastings, seconded by Director Hernandez, to receive and file the Statement of the City of Industry Waterworks System's Revenues and Expenses as of February 28, 2017 as presented.

Motion approved by following vote:

Ayes: Hastings, Rojas, Aguirre, Escalera and Hernandez.

Nays: None.

Action/Discussion Items:

A. Consideration of Compensation Increase for the Board of Directors.

- Mrs. Ruehlman reported that each year it is at the discretion of the Board to review their per diem, for attendance at Board meetings and for each day of service for events, and based on Ordinance No. 2007-01 pursuant to Division 10 of the California Water Code, the per diem may be increased by five percent (5%). The current per diem is \$140.69 and with the 5% increase, the new rate would be \$147.72.
- Mrs. Ruehlman stated if the Board feels the increase is warranted and appropriate for the coming year no action is required. But if the Board determines it is not appropriate to take the increase, Board action is required.

No action was taken; therefore the per diem will increase to \$147.72 and shall automatically become effective.

B. Consideration of Repair to an Influent Booster Pump Located at the District's Groundwater Treatment Facility.

- Mr. Galindo reported that the influent booster pump station at the treatment facility has two pumps and both are currently working fine. He stated in order to minimize future down time in case of a pump failure, he is requesting to move forward to repair the spare pump and have it available as a backup.
- Mr. Galindo reported this is a BPOU Project expense and is 100% reimbursable by the Cooperating Respondents.
- Director Escalera asked how long it would take to have a pump repaired if a spare was not available. Mr. Galindo responded that it would take about three weeks to have the pump pulled, inspected, and repaired. He added, with a spare pump available, it would take one day to replace a failed pump

After further discussion, motion by Director Aguirre, seconded by Director Hernandez, to authorize General Manager to secure the services of Tri County Pump Company to repair an Influent Booster Pump for a not to exceed cost of \$12,764.19.

Motion approved by following vote:

Ayes: Hastings, Rojas, Aguirre, Escalera and Hernandez.

Nays: None.

- C. Consideration of Purchase of UV Lamps for the Trojan UV Treatment System Located at the District's Groundwater Treatment Facility.**
- Mr. Galindo reported we have two UV reactors that treat 1,4 Dioxane and NDMA. DDW permit requires that the lamps must be replaced every 8,760 lamp hours of operation. The lamps are approaching the 8,760 hour mark and need to be replaced.
 - Mr. Galindo recommends the Board authorize the General Manager to purchase UV Lamps from Trojan Technologies at cost of \$43,878.80.
 - Mr. Galindo reported this is a BPOU Project expense and is 100% reimbursable by the Cooperating Respondents.

After further discussion, motion by Director Hernandez, seconded by Vice President Rojas, to authorize the General Manager to purchase UV Lamps from Trojan Technologies at a cost not to exceed \$43,878.80.

Motion approved by following vote:

Ayes: Hastings, Rojas, Aguirre, Escalera and Hernandez.

Nays: None.

- D. Consideration of Purchase of Neptune Radio Read Meter Data Collector Unit and Neptune Radio Read Software Upgrade.**
- Mr. Galindo reported that in 2010 the District purchased a radio read collection unit that was installed at the Main Street reservoir site. It was able to collect reads from 450 meters on a regular basis without needing to drive by. The information was transmitted to the Main office computer and staff was able to identify customers with leaks or excessive usage between the bimonthly billing period.
 - Mr. Galindo stated since that period, much has improved in the meter read collection technology as well as the software. His overall objective is to eventually provide this data to our customers so that they may be able to access information about their water usage and leaks they may have through the District's website.

After further discussion, motion by Director Aguirre, seconded by Vice President Rojas, to authorize the General Manager to purchase Neptune Radio Read Meter Data Collector Unit and Neptune Radio Read Software Upgrade from Ferguson Waterworks at a cost not to exceed \$15,805.

Motion approved by following vote:

Ayes: Hastings, Rojas, Aguirre, Escalera and Hernandez.

Nays: None.

Project Engineer's Report:

Mr. Frausto presented his report: (See memo)

- He provided a memorandum of the activities he and Staff worked on during the month of February 2017 and highlighted some of those items in his report.
- He reported that a Final Draft Master Plan document will be presented at the next Board meeting for approval.
- He reported that on the Recycled Water, the Recycled Water Ad hoc Committee will meet on Thursday, March 30, 2017, at 3:30 p.m.

After further discussion, motion by Director Escalera seconded by Vice President Rojas, to receive and file the Project Engineer's report as presented.

Motion approved by following vote:

Ayes: Hastings, Rojas, Aguirre, Escalera and Hernandez.

Nays: None.

General Manager's Report:

Mr. Galindo provided some information

- He reported he will be taking some time off next week.
- He reported that this Wednesday, March 29, 2017, he will be attending the SGVWA Legislative Day in Sacramento.
- He attended the Watermaster's Finance Committee and all the assessments are being formulated to be adopted in May.

Information Items:

A. Upcoming Events.

- Mrs. Ruehlman provided an update on the upcoming events for 2017, and who will be attending.
- Mrs. Ruehlman shared if any other Directors wish to attend the ACWA Spring Conference in Monterey; the deadline is April 14, 2017.
- Mrs. Ruehlman shared that the Conflict of Interest Forms (Form 700) are just about completed by everyone and are due by April 3, 2017.

B. Correspondence to the Board of Directors.

- There was no correspondence.

Attorney comments:

- Mr. Trinh had no report.

Board member comments:

A. Report on events attended.

- President Hastings, Vice President Rojas and Directors Aguirre and Escalera attended the SCWUA at the Pomona Fairplex on March 23, 2017.
- Director Hernandez attended the Water Education for Latino Leaders Conference in San Diego on March 23-24, 2017.

B. Other comments.

- Board had no comments.

Future agenda items:

- No future items.

Closed Session

A. Conference with Legal Counsel – Anticipated Litigation. Significant Exposure to Litigation Pursuant to Government Code § 54956.9(d)(2): (One Case)

B. Conference with Legal Counsel – Existing Litigation Pursuant to Government Code

§ 54956.9(d)(1). One Case: *Louise Marie Corona; Marina Rangel v. Raymond Rene Arvizo; La Puente Valley County Water District, et al.* Los Angeles Superior Court Case No. BC646342.

Report On Closed Session

- A. Mr. Trinh reported that the Board met in closed session on Anticipated Litigation, Government Code § 54956.9(d)(2). One Case and no reportable action was taken.

- B. Mr. Trinh reported that the Board met in closed session Existing Litigation, Pursuant to Government Code § 54956.9(d)(1). One Case: *Louise Marie Corona; Marina Rangel v. Raymond Rene Arvizo; La Puente Valley County Water District, et al.* Los Angeles Superior Court Case No. BC646342 and no reportable action was taken.

Adjournment:

There is no further business or comment, the meeting was adjourned at 6:53 p.m.

David Hastings, President

Rosa B. Ruehlman, Secretary

La Puente March 2017 Disbursements

Check #	Payee	Amount	Description
4582	Miguel A Molina	\$ 239.21	Clothing Allowance Reimbursement
4583	William D Clark	\$ 90.00	Reimbursement T-3 Renewal
4584	Fedak & Brown LLP	\$ 6,500.00	2016 Audit Expense
4585	James Mintz	\$ 275.00	Public Outreach Supplies
4586	Airgas	\$ 42.43	Field Supplies
4587	Cell Business Equipment	\$ 46.13	Office Expense
4588	Chevron	\$ 1,549.45	Truck Fuel
4589	Citi Cards	\$ 137.05	Generator & Truck Maintenance
4590	Civiltec Engineering Inc	\$ 4,111.25	General , Master Plan & Developer Expenses
4591	Eva's Cleaning Service	\$ 420.00	Cleaning Service
4592	Ferguson Enterprises Inc #1350	\$ 127.78	Field Supplies
4593	G. M. Sager Construction	\$ 5,455.30	Field Expense - Patchwork
4594	Highroad IT	\$ 402.00	Technical Support
4595	Industry Public Utilites	\$ 25,778.18	Web Payments February 2017
4596	Industry Public Utilities	\$ 7,366.22	Warrantied Registers Reimbursement
4597	Industry Tire Service Inc	\$ 85.00	Truck Maintenance
4598	InfoSend	\$ 928.80	Billing Expense
4599	Merritt's Hardware	\$ 158.33	Field Supplies
4600	O'Reilly Auto Parts	\$ 8.68	Truck Maintenance
4601	Platinum Consulting Group	\$ 2,583.75	Administrative Support
4602	S & J Supply Co Inc	\$ 2,591.49	Field Supplies - Inventory
4603	SC Edison	\$ 6,092.70	Power Expense
4604	Time Warner Cable	\$ 261.33	Telephone Service
4605	Underground Service Alert	\$ 41.25	Line Notifications
4606	United Traffic Services & Supply	\$ 142.24	Safety Supplies
4607	Valley Vista Services	\$ 296.64	Trash Service
4608	Verizon Wireless	\$ 325.68	Cell Phone Service
4609	Vulcan Materials Company	\$ 388.77	Field Expense - Asphalt
4610	Western Water Works	\$ 2,739.78	Field Supplies - Inventory
4611	Evoqua	\$ 95,151.02	Ion Exchange Resin Changeout
4612	Johnny's Pool Services Inc	\$ 44.86	Chemicals Expense
4613	McMaster-Carr Supply Co	\$ 920.99	Field Supplies
4614	Northstar Chemical	\$ 4,291.00	Chemicals Expense
4615	Weck Laboratories Inc	\$ 5,438.00	Water Sampling
4616	Weck Laboratories Inc	\$ 35.00	Water Sampling
4617	So Cal Industries	\$ 140.00	Restroom Service @ Treatment Plant
4618	Time Warner Cable	\$ 518.71	Telephone Service
4619	Waste Management of SG Valley	\$ 190.84	Trash Service
4620	ACWA/JPIA	\$ 11,838.90	Property Insurance
4621	Answering Service Care	\$ 76.48	Answering Service
4622	Bill Wright's Paint	\$ 34.24	Field Supplies
4623	CalPERS	\$ 31,250.00	Employer Contribution- OPEB
4624	Citi Cards	\$ 2,313.07	Conference & Administrative Expenses
4625	Ed Butts Ford	\$ 2,989.29	Truck Maintenance

La Puente March 2017 Disbursements - continued

Check #	Payee	Amount	Description
4626	Jack Henry & Associates	\$ 43.38	Web E-Check Fee's
4627	Lagerlof, Senecal, Gosney & Kruse	\$ 10,542.75	Attorney Fee's
4628	San Gabriel Valley Water Company	\$ 145.17	Water Service @ Treatment Plant
4629	Time Warner Cable	\$ 231.69	Telephone Service
4630	Western Water Works	\$ 4,013.64	Field Supplies - Inventory
4631	World Space Foundation	\$ 1,000.00	Water Education Services
4632	So Cal Water Utilities Association	\$ 150.00	Seminar Expense
4633	ACWA/JPIA	\$ 347.00	Excess Crime Insurance
4634	B&W Communications Inc	\$ 295.69	Radio Expense
4635	Bank of America-Visa	\$ 507.80	Conference & Administrative Expenses
4636	Bill Wright's Paint	\$ 40.76	Field Supplies
4637	Cell Business Equipment	\$ 59.34	Office Expense
4638	Citi Cards	\$ 1,956.88	Office, Field, Seminar & Public Outreach Expenses
4639	Collicutt Energy Services Inc	\$ 940.08	Generator Maintenance
4640	Downs Energy Inc	\$ 386.48	Booster Pump Maintenance
4641	Ferguson Enterprises Inc #1350	\$ 44.67	Field Supplies - Inventory
4642	Highroad IT	\$ 1,250.00	Security Software Maintenance
4643	Peck Road Gravel	\$ 250.00	Asphalt & Concrete Disposal
4644	Platinum Consulting Group	\$ 275.00	Administrative Support
4645	Spatial Wave	\$ 570.00	Mapping Software Maintenance
4646	Staples	\$ 102.92	Office Supplies
4647	Tri County Pump Company	\$ 8,291.50	Booster Motor Repair
4648	Verizon Wireless	\$ 310.05	Cell Phone Service
4649	Vulcan Materials Company	\$ 96.08	Asphalt & Concrete Disposal
4650	Western Water Works	\$ 2,790.14	Field Supplies - Inventory
4651	ACWA/JPIA	\$ 30,170.47	Health Benefits
4652	Lincoln National Life Insurance Company	\$ 593.96	Disability Insurance
4653	MetLife	\$ 285.99	Life Insurance
4654	Petty Cash	\$ 112.40	Office/ Field Expense
4655	Premier Access Insurance Co	\$ 2,753.23	Dental Insurance
4656	Weck Laboratories Inc	\$ 485.50	Water Sampling
4657	SC Edison	\$ 25,682.19	Power Expense
4658	Henry P Hernandez	\$ 236.77	WELL's 2017 Conference Expenses
4659	Henry P Hernandez	\$ 80.00	WELL's 2017 Conference Expenses
Online	Home Depot	\$ 755.98	Field Supplies
Autodeduct	Wells Fargo	\$ 147.75	Merchant Fee's
Autodeduct	Wells Fargo	\$ 448.13	Bank Fee's
Autodeduct	First Data Global Leasing	\$ 60.76	Credit Card Machine Lease
Autodeduct	Bluefin Payment Systems	\$ 847.22	Web Merchant Fee's
On-line	United States Treasury	\$ 23,456.92	Federal, Social Security & Medicare Taxes
On-line	EDD	\$ 4,008.92	California State & Unemployment Taxes
On-line	Lincoln Financial Group	\$ 5,931.00	Deferred Comp
On-line	CalPERS	\$ 13,237.43	Retirement Program
Total Payments		\$ 368,352.48	

La Puente Valley County Water District
Payroll Summary
March 2017

	<u>March 2017</u>
Wages, Taxes and Adjustments	
Total Gross Pay	94,327.57
Deductions from Gross Pay	
457b Plan Employee	-3,954.00
CalPers EEC	-1,015.76
MetLife	-97.12
Total Deductions from Gross Pay	<u>-5,066.88</u>
Adjusted Gross Pay	89,260.69
Taxes Withheld	
Federal Withholding	-8,994.00
Medicare Employee	-1,370.68
Social Security Employee	-5,860.78
CA - Withholding	-3,974.61
Medicare Employee Addl Tax	0.00
Total Taxes Withheld	<u>-20,200.07</u>
Net Pay	<u>69,060.62</u>
Total Employer Taxes and Contributions	<u>7,466.77</u>

La Puente March 2017 Disbursements

Total Vendor Payables	<u>\$ 368,352.48</u>
Total Payroll	<u>\$ 69,060.62</u>
Total March 2017 Disbursements	<u>\$ 437,413.10</u>

Invoice No. 4- 2017-03

April 1, 2017

BPOU Project Committee Members

RE: BPOU O & M Expense Reimbursement Summary



The following cost breakdown represents O & M expenses incurred by the LPVCWD for the month of March 2017.

<u>BPOU Acct No.</u>	<u>Description</u>	<u>Invoice No.</u>	<u>Vendor</u>	<u>Amount</u>	<u>Subtotal</u>
LP.02.01.01.00	Power	2-15-629-6188 2-03-187-2179	SC Edison SC Edison	\$ 13,646.45 \$ 12,035.74	\$ 25,682.19
LP.02.01.02.00	Labor Costs	Mar-17	LPVCWD	\$ 23,260.79	\$ 23,260.79
LP.02.01.05.00	Transportation	Mar-17	LPVCWD - 2374 miles @ .535	\$ 1,270.09	\$ 1,270.09
LP .02.01.07.00	Water Testing	W7A3949 W7B0597 W7B1210 W7B1591 W7B1592 W7B1595 W7B1601 W7B1602 W7C0464 W7C0465 W7C0478 W7C0485 W7C0707 W7C1355 W7C1593 W7C1597 W7C1598 W7C1599 W7C1600 W7C1750 W7D0231	Weck Labs Weck Labs	\$ 35.00 \$ 656.50 \$ 35.00 \$ 845.50 \$ 67.00 \$ 616.75 \$ 542.00 \$ 307.00 \$ 35.00 \$ 602.50 \$ 621.50 \$ 35.00 \$ 621.50 \$ 35.00 \$ 70.00 \$ 648.50 \$ 35.00 \$ 520.00 \$ 307.00 \$ 35.00 \$ 35.00	\$ 6,705.75
LP.02.01.10.00	Operations Monitoring	9462; 03/17 2906; 03/17	Time Warner Cable Time Warner Cable	\$ 218.71 \$ 300.00	\$ 518.71
<u>LP.02.01.12.00</u>	<u>Materials/Supplies</u>				
LP.02.01.12.05	Hydrogen Peroxide	201/6835	Trojan UV	\$ 14,138.68	\$ 14,138.68
LP.02.01.12.06	Sodium Hypochlorite	98331 99511 100141	Northstar Chemical Northstar Chemical Northstar Chemical	\$ 1,407.84 \$ 1,489.38 \$ 1,501.61	\$ 4,398.83
LP.02.01.12.11	Sodium Hydroxide	100442	Northstar Chemical	\$ 1,106.00	\$ 1,106.00
LP.02.01.12.15	Other Expendables	10359990 10362863 7584588 097270	HACH HACH Home Depot Merritts	\$ 783.89 \$ 271.39 \$ 11.93 \$ 17.38	\$ 1,084.59
LP.02.01.12.17	Sulfuric Acid	100528	Northstar Chemical	\$ 1,881.50	\$ 1,881.50
LP.02.01.14.00	Repair/Replacement	0211446-IN	Downs Energy	\$ 193.24	\$ 193.24
LP.02.01.17.00	Insurance	04/01/16-04/01/17	ACWA/JPIA	\$ 5,741.23	\$ 5,741.23
LP.02.01.80.00	Other O & M	AS;2016 AS;2016 19594 30312 262975 9863569-2519-8	Fedak & Brown LLP Fedak & Brown LLP HighRoad IT Platinum Consulting Group So Cal Industries Waste Management	\$ 3,250.00 \$ 3,000.00 \$ 134.00 \$ 96.25 \$ 140.00 \$ 190.84	\$ 6,811.09
				Total Expenditures	\$ 92,792.69
				District Pumping Cost Deduction	\$ 14,014.02
				Total O & M	\$ 78,778.67
				Total Capital Cost Reimbursable	\$ -
				Total Cost Reimbursable	\$ 78,778.67

Industry March 2017 Disbursements

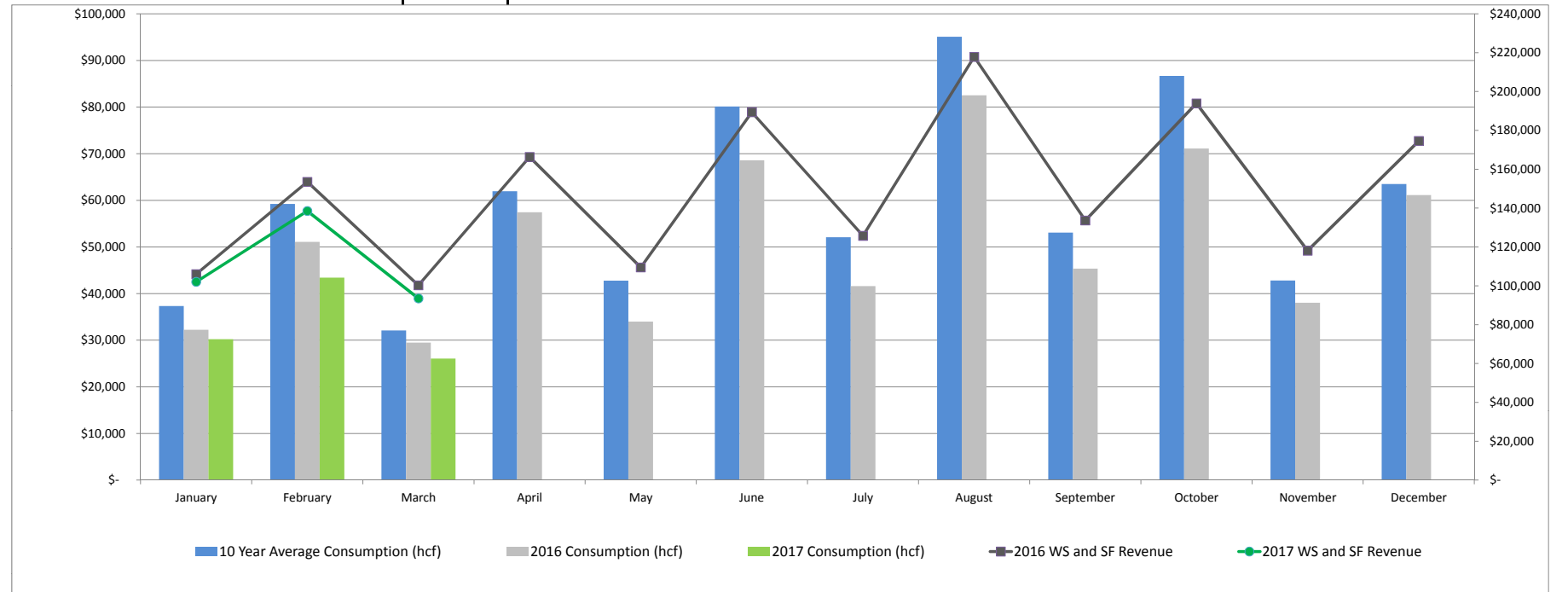
Check #	Payee	Amount	Description
2479	Airgas	\$ 42.42	Field Supplies
2480	Cell Business Equipment	\$ 46.13	Office Expense
2481	Ferguson Enterprises Inc	\$ 39.91	Field Supplies
2482	G. M. Sager Construction	\$ 1,792.80	Field Expense - Patch Work
2483	Highroad IT	\$ 268.00	Technical Support
2484	La Puente Valley County Water District	\$ 611.07	Web CC & Bank Fee's Reimbursed December 2016
2485	La Puente Valley County Water District	\$ 576.67	Web CC & Bank Fee's Reimbursed January 2017
2486	InfoSend	\$ 701.94	Billing Expense
2487	La Puente Valley County Water District	\$ 58,497.44	Labor Costs February 2017
2488	Merritt's Hardware	\$ 26.58	Field Supplies
2489	Platinum Consulting Group	\$ 378.75	Administrative Support
2490	Sunbelt Rentals	\$ 343.87	Equipment Rental & Concrete
2491	The Gas Company	\$ 14.30	Gas Expense
2492	Time Warner Cable	\$ 51.51	Telephone Service
2493	Time Warner Cable	\$ 261.33	Telephone Service
2494	Underground Service Alert	\$ 41.25	Line Notifications
2495	United Traffic Services & Supply	\$ 142.25	Safety Supplies
2496	Verizon Wireless	\$ 325.68	Cell Phone Service
2497	Vulcan Materials Company	\$ 388.76	Field Expense - Asphalt
2498	Customer Overpayment Refund	\$ 8.51	RIF I - Valley Blvd LLC
2499	Customer Overpayment Refund	\$ 20.00	Elandia Company Inc
2500	ACWA/JPIA	\$ 7,324.10	Property Insurance
2501	Answering Service Care	\$ 76.48	Answering Service
2502	Bill Wright's Paint	\$ 102.16	Field Supplies
2503	Jack Henry & Associates	\$ 43.37	Web E-Check Fee's
2504	La Puente Valley County Water District	\$ 647.67	Web CC & Bank Fee's Reimburse February 2017
2505	La Puente Valley County Water District	\$ 45,517.50	1st Quarter 2017 O&M Fee
2506	Lagerlof, Senecal, Gosney & Kruse	\$ 993.75	Attorney Fee's
2507	Peck Road Gravel	\$ 200.00	Asphalt & Concrete Disposal
2508	Sunbelt Rentals	\$ 384.87	Equipment Rental & Concrete
2509	The Gas Company	\$ 18.66	Gas Expense
2510	ACWA/JPIA	\$ 347.00	Excess Crime Insurance
2511	Bill Wright's Paint	\$ 92.43	Field Supplies
2512	Cell Business Equipment	\$ 59.33	Office Expense
2513	Citi Cards	\$ 1,024.95	Accounting Software Expense
2514	County of LA Dept of Public Works	\$ 1,002.00	Permit Fee's
2515	Downs Energy Inc	\$ 386.48	Booster Pump Maintenance
2516	Highroad IT	\$ 1,250.00	Security Software Maintenance
2517	Industry Public Utility Commission	\$ 164.90	Industry Hills Power Expense
2518	Peck Road Gravel	\$ 150.00	Asphalt & Concrete Disposal
2519	Platinum Consulting Group	\$ 52.50	Administrative Support

Industry March 2017 Disbursements - continued

Check #	Payee	Amount	Description
2520	San Gabriel Valley Water Company	\$ 993.96	Purchased Water - Salt Lake
2521	SC Edison	\$ 8,157.62	Power Expense
2522	Spatial Wave	\$ 430.00	Mapping Software Maintenance
2523	Staples	\$ 102.92	Office Supplies
2524	Verizon Wireless	\$ 310.05	Cell Phone Service
Online	Home Depot	\$ 271.54	Field Supplies
Autodeduct	Wells Fargo Merchant Fee's	\$ 60.96	Merchant Fee's
Autodeduct	First Data Global Leasing	\$ 60.76	Credit Card Machine Lease
Total March 2017 Disbursements		\$ 134,805.13	

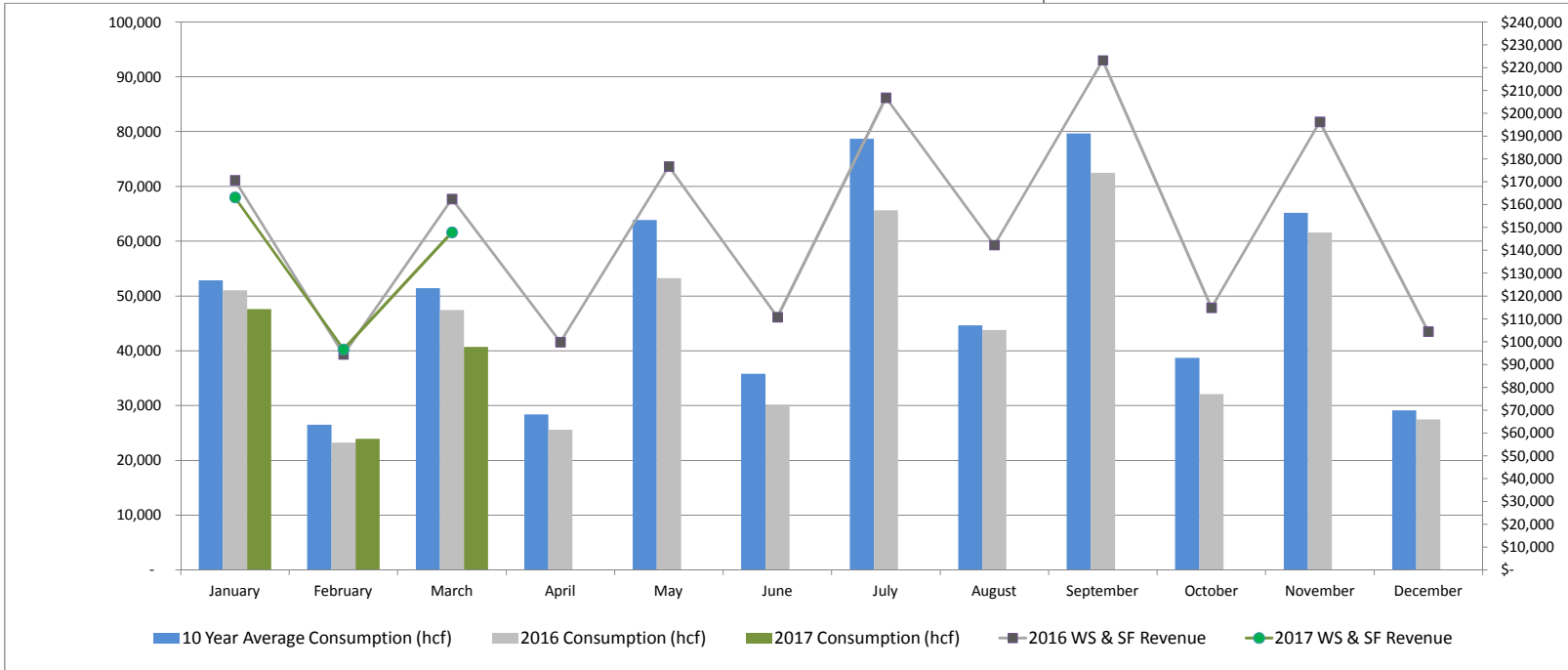
WATER SALES REPORT LPVCWD 2017

LPVCWD	January	February	March	April	May	June	July	August	September	October	November	December	YTD
No. of Customers	1,188	1,225	1,183	-	-	-	-	-	-	-	-	-	3,596
2017 Consumption (hcf)	30,207	43,404	26,046	-	-	-	-	-	-	-	-	-	99,657
2016 Consumption (hcf)	32,243	51,102	29,493	57,451	33,994	68,606	41,594	82,514	45,359	71,112	38,021	61,125	612,614
10 Year Average Consumption (hcf)	\$ 37,331	\$ 59,234	\$ 32,104	\$ 61,962	\$ 42,767	\$ 80,140	\$ 52,081	\$ 95,093	\$ 53,074	\$ 86,687	\$ 42,815	\$ 63,496	\$ 706,782
2017 Water Sales	\$ 56,237	\$ 83,965	\$ 47,979	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 188,181
2016 Water Sales	\$ 60,494	\$ 99,236	\$ 54,751	\$ 111,992	\$ 63,934	\$ 134,930	\$ 80,192	\$ 163,798	\$ 87,848	\$ 139,800	\$ 72,334	\$ 119,456	\$ 1,188,767
2017 Service Fees	\$ 45,815	\$ 54,553	\$ 45,542	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 145,911
2016 Service Fees	\$ 45,513	\$ 54,279	\$ 45,512	\$ 54,348	\$ 45,539	\$ 54,451	\$ 45,551	\$ 54,044	\$ 45,784	\$ 54,104	\$ 45,759	\$ 55,090	\$ 599,974
2017 Hyd Fees	\$ 950	\$ 950	\$ 950	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,850
2017 DC Fees	\$ 317	\$ 6,962	\$ 380	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,659
2017 System Revenue	\$ 103,318	\$ 146,431	\$ 94,852	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 344,601



WATER SALES REPORT CIWS 2017

CIWS	January	February	March	April	May	June	July	August	September	October	November	December	YTD
No. of Customers	956	851	958	-	-	-	-	-	-	-	-	-	2,765
2017 Consumption (hcf)	47,606	23,933	40,733	-	-	-	-	-	-	-	-	-	112,272
2016 Consumption (hcf)	51,014	23,246	47,428	25,586	53,232	30,162	65,617	43,802	72,486	32,073	61,597	27,487	533,730
10 Year Average Consumption (hcf)	52,850	26,517	51,414	28,401	63,879	35,827	78,661	44,666	79,663	38,695	65,187	29,130	594,889
2017 Water Sales	\$ 106,782	\$ 52,614	\$ 90,766	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 250,162
2016 Water Sales	\$ 114,600	\$ 50,870	\$ 106,339	\$ 56,178	\$ 120,403	\$ 67,151	\$ 150,423	\$ 98,801	\$ 166,716	\$ 71,308	\$ 139,893	\$ 60,542	\$ 1,203,224
2017 Service Fees	\$ 56,427	\$ 44,029	\$ 57,111	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 157,566
2016 Service Fees	\$ 56,143	\$ 43,530	\$ 56,179	\$ 43,621	\$ 56,350	\$ 43,611	\$ 56,399	\$ 43,492	\$ 56,460	\$ 43,537	\$ 56,377	\$ 43,902	\$ 599,601
2017 Hyd Fees	\$ 1,575	\$ 225	\$ 1,625	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,425
2017 DC Fees	\$ 10,901	\$ 2,511	\$ 11,617	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 25,029
2017 System Revenues	\$ 175,685	\$ 99,379	\$ 161,119	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 436,183



**La Puente Valley County Water District
Directors Expense Summary for 1st Quarter 2017**

Date	Description	Charles Aguirre		John P. Escalera		David Hastings		Henry P. Hernandez		William R. Rojas		Total
		Number of days	Compensation	Number of days	Compensation	Number of days	Compensation	Number of days	Compensation	Number of days	Compensation	
Per Diem Summary:												
140.69												
Jan-Mar 2017	Regular Board Meetings	6	\$ 844.14	6	\$ 844.14	6	\$ 844.14	6	\$ 844.14	6	\$ 844.14	\$ 4,220.70
01/26/17	SCWUA		\$ 140.69		\$ 140.69		\$ 140.69				\$ 140.69	\$ 562.76
02/04/17	WELL Regional Workshop				\$ 140.69						\$ 140.69	\$ 281.38
2/15-17/17	AGWT Conference			3	\$ 422.07	3	\$ 422.07	3	\$ 422.07			\$ 1,266.21
02/23/17	SCWUA	1	\$ 140.69	1	\$ 140.69	1	\$ 140.69			1	\$ 140.69	\$ 562.76
02/24/17	Recycled Water Ad hoc Committee							1	\$ 140.69	1	\$ 140.69	\$ 281.38
03/23/17	SCWUA	1	\$ 140.69	1	\$ 140.69	1	\$ 140.69			1	\$ 140.69	\$ 562.76
03/23-24/2017	WELLS' 2017 Conference							3	\$ 422.07			\$ 422.07
												\$ —
												\$ —
												\$ —
	Total:	8	\$ 1,266.21	11	\$ 1,828.97	11	\$ 1,688.28	13	\$ 1,828.97	9	\$ 1,547.59	\$ 8,160.02
Other Related Costs:												
01/26/17	SCWUA Lunch Meeting		\$ 30.00		\$ 30.00		\$ 30.00				\$ 30.00	\$ 120.00
02/08/17	SGVVA Lunch Meeting		\$ 25.00		\$ 25.00		\$ 25.00				\$ 25.00	\$ 100.00
2/15-17/17	AGWT Conference				\$ 575.00		\$ 470.00		\$ 470.00			\$ 1,515.00
02/23/17	SCWUA Lunch Meeting		\$ 30.00		\$ 30.00		\$ 30.00				\$ 30.00	\$ 120.00
2/15-17/17	Mileage @ .535 (AGWA-AGWT)				\$ 80.25		\$ 80.25		\$ 80.25			\$ 240.75
03/23/17	SCWUA Lunch Meeting		\$ 30.00		\$ 30.00		\$ 30.00				\$ 30.00	\$ 120.00
3/23-24/17	Hotel for Hernandez								\$ 471.31			\$ 471.31
3/23-24/17	Mileage @ .535 (WELLS')								\$ 135.89			\$ 135.89
3/23-24/17	Meals - WELLS'								\$ 49.88			\$ 49.88
	Parking - WELLS'								\$ 80.00			\$ 80.00
	Transportation WELLS'								\$ 14.00			\$ 14.00
	Misc. WELLS'								\$ 37.00			\$ 37.00
	Total:		\$ 1,521.90		\$ 2,739.91		\$ 2,494.22		\$ 3,730.06		\$ 1,943.97	\$ 3,003.83
Jan-Mar 2017	Benefits		\$ 3,568.59		\$ 5,068.17		\$ 6,944.34		\$ 2,539.53		\$ 1,846.71	\$ 19,967.34

Memo



To: Honorable Board of Directors
From: Greg B. Galindo, General Manager
Date: April 7, 2017
Re: 2017 Baldwin Park Operable Unit Project Agreement

Summary

As the Board is well aware, staff along with District Counsel and the parties to the 2002 Baldwin Park Operable Unit Project (BPOU) Agreement (2002 Agreement), have been negotiating an extension to the 2002 Agreement since June of 2015. The parties to the 2002 Agreement include the Main San Gabriel Basin Watermaster, the San Gabriel Basin Water Quality Authority, La Puente Valley County Water District, San Gabriel Valley Water Company, Suburban Water Systems, California Domestic Water Company and Valley County Water District, collectively, the “Water Entities,” and Aerojet-General Corporation, Azusa Land Reclamation Co., Inc., Fairchild Holding Corporation, Hartwell Corporation, Huffy Corporation, Oil & Solvent Process Company, Reichhold, Inc., and Wynn Oil Company, collectively, the “Cooperating Respondents.” The current parties have finally come to an agreement on the new 2017 BPOU Project Agreement. The 2017 Agreement is enclosed along with District Resolution No. 245 for your review and approval. Also enclosed is Watermaster’s petition to the Superior Court for approval of the 2017 Agreement that provides some history of the BPOU Project and an overview of the 2017 Agreement as compared to the 2002 Agreement.

As you are aware the 2002 Agreement expires in May of this year. Over the span of the 2002 Agreement the District has insulated its Customers from paying the cost of groundwater cleanup related to the BPOU contamination. In addition, the District has and continues to provide treated water from its well field that meets all Federal and State drinking water standards, providing a safe and reliable water supply for the District’s Customers and also to Customers of Suburban Water Systems.

As for the negotiations, as you can imagine, with this many parties and such a complex and costly issue as groundwater cleanup, the 2017 Agreement is also complex and not all parties feel its provisions are as favorable as they would like them to be. The negotiations to extend the 2002 Agreement was a monumental task. With so many differing positions and interests, at times this task seemed insurmountable. The parties attempted to address all the major concerns with the 2002 Agreement while keeping as many of the 2002 Agreement provisions as possible. Staff concludes this has been accomplished for the most part.

As for the District, staff believes that the primary functions and benefits of the 2017 BPOU Agreement is to continue the funding of groundwater cleanup at the District’s well field, continue treating groundwater to meet all State and Federal drinking water regulations and continue to meet the water supply needs of our Customers. The 2017 BPOU Agreement accomplishes this and also addresses other concerns that the District had with 2002 Agreement, such as the amount of management fee the District receives, the funding of treatment of other contaminants, legacy liability

issues with certain waste streams from the treatment process and delivery of water from our well field to the City of Industry Waterworks System. Although we were able to address some issues, others were not able to be completely addressed, such as the term of the new agreement. The District was pursuing another 15-year term, but the parties have agreed to a 10-year term. Another issue is the provisions for insurance, which are not as favorable as the 2002 Agreement.

In all, terms of the 2017 Agreement continue to address the most vital concerns of the District and insulate our Customers from paying any cost related to the BPOU contamination. Moving forward our staff will continue to work cooperatively with the Cooperating Respondents to operate the District's Groundwater Treatment Facility in an efficient manner while holding drinking water quality and public health as our primary concern.

In conclusion, I do believe the groundwater treatment work the District and the other Water Entities are performing in the San Gabriel Valley is of paramount importance, not only for the current residence of the area but for future generations.

Recommendation

Approve Resolution No. 245 thereby approving the 2017 Baldwin Park Operable Unit (BPOU) Project Agreement.

Respectfully Submitted,

Greg B. Galindo

General Manager

Enclosures

1. Resolution No. 245 - Authorizing the District to Enter into the 2017 BPOU Project Agreement and the General Manager to Execute the Project Agreement in a Form Substantially Similar to the Draft 2017 BPOU Project Agreement Approved by the Board.
2. 2017 BPOU Agreement
3. Petition by Watermaster for Approval of the BPOU Agreement Renewal



RESOLUTION NO. 245

RESOLUTION OF THE BOARD OF DIRECTORS OF THE LA PUENTE VALLEY COUNTY WATER DISTRICT APPROVING THE 2017 BALDWIN PARK OPERABLE UNIT PROJECT AGREEMENT

WHEREAS, the La Puente Valley County Water District (the District) is a party to the Baldwin Park Operable Unit ("BPOU") Project Agreement dated March 29, 2002 wherein numerous potentially responsible parties (referred to as the "Cooperating Respondents") agreed to, among other things, conduct certain remedial groundwater cleanup in the BPOU and fund water treatment systems and processes for water purveyors impacted by contamination in the BPOU as a settlement to certain claims for damages brought by said water purveyors against the Cooperating Respondents; and

WHEREAS, the District is one of the water purveyors that filed a lawsuit against the Cooperating Respondents for the costs incurred in the construction and operations of the District's water treatment system and for various claims for damages suffered by the District as a result of contamination of the District's sources of water supply in the BPOU;

WHEREAS, the BPOU Project Agreement will terminate on May 8, 2017; and

WHEREAS, the Cooperating Respondents remain subject to that Unilateral Administrative Order No. 2000-13 issued by the Environmental Protection Agency ("EPA") to remedy the contamination in the BPOU; and

WHEREAS, the District, along with the other water purveyors affected by contamination at the BPOU, including San Gabriel Valley Water Company, Valley County Water District, California Domestic Water Company, and Suburban Water Systems (hereinafter the "Water Entities"), have participated in extensive negotiations with the Cooperating Respondents and EPA since April of 2015 to extend or renew the BPOU Project Agreement; and

WHEREAS, the Cooperating Respondents have agreed to continue to remedy the groundwater contamination in the BPOU under principally similar terms as the existing BPOU Project Agreement, including the funding of the operations of the District's water treatment system; and

WHEREAS, the District has agreed to settle its claims against the Cooperating Respondents to the extent agreed by the terms of the restated agreement titled the "2017 BPOU Project Agreement"; and

WHEREAS, the 2017 BPOU Project Agreement has been agreed to in principal by the Cooperating Respondents and Water Entities, with only one issue outstanding relative to the amount of certain project insurance policy limits; and

WHEREAS, the Los Angeles Superior Court is scheduled to hear and approve the 2017 BPOU Project Agreement on April 28, 2017 at 9:30 a.m. in Department 38, which must have for its review a complete and fully executed copy of the 2017 BPOU Project Agreement;

NOW, THEREFORE, BE IT RESOLVED that the La Puente Valley County Water District shall enter into the 2017 BPOU Project Agreement with the Cooperating Respondents and Water Entities, enabling it to continue to receive funding for the operations of its water treatment system while also serving as a project partner to continue assisting in the remedial cleanup efforts at the BPOU; and

BE IT FURTHER RESOLVED that the 2017 BPOU Project Agreement is hereby approved by the Board of Directors of the La Puente Valley County Water District, which authorizes the General Manager of the District to sign and execute the finalized 2017 BPOU Project Agreement in substantially the same form as the 2017 BPOU Project Agreement approved by the Board of Directors at its April 10, 2017 meeting.

ADOPTED this 10th day of April, 2017.

David Hastings, Board President

ATTEST:

Rosa Ruehlman, Board Secretary

2017 BPOU PROJECT AGREEMENT

The Main San Gabriel Basin Watermaster, the San Gabriel Basin Water Quality Authority, La Puente Valley County Water District, San Gabriel Valley Water Company, Suburban Water Systems, California Domestic Water Company and Valley County Water District, collectively the “Water Entities,” on the one hand, and Aerojet Rocketdyne, Inc., Azusa Land Reclamation Co., Inc., Hartwell Corporation, Chemical Waste Management, Inc., and Winco Enterprises Inc., collectively the “Cooperating Respondents,” on the other hand, hereby enter into this Agreement referred to herein as the “2017 Project Agreement.” This 2017 Project Agreement adopts certain provisions of the original BPOU Project Agreement, dated as of March 29, 2002, and as later amended (“2002 Project Agreement”), which terminates on May 8, 2017, and is effective as a binding obligation of the Parties upon the Effective Date. It shall be operative immediately upon the termination of the 2002 Project Agreement (the “Operative Date”).

RECITALS

A. The United States Environmental Protection Agency (“EPA”) has named the Original Cooperating Respondents¹ and several other persons and entities as potentially responsible parties (“PRPs”) with respect to contamination of the groundwater in the Baldwin Park Operable Unit (“BPOU”) of the San Gabriel Valley Superfund Sites in Los Angeles County, California. In June 2000, EPA issued Unilateral Administrative Order No. 2000-13 (“UAO”) to the Original Cooperating Respondents and several other BPOU PRPs. Under the UAO, EPA directed the Original Cooperating Respondents and the other UAO recipients to (1) develop a remedial design for the interim remedy described in the Record of Decision for the Baldwin Park Operable Unit of the San Gabriel Valley Superfund Sites dated March 31, 1994 (“ROD”) and the EPA Explanation of Significant Differences (“ESD”) dated May 1999 (collectively “ROD/ESD”), and (2) implement the design by performing the interim remedial action.

¹ Capitalized terms used herein are defined in these Recitals, in Article 1 of this 2017 Project Agreement, or when used for the first time.

B. The Water Entities filed lawsuits alleging claims against the Original Cooperating Respondents and other persons and entities for costs allegedly incurred in meeting their water supply and distribution needs and for damages allegedly suffered as a result of the alleged involuntary conversion of their property and rights due to contamination of the groundwater and water supply wells in the BPOU area. The Water Entities continue to claim a taking of and damage to their property and rights by the Cooperating Respondents and others. The Cooperating Respondents, and each of them, dispute these claims. While disputing the Water Entities' claims, and without admitting or acknowledging any fault or liability, the Original Cooperating Respondents settled the Water Entities' lawsuits and claims to the extent provided in the 2002 Project Agreement.

C. The Cooperating Respondents have been complying with the UAO by funding the reasonable and necessary costs of design, construction, operation, maintenance and management of groundwater extraction, treatment and distribution facilities within the scope of the Project, as described in Article 4 of the 2002 Project Agreement. In order to address water supply and distribution needs within the BPOU area, the Water Entities participated in a cooperative plan for the design, construction, operation and maintenance of water supply/treatment projects in the BPOU area. Under the 2002 Project Agreement, modifications to some water system operations were made and some of the Water Entities contend that they have developed a significant reliance on water supplies from the 2002 Project Agreement facilities.

D. The 2002 Project Agreement was entered for a fixed term that ends on May 8, 2017. This 2017 Project Agreement has been entered by the Parties to establish the relationship of the Parties upon expiration of the 2002 Project Agreement, and it satisfies the requirements of Section 9.2 of the 2002 Project Agreement. Through this 2017 Project Agreement, the Parties intend to continue to implement the water supply and treatment plan and to continue to incorporate the EPA groundwater remedy into the Project that was and shall be designed, constructed, installed, owned, operated, maintained and managed by the Water Entities in accordance with this 2017 Project Agreement. The Cooperating Respondents are obligated, on a joint and several basis, to pay all Project Costs incurred in accordance with this 2017 Project Agreement.

F. EPA confirmed by the letter attached to this 2017 Project Agreement as Exhibit A that (1) the Project, if constructed and operated in accordance with plans and specifications approved by EPA, is necessary and consistent with the 1990 National Oil and Hazardous Substances Pollution Contingency Plan (55 Federal Register 8666, March 8, 1990, as amended from time to time and codified at 40 Code of Federal Regulations Part 300) (“NCP”) and constitutes compliance with the ROD/ESD and UAO by the Cooperating Respondents, and (2) a Force Majeure event (as defined in Article 7 herein) affecting a Party’s performance under this 2017 Project Agreement shall excuse the corresponding obligation of the Cooperating Respondents pursuant to the UAO.

NOW, THEREFORE, the Water Entities and the Cooperating Respondents, acting in good faith and desiring to continue the resolution of their claims against each other, to the extent provided in this 2017 Project Agreement and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, agree as follows:

ARTICLE 1. DEFINITIONS

In addition to terms defined elsewhere in this 2017 Project Agreement, the following terms shall have the following meanings:

“Affected Party or Parties” means, for purposes of Article 8 of this 2017 Project Agreement, the Party or Parties making a demand for arbitration and the Party or Parties against which a cost is challenged or an action or obligation is demanded.

“Agency Requirement” means any water supply standard, order, directive, requirement or guideline adopted, required or imposed by any Regulating Agency that affects the operation of any Project Facility.

“Avoided Costs” means the costs that a Water Entity would have incurred for producing the same amount of water from its wells consisting of the costs of power, chemicals, testing, labor, repair and maintenance.

“BOR” means the U.S. Bureau of Reclamation.

“**BPOU**” means the Baldwin Park Operable Unit of the San Gabriel Valley Superfund Sites in Los Angeles County, California.

“**CDWC**” means California Domestic Water Company. CDWC is a California corporation and a mutual water company.

“**CERCLA**” means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. § 9601 et seq., as amended from time to time.

“**Chemicals of Concern**” or “**CoCs**” means those chemicals listed in Exhibit B attached hereto and those chemicals added to the Project by written Amendment under Section 10.5.

“**Cooperating Respondents**” means Acrojet Rocketdyne, Inc. (formerly known as Acrojet-General Corporation); Azusa Land Reclamation Co., Inc.; Hartwell Corporation; Chemical Waste Management, Inc. as successor to Oil & Solvent Process Company; and Winco Enterprises Inc., formerly known as Wynn Oil Company; and each of their respective successors and permitted assigns.

“**CR Project Coordinator**” means the person identified under Section 3.2.2 by the Cooperating Respondents as the CR Project Coordinator.

“**Day**” means a calendar day unless expressly stated to be a Working Day.

“**DDW**” means the Division of Drinking Water Programs, State Water Resources Control Board.

“**Effective Date**” means the date on which written notice is provided to the Parties that the Los Angeles County Superior Court with continuing jurisdiction over the Judgment (defined below) has approved this 2017 Project Agreement. Upon the Effective Date, this 2017 Project Agreement is binding on the Parties.

“**EPA**” means the United States Environmental Protection Agency and any successor department or agency of the United States.

“Escrow” means the Escrow Agreement, in substantially the form set forth in Exhibit C hereto, entered into by and among the Water Entities, the Cooperating Respondents and the Escrow Agent to establish the escrow account.

“Financial Records” means all books, records, accounts and supporting documentation necessary for financial management of the Project.

“Funding Date” means the later of the Operative Date or ten (10) Working Days after the Effective Date.

“Independent Consultant” means a third party consultant that is retained by one of the Parties where the terms and conditions of the retention require the consultant to maintain impartiality and independence as between the Water Entities, on the one hand, and the Cooperating Respondents, on the other hand, to provide a draft work product simultaneously to the Water Entities and Cooperating Respondents and to provide such Parties the opportunity to comment on such draft before a final report or recommendation is issued by the consultant.

“Insurance Disputes” means, for purposes of Article 8 of this 2017 Project Agreement, disputes relating to insurance under Sections 5.1.1(d) or 5.4.1(b).

“Judgment” means the judgment by the Los Angeles County Superior Court in the matter of Upper San Gabriel Valley Municipal Water District v. City of Alhambra, et al. (Case # 924128), as amended. The Judgment was entered in 1972 and has been amended multiple times, most recently in 2012.

“LPVCWD” means the La Puente Valley County Water District. LPVCWD is a public entity organized and existing under Water Code Section 30000 et seq.

“Major Contract” means any Project contract with a value greater than \$750,000.

“Non-CoC” means a contaminant that is not a Chemical of Concern.

“Operating Water Purveyor” means VCWD, LPVCWD, SGVWC, or CDWC.

“Operative Date” means May 9, 2017, the date upon which obligations under this 2017 Project Agreement are operative and apply as between the Parties. Until the Operative Date, the provisions of the 2002 Project Agreement remain in full force and effect.

“Ordinary Operating Costs” means all costs incurred by Water Entities in the normal course of their respective businesses, including ordinary operating, maintenance and capital costs, but do not include costs arising from and allocable to the existence, migration control, treatment, proper management or removal of (i) Non-CoCs, solely to the extent described in Section 2.3.5, or (ii) Chemicals of Concern or (iii) disposal of waste residuals from the treatment of such Chemicals of Concern (as reflected in the methodology used to create the Subproject O&M Cost Budgets attached to this 2017 Project Agreement as Exhibit F).

“Original Cooperating Respondents” means Aerojet-General Corporation; Azusa Land Reclamation Co., Inc.; Fairchild Holding Corp.; Hartwell Corporation; Huff Corporation; Oil & Solvent Process Company; Reichhold, Inc.; and Wynn Oil Company; and their respective successors and permitted assigns.

“Other Funding Sources” means funding provided for the implementation of the Subprojects (as defined in Section 2.1.3) by EPA or by third parties (i.e., persons or entities not a Party to this 2017 Project Agreement) that (i) are not respondents to the UAO or (ii) have otherwise been ordered by EPA to perform work in the BPOU and are acting pursuant to such order.

“Parties” refers to the Cooperating Respondents and the Water Entities collectively, and each Cooperating Respondent and Water Entity is referred to individually as a **“Party.”**

“Project” means all of the projects described in the SOW including the design, construction, operation, maintenance, regulatory compliance and management of the groundwater extraction, treatment and distribution facilities and monitoring wells and the provision of replacement water as described in this 2017 Project Agreement.

“Project Administrative Costs” means all reasonable and necessary costs not excluded by the definition of Project Costs, incurred by Watermaster or WQA in accordance with this 2017 Project Agreement.

“Project Capital Costs” means all reasonable and necessary Project Costs associated with the design, construction, installation and Modification of the Project Facilities.

“Project Costs” means the reasonable and necessary costs of the Project, including reasonable and necessary attorney fees; provided, however, that no attorney fees or costs (or other consultant fees or costs) related to (i) the execution, negotiation or drafting of this 2017 Project Agreement including any court or agency approval, or (ii) associated with resolution of a dispute or objection following decision of the Project Committee under Section 3.8.4 shall be deemed Project Costs. Project Costs do not include Ordinary Operating Costs.

“Project Facilities” or “Project Facility” means groundwater extraction, treatment, and distribution facilities and monitoring wells designed, constructed, operated, maintained and/or managed as part of the Project, as described in detail in the SOW.

“Project O&M Costs” means Subproject O&M Costs and Project Administrative Costs.

“Public Funding Sources” means BOR funds and funding provided pursuant to Public Law 106-554, App. D, Section 110, the San Gabriel Basin Water Quality Initiative introduced by U.S. Congressman David Dreier (“Restoration Funds,” sometimes also referred to as “Dreier Funds”), and any other potentially available federal or state funds.

“PUC” means the California Public Utilities Commission.

“Regulating Agency” means any government entity that has legal authority to regulate or otherwise impose restrictions or limitations on any Project Facility, including but not limited to the PUC, EPA, and DDW.

“Replacement Water Supply” means the water necessary to meet customer need (as more fully described in the SOW) (i) to replace the flow of treated water that had been received by a Water Purveyor from a Project Facility and that has been reduced or discontinued as a result of any condition or occurrence relating to Chemicals of Concern for which the Cooperating Respondents are financially responsible to remedy pursuant to this 2017 Project Agreement, (ii) that is otherwise not available due to the effects of Chemicals of Concern for use by CDWC from the CDWC Bassett Wellfield or SWS from the SWS 139 or 140 Wellfields, (iii) as specified in Section 2.2(c), or (iv) to the extent specified in Section 2.3.5(d) as to Non-CoCs.

“ROD/ESD Performance Standards” means the migration control and treatment standards and other measures of achievement of the goals of the interim remedial action in the ROD/ESD.

“SGVWC” means the San Gabriel Valley Water Company. SGVWC is a California corporation and a public utility water company regulated by the PUC and the DDW.

“Statement of Work” or **“SOW”** means the description of work set forth in that document attached hereto as Exhibit D and as may subsequently be modified pursuant to the procedures set forth in this 2017 Project Agreement.

“Subproject O&M Costs” means all reasonable and necessary costs (including reasonable and necessary attorney fees) incurred by the Water Purveyors for the operation, maintenance, regulatory compliance, and management of their respective Subprojects under their respective sections of the SOW, such as costs for the management and/or disposal of waste products from the treatment of Chemicals of Concern under the SOW, costs associated with the repair or replacement of the Project Facilities for Chemicals of Concern, and Replacement Water Supply costs.

“SWS” means Suburban Water Systems. SWS is a California corporation and a public utility water company regulated by the PUC and the DDW.

“Trust Agreement” means the Trust Agreement attached hereto as Exhibit E.

“VCWD” means the Valley County Water District. VCWD is a public entity organized and existing under Water Code Section 30000 et seq.

“Watermaster” means the Main San Gabriel Basin Watermaster, an entity created by the Judgment with the authority and responsibility set forth therein.

“Water Entities” means collectively Watermaster, WQA, and the Water Purveyors.

“WE Project Coordinator” means the person or company identified under Section 3.5.2 by Watermaster as the WE Project Coordinator.

“Water Entity Representative” means the person identified by each Water Entity under Section 3.2.1. The Water Entity Representative shall be the point of contact for the Water Entity in communications with the Cooperating Respondents.

“Water Purveyor(s)” means any of LPVCWD, SGVWC, SWS, CDWC, VCWD, and their respective successors. The Water Purveyors produce water from wells in the BPOU and other locations and serve customers located within the geographical boundaries of the San Gabriel Basin and elsewhere.

“Working Day” means a day other than a Saturday, Sunday, or federal or California state holiday.

“WQA” means the San Gabriel Basin Water Quality Authority. The WQA is an entity formed by special act of the California Legislature (1992 Senate Bill 1679, Russell, codified at California Water Code Appendix Chapter 134, § 134-101 et seq.) (“WQA Act”). The WQA Act gives WQA authority, *inter alia*, to plan for and to coordinate among several agencies with authority affecting cleanup of the San Gabriel Basin.

ARTICLE 2. THE PROJECT

2.1 Project Description

The Project consists of groundwater contaminant capture and mass removal to meet ROD/ESD and UAO requirements and to make the supply of replacement water available to the Water Purveyors, all as more fully described in this 2017 Project Agreement.

2.1.1 Contaminant Capture and Mass Removal

The UAO directed the Cooperating Respondents, among others, to either design, construct, and implement the remedy described in the ROD/ESD or enter into an agreement with Water Entities to do so, and thereby achieve performance standards in accordance with the UAO as to the Cooperating Respondents. EPA has confirmed, by the letter attached to this 2017 Project Agreement as Exhibit A, that the Project, if constructed and operated in accordance with plans and specifications approved by EPA, satisfies the requirements of the UAO. The Water Purveyors (either directly or through contractors) have designed and constructed groundwater extraction and treatment facilities and are operating and managing the facilities, which provide for groundwater extraction and treatment in two areas of the BPOU designated in the ROD/ESD as Subarea 1 and Subarea 3. The treated groundwater is supplied for direct potable use.

2.1.2 Supply of Replacement Water

The Project includes provisions to supply Water Purveyors with replacement water as described in this 2017 Project Agreement.

2.1.3 Subprojects

The Project consists of six Subprojects, as defined below. Four of the Subprojects — the Subarea One, LPVCWD, SGVWC B-5 and SGVWC B-6 Subprojects — are known as “the UAO Subprojects”. The SWS and CDWC Subprojects are included in the Project for purposes of water supply and controlling and limiting migration of Chemicals of Concern. EPA has determined that the operation of the CDWC Subproject is necessary to achieve containment of the BPOU contamination.

(a) The Subarea One Subproject (also sometimes referred to as the “VCWD Subproject”) is described in the Subarea One section of the SOW.

(b) The LPVCWD Subproject is described in the LPVCWD section of the SOW.

(c) The SGVWC B-5 Subproject is described in the B-5 section of the SOW.

(d) The SGVWC B-6 Subproject is described in the B-6 section of the SOW.

(e) The CDWC Subproject is described in the CDWC section of the SOW.

(f) The SWS Subproject is described in the SWS section of the SOW.

2.1.4 Performance of SOW

Each Water Purveyor responsible for a Subproject, as described in Section 2.1.3 herein, shall design, construct, operate, maintain and otherwise implement its respective Subproject(s) as set forth in the section of the SOW for that Subproject (including any Modifications to that section of the SOW implemented in accordance with Section 2.3), and in accordance with its operating permits, this 2017 Project Agreement, and all applicable laws and regulations.

(a) EPA has approved the sections of the SOW for the UAO Subprojects (“UAO SOW sections”) and this 2017 Project Agreement as satisfying the ROD/ESD Performance Standards and the UAO, and the Cooperating Respondents believe, upon the advice and consent of EPA, that implementation of the UAO Subprojects as set forth in the UAO SOW sections will satisfy the ROD/ESD Performance Standards and the requirements of the UAO. EPA has approved the sections of the SOW for the CDWC Subproject and this 2017 Project Agreement as satisfying the ROD/ESD Performance Standards and the Cooperating Respondents believe, upon advice and consent of EPA, that implementation of the CDWC Subproject will satisfy the ROD/ESD Performance Standards. The Water Entities do not guarantee, warrant or represent that the design, construction, operation, maintenance and management of the Subprojects will achieve the ROD/ESD Performance Standards or satisfy the requirements of the UAO for contaminant capture and mass removal.

(b) As to the SWS Subproject, the Water Purveyor responsible for this Subproject shall operate its respective Project Facilities in a manner that complies with all requirements of its permits, with the SOW, and with all applicable laws and regulations. The inclusion in this 2017 Project Agreement of the SWS Subproject does not subject it to ROD/ESD Performance Standards or the requirements of the UAO. The inclusion in this 2017 Project Agreement of the CDWC Subproject does not subject CDWC to the requirements of the UAO.

2.1.5 Standards Applicable to Removal of Chemicals of Concern

The Project Facilities shall be operated, maintained and managed to remove Chemicals of Concern to the lowest levels achievable through application of Best Available Technology as defined in 22 Cal. Code Regs. Sections 64447, 64447.2 and 64447.4. The project technologies identified in this 2017 Project Agreement and in the SOW constitute Best Available Technology.

2.2 Provision of Replacement Water Supply

(a) Replacement Water Supply shall be selected as described in Section 2.2(b) and the costs shall be calculated in accordance with Section 4.5.6.

(b) To the extent that a Water Entity obtains a Replacement Water Supply, the following provisions apply:

(i) except to the extent agreed by the Cooperating Respondents, such Replacement Water Supply shall be obtained from the lowest available cost source, which provides quality water and is compatible with existing water supplies, and otherwise meets the exigencies of the situation;

(ii) the selection of such Replacement Water Supply shall be made in accordance with the procedures for incurring and auditing Project Costs set forth in Article 4, except in the event of an emergency situation requiring immediate action;

(iii) water generated from a Subproject Facility and from SWS's three new wells (121 W-1, 151 W-2 and 142 W-2) shall be used for Replacement Water Supply (as described in the SOW) to the extent it is excess of customer need and is the lowest cost source and shall be priced as described in Section 4.5.6; and

(c) SGVWC shall make available to CDWC a Replacement Water Supply as described in Section III of the B5 and B6 sections of the SOW.

2.3 Modifications to the Project

This Section 2.3 sets forth provisions as to modifications to the Project (“Modification” or “Modifications”). Any such Modification to the SOW shall constitute an amendment to this 2017 Project Agreement but shall not be subject to the requirements of Section 10.5 of this 2017 Project Agreement.

2.3.1 Modifications By Agreement

The Cooperating Respondents and the affected Water Entities may from time to time agree to modify the section of the SOW for a Subproject, following thirty (30) days prior written notice of the proposed Modification to all Water Entities, and, with regard to the UAO Subprojects and the CDWC Subproject, to EPA. All such changes shall be undertaken in a manner that is cost-effective and consistent with the NCP and any applicable ROD/ESD Performance Standards. Any such agreed to Modification shall be in writing and executed on behalf of the Cooperating Respondents and the affected Water Entities, and, as to the UAO Subprojects and the CDWC Subproject, shall be approved by EPA before implementation.

2.3.2 Modifications Through Evaluation Process

The Cooperating Respondents, on the one hand, or any Water Entity, on the other hand, may propose consideration of a cost-effective change in technology, plant facilities, treatment processes or consumables as to which Cooperating Respondents are financially responsible to pay as Project Costs at any Project Facility subject to the terms of this Section:

(a) Only one proposal at a time shall be evaluated with respect to each Subproject unless otherwise agreed by the affected Parties

(b) For those Subprojects at which any Water Entity has agreed to undertake performance evaluations in their respective sections of the Statement of Work for this 2017 Project Agreement, the affected Parties shall meet and confer to determine whether it is

appropriate to identify any new or additional evaluations before the SOW evaluations are completed.

(c) Any request for consideration of a proposed Modification shall include a description of the proposed approach sufficient for an Independent Consultant to be tasked with an evaluation of the proposal under the following factors, or, if already evaluated, a description of the proposed Modification or change sufficient to (a) determine any increase or decrease in costs for the change and the impact on costs over time; (b) determine the acceptability of the change to DDW and EPA; and (c) provide a schedule to implement the change including best estimates of necessary permitting requirements.

(d) Independent Consultants retained to evaluate the proposed Modification as set forth in the preceding sentence shall be jointly retained on behalf of both the Cooperating Respondents and the relevant Water Entities, and the cost of such evaluation shall be a Project Cost.

(e) The determination of whether to implement any proposed Modification shall be considered and decided by the relevant Subproject Committee(s). If, after the evaluation, the Cooperating Respondents and the affected Water Entities agree to the Modification, the Parties will proceed under Section 2.3.1.

(f) If the proposed Modification is to be implemented, such Modification shall be undertaken in a manner that is cost-effective and consistent with the NCP.

(g) If the Parties do not agree, either Party can request review by the Project Committee. As to any proposed Modification where the Parties do not agree as to the appropriateness of the implementation, the arbitrator shall not have the authority to require that the proposed Modification be undertaken but shall have the authority to determine the reasonableness and necessity of the affected Water Entity's costs that are payable by Cooperating Respondents arising from undertaking or not undertaking the proposed Modification. Cost-effectiveness of a proposed Modification shall be measured over the remaining term of the 2017 Project Agreement as of the date reviewed by the Subproject Committee. No award to the Cooperating Respondents under this Section 2.3.2(g) may include costs that have been incurred prior to the date of the arbitrator's decision.

2.3.3 EPA Modifications, New Orders and Directives

(a) Subject to Section 2.3.3(b) below, if EPA determines that a Modification to the SOW is reasonable and necessary to achieve and maintain the ROD/ESD Performance Standards as to Chemicals of Concern, then such Modification, upon EPA's written direction or upon such other agency's written direction with which EPA has concurred in writing, shall be incorporated into the Project. To the extent that there is uncertainty as to which Water Purveyor is to implement such Modification, the matter shall be addressed as set forth in Section 3.5.3. Reasonable and necessary costs incurred by the Water Entities in accordance with this 2017 Project Agreement (other than Ordinary Operating Costs) as a result of any such Modification, including costs of Replacement Water Supply, capital costs, and other costs of participating in the Modification process, shall be Project Costs.

(b) Nothing herein shall be construed to preclude any of the Parties to this 2017 Project Agreement from challenging the appropriateness of any such Modification; provided, however, that any such challenge shall not suspend the Cooperating Respondents' obligations to fund and provide Financial Assurances for the Project, including such Modification. If, as a result of a challenge, EPA (or such other agency with EPA's written concurrence) stays implementation of the Modification, the Water Entities' obligation to implement the Modification and the Cooperating Respondents' obligation to provide further funding and Financial Assurances for the Modification shall be stayed for the period of time that implementation of the Modification is stayed by the EPA (or such other agency with EPA's written concurrence). If, while funding is stayed, the affected Water Purveyor is unable to deliver water from its Subproject without implementation of the Modification, the Parties shall meet and confer in good faith to consider options for the continued operation of the Project. Thereafter, the affected Water Purveyor may, at its sole discretion, terminate any part of its operation of the Subproject affected by the Modification and shall provide the Cooperating Respondents with notice of such action. The Cooperating Respondents shall have no right to compel a Water Purveyor to operate any affected Subproject as long as the Cooperating Respondents are not paying for the Modification.

2.3.4 Change in Water Supply Standards as to Chemicals of Concern

The Water Entities shall undertake all changes in Project Facilities or operations that are made necessary by changes in any Agency Requirement applicable to Chemicals of Concern. All such changes in Project Facilities or operations shall be undertaken in a manner that is cost-effective and consistent with the NCP. The Water Entity shall provide reasonable notice and an opportunity to the Cooperating Respondents to review and comment on such Agency Requirement and on any changes in Project Facilities or operations proposed by the Water Entities in response to changes in Agency Requirements. Reasonable and necessary costs incurred by the Water Entities as a result of any such changes in Project Facilities or operations that are made necessary by any change in any Agency Requirement applicable to Chemicals of Concern, including costs of Replacement Water Supply, disposal costs, and capital costs, shall be Project Costs.

2.3.5 Contaminants Other Than Chemicals of Concern

If a contaminant is detected in any extraction well being operated as part of the Project, and such contaminant (1) is a Non-CoC and (2) requires treatment pursuant to any Agency Requirement, then:

(a) If existing Project Facilities can treat the Non-CoC, and the treatment does not increase Project Costs at the affected Subproject by more than \$300,000 per year for operations and/or maintenance costs for the Non-CoC (“the Subsection (a) capped amount”), then the affected Operating Water Purveyor shall treat for the Non-CoC and be obligated to continue to operate the Project Facilities, and the Cooperating Respondents shall pay the increased Project Costs up to the Subsection (a) capped amount and be entitled to recover such costs if the Project Insurance provides reimbursement.

(b) If existing Project Facilities can treat the Non-CoC but the cost of treatment exceeds the Subsection (a) capped amount, then the Cooperating Respondents have the option to pay the full costs for treating the Non-CoC, in which case the affected Operating Water Purveyor shall treat for the Non-CoC and be obligated to continue to operate the Project Facilities as long as the full costs to treat the Non-CoC are paid by the Cooperating Respondents,

and the Cooperating Respondents shall be entitled to recover such costs from any available insurance.

(c) If existing Project Facilities can treat the Non-CoC but neither subsection (a) nor (b) apply, then the Parties shall meet and confer in good faith to consider options for the continued operation of the Subproject. If the Parties are unable to reach agreement on the continued operation of the Subproject, then each affected Operating Water Purveyor may at its sole discretion either continue to operate the affected Subproject, with up to \$300,000 per year for operations and/or maintenance costs payable by the Cooperating Respondents as Project Costs (“the Subsection (c) capped amount”) or reduce, modify or terminate any part of its operation of the Subproject to the extent necessary to meet Agency Requirements.

(d) If the Non-CoC cannot be treated using existing Project Facilities, then the Parties shall meet and confer in good faith to consider options for the continued operation of the Subproject. If the Parties are unable to reach agreement on the continued operation of the Subproject, then each affected Operating Water Purveyor may at its sole discretion:

(i) continue to operate the affected Subproject and be responsible for the continued treatment of the water as to the Non-CoC in accordance with applicable Agency Requirements; or

(ii) reduce, modify or terminate any part of its operation of the Subproject to the extent necessary to meet Agency Requirements.

(e) The affected Operating Water Purveyor shall provide Cooperating Respondents with notice of its election under subsection (d), above. Should the affected Operating Water Purveyor select subsection (d)(i), then, for each affected Subproject, up to \$1.25 million of new capital costs (with all or a portion able to be used for Replacement Water Supply for the Operating Water Purveyor) (“Subsection (d) capital costs capped amount”) and up to \$600,000 for annual operations and/or maintenance costs in the aggregate, inclusive of the Subsection (a) capped amount and the Subsection (c) capped amount (“Subsection (d) O&M capped amount”), shall be Project Costs reimbursable by the Cooperating Respondents; and the Operating Water Purveyor gives up any right to seek additional costs for the affected Subproject from the Cooperating Respondents for treatment, capital costs, or Replacement Water Supply for

the subject Non-CoC that may be incurred during the term of this 2017 Project Agreement (as defined in Section 9.1) (“Term”). Once an Operating Water Purveyor has selected subsection (d)(i) above in order to address a Non-CoC at the affected Subproject and the Cooperating Respondents have committed to pay the Subsection (d) capital costs capped amount and the Subsection (d) O&M capped amount, then the affected Operating Water Purveyor shall treat for the Non-CoC and be obligated to continue to operate the Project Facilities and can no longer elect to reduce, modify or terminate any part of its operation of the Subproject under subsections (c) or (d)(ii) as a result of that Non-CoC.

(f) The Cooperating Respondents shall have no right under this 2017 Project Agreement to require an Operating Water Purveyor to operate any affected Subproject that has been so reduced, modified or terminated under subsections (c) or (d)(ii) above. If any action undertaken pursuant to this Section 2.3.5 results in the complete termination of the operations of any Subproject then the affected Water Entity and the Cooperating Respondents shall meet and confer to reach agreement on the disposition of impacted Project Facilities for the balance of the term of the 2017 Project Agreement and the payment of related costs.

(g) To the extent that the costs described above are to be paid by Project Insurance and there is a self-insured retention or deductible for which Cooperating Respondents are responsible under Article 5, then the amount of the self-insured retention or deductible shall count toward any applicable capped amount.

(h) The dollar limits for operations and maintenance set forth in subsections (a) - (e) above shall be increased annually starting one year after the Effective Date, by a two percent (2%) inflation factor.

(i) Each Operating Water Purveyor shall be entitled to rely upon Section 2.3.5(e) to obtain up to \$1.25 million for capital costs for only one Non-CoC for each Subproject during the Term of this 2017 Project Agreement. In the event of a new Non-CoC, and if the total dollar limits in subsections (a) - (e), as appropriate, are exhausted during the Term of this 2017 Project Agreement, then the Parties shall meet and confer, and thereafter each affected Operating Water Purveyor shall have the right to terminate pursuant to the subsections above and provide the Cooperating Respondents notice of such action.

(j) This Section 2.3.5 does not apply to nitrate-related costs, except as follows:

(i) As to the Subarea One Subproject, all costs arising from or related to the treatment of nitrate that are in excess of those paid from Public Funding Sources will be paid and financially assured by the Cooperating Respondents and treated under this 2017 Project Agreement as Subproject O&M Costs of the SA-1 Subproject.

(ii) As to the SGVWC B-6 Subproject, the Cooperating Respondents shall pay as a Subproject O&M Cost to SGVWC \$322,811 per year (the “Annual Payment”) during the term of this 2017 Project Agreement to implement nitrate treatment at the B-6 Subproject, and to resolve SGVWC’s claims against the Cooperating Respondents for payment of any “wheeling” costs to transfer water to CDWC at the targeted flow rates and total production amounts described in Section III of the SGVWC B5 and B6 sections of the SOW (“the Committed Rate”), the terms of which are incorporated into this subsection. The Cooperating Respondents’ obligation to make the Annual Payment under this subsection 2.3.5(j)(ii) shall be controlled by the following terms:

(A) Fifty percent (50%) of the initial Annual Payment (\$161,405.50) may be invoiced (and subsequently paid as a Subproject O&M Cost) ten (10) days or later following the date that either (1) SGVWC has provided written notice to the Cooperating Respondents that all necessary start-up testing for nitrate treatment is complete, that nitrate treatment at the B-6 Subproject has been permitted by DDW, and that nitrate treatment operations have commenced, or (2) SGVWC has provided written notice to the Cooperating Respondents that a pipeline and connection have been permitted and constructed such that water is available for transfer to CDWC from SGVWC at the Committed Rate in accordance with Agency Requirements as a Replacement Water Supply, consistent with the terms of the sections of the SOW for both SGVWC and CDWC. The date this initial portion of the Annual Payment is invoiced shall be treated as the “50% anniversary date” for determining when the next Annual Payment is invoiced one year later, with such date subject to modification in writing between SGVWC and the Cooperating Respondents. Except as otherwise provided in subsection (B) below, the second Annual Payment may be invoiced the later of one year after the 50% anniversary date or beginning ten (10) days following the date that SGVWC provides written

notice to the Cooperating Respondents that both subsections (A)(1) and (A)(2) above have been satisfied, and subsequent Annual Payments shall be paid one year after the second Annual Payment, with such date subject to modification if agreed to in writing between SGVWC and the Cooperating Respondents.

(B) In the event that subsection (A)(1) above is relied upon to require the initial 50% payment in subsection (A) above, then the remaining fifty percent (50%) of the initial Annual Payment (\$161,405.50) (the “remaining 50% payment”) may be invoiced (and subsequently paid as a Subproject O&M Cost) by the earlier of December 31, 2017, or ten (10) days following the date that SGVWC provides written notice to the Cooperating Respondents that subsection (A)(2) above has been satisfied. If by December 31, 2017, SGVWC is still not able to make water available to CDWC as contemplated in subsection (A)(2), then (I) the Cooperating Respondents shall provisionally pay the remaining 50% payment subject to their right to pursue arbitration against, and thereby seek a credit or repayment from, SGVWC on the exclusive ground that SGVWC’s action or inaction (including failure to obtain authorizations from third parties or governmental agencies) materially contributed to the delay in satisfying subsection (A)(2), and (II) if subsection (A)(2) has not been satisfied by one year after the 50% anniversary date and SGVWC’s action or inaction did not materially contribute to the failure to satisfy subsection (A)(2), then: on such date, and on an annual basis thereafter, \$161,405.50 may be separately invoiced by SGVWC for nitrate treatment costs (and subsequently paid as a Subproject O&M Cost); the Cooperating Respondents’ obligation to pay the \$161,405.50 remaining balance of the Annual Payment will be suspended until subsection (A)(2) has been satisfied; and once subsection (A)(2) has been satisfied, a pro-rata portion of the \$161,405.50 remaining balance may be invoiced based on the number of months left until the next annual payment for nitrate treatment costs would be coming due, at which point, and on an annual basis thereafter, the full Annual Payment amount may be invoiced. In the event that subsection (A)(2) is relied upon to require the initial 50% payment in subsection (A) above, then the remaining 50% payment may be invoiced ten days or later following the date that SGVWC provides written notice to the Cooperating Respondents that both subsections (A)(1) and (A)(2) above have been satisfied.

(C) If for any reason CDWC is unable or unwilling to accept the transfer of water from SGVWC at the Committed Rate, the Cooperating Respondents shall still be obligated to make the Annual Payments to SGVWC under this Section, provided that SGVWC's action or inaction did not materially contribute to the failure to transfer water to CDWC at the Committed Rate. SGVWC and the Cooperating Respondents will conduct a true-up each year to confirm that SGVWC delivered water to CDWC at the Committed Rate over the previous year. If SGVWC's action or inaction materially contributed to the failure to transfer water to CDWC at the Committed Rate in the previous year, or if, despite (1) a pipeline and connection having been permitted and constructed, and (2) CDWC's ability and willingness to accept the water at the Committed Rate, SGVWC delivered water at less than the Committed Rate over the previous year, the Cooperating Respondents shall receive a credit against the next Annual Payment based upon a pro rata downward adjustment to reflect the actual delivery of water by SGVWC to CDWC (*e.g.*, if CDWC had both the ability and willingness to accept all of the water at the Committed Rate over the previous year and if SGVWC delivered no water during that year, then the Cooperating Respondents would receive a credit for the full Annual Payment of \$322,811).

(D) Nothing in this subsection 2.3.5(j)(ii) affects any obligations of the Water Entities, as between each other, with respect to calculation or payment of Avoided Costs under Section 4.5.6. All payments invoiced under this Section 2.3.5(j)(ii) shall be paid as Subproject O&M Costs.

(iii) As to nitrate treatment at the LPVCWD, CDWC, and SGVWC B-5 Subprojects, the Parties shall meet and confer in good faith to consider options for the continued operation of the Subproject. If the Parties are unable to reach agreement on the continued operation of the Subproject, then each affected Operating Water Purveyor may at its sole discretion:

(A) continue to operate the affected Subproject and be responsible for the continued treatment of the water as to nitrate in accordance with applicable Agency Requirements; or

(B) reduce, modify or terminate any part of its operation of the Subproject to the extent necessary to meet Agency Requirements.

ARTICLE 3. PROJECT MANAGEMENT

3.1 Coordination and Cooperation

The Parties recognize that implementation of the Project requires coordination and cooperation. All Parties shall strive to cooperate and communicate with each other in all matters relating to the Project.

3.2 Division of Responsibility

3.2.1 Water Entities

The Water Entities have divided responsibility for implementing the Project as set forth herein and in the attached SOW. Notwithstanding any other provision of this 2017 Project Agreement, except Section 3.4.1(b), no Water Entity shall be liable or responsible for any aspect of the Project that is the responsibility of another Water Entity. Each Water Entity shall designate a Water Entity Representative, who can be changed from time to time upon electronic or other notice to the Cooperating Respondents pursuant to Section 10.7. The Water Entity Representative shall be the point of contact for the Water Entity in communications with the Cooperating Respondents.

3.2.2 Cooperating Respondents

The Cooperating Respondents shall be jointly and severally responsible for funding of the Project and posting of Financial Assurances in accordance with the provisions of Article 4 of this 2017 Project Agreement. Except as stated in Section 2.3.5(d), no Water Entity shall have any obligation to perform any work under this 2017 Project Agreement unless the Cooperating Respondents have provided the funding and Financial Assurances required by this 2017 Project Agreement for such work. The Cooperating Respondents shall designate a CR Project Coordinator, who can be changed from time to time upon electronic or other notice to the Water Entities pursuant to Section 10.7. The CR Project Coordinator shall be the point of contact for the Cooperating Respondents in communications with the Water Entities and EPA; however, notice requirements shall be as described in this 2017 Project Agreement and the notice section herein.

3.3 Water Entities

3.3.1 Standard of Care

The Water Entities and their respective agents, servants, employees, contractors, subcontractors, laboratories and vendors shall use sound technical, engineering and environmental principles, practices, procedures and judgment and shall apply the degree of care and skill necessary to assure that the Project is designed, built, operated and maintained for the purposes set forth in the SOW in accordance with good professional practices.

3.3.2 Compliance with Applicable Laws

The Water Entities shall at all times comply with all laws, ordinances, statutes, rules and regulations applicable to the Project.

3.3.3 Retention of Records

(a) Financial Records. The Water Entities shall maintain all Financial Records in accordance with generally accepted accounting principles or, with respect to SGVWC and SWS, in accordance with the Uniform System of Accounts for Water Utilities prescribed by the PUC. All such Financial Records shall be subject to audit pursuant to Section 4.9 hereof. Financial Records shall be maintained until the later of (i) six (6) years from the “as of” date or period applicable to the Financial Record, (ii) the Internal Revenue Service retention period for such Financial Records, or (iii) the PUC retention period for such Financial Records.

(b) Environmental Records. Notwithstanding any corporate or agency record retention policy to the contrary, the Water Entities and the WE Project Coordinator shall preserve and retain all records and documents related to the Project, including without limitation all log books, records, data, reports, and all other information relating to environmental testing, quality assurance, water quality before transmission to a public water supply pipeline, and compliance with EPA and DDW standards.

(c) Retention of Environmental Records. The Water Entities shall preserve and maintain the environmental records and documents described in subsection (b) of this Section 3.3.3 and shall instruct their contractors, subcontractors and agents to preserve and retain

all such records and documents under the 2002 Project Agreement and this 2017 Project Agreement until the later of (i) ten (10) years after the Term of this 2017 Project Agreement, or (ii) six (6) years after EPA provides notice that all work required under the UAO has been completed. If stored electronically, environmental records shall be stored in a computer-usable electronic form using then-appropriate technology that is commonly accessible to EPA and to the Cooperating Respondents. The Water Entities shall deliver a copy of all such records in their possession, custody, and control to the Cooperating Respondents at the conclusion of the term of this 2017 Project Agreement, unless otherwise agreed to by the Parties or destruction is approved by EPA.

(d) Project Costs. All reasonable and necessary costs associated with retaining records for the Project shall be Project Costs.

3.3.4 Contractors and Subcontractors

(a) The Water Entities shall use competitive bidding when contracting for the design, construction, maintenance and operation of the Project Facilities; provided, however, that a Water Entity may procure a contract by non-competitive proposals if such procurement complies with applicable law, including without limitation the applicable requirements of the BOR, the U.S. Department of the Interior, and administrators of Public Funding Sources, and is reasonable and necessary in order to implement the Subproject. Draft and final versions of contracts procured through non-competitive proposals shall be circulated to the Cooperating Respondents for their review and comment in the Subproject Committees.

(b) The Water Entities shall use best efforts to comply with the requirements of Section 3.3.4(a), but no decision to procure a contract shall be invalidated by the failure to follow such requirements.

(c) Each Water Entity shall ensure that all contractors and subcontractors cooperate with the WE Project Coordinator in preparing the necessary design drawings, technical flow-charts and other materials that may be necessary in order to file timely reports with EPA, DDW, or any other regulatory agency.

(d) If additional terms of a Major Contract are negotiated with the selected contractor after the Major Contract was considered in a Subproject Committee meeting, then prior to execution of the Major Contract, the final form of the Major Contract shall be presented to the Cooperating Respondents for concurrence. If there is no concurrence, the matter can be referred to the Project Committee and, if necessary, the dispute resolutions procedures of Article 8. The Water Entity can proceed with the Major Contract if the Water Entity deems it necessary and appropriate, but any amounts incurred while the issue is in dispute shall be subject to reimbursement pursuant to the dispute resolution provisions in Article 8.

(e) All contracts entered into by the Water Entities with third parties to implement the Project shall contain commercially reasonable terms and conditions for the work to be undertaken.

(f) Each Water Entity shall be responsible for enforcing all contractual guarantees, indemnities, and warranties of contractors, subcontractors, laboratories and vendors that it has retained. The reasonable and necessary cost of such enforcement efforts shall be Project Costs. If the Cooperating Respondents request the enforcement of contractual rights, the Water Entity shall take commercially reasonable steps to take such action; or the Water Entity shall in its sole discretion: (i) grant the Cooperating Respondents the right to take action in the name of the Water Entity, or (ii) take commercially reasonable steps to avoid loss of claims through waiver, estoppel, laches or other failure to take action while the issue as to whether to enforce the contract is in dispute.

(g) The Water Entities shall deliver a copy of the UAO to all contractors, subcontractors, laboratories, and vendors that have entered into Major Contracts with the Water Entities in connection with the UAO Subprojects. The Water Entities shall make compliance with the UAO a condition of each UAO Subproject Major Contract with such contractors, subcontractors, laboratories and vendors, and EPA has expressly confirmed that the limitation to Major Contracts herein shall constitute compliance by the Cooperating Respondents with Paragraph 55 of the UAO.

(h) The Water Entities shall exercise sound business judgment and practices to avoid any involuntary lien or charge on Project Facilities. If any such lien shall attach or be

claimed as to any Subproject, the affected Water Entity shall endeavor to procure a release of the lien or otherwise resolve disputes concerning such lien. If such lien results from the failure by the Cooperating Respondents to fulfill their funding obligations, in addition to any other remedies available to the Water Entity, the Water Entity may take such action as is reasonably necessary to release the lien or charge, including by way of paying the lienholder; and the reasonable and necessary costs of such action shall be Project Costs.

(i) Each Water Entity, and its respective contractors and subcontractors, shall obtain, keep current and comply with all permits and approvals required for construction, operation and maintenance of its Subproject(s). The reasonable and necessary costs for such Project-related permits and approvals shall be Project Costs.

3.3.5 Cooperation to Meet the UAO and 2017 Project Agreement Requirements

(a) The Water Entities shall cooperate with any reasonable request required for the Cooperating Respondents to comply with the UAO and this 2017 Project Agreement. Such request may include, without limitation, allowing the Cooperating Respondents and EPA reasonable access to records, real property, equipment, reports, testing results and any other information needed as related to the Project.

(b) Nothing in this 2017 Project Agreement shall make the Water Entities subject to the UAO or liable to EPA for any penalty or fine assessed pursuant to the UAO.

3.4 **Water Purveyors**

3.4.1 General Responsibilities

(a) The Water Purveyor responsible for an individual Subproject shall be responsible for the design, construction, operation, maintenance and management of the Water Purveyor's respective Subproject in accordance with the requirements and schedule set forth in the SOW and subject to the terms and conditions of this 2017 Project Agreement.

(b) VCWD is the Water Purveyor responsible for the Subarea One Subproject. However, if for any reason, VCWD does not operate, maintain and manage the Subarea One Subproject under the terms of this 2017 Project Agreement, SWS may, at its sole discretion,

become the Water Purveyor responsible for construction and/or operation of the Subarea One Subproject. If SWS elects to assume responsibility for the Subarea One Subproject, VCWD shall continue to own the Subproject; but SWS shall, in accordance with this 2017 Project Agreement, operate, maintain and manage the Subproject. Upon written notice from SWS of its election to assume responsibility for the Subarea One Subproject, the Cooperating Respondents shall pay to SWS Project Costs required under this 2017 Project Agreement for the Subarea One Subproject after the date SWS actually assumes responsibility, in accordance with Article 4 of this 2017 Project Agreement. In the event of a dispute between VCWD and SWS under this 2017 Project Agreement, such dispute shall be subject to the dispute resolution provisions of this 2017 Project Agreement; however, VCWD shall continue to deliver water under the terms of this 2017 Project Agreement to SWS until a final ruling of the arbitrator.

3.4.2 Water Rights and Assessments

(a) Each Water Purveyor shall, at no cost to the Cooperating Respondents, provide the required water rights, to the extent available, and pay the applicable Watermaster assessments for Project water treated and used as potable water supply in the Water Purveyor's respective water systems. For Project water transferred as a Replacement Water Supply, the receiving Water Purveyor shall be responsible for providing the required water rights and paying applicable Watermaster assessments and fees, if any.

(b) The CR Project Coordinator may make a request that a Water Purveyor seek a waiver of Watermaster assessment under Watermaster Rules and Regulations, Section 18(b) from the Watermaster by requesting from the Water Purveyor whether there are discharges from a Project Facility potentially eligible for waiver. The request shall be made by June 30th of each year unless the Watermaster provides notice to the Cooperating Respondents that the deadline for obtaining waivers of assessments has changed.

(c) If there are discharges potentially eligible for waiver, the Water Purveyor shall seek a waiver of the Watermaster Assessment and shall provide a copy of the waiver request to the CR Project Coordinator, and the Watermaster will act in accordance with the Judgment and implementing rules as to such request.

(d) If the Water Purveyor does not make the request for waiver of assessment as provided in subsections (b) and (c) above, then the Water Purveyor cannot claim that any portion of the subject Watermaster assessment is a Project Cost. This result is not subject to dispute resolution.

3.4.3 Liens and Encumbrances

(a) Except as provided in Section 3.4.3(b), during the term of this 2017 Project Agreement, no Water Purveyor shall sell, lease, assign, mortgage, or otherwise dispose of or encumber Project Facilities paid for by the Cooperating Respondents without the prior written consent of the Cooperating Respondents; except that Project Facilities owned by SGVWC or SWS shall be subject to the trust indenture securing their respective general mortgage bonds.

(b) Notwithstanding Section 3.4.3(a), SGVWC and SWS shall not sell, lease, assign, mortgage or otherwise dispose of or encumber their respective Project Facilities except in accordance with Public Utilities Code Section 851 and with prior written notice to the Cooperating Respondents.

(c) Actions undertaken pursuant to this Section 3.4.3 are not subject to the dispute resolution provisions in Article 8.

3.5 Watermaster

3.5.1 Coordination/Administration

Watermaster provides coordination and supplemental administrative services for the Project, including: (i) EPA interface and technical coordination and administration for the Water Entities through Watermaster staff and consultants; (ii) participation in and coordination of the Project Committee and participation in the Subproject Committees to the extent provided for in this Agreement; (iii) managing the monitoring and reporting requirements described below at Sections 3.5.4 and 3.5.5; (iv) accounting services necessary for accurately tracking Project Costs, invoice payments, budget process, quarterly deposits to the Escrow Account by the Cooperating Respondents, and credits for funds received from Public Funding Sources and Other Funding Sources; (v) services relating to Financial Assurances pursuant to Section 4.6 and the Trust Agreement; and (vi) additional reasonable and necessary activities, including retention of legal

and consulting services, for the Water Entities, that are not cost-effective to be undertaken by a Water Purveyor on a Subproject basis or are needed to fulfill Watermaster's responsibilities under this 2017 Project Agreement. Watermaster shall be a voting member of the Project Committee and a participant in the Subproject Committees as provided in this Agreement.

3.5.2 Retention of Qualified WE Project Coordinator

Watermaster has retained the services of Stephen B. Johnson of Stetson Engineers, Inc. to provide administrative coordination of the Project for the Water Entities. Mr. Johnson will serve as the WE Project Coordinator under this 2017 Project Agreement with respect to the tasks identified herein. The Watermaster, at its sole discretion, may select and replace the WE Project Coordinator.

3.5.3 Modification

In the event of a Modification affecting the SOW sections of more than one Subproject, Watermaster shall make a determination as to which affected Water Purveyor or Purveyors will implement changes to the SOW. In making this determination, Watermaster shall consider the goals of contaminant migration control, sound drinking water supply management, cost-effectiveness and NCP consistency.

3.5.4 Monitoring

Watermaster arranges for and supervises the groundwater monitoring required by the SOW. Reports of sampling results shall be provided promptly to each Subproject Committee and to the Cooperating Respondents. Watermaster shall make a good faith effort to provide to the Cooperating Respondents water quality data for influent and effluent values at the respective Subprojects within five (5) Working Days after the Water Entity's receipt of such data.

3.5.5 Reporting

(a) Except for the Performance Standards Evaluation Plan ("PSEP") and Annual Performance Evaluation Report (addressed in 3.5.5(b)), Watermaster shall be responsible for the timely submittal of the periodic reports and deliverables required by the UAO or SOW or imposed by the Court supervising the Judgment as to this 2017 Project Agreement. Watermaster

shall provide to each Cooperating Respondent a draft copy of such reports and deliverables, for review and comment, at least ten (10) Working Days prior to their submittal. If Watermaster anticipates that it will not be able to provide to the Cooperating Respondents a draft copy of a periodic report or deliverable required by the UAO or SOW or the Court supervising the Judgment at least ten (10) Working Days before it is due, Watermaster shall so notify Cooperating Respondents and the Parties shall cooperate in an effort to obtain an extension so as to ensure that the Cooperating Respondents shall have ten (10) Working Days to review and comment upon such draft periodic report or deliverable before it is submitted. Watermaster shall either (i) consider and incorporate, or (ii) address and respond to comments on such reports and deliverables made by the Cooperating Respondents. Watermaster and Cooperating Respondents may mutually agree that some or all of such reports and deliverables may be generated and submitted by Cooperating Respondents.

(b) Cooperating Respondents will prepare the PSEP and Annual Performance Evaluation Report and will submit the drafts to Watermaster at least ten (10) Working Days prior to their submittal to EPA. If Cooperating Respondents anticipate that they will not be able to provide to the Watermaster a draft copy of the PSEP or Annual Performance Evaluation Report at least ten (10) Working Days before it is due, the Cooperating Respondents shall so notify Watermaster and the Parties shall cooperate in an effort to obtain an extension so as to ensure that the Watermaster shall have ten (10) Working Days to review and comment upon such draft PSEP or Annual Performance Evaluation Report before it is submitted. Watermaster shall review and comment on the PSEP and the Annual Performance Evaluation Report and provide the comments to the Cooperating Respondents at least one Working Day in advance of their submission. Both the document prepared by the Cooperating Respondent and the Watermaster response to such document shall be simultaneously submitted to the EPA.

3.5.6 Project Costs

The reasonable and necessary costs of services performed by Watermaster in connection with the Project pursuant to this 2017 Project Agreement shall be Project Costs, unless such costs are otherwise excluded by this 2017 Project Agreement.

3.6 WQA

WQA shall be involved in the overall management of the Project as a voting member of the Project Committee and a participant in the Subproject Committees to the extent provided in this Agreement. WQA shall process and submit applications to obtain and maintain funding for the Project from Public Funding Sources and process reimbursements and credits resulting from such Public Funding Sources. WQA shall also manage the spare parts program and maintain ownership of and manage access agreements for BPOU monitoring wells. WQA will be responsible for the efforts to obtain funds from Public Funding Sources. (See Section 4.8.)

3.6.1 Project Costs

The reasonable and necessary costs of services performed by WQA in connection with the Project pursuant to this 2017 Project Agreement shall be Project Costs, unless such costs are otherwise excluded by this 2017 Project Agreement.

3.7 Subproject Committees

3.7.1 Purpose

(a) The purpose of each Subproject Committee, other than the Project Administrative Cost Subproject Committee, is to discuss, review and reach consensus, if possible, for all decisions regarding the design, construction, operation and maintenance of such Subproject, including but not limited to: (i) selection of all contractors; (ii) review and approval of Subproject design; (iii) review and approval of construction estimates, plans and activities; (iv) transition from testing to operations phase; (v) operations and maintenance procedures; (vi) approval of third Party personnel, including engineers, contractors, subcontractors and suppliers; (vii) review of all permits, licenses and CEQA and NEPA documentation for the Subproject; (viii) determination of commencement and conclusion of testing, operations and other stages of the Subproject; and (ix) all such decisions required for design, construction, modification, repair, operation and maintenance of any change in the Subproject resulting from a Modification affecting the SOW.

(b) The purpose of the Project Administrative Cost Subproject Committee is to discuss, review and reach consensus, if possible, for all decisions relating to Project Administrative Costs.

(c) The Subproject Committees and the Project Administrative Cost Subproject Committee are also responsible for approving invoices for payment and for establishing budgets as set forth below.

3.7.2 Subproject Committee Composition

(a) Each Subproject Committee, other than the Project Administrative Cost Subproject Committee, is composed of: the Water Entity Representative (or designee) for the Water Purveyor managing the Subproject (except the Subarea One Subproject, which has a representative from both SWS and VCWD) and the CR Project Coordinator (or designee). Any Party can request at any time participation by the WE Project Coordinator, Watermaster and/or WQA. If an issue being addressed by the Subproject Committee relates to or potentially affects the Judgment, the Watermaster should participate. Participation by the WE Project Coordinator, the Watermaster, and/or WQA is a Project Cost.

(b) The Project Administrative Cost Subproject Committee is composed of a representative of the Watermaster, WQA and the Cooperating Respondents.

3.7.3 Subproject Committee Meetings

(a) Each Subproject Committee shall meet as frequently as deemed to be appropriate by the members. It is anticipated that except where coordination among Subprojects is required, each Subproject Committee meeting will be scheduled as a separate meeting. Where coordination among Subprojects is the subject of a meeting, attendance by all affected Water Entities is appropriate.

(b) Either the Water Purveyor member (or as to the Project Administrative Cost Subproject Committee, the Water Entity members) or the CR Project Coordinator may call a meeting of that Subproject Committee by providing at least ten (10) Working Days advance written notice of the meeting and a full agenda for the meeting to each other member of that Subproject Committee, Watermaster and WQA. A Subproject Committee meeting to address

issues already discussed among the members may be called by providing least five (5) Working Days' advance written notice.

(c) All documents and reports to be considered at scheduled meetings shall be provided to all members of the Subproject Committee, Watermaster and WQA at least ten (10) Working Days before the scheduled meetings, unless the members of the Subproject Committee agree to a shorter time period or unless such documents were unavailable to be distributed in which case they shall be distributed at the earliest possible date.

(d) Within ten (10) Working Days after each Subproject Committee meeting, the Water Purveyor member shall submit to the Watermaster, WQA and to the WE Project Coordinator, with a copy to the CR Project Coordinator, the minutes of the Subproject Committee including the information necessary to complete the periodic reports and deliverables required by the UAO.

(e) Relative to the Project Administrative Cost Subproject Committee, the provisions of (a)-(d) above apply, except that minutes of meetings of the Project Administrative Cost Subproject Committee are created by Watermaster and circulated to members of the committee.

3.7.4 Subproject Decision and Approval Process

(a) If there is no consensus reached on a matter presented at a Subproject Committee meeting, the position of the Water Entity member or members will provisionally control, and the matter will be identified in the minutes of the Subproject Committee as an item to be considered at the next regularly scheduled meeting of the Project Committee. A Party objecting to the position of the Water Entity member or members may submit a short statement of its objection to the Project Committee before the Project Committee meeting. Any member of the Subproject Committee may, if necessary, request an expedited review (no less than ten (10) Working Days from the request) by the Project Committee by sending a written request to the Project Committee members. If the Water Entity considers such decision necessary for the operation of the Project, the Water Entity, in its sole discretion, can proceed with implementing the contested action on the basis of the provisionally controlling position of the Water Entity member or members while the matter is under review; and the Cooperating Respondents must

pay the costs in accordance with the payment provisions, subject to reimbursement pursuant to the dispute resolution provisions of this 2017 Project Agreement.

(b) The review of Subproject Invoices and Administrative Cost Invoices shall be undertaken pursuant to the procedure detailed in Section 4.7.1.

(c) Except for audit disputes, disagreements as to whether a matter is arbitrable or what level of arbitration is appropriate, and disagreements as to matters affecting more than one Subproject, review by the Subproject Committee is required before a matter can proceed to review by the Project Committee and the arbitration procedures in Article 8 of this 2017 Project Agreement.

(d) The Project Committee shall review and approve all budgets and Modifications to the SOW, regardless of whether consensus was reached at the corresponding Subproject Committee meeting.

3.7.5 Water Entities' Best Efforts

The Water Entities shall use best efforts to comply with all notice and document delivery requirements of this 2017 Project Agreement in this Article 3. However, no decision or action of the Subproject Committee shall be invalidated by the failure to provide notice or documents in accordance with this 2017 Project Agreement, although the Cooperating Respondents may dispute the costs associated with the action.

3.8 Project Committee

3.8.1 Purpose

The Project Committee shall review issues of overall coordination, progress, and budgets. This shall include approving the budgets, monitoring risks, quality and timelines, making policy and resourcing decisions, and assessing requests for changes to the scope of the Project.

3.8.2 Composition of the Project Committee

The Project Committee will be composed of the following voting members: (1) Watermaster; (2) WQA; (3) Water Entity Representative(s) from a Subproject to the extent that a Subproject issue is to be addressed; or their designees, and the Cooperating Respondents through the CR Project Coordinator or their designees on a non-voting basis.

3.8.3 Meetings of the Project Committee

The Project Committee shall hold meetings no less than four times per year to review the operation of the Project for purposes of water supply and contaminant migration control and to review and make recommendations for Modifications. One meeting each year will review the annual budgets.

3.8.4 Disagreements and Project Committee

If a disagreement arises as between the Parties, either the Cooperating Respondents or the affected Water Entity can provide notice to the Project Committee.

(a) If the matter in disagreement concerns an invoice, the notice of disagreement shall be given and the Project Committee's review shall be completed and written decision transmitted within the time limits established in Section 4.7.1.

(b) For matters in disagreement addressed in a Subproject Committee meeting other than approval of invoices, including disagreements involving Subproject O&M Budgets, Project Capital Cost Budgets, and Project Administrative Cost Budgets, the notice to the Project Committee shall be provided in the minutes of the Subproject Committee meeting.

(c) For all other matters in disagreement not described in Section 3.8.4(a)-(b) above, notice of disagreement shall be given to the Project Committee within thirty (30) days after the disagreement arises.

(d) Unless the affected Parties request expedited review, matters submitted to the Project Committee as described in Section 3.8.4(a)-(c) above shall be considered at the next regularly scheduled meeting of the Project Committee, provided that the next meeting is scheduled to occur at least ten (10) Working Days after the matter is submitted to the Project

Committee. Matters in disagreement submitted to the Project Committee within ten (10) or fewer Working Days before the next regularly scheduled meeting will be deferred until the following meeting, unless the Parties agree otherwise.

(e) The members of the Project Committee shall meet and negotiate in good faith regarding each dispute. Once a decision is made by a vote of the majority of the Project Committee, the Project Committee shall transmit a written decision regarding the dispute to all Parties within ten (10) Working Days. If any Party has a dispute with the written decision of the Project Committee, then such dispute may be submitted pursuant to the dispute resolution provisions of Article 8.

3.8.5 Project Committee Actions

To the extent that the Project Committee identifies actions that are agreed upon by the Cooperating Respondents and the affected Water Entities, the agreement shall be documented in a manner appropriate for the issue resolved. Any change that requires EPA approval shall only be implemented following confirmation of EPA approval. To the extent that the Cooperating Respondents and the affected Water Entities have not reached agreement, the Project Committee shall issue a written decision. The Parties retain the right to challenge the Project Committee's decision under dispute resolution procedures in Article 8.

ARTICLE 4. PROJECT FUNDING

4.1 Project Costs

4.1.1 Payment of Project Costs by Cooperating Respondents

The Cooperating Respondents are obligated, on a joint and several basis, to pay all Project Costs incurred in accordance with this 2017 Project Agreement. In order to ensure payment of these Project Costs, the Cooperating Respondents are obligated to post Financial Assurances on a joint and several basis.

4.1.2 Project Costs Deemed CERCLA Response Costs

Project Costs incurred in accordance with this 2017 Project Agreement shall be deemed to be CERCLA response costs necessary and consistent with the NCP.

4.2 Escrow Account

4.2.1 Establishment of an Escrow Account

The Cooperating Respondents have established an escrow account for the deposit of monies to satisfy the Cooperating Respondents' payment obligations under the 2002 Project Agreement. The Parties agree to transfer the remaining funds and obligations contained in the Cooperating Respondents' subaccounts from the 2002 Escrow Account to the escrow account to be established pursuant to the Escrow Agreement attached as Exhibit C to this 2017 Project Agreement (the "Escrow"). All escrow account funds shall bear interest as provided in the Escrow Agreement, and the initial deposits into the escrow account required of the Cooperating Respondents shall be made in accordance with Section 3 of the Escrow Agreement.

4.2.2 Escrow Agent

Citizens Business Bank shall serve as escrow agent to administer payments under this 2017 Project Agreement ("Escrow Agent") pursuant to the written instructions set forth in the Escrow Agreement. Any replacement Escrow Agent shall have a Standard & Poor's Rating Services credit rating of A(-) or better. The Escrow Agent, and any replacement Escrow Agent, shall not act as an agent or representative for any Party; and the Escrow Agent shall act at all

times in a neutral manner and act strictly in accordance with the provisions of the Escrow Agreement.

4.2.3 Escrow Agent Fees

WQA shall be responsible for paying reasonable compensation to the Escrow Agent in accordance with the Escrow Agreement. Such compensation shall be Project Administrative Costs.

4.2.4 Replacement of Escrow Agent

(a) If, while WQA is in existence, the Escrow Agent resigns or WQA decides to replace the Escrow Agent, WQA at its sole discretion shall retain a replacement Escrow Agent, subject to the requirements in Section 4.2.2. WQA shall provide notice of the replacement to all Parties.

(b) In the event that WQA ceases to exist, and the Escrow Agent resigns or the Parties mutually agree to replace the Escrow Agent or remove it for cause, the Parties shall select a new Escrow Agent by mutual agreement. Any dispute between the Parties as to the existence of cause shall be subject to the dispute resolution provisions set forth in this 2017 Project Agreement. If the Parties are unable to agree upon a replacement Escrow Agent within thirty (30) days prior to the effective date of the resignation or replacement of the acting Escrow Agent, the Water Entities and the Cooperating Respondents shall, within ten (10) days thereafter, each submit a list of three proposed escrow agents to the other, along with information regarding the qualifications of each candidate. Within ten (10) days after both lists have been submitted, the Water Entities and the Cooperating Respondents may each eliminate one candidate. Within ten (10) days thereafter, Watermaster shall select the Escrow Agent from the remaining candidates. This process shall not delay funding of and payments from the Escrow Account. Actions undertaken pursuant to this Section 4.2.4(b) are not subject to the dispute resolution provisions in Article 8.

4.3 Trust Fund

4.3.1 Establishment of Trust Fund

The Cooperating Respondents established and maintained financial assurances in accordance with the provisions of the 2002 Project Agreement and are establishing financial assurances as of the Funding Date in accordance with the requirements of Section 4.6 for Project Capital Costs and Project O&M Costs (“Financial Assurance”) in a trust fund (“Trust Fund”) established for the benefit of the Water Entities and administered in accordance with the Trust Agreement set forth in Exhibit E to this 2017 Project Agreement. The aggregate amount of Financial Assurances initially required to be transferred or delivered to Trustee by the Cooperating Respondents as of the Funding Date pursuant to the Trust Agreement shall be \$31,096,490.00, representing the amount of Financial Assurances required to be deposited with Trustee pursuant to Section 4.b of the Trust Agreement attached as Exhibit E. The Parties will execute and deliver instructions directing the Trustee under the 2002 Trust Agreement and Successor Trustee Agreement to transfer or release Financial Assurances in the 2002 Trust as of May 9, 2017.

4.3.2 Trustee

Regions Bank, an Alabama banking corporation, has agreed to serve as Trustee and to administer the Trust Fund under this 2017 Project Agreement until replaced in accordance with Section 4.3.4. Any replacement Trustee shall have a Standard & Poor’s Rating Services credit rating of A(-) or better. The Trustee’s duties are set forth in the Trust Agreement set forth in Exhibit E hereto.

4.3.3 Trustee’s Fees

The Cooperating Respondents are responsible for paying reasonable compensation to the Trustee in accordance with the Trust Agreement. Such compensation shall not be paid or calculated as part of Project Costs.

4.3.4 Replacement of Trustee

(a) The Trustee may be replaced (1) if it resigns from the relationship; (2) by agreement of a majority of the Cooperating Respondents and a majority of the Water Entities, or (3) for cause. Any dispute between the Parties as to the existence of cause shall be subject to the dispute resolution provisions set forth in this 2017 Project Agreement. In the event of the resignation or replacement of the Trustee, Cooperating Respondents shall select a replacement Trustee subject to the approval of the Water Entities.

(b) If the Parties are unable to agree upon a replacement Trustee within thirty (30) days prior to the effective date of the resignation or replacement of the acting Trustee, the Water Entities and the Cooperating Respondents shall, within ten (10) days thereafter, each submit a list of three proposed trustees to the other, along with information regarding the qualifications of each candidate. Within ten (10) days after both lists have been submitted, the Water Entities and the Cooperating Respondents may each eliminate one candidate. Within five (5) days, the Project Committee shall select the Trustee from the remaining candidates. This process shall not delay the Project.

4.4 Project Capital Costs

4.4.1 Project Capital Costs Budget

For Project Capital Costs to be incurred after the Operative Date, the responsible Water Purveyor shall prepare and circulate to all members of the Subproject Committee, Watermaster and WQA a proposed Capital Costs Budget at least thirty (30) days prior to a meeting to address the budget. The meeting will be scheduled at least ninety (90) days before the Project Costs Budget is to take effect and shall be deemed a Subproject Committee meeting for which attendance by the Watermaster and WQA shall be deemed Project Costs. If the Parties cannot agree on a Project Capital Costs Budget, notice of the budget disagreement will be submitted to the Project Committee as described in Section 3.8.4. The Water Purveyor-proposed Capital Costs Budgets shall be sent to the Project Committee and will provide the provisional basis for the Quarterly Capital Expenditures until the matter is resolved. However, any amounts incurred while a Capital Costs Budget is in dispute shall be subject to reimbursement pursuant to the dispute resolution provisions in Article 8.

4.4.2 Schedules of Quarterly Capital Expenditures

(a) Pursuant to the approved Project Capital Costs budget, the responsible Water Entity for each Subproject shall prepare and submit a schedule of projected capital expenditures on a calendar quarterly basis to the CR Project Coordinator, Watermaster and WQA. The quarterly schedule of projected capital expenditures shall be submitted to the Subproject Committee at least fifteen (15) days before the Subproject Committee meeting to adopt the schedule. This meeting shall be conducted at least forty-five (45) days before the start of the quarterly period covered by the schedule. The Subproject Committee shall promptly forward the approved quarterly capital costs schedule (the "Quarterly Capital Schedule") to Watermaster and WQA.

(b) Each Subproject Committee shall reconcile the scheduled Project Capital Costs and actual Project Capital Costs for each Subproject on a quarterly basis. Any credit or deficit from the reconciled quarter shall be reflected in the next Quarterly Capital Schedule.

(c) If any of the Project Capital Costs become the subject of a dispute resolved pursuant to the dispute resolution provisions set forth in this 2017 Project Agreement, any adjustments resulting from such process shall be reflected in the next Quarterly Capital Schedule following resolution of the dispute.

4.4.3 Quarterly Capital Funding

(a) Watermaster shall promptly submit the Quarterly Capital Schedule, if any, for each Subproject to the Escrow Agent and the Cooperating Respondents after approval of the Quarterly Capital Schedule, and in no event later than forty (40) days before the start of the quarterly period covered by such schedule. Watermaster shall also transmit with each Quarterly Capital Schedule a statement showing the total amount of funds to be deposited in the Escrow Account for Project Capital Costs ("Quarterly Capital Statement").

(b) The Cooperating Respondents shall continue to deposit the total quarterly amount of capital funds to be deposited for the Project, as shown in subsequent Quarterly Capital Statements, no later than twenty-one (21) days before the start of the quarterly period covered by the Quarterly Capital Schedule.

(c) The Escrow Agent shall certify to Watermaster no later than eighteen (18) days before the start of the quarterly period, with copies to WQA and the Cooperating Respondents, that the full amount required by the Quarterly Capital Statement has been deposited in the Escrow Account.

4.4.4 Failure to Provide Quarterly Capital Funding

(a) If the full amount required by the Quarterly Capital Statement has not been deposited in the Escrow Account by the required date, then in lieu of the certification described in Section 4.4.3(c), the Escrow Agent shall certify to Watermaster, with copies to WQA and the Cooperating Respondents, that the full amount of funds to be deposited pursuant to the Quarterly Capital Statement has not been deposited and that the Escrow Agent has made a demand upon the Trustee for the amount of the deficiency. The Escrow Agent shall simultaneously make a demand to the Trustee, who shall then draw upon the Financial Assurance of the defaulting Cooperating Respondent in an amount sufficient to cure the default. If the Financial Assurance of the defaulting Cooperating Respondent is insufficient to cover the default, the Trustee shall be required to draw upon the Financial Assurance provided by each of the other (non-defaulting) Cooperating Respondents pro rata, as provided in the Trust Agreement, in a total amount sufficient to cure the default, but without revealing the individual shares of the Cooperating Respondents.

(b) The Escrow Agent shall certify to Watermaster, with a copy to WQA, upon receipt of the required funds, that the full amount required by the Quarterly Capital Statement has been deposited in the Escrow Account. If the required certification is not received at least five (5) days before the start of the applicable quarterly period, Watermaster shall be entitled to make demand upon the Trustee for payment from the Financial Assurances provided by each of the other (non-defaulting) Cooperating Respondents pro rata, as provided in the Trust Agreement, in a total amount sufficient to cure the default, but without revealing the individual shares of the Cooperating Respondents. The Trustee shall honor the demand of Watermaster without requiring any consent or other instruction of the Cooperating Respondents or Escrow Agent. Actions undertaken pursuant to this Section 4.4.4(b) are not subject to the dispute resolution provisions in Article 8.

4.5 Subproject O&M Costs

4.5.1 Subproject O&M Costs Budgets

(a) The Parties have agreed to initial annualized Subproject O&M cost budgets (“Subproject O&M Budget(s)”) for the period from the Operative Date until January 1, 2018, which are attached hereto as Exhibit F. By August 15 of each year, the responsible Water Purveyor shall prepare and provide to the CR Project Coordinator, Watermaster and WQA an estimated budget for the Subproject O&M Costs for the ensuing calendar year, which shall identify the anticipated change out schedule for larger cost consumables that are not replaced routinely (such as carbon and resin) and identify any changes and reasons for such changes from the then approved annual budget. The proposed budget materials shall be circulated electronically at least thirty (30) days before the meeting to address the budget. The Subproject Committee shall consider the proposed budget and shall reach agreement as to the Subproject O&M Budget by October 1 of each year for the ensuing year at a Subproject Committee meeting for which attendance by the Watermaster and WQA shall be deemed Project Costs. If the Parties cannot agree on the Subproject O&M Budget, notice of the budget disagreement will be submitted to the Project Committee as described in Section 3.8.4.

(b) If the Cooperating Respondents disagree with the Subproject O&M Budget and the disagreement is not resolved by October 15 of the same year, the budget submitted by the Water Purveyor shall be the provisional basis for the Cooperating Respondents’ quarterly funding obligations until the dispute is resolved. However, any amounts incurred while a Subproject O&M Budget is in dispute shall be subject to reimbursement pursuant to the dispute resolution provisions in Article 8.

4.5.2 Project Administrative Costs Budgets

(a) The Parties have agreed to initial annualized Project Administrative Costs budgets for the period from the Operative Date until January 1, 2018, which are attached hereto as Exhibit G. By September 1 of each year, Watermaster and WQA shall each prepare and submit to the CR Project Coordinator a proposed annual budget for their Project Administrative Costs (“Project Administrative Costs Budget”), which shall identify any changes and reasons for such changes from the then approved annual budget. The Project Administrative Cost

Subproject Committee shall consider the budget and reach agreement or not by October 1 of each year. The decisions of the Project Administrative Cost Subproject Committee shall be handled in the same manner as the decisions of other Subproject Committees, as described in Section 3.7.4.

(b) If the Cooperating Respondents disagree with the Project Administrative Costs Budget and the disagreement is not resolved by October 15 of the same year, notice of the dispute shall be sent to the Project Committee, along with the budget adopted by Watermaster and WQA. That budget shall be the provisional basis for the Cooperating Respondents' quarterly funding obligations until the dispute is resolved. However, any amounts incurred while a Project Administrative Costs Budget is in dispute shall be subject to reimbursement pursuant to the dispute resolution provisions in Article 8.

4.5.3 Schedule of Quarterly O&M and Project Administrative Expenditures

(a) Pursuant to the approved Subproject O&M Budgets, the responsible Water Purveyor for each Subproject shall prepare and submit a schedule to the Cooperating Respondents, Watermaster and WQA of projected Subproject O&M expenditures for the next six (6) months on a quarterly basis. The schedule shall be submitted at least sixty (60) days before the start of the six (6) month period covered by this schedule and the meetings to adopt subsequent Subproject O&M schedules shall be conducted at least forty-five (45) days before the start of the six (6) month period covered by the schedule. On a quarterly basis, the Subproject Committees shall promptly forward to Watermaster and WQA the approved six (6) month schedule of expenditures for Subproject O&M Costs.

(b) Pursuant to the Project Administrative Costs Budget, Watermaster and WQA shall jointly prepare a schedule of their projected Project Administrative Costs for the next six (6) months on a quarterly basis. The approved schedule of expenditures for Subproject O&M Costs and the schedule for Project Administrative Costs adopted by Watermaster and WQA shall constitute the quarterly O&M cost schedules ("Quarterly O&M Schedules").

(c) Each Subproject Committee shall reconcile the scheduled Subproject O&M Costs and actual Subproject O&M Costs for each Subproject on a quarterly basis. Watermaster shall reconcile the scheduled Project Administrative Costs and actual Project

Administrative Costs on a quarterly basis. Any credit or deficit from the reconciled quarter shall be reflected in the next Quarterly O&M Schedule.

(d) If any Subproject O&M Budget or Project Administrative budget becomes the subject of a dispute resolved pursuant to the dispute resolution provisions set forth in this 2017 Project Agreement, any adjustments resulting from such process shall be reflected in the next Quarterly O&M Schedule following resolution of the dispute.

4.5.4 Quarterly O&M and Project Administrative Cost Funding

(a) Watermaster shall submit the approved Quarterly O&M Schedules to the Escrow Agent and the Cooperating Respondents no later than forty (40) days before the start of the period covered by such schedules. Watermaster shall also transmit with the Quarterly O&M Schedules a statement showing the total amount of O&M funds for each Subproject and the total amount of Project Administrative Costs to be deposited into the Escrow Account (“Quarterly O&M Statement”).

(b) Each Quarterly O&M Statement shall be for a six (6) month period but shall only require funding for the additional quarter. Each deposit of quarterly funds shall be made no later than twenty-one (21) days before the start of the six (6) month period covered by the Quarterly O&M Schedule.

(c) The Escrow Agent shall certify to Watermaster no later than eighteen (18) days before the start of the quarterly period, with copies to WQA and the Cooperating Respondents, that the full amount required by the Quarterly O&M Statement has been deposited in the Escrow Account.

4.5.5 Failure to Provide Quarterly O&M Funding

(a) If the full amount required by the Quarterly O&M Statement has not been deposited by the required date, the Escrow Agent shall be required to certify to Watermaster, with copies to WQA and the Cooperating Respondents, that the full amount required by the Quarterly O&M Schedule has not been deposited in the Escrow Account. The Escrow Agent shall simultaneously make a demand upon the Trustee to call upon the Financial Assurance of the defaulting Cooperating Respondent(s) in an amount sufficient to cure the default. In the

event that the Financial Assurance of the defaulting Cooperating Respondent(s) is insufficient, the Trustee shall be required to draw upon the Financial Assurance provided by each of the other (non-defaulting) Cooperating Respondents, pro rata, as provided in the Trust Agreement, in an amount sufficient to cure the default, but without revealing the individual shares of any Cooperating Respondent.

(b) Upon receipt of the required funds, the Escrow Agent shall certify to Watermaster, with copies to WQA and the Cooperating Respondents, that the full amount required by the Quarterly O&M Statement has been deposited in the Escrow Account. If the required certification is not received at least five (5) days before the start of the applicable quarterly period, Watermaster shall be entitled to make demand upon the Trustee for payment from the Financial Assurances provided by each of the other (non-defaulting) Cooperating Respondents pro rata, as provided in the Trust Agreement, in a total amount sufficient to cure the default, but without revealing the individual shares of the Cooperating Respondents. The Trustee shall honor the demand of Watermaster without requiring any consent or other instruction of the Cooperating Respondents or Escrow Agent. Actions undertaken pursuant to this Section 4.5.5 (b) are not subject to the dispute resolution provisions in Article 8.

4.5.6 Calculation of Avoided Costs

(a) Each Water Purveyor receiving Project water transferred from another Water Purveyor shall pay Avoided Costs to the transferring Water Purveyor.

(b) If a Water Purveyor receives Replacement Water Supply from a source outside of the Project, the receiving Water Purveyor shall deduct Avoided Costs from its invoice to Cooperating Respondents.

(c) Avoided Costs for the Water Purveyor receiving Replacement Water Supply in the first calendar year of the 2017 Project Agreement shall be \$64.95 per acre foot. For subsequent years this amount will be adjusted annually on January 1st of each year by applying the PUC non-labor inflation rate for December of the preceding year. If the transferring Water Purveyor's cost for producing the transferred water (including but not limited to costs for boosting the transferred water and the actual production well and booster pump station maintenance costs attributable to transferring the water) are greater than the Avoided Cost due

from the receiving Water Purveyor, then the Cooperating Respondents shall be responsible for paying the difference. If the transferring Water Purveyor's cost for producing the transferred water (including but not limited to costs for boosting the transferred water and the actual production well and booster pump station maintenance costs attributable to transferring the water) are less than the Avoided Cost due from the receiving Water Entity, then the Cooperating Respondents shall receive a credit for the difference.

(d) To the extent that any Water Purveyor, without the prior approval and concurrence of the Cooperating Respondents, enters into an agreement with another Water Purveyor or the City of Industry purporting to establish the terms of transfer of Project water, including pricing, such agreement will not be binding upon the Cooperating Respondents and will not establish or affect the calculation of Avoided Costs.

(e) As to any water transferred by SGVWC to CDWC, as described in Section 2.3.5 and Section III of the SGVWC B5 and B6 sections of the SOW, the terms of subsection 4.5.6(c) shall apply subject to the following modification: For calendar year 2017, SGVWC's cost for producing the transferred water to CDWC (including but not limited to costs for boosting the transferred water and the actual production well and booster pump station maintenance costs attributable to transferring the water) shall be \$78.15 per acre foot, and for subsequent years this amount will be adjusted upward annually on January 1st of each year by applying the PUC non-labor inflation rate for December of the preceding year.

4.5.7 Management Fee

(a) The Cooperating Respondents shall pay an O&M Management Fee to the Water Purveyor responsible for each Subproject, as follows: B5 - \$104,899.00; B6 - \$97,510.00; SubArea One - \$89,988.00; CDWC - \$75,343.00; SWS 140 - \$33,911.00; LPVCWD - \$75,000.00.

(b) The O&M Management Fee shall be paid annually during operation of the respective Project Facility pursuant to the SOW and subject to an annual increase of two percent (2%). The O&M Management Fee shall be paid in arrears, with the first payment due and payable on May 1, 2018.

4.6 Financial Assurances

(a) The Cooperating Respondents shall deposit Financial Assurances in the Trust Fund as required by Section 4.3.1 and, pursuant to this Section 4.6, may be required to deposit additional Financial Assurances in the Trust Fund for the benefit of the Water Entities. Each deposit of the Financial Assurances shall be in the form of: (i) transferable irrevocable standby letters of credit issued by a financial institution with a Standard & Poor's Rating Services credit rating of A(-) or better, in the form attached as Exhibit D to the Trust Agreement; (ii) cash; and/or (iii) a surety payment bond in the form attached as Exhibit F to the Trust Agreement issued by a U.S. Treasury-listed surety in the financial size category rating of X or higher. No more than one-half (1/2) of the required Financial Assurances for each Cooperating Respondent may be in the form of a surety payment bond. The cash Financial Assurances shall be maintained and may be invested in accordance with the terms of the Trust Agreement. If the Trustee makes a demand for the conversion of all or part of a Letter of Credit or Surety Bond to cash and it is not honored or paid within ten (10) Working Days of the date that the draw or demand is received by the issuer of the Letter of Credit or the surety, the Trustee shall not include the amount of the Letter of Credit or Surety Bond that has not been honored in determining the amount of Financial Assurance to replenish under Section 4.6.8.

(b) If pursuant to Section 4.4.5 or 4.5.5 or any other provision of this 2017 Project Agreement, the Trustee must make a draw for less than the total amount of Financial Assurance of a Cooperating Respondent, the Cooperating Respondent's share shall be paid first from: (i) cash credited to the sub-account of such Cooperating Respondent and then, to the extent that such amounts are insufficient, (ii) cash obtained by Trustee by drawing upon a Letter of Credit in such Cooperating Respondent's sub-account, and then, to the extent that such amounts under (i) and (ii) are insufficient, (iii) cash obtained by making a demand for payment under any Surety Bond(s) in such Grantor's sub-account.

(c) At the option of any of the Water Entities and upon notice to all Parties, if the demand of the Trustee for conversion of all or part of a Letter of Credit or Surety Bond to cash is not honored or paid within ten (10) Working Days of the date that the draw or demand is made or sent, the Trustee shall assign its rights to pursue such demand under the Surety Bond or the Letter of Credit to the Watermaster, on behalf of all Water Entities, and shall complete,

execute and deliver to the Watermaster on behalf of all Water Entities a transfer of the Letter of Credit or an assignment of rights to pursue such demand under Surety Bond. Watermaster shall then have the absolute right in its sole discretion to collect and/or enforce the assigned demand for payment under the Surety Bond in accordance with the Trust Agreement. In the event that the Trustee does not receive notice from any of the Water Entities requesting the transfer of a Letter of Credit or assignment of a Surety Bond, the Trustee shall continue to take action to collect the amounts payable thereunder and enforce the obligations thereunder and upon receipt of any proceeds thereof shall transfer them to the Escrow Account, as necessary. If and when funds from the Letter of Credit or Surety Bond are recovered, the funds will be returned to the Trustee to reimburse the non-defaulting Cooperating Respondents to the extent of the non-defaulting Cooperating Respondents payments. All costs of collection and/or enforcement relating to the surety bond shall be Project Costs.

4.6.1 Financial Assurance for Project Capital Costs

The Cooperating Respondents shall maintain Financial Assurance in the Trust Fund equal to the total amount of capital funds required to complete the Project, as set forth in the then-approved Project Capital Costs budgets.

4.6.2 Financial Assurance for Project O&M Costs

The Cooperating Respondents shall maintain Financial Assurances in the Trust Fund equal to two (2) years of budgeted Project O&M Costs, calculated by doubling the amount of the then-current annual Subproject O&M Budgets and the then-current annual Project Administrative Costs Budgets subject to the limitations of Section 4.6.4. During the final year of the Term of the 2017 Project Agreement, the Cooperating Respondents shall maintain Financial Assurances in the Trust Fund equal to two (2) years of budgeted Project O&M Costs.

4.6.3 Funds Secured from Public Funding Sources or Other Funding Sources; Adjustment to Financial Assurances

There shall be no Financial Assurance required for that portion of Project Capital Costs, Subproject O&M Costs or Project Administrative Costs for which funds have been secured from Public Funding Sources or Other Funding Sources. If any portion of Project Capital Costs,

Subproject O&M Costs or Project Administrative Costs have been secured from Public Funding Sources or Other Funding Sources after the corresponding budget has been approved and the Financial Assurance has been calculated, the Watermaster shall provide a Notice of Adjustment in accordance with Section 4.6.5.

4.6.4 Maximum and Minimum Financial Assurances

The total Financial Assurance obligation required at any time for the Project shall be no greater than, and no less than, the greater of the following amounts: (i) the then-required Financial Assurance for Project Capital Costs under Section 4.6.1, or (ii) the sum of the total Financial Assurance for Project O&M Costs under Section 4.6.2.

4.6.5 [Intentionally omitted]

4.6.6 Adjustments in Financial Assurance

(a) Adjustments. If the total amount of Capital funds required to complete a Subproject, as stated in the approved Project Capital Costs budget for such Subproject, should decrease or increase, and such decrease or increase requires an adjustment in the amount of Financial Assurances required to be maintained by Cooperating Respondents, the Watermaster shall provide the Trustee with written notice of the required adjustment to Financial Assurances (“Notice of Adjustment”) within ten (10) Working Days after the Subproject Committee decision to approve the adjusted Project Capital Costs budget. When a Project Capital Cost budget is adopted pursuant to a Modification under Section 2.3, then the Watermaster shall provide the Trustee with a Notice of Adjustment within ten (10) Working Days to fund the adjusted Capital Cost Budget. The amount of the Financial Assurance for O&M costs shall be adjusted on an annual basis based upon the Subproject Committee’s annual Subproject O&M Budgets and the annual Project Administrative budgets. The Watermaster shall provide the Trustee with the Notice of Adjustment, if any, by October 15 of each year.

(b) Decreases. In the event of a Notice of Adjustment showing a decrease in the Project Capital Costs budget, the Trustee shall, within three (3) Working Days after the Trustee’s receipt of the Notice of Adjustment, notify each Cooperating Respondent that it may decrease the amount of its Financial Assurance in accordance with the Notice of Adjustment,

either (i) by directing the Trustee to disburse immediately available funds to the Cooperating Respondent from the Cooperating Respondent's sub-account of the Trust Fund within ten (10) Working Days after Trustee's receipt of such direction in accordance with the Trust Agreement, or (ii) by amending or replacing the Cooperating Respondent's Financial Assurance to decrease the amount thereof accordingly. The decrease cannot result in a Cooperating Respondent holding less than one half (1/2) of the required Financial Assurance in cash or a letter of credit.

(c) Increases. In the event of a Notice of Adjustment showing an increase in the total amount of required Financial Assurance, the Trustee shall, within three (3) Working Days after Trustee's receipt of the Notice of Adjustment, notify each Cooperating Respondent of the additional amount of Financial Assurance required to be deposited by such Cooperating Respondent in the Trust Fund as the Cooperating Respondent's share of the additional Financial Assurance for such Subproject and each Cooperating Respondent shall, within twenty-one (21) days after the Trustee's notice, deposit in the Trust Fund Financial Assurance in the amount of that Cooperating Respondent's share of the additional Financial Assurance for such Subproject. The Cooperating Respondents shall not be required to fund an increase in Financial Assurance more frequently than every six (6) months, except in the case of a default by a Cooperating Respondent or as the result of a Modification.

4.6.7 Certification of Financial Assurance

No later than five (5) days after the date on which any Financial Assurances are required to be deposited in or may be withdrawn from the Trust Fund, the Trustee shall certify to Watermaster, with a copy to WQA and Cooperating Respondents, that the Trust Fund contains all required Financial Assurance and that at least one half of each Cooperating Respondent's Financial Assurance is in the form of cash or a letter of credit.

4.6.8 Replenishment of Financial Assurance

If the Trustee has reduced any of the Financial Assurances as a result of a default in any payment obligation of the Cooperating Respondents hereunder, the Trustee shall give notice to the defaulting Cooperating Respondent(s) of the obligation to replenish the Financial Assurances within twenty-one (21) days after the Trustee's notice. If the defaulting Cooperating Respondent replenishes the Financial Assurance within twenty-one (21) days after the Trustee's notice, the

Trustee shall, within five (5) days of the deposit, certify to Watermaster that the Financial Assurance has been fully restored.

4.6.9 Failure to Provide or Maintain Financial Assurance: Cure

If a Cooperating Respondent fails to provide the increase in Financial Assurance required by section 4.6.6(c) or the replenishment required by section 4.6.8 within twenty-one (21) days, with no more than one half (1/2) of the required Financial Assurance in the form of surety payment bond(s), then, in lieu of the certification provided for in Section 4.6.7, the Trustee shall give notice to all Cooperating Respondents with a separate notice to Watermaster and WQA as provided in the Trust Agreement. The notice to the Cooperating Respondents shall specify the identity of the Cooperating Respondent that did not provide the required Financial Assurance and the amount of the shortfall and shall further provide a deadline for remedying that shortfall of thirty (30) days. Notice to Watermaster and WQA shall provide notice that the total Financial Assurances required for the period have not been satisfied and the total amount of the shortfall. If there is no cure within the initial 30-day period, then the Trustee shall provide a second notice to the Cooperating Respondents with a second notice to Watermaster and WQA. Within one hundred twenty (120) days after receiving such second notice, the Cooperating Respondents shall cure the default. If no cure is made within that time period, or if at any time the Escrow Account is not fully funded pursuant to the then-current Quarterly Capital Statement and Quarterly O&M Statement following application of the remedies described in sections 4.4.4 or 4.5.5, then a “final default” will be declared by Watermaster.

4.6.10 Final Default

(a) If Watermaster declares a final default pursuant to this Section 4.6.10, then Watermaster, on behalf of the Water Entities and each of them, shall have the right to make a demand directly upon the Trustee for payment to the Escrow Account of the full amount of all remaining Financial Assurances held by the Trustee in the Trust Fund. The Trustee shall honor the demand of the Water Entities without requiring any consent or other instruction of the Cooperating Respondents or Escrow Agent. The Trustee shall within ten (10) Working Days

draw upon all remaining letters of credit and surety bonds and liquidate assets held in the Trust Fund, and immediately transfer into the Escrow Account the full amount held in the Trust Fund.

(b) Each Water Entity shall continue work on the Project as long as there are sufficient funds in the Escrow Account to pay Project Costs reflected in the Quarterly Capital Statement and Quarterly O&M Statement. If a Quarterly Capital Statement and Quarterly O&M Statement cannot be funded out of the then-existing balance in the Escrow Account then each Water Entity, at its sole discretion, may immediately elect to cease performance of any further work on the Project.

(c) A final default is a material breach of this 2017 Project Agreement and any Water Entity, at its sole election, may elect to sue any or all Cooperating Respondent(s) for any claims the affected Water Entity has based on such material breach of this 2017 Project Agreement. In any such suit, the defendant Cooperating Respondent(s) shall receive an offset against judgment for any money paid by that Cooperating Respondent to the Project (whether paid before or after the Operative Date of this 2017 Project Agreement) or still held in the Escrow Account for that Cooperating Respondent.

(d) Actions undertaken pursuant to this Section 4.6.10 are not subject to the dispute resolution provisions in Article 8.

4.7 Payment of Invoices

4.7.1 Subproject and Administrative Invoices

(a) All applications for payment of Project Costs for each Subproject (“Subproject Invoice(s)”) and all applications for payment of invoices for Project Administrative Costs (“Administrative Invoice(s)”) shall be managed as follows. No later than the second Monday of each month, Watermaster and WQA shall submit draft Administrative Invoices and each Water Purveyor shall submit draft Subproject Invoices to an approved website. Each Water Entity’s submission will allocate each item in the Subproject Invoice or Administrative Invoice to the corresponding budget category. Submission of the monthly Subproject Invoices will be accompanied by notice to Watermaster that the invoices are available for review. Watermaster shall review the Subproject Invoices within five (5) Working Days of receipt of the notice that

the invoices are available for review. No later than the third Monday of each month, Watermaster shall send notice to the CR Project Coordinator, with a copy to the other Water Entities, that the final Subproject Invoices and the Administrative Invoices have been posted (“Notice of Submission”).

(b) The CR Project Coordinator shall notify Watermaster and the affected Water Entity within fifteen (15) Working Days of receipt of the Notice of Submission whether an invoice, or any of its subparts, is approved, is the subject of objection, or requires further explanation or documentation (“CR Project Coordinator Notice”). If the CR Project Coordinator does not provide a CR Project Coordinator Notice for an invoice, or for any subpart of the invoice, within fifteen (15) Working Days following receipt of the Notice of Submission for that invoice, then the invoice, and/or its subparts, will be deemed approved and no longer subject to dispute.

(c) Fifteen (15) Working Days after the Notice of Submission for an invoice, Watermaster shall process the invoice for payment unless Watermaster has received a request from a Water Entity that processing be delayed for an invoice, or a portion of the invoice, in order to allow additional time to resolve a CR Project Coordinator Notice. When Watermaster processes the invoice for payment, it shall provide notice to WQA and WQA shall apply any available public funding as a credit against payment of the Subproject Invoices and Administrative Invoices.

(d) Upon receipt of a CR Project Coordinator Notice objecting to and/or requesting information regarding an invoice, the Water Entity may elect either (i) to request that Watermaster hold the invoice, or the affected items or subparts of the invoice, pending resolution, or (ii) allow Watermaster to process the invoice for payment as if approved. Any amounts paid as to invoices subject to a CR Project Coordinator Notice shall be subject to reimbursement if the matter is resolved in favor of the Cooperating Respondents by the Project Committee or pursuant to the dispute resolution provisions of Article 8.

(e) For invoices as to which the Cooperating Respondents have an objection or require more information, the CR Project Coordinator Notice shall identify in writing the basis of each objection and/or any information requested by the Cooperating Respondents. All

invoices for which there is an objection or a request for information which has not been resolved within thirty (30) days of receipt of the CR Project Coordinator Notice shall be submitted to the Project Committee, except, if all affected Parties agree, the Parties may stay the period for referring a matter to the Project Committee so as to allow the affected Parties to resolve the invoice issue among themselves.

(f) The Project Committee shall have thirty (30) days to review a matter referred to it under this Section 4.7.1, including evaluation of the substantiation for the invoice, and to transmit a written decision to all Parties. If any Party has a dispute with the written decision of the Project Committee, then such dispute may be submitted for dispute resolution pursuant to Article 8.

4.7.2 Watermaster Payment Request

On a monthly basis, Watermaster shall aggregate all Subproject Invoices and Administrative Invoices that are to be processed for payment pursuant to Section 4.7.1 and submit them as a single invoice to the Escrow Agent with a copy to the Cooperating Respondents (“Watermaster Payment Request”).

4.7.3 Escrow Agent

Within three (3) Working Days after receipt of a Watermaster Payment Request, the Escrow Agent shall release funds to WQA from the Escrow Account in the full amount of the Watermaster Payment Request along with a detailed schedule of the Subproject Invoices and Administrative Invoices covered by the check. The Escrow Agent shall provide a confirmation copy to Watermaster and the Cooperating Respondents at the same time.

4.7.4 WQA.

Subject to ratification or approval of the WQA Board at its next regularly scheduled meeting following receipt of funds from the Escrow Account pursuant to Section 4.7.3, WQA shall immediately disburse funds for payment of final Subproject Invoices directly to the Water Entities and shall disburse funds for payment of WQA and Watermaster Administrative Invoices to itself and Watermaster. In the event that WQA ceases to exist, Watermaster shall assume the role of WQA with regard to disbursement of funds.

4.7.5 Payment of Actual Project Costs

Notwithstanding the amounts of estimated Project Costs reflected in any quarterly schedules for the Project, the Escrow Agent shall be instructed to release to WQA available funds equal to the amounts stated in the Watermaster Payment Request.

4.7.6 Nonpayment

If for any reason the Escrow Agent does not make any payment for Project Costs within the time required by this Section, Watermaster shall give notice to all Cooperating Respondents of the nonpayment. If the Cooperating Respondents fail to make the required payment within ten (10) Working Days after delivery of the notice of nonpayment, Watermaster on behalf of the Water Entities, or WQA on its own behalf, shall be entitled to make a direct demand upon the Trustee to withdraw the required amount from the Financial Assurances, pro rata as provided in the Trust Agreement, but without revealing the individual shares of the Cooperating Respondents. The Trustee shall honor the demand of the Watermaster or WQA without requiring any consent or other instruction of the Cooperating Respondents or Escrow Agent.

4.7.7 Stale Invoices and Stale Costs

No Water Entity shall seek or be entitled to receive payment from Cooperating Respondents for an invoice received by the Water Entity from a third party provider more than one-hundred-twenty (120) days before submission of the invoice package to the Cooperating Respondents under Section 4.7.1 above (a "Stale Invoice") unless (i) the Water Entity can establish good cause for the delay, or (ii) the Water Entity provides (a) notice to the Cooperating Respondents in writing within one-hundred-twenty (120) days of receiving any invoice that there is good cause for such invoice to be presented at a later time, (b) a copy of such invoice (and if not apparent from the face of the invoice, a short description of the charge), and (c) the reason for delay in presentation. The Water Entity shall present its evidence of good cause for the delay at the time that it submits a Stale Invoice to the approved website as described in Section 4.7.1 (a) above.

4.8 Public and Other Funding Sources

4.8.1 Obtaining Funds from Public Funding Sources

The Water Entities shall use good faith efforts, in a manner consistent with each Water Entity's and its representatives' individual and unique obligations under applicable law, to obtain funds available from Public Funding Sources so as to reduce the Cooperating Respondents' funding obligation. To the extent that funds from Public Funding Sources are obtained to address groundwater contamination problems in the San Gabriel Valley generally, a fair allocation of the funds shall be sought for the BPOU. The determination of what amount constitutes a fair allocation shall be made by WQA. WQA shall act in accordance with its statutory authority and implementing rules and regulations as to the actions taken to obtain and allocate public funding.

4.8.2 Administration of Funds from Public Funding Sources

WQA and the affected Water Entity, as appropriate, shall document, account for and administer all funds received by it in conformity with all applicable requirements of the BOR and all requirements of any other administrators of Public Funding Sources.

4.8.3 Conformity with Public Funding Sources Requirements

Each Water Entity shall design, build, operate and maintain its respective Subproject(s) in conformity with all applicable requirements of the Public Funding Sources from which funds have been or may be secured for the Project. If Public Funding Sources have requirements which conflict with this 2017 Project Agreement, the Parties shall meet and negotiate in good faith to amend this 2017 Project Agreement to conform to the requirements of the Public Funding Sources.

4.8.4 Credit Against Project Costs

Funding from Public Funding Sources shall constitute a "dollar for dollar" credit to Cooperating Respondents' responsibility to fund Project Costs. Upon receipt of the Public Funding Source monies by WQA for Project Capital Costs, the money shall be applied as a credit to the next schedule of projected quarterly Project Capital Costs or, if all then currently

scheduled Project Capital Costs have been collected from the Cooperating Respondents, then such money shall be promptly reimbursed by WQA to the Cooperating Respondents. Monies received from Public Funding Sources for Project O&M Costs shall be applied as a credit to the next schedule of projected quarterly Project O&M Costs or, if received after the termination of this 2017 Project Agreement and after all Project O&M Costs have been collected from the Cooperating Respondents, then such money shall be promptly reimbursed to the Cooperating Respondents.

4.8.5 Reimbursement Required by BOR

WQA shall conduct annual audits as required by Public Funding Sources for funding obtained for the Project. The Water Entities shall notify the Cooperating Respondents within five (5) days after receiving notice from the BOR that the Water Entities' costs or invoices will be the subject of review by the BOR. In the event that the BOR shall demand reimbursement of any funds expended by the BOR for the Project, or for any of the Subprojects, the Cooperating Respondents shall fund this reimbursement to WQA within thirty (30) days after receipt of WQA's written demand. WQA shall provide an explanation of the basis for the demand for reimbursement of funds.

4.8.6 Project Costs

The reasonable costs of the Water Entities' efforts to obtain funds from Public Funding Sources in accordance with Section 4.8.1 are Project Costs.

4.8.7 Other Funding Sources

If the performance of certain portions of the UAO Subprojects (as approved by the relevant Subproject Committee) is funded by Other Funding Sources, then upon completion of that portion of the capital construction work funded by Other Funding Sources (or, if O&M work, then upon the completion of such O&M work for a calendar year), the Cooperating Respondents shall be entitled to a credit equal to the amount of funds provided by such Other Funding Sources. Such credit shall be applied against the next applicable Quarterly Capital Schedule or Quarterly O&M Schedule for such Subproject.

4.9 Audits

4.9.1 Annual Audit

The Cooperating Respondents may, on an annual basis and upon reasonable notice, (i) audit the Water Entities' Financial Records and other records of expenditures on the Project, including all invoices and supporting documentation required for or related to such expenditures; or (ii) conduct another reasonable form of accounting review of the Water Entities' Financial Records or other records of expenditures on the Project. Any such audit report (or other accounting review) shall be provided to each Cooperating Respondent and the affected Water Entity within thirty (30) days after completion of the audit report or other accounting review. The costs of the audit shall be the responsibility of the Cooperating Respondents.

4.9.2 Resolution of Disputed Audit Results

If the results of the audit or other accounting review are inconsistent with the records of the affected Water Entity, the Water Entity shall provide a written explanation of such inconsistency. If the Cooperating Respondents disagree with the Water Entity's written explanation, such dispute shall be subject to the Major Dispute resolution provisions set forth in this 2017 Project Agreement without regard to the amount in controversy. Both the audit report, or other accounting review, and the Water Entity's written explanation shall be evidence to be submitted in the dispute resolution proceeding, with the weight of such evidence to be determined by the arbitrator.

4.9.3 Reconciliation of Audit Results

If the arbitrator determines or the Parties agree that the Cooperating Respondents have paid funds in excess of Project Costs for the time period under audit, then such excess amount shall be credited to the Cooperating Respondents in the next Quarterly Capital Schedule or Quarterly O&M Schedule, as applicable; or if determined after the termination of this 2017 Project Agreement and after all Project Costs have been collected from the Cooperating Respondents, then such excess amount shall be promptly reimbursed to the Cooperating Respondents. If the arbitrator determines or the Parties agree that the Cooperating Respondents have paid less than is required under this 2017 Project Agreement, the Cooperating Respondents

shall fund such deficiency in their next quarterly payment; or if determined after the termination of this 2017 Project Agreement, the Cooperating Respondents shall promptly pay the deficiency to the affected Water Entity or Entities.

4.9.4 Final Audit

If the Cooperating Respondents perform a final annual audit, it shall be conducted within one hundred twenty (120) days following the expiration of the Term of this 2017 Project Agreement. If there is a dispute arising from such final audit, the Cooperating Respondents and the Water Entities shall settle their accounts within thirty (30) days of the issuance of the arbitrator's decision.

4.9.5 No Delay of Funding Obligation

No audit or other accounting review hereunder shall delay or defer the obligation of Cooperating Respondents to make payment of amounts otherwise due as provided in this 2017 Project Agreement.

ARTICLE 5. RISK MANAGEMENT; INSURANCE; INDEMNITIES

5.1 Risk Management

The Project, including design, construction, operation, maintenance, modification and management of existing and contemplated Project Facilities, shall be protected by a comprehensive risk management program as set forth in this Article 5.

5.1.1 Project Insurance Procedures

(a) Before submitting any coverage claim to an insurance carrier providing insurance for the Project as described in Section 5.2 below (“Project Insurance”), the affected Party (“Submitting Party”) shall notify all other Parties of its intended submission (“Notice of Claim”) by providing a short letter which describes the nature of the claim, including the anticipated amount of money at issue. Absent exigent circumstances, Submitting Party’s notice under this subsection shall be provided both by email and regular mail at least ten calendar days prior to submitting the claim. Should any Party object to the submission of the claim (“Objecting Party”), such objection must be communicated to all Parties no later than five (5) Working Days after the notice of claim was provided. Upon receipt of the objection, the Submitting Party shall not submit the claim unless and until (a) a failure to submit the claim could potentially result in a loss of coverage or otherwise prejudice the Submitting Party’s rights under Project Insurance, (b) the objection is resolved pursuant to Section 5.1.1(d) below, or (c) sixty (60) days has elapsed from the date of the Notice of Claim, whichever is earliest.

(b) In order to minimize the costs of defense of claims covered by Project Insurance, to the extent that the Parties have common interests in the defense of such claims, the Parties shall strive to identify common counsel to defend such interests, or otherwise provide for the joint defense of such interests.

(c) Should a claim for coverage be made under any Project Insurance, the Parties will meet and confer for the purpose of evaluating whether it makes sense to retain (and then, if necessary, for the purpose of selecting) a neutral and cost-effective consultant or third-party administrator to manage coverage claims and keep records relating to the payment of self-insured retentions for Project Insurance.

(d) If no timely objection is communicated to Submitting Party, then the claim may be submitted directly by the Submitting Party to the insurance carrier. If any party timely objects to another party's pursuit of coverage for a claim or the costs of doing so, then the Submitting Party and the Objecting Party must first meet and confer in an attempt to resolve the objection. If the matter remains unresolved after 15 Working Days from the Notice of Claim, then the Objecting Party may provide notice of dispute under Article 8.

5.1.2 Insurance for Project Engineers, Vendors, and Contractors

(a) Each Water Entity that enters into a contract for professional engineering services, equipment fabrication and assembly services, or equipment installation or construction services or for any other work as a part of construction, operation, maintenance, repair, replacement, monitoring or modification of all or any part of the Project (referred to for purposes of this Section 5.1.2 as "Contract Work") shall specify in the competitive bid specifications, and require as a condition of the contract for the Contract Work, that the Project Contractor shall obtain and maintain at its expense and at all times during the performance of the Contract Work, the following insurance: workers compensation, commercial general liability and automobile liability coverage. The contracting Water Entity, the WQA, Watermaster and the Cooperating Respondents shall be named as additional insureds on all third party liability insurance as required under this Section 5.1.2(a). For Major Contracts, such specifications shall also include professional liability insurance and contractor's pollution liability insurance with limits as determined by the Parties, all of which shall be primary insurance and which shall name the contracting Water Entity, the WQA, Watermaster and the Cooperating Respondents as additional insureds.

(b) The Subproject Committee may waive or modify any insurance requirement set forth in Section 5.1.2(a) above, based upon the commercial availability and cost of the insurance, the nature of the insurable risks involved, and the extent to which the Parties are protected by Project Insurance.

(c) The responsible Water Entity shall obtain certificates of insurance, certified copies of policies and/or additional insured endorsements from each Project Contractor providing services to the Project and shall make them available to the named and additional

insureds, within ten (10) days after entering the contract. The responsible Water Entity shall not authorize commencement of any work by any Project Contractor under a contract until such time as the responsible Water Entity determines that all insurance requirements for the work have been met, unless the Subproject Committee has waived the need for such determination.

5.2 Project Insurance

5.2.1 Scope of Coverage, Claim Procedures, and Condition

The Parties shall maintain in effect during the term of this Agreement a policy or policies of insurance which provide, in substance, the coverages set forth in subsections (a) through (d) and the other requirements set forth in subsections (e) through (g) below:

(a) Claims against any of the insureds, including both Water Entities and Cooperating Respondents, for bodily injury, property damage (including Natural Resource Damages) and remediation expense arising from Pollution Conditions (as that term is defined and the coverage is described in standard contractor's pollution liability and pollution legal liability policies) caused by the operation of Project Facilities.

(b) Claims against the Water Entities for bodily injury resulting from pollutants in Project treated water including claims arising from the service of treated water from the Project (negligent service or defective product).

(c) Claims against any of the insureds, including both Water Entities and Cooperating Respondents, for bodily injury, property damage (including Natural Resource Damages) and remediation expense arising from Pollution Conditions (as that term is defined and the coverage is described in standard contractor's pollution liability and pollution legal liability policies) arising from wastes, including but not limited to brine discharges and spent carbon, that are found on, at, or migrating from a Non-Owned Disposal Site (as that term is defined and the coverage is described in standard contractor's pollution liability and pollution legal liability policies), with the potential modification that such a site can include a disposal site owned, managed, leased, or operated by any Cooperating Respondent or an affiliate of a Cooperating Respondent.

(d) Claims against any of the insureds, including both Water Entities and Cooperating Respondents, for bodily injury, property damage (including Natural Resource Damages) and remediation expense arising from Pollution Conditions occurring during the course of Transportation (as that term is defined and the coverage is described in standard contractor's pollution liability and pollution legal liability policies), with the potential modification that the person or entity transporting the waste can include a transporter owned, managed, leased, or operated by any Cooperating Respondent or an affiliate of a Cooperating Respondent.

(e) The total policy limits for Project Insurance shall be Thirty Million Dollars (\$30,000,000) per incident and in the aggregate for the coverage described in Section 5.2.1 (b) and Forty Million Dollars (\$40,000,000) per incident and in the aggregate for the coverage described in Section 5.2.1(a), (c), and (d), with primary policy limits of at least Ten Million Dollars (\$10,000,000) per incident and in the aggregate over the term of the policy or policies, recognizing that certain coverages may be subject to lower sublimits. The deductible or self-insured retention for Project Insurance shall be no more than One Hundred Fifty Thousand Dollars (\$150,000) per incident.

(f) This 2017 Project Agreement, and others that include indemnification provisions entered by one or more of the Parties under this 2017 Project Agreement, shall be scheduled as "insured contracts" under the Project Insurance.

(g) The Project Insurance shall be primary over any Water Entity insurance provided under Section 5.3.1.

(h) All premiums paid to obtain and maintain Project Insurance will be a Project Cost as described in Section 5.4.1 below.

5.2.2 Obtaining Initial Project Insurance and Replacing Project Insurance Before Expiration of Term

(a) Prior to execution of this 2017 Project Agreement, the Parties have obtained a binding commitment from insurance carriers which provides coverages (including exclusions to coverage), terms and limits consistent with the provisions of subsections 5.2.1(a) through (g) above ("Initial Project Insurance"). Because the term of the policies for Initial

Project Insurance will be less than the Term of this 2017 Project Agreement, the Parties have agreed on provisions for obtaining replacement Project Insurance during the Term of this 2017 Project Agreement as described in subsections (b) – (e) below.

(b) Prior to the expiration of the Initial Project Insurance, the Parties shall obtain a quote for a replacement policy or policies meeting the applicable criteria for Project Insurance set forth in Section 5.2.1(a) – (g) above. This provision also applies to individual coverage grants within a policy or among policies if the coverage grants are subject to a separate term (a “partial renewal”) and need replacement even though the rest of the policy does not need to be replaced. The Parties shall obtain the quote at least forty-five (45) days before the expiration of the prior term for that coverage. The Parties will have fifteen (15) days to notify all other Parties if the proposed replacement insurance is unsatisfactory, and why, in which case the Parties shall work together in good faith to resolve any such issue with a jointly retained insurance broker. If the proposed replacement insurance is satisfactory, the Parties shall bind the coverage to insure that there is no lapse in coverage.

(c) Notwithstanding subsection (b), the potential exists for the Parties to consider increased protection and/or changes in the premiums to be paid for coverage for Project Insurance. If the proposed replacement coverage meets the minimum requirements for Project Insurance as described in Section 5.2.1, then the Water Entities may obtain such coverage if the premium for such coverage is not in excess of the “Insurance Cap” which is described and defined in a separate confidential letter agreement that is maintained as confidential by the Parties to the extent permitted by law, and which establishes the allowable premium increases for Project Insurance above the premium paid for the Initial Project Insurance that is payable as Project Costs.

(d) If the Parties can obtain replacement Project Insurance at a cost that does not exceed the Insurance Cap at renewal, and the replacement Project Insurance can (without exceeding the Insurance Cap) provide expanded additional or named insured protection to Cooperating Respondents where the Initial Project Insurance does not provide such protection, the Water Entities shall obtain the replacement Project Insurance with such increased protection for Cooperating Respondents. If the Parties cannot obtain replacement Project Insurance at a cost that does not exceed the Insurance Cap, then the Water Entities, at their sole discretion, can: (1) elect to pay the excess over the Insurance Cap; (2) elect to purchase insurance that does

not fully meet all the criteria for Project Insurance set forth in Section 5.2.1(a) – (g) if: (i) the cost does not exceed the Insurance Cap, (ii) any deductible or self-insured retention is not increased, and (iii) any reduction in coverage, except for the coverage described in Section 5.2.1(b) and the Ten Million Dollars (\$10,000,000) in coverage excess of Thirty Million Dollars (\$30,000,000) in coverage described in Section 5.2.1(a), (c) or (d), must be consistent and proportionate as between the Cooperating Respondents and the Water Entities; or (3) terminate the 2017 Project Agreement.

(e) The cost of any replacement Project Insurance acquired consistent with the terms of this Section is a Project Cost.

5.3 Water Purveyor Insurance

5.3.1 Water Purveyor Insurance

Each of the Water Purveyors shall obtain and maintain during the term of this Agreement policies of insurance covering its respective operations, including its ordinary operations and Subproject operations, as follows:

(a) Workers compensation insurance to cover obligations imposed by Federal and State statutes with jurisdiction over Water Purveyor employees working full or part time on the Project, including employers liability insurance.

(b) Commercial General Liability and employer's liability insurance, including any excess and umbrella coverage, with combined limits totaling at least Five Million Dollars (\$5,000,000) per occurrence. This policy shall include coverage of bodily injury, broad form property damage (including completed operations), and personal injury, blanket contractual and products liability for risks associated with the design, construction, operation, maintenance, modification and management of Project Facilities.

(c) Comprehensive automobile liability insurance, including any excess and umbrella coverage, with combined limits for bodily injury and property damage of not less than Two Million Dollars (\$2,000,000) per occurrence with respect to automobiles owned, hired, or non-owned vehicles used in the performance of Project design, construction and/or operations.

(d) Professional liability and owners protective insurance, if appropriate, covering the design, construction, operation, maintenance, modification, and management of Project Facilities with limits recommended by the Project Committee.

(e) First party property damage insurance covering non-pollution property damage to Project Facilities owned and/or operated by the Water Purveyor, including boiler and machinery coverage for loss arising from operation of mechanical and electrical equipment, including, if commercially available at a reasonable cost, a pollution endorsement.

5.3.2 Watermaster and WQA Insurance

Watermaster and WQA may, in their discretion, obtain and maintain insurance to cover the risks associated with their responsibilities under this 2017 Project Agreement, with limits commensurate with such risks. The costs of such insurance coverage with limits not exceeding Five Million Dollars (\$5,000,000) per occurrence shall be Project Costs. To the extent that they obtain this insurance, the coverage shall be deemed part of Project Insurance and any renewal or replacement shall be subject to Section 5.2 and the Insurance Cap.

5.3.3 Other Insurance

Each of the Water Entities shall maintain existing policies of insurance for first party losses for purposes of the Water Entities' operations not including risks arising out of the design, construction and operation of Project Facilities. The costs of such insurance are Ordinary Operating Costs.

5.4 **General Insurance Provisions**

5.4.1 Insurance Costs

(a) All premiums, deductibles, and self-insured retentions under policies of insurance obtained and maintained as Project Insurance shall be paid by Cooperating Respondents as Project Costs and any return of premiums for Project Insurance shall be received by Cooperating Respondents. All reasonable costs incurred in submitting and enforcing claims for insurance coverage under Project Insurance, including reasonable attorney fees, shall be the financial responsibility of Cooperating Respondents. Cooperating

Respondents shall have no obligation to pay the costs of pursuing any claim, cross claim, counterclaim, third party claim or any other claim against a Cooperating Respondent.

(b) If any Water Entity has submitted a claim for coverage under Project Insurance, and the Water Entity has incurred costs for the matter subject to self-insured retention, then the Cooperating Respondents shall pay, within thirty (30) days after receipt of invoice (with supporting documentation) from that Water Entity, the amounts subject to self-insured retention. If the Cooperating Respondents dispute all or a part of any such invoice, then, within thirty (30) days after receipt of the invoice, they shall give notice to the respective Water Entity and shall pay any undisputed portion of the invoice. After giving such notice, the Cooperating Respondents shall meet and confer with the Water Entity in an effort to resolve the dispute. If the dispute is not resolved within ten (10) Working Days after the date of the initial notice of dispute, then the Cooperating Respondents may seek dispute resolution pursuant to Article 8. If an undisputed amount is not paid when due pursuant to this Section 5.4.1(b), or any amount due pursuant to the final decision of the arbitrator is not paid within thirty (30) days after notice of the arbitrator's decision under Section 8.13, then Watermaster shall make a demand for such funds upon the Trustee, who shall then draw upon the Financial Assurance of the defaulting Cooperating Respondent(s) in an amount sufficient to cure the default. If the Financial Assurance of the defaulting Cooperating Respondent(s) is insufficient to cover the default, the Trustee shall be authorized to release funds pro rata from the Financial Assurance provided by each of the other (non-defaulting) Cooperating Respondents as provided in the Trust Agreement in a total amount sufficient to cure the default, but without revealing the individual shares of the Cooperating Respondents. The Trustee shall honor the demand of Watermaster without requiring any consent or other instruction of the Cooperating Respondents or Escrow Agent.

(c) Premiums, deductibles and self-insured retentions under policies of insurance obtained and maintained as Water Entity Insurance are Ordinary Operating Costs, except that if any portion of a premium, deductible, or self-insured retention or any additional premium is attributable to Project Insurance, including Watermaster and WQA insurance as provided in Section 5.3.2, then it shall be a Project Cost.

(d) Any Water Entity Insurance premiums, deductibles, and self-insured retentions described in subsection (c) of this Section as Project Costs shall be included in the annual Project Administrative Costs Budgets.

5.4.2 Duties of Insureds

(a) General Duties. Each insured, including each named insured and each additional insured under any policy of insurance required or authorized by this 2017 Project Agreement for coverage of the Project, shall perform its duties as set forth in each such policy of insurance.

(b) Project Insurance. The Water Entities are to be the first named insureds under the terms of the Project Insurance, and will have certain rights and obligations which shall be performed and exercised as set forth in this Section.

(i) Notice to Insurer. The Watermaster shall act on behalf of all Water Entity insureds and the CR Project Coordinator shall act on behalf of all Cooperating Respondent insureds for the giving and receiving of notice of claims, cancellation, receipt and acceptance of any endorsement issued to or for a part of the Project Insurance with copies of all such notices provided to the Water Entities and the Cooperating Respondents.

(ii) Policy Cancellation. Project Insurance may not be canceled without the written consent of all Parties to the 2017 Project Agreement, which shall not be unreasonably withheld.

(iii) Notice of Claims. As described in Section 5.1.1(a) above, each Party shall notify the other Parties promptly after receipt of a “claim” that is potentially covered by the Project Insurance of the Party’s intention to seek defense or indemnity for the claim. Each such Party shall promptly provide such additional information as may be reasonably requested by other insureds, and shall otherwise fully cooperate with any consultant or third-party administrator retained pursuant to Section 5.1.1(c) in evaluating and preparing notice of the claim to the insurer.

(iv) Assistance to the Insurer Regarding Claims. Each affected Party shall cooperate and otherwise offer the insurer reasonable assistance in the defense, investigation

or settlement of a claim. Such cooperation or assistance shall include participating at meetings, testifying at hearings, depositions and trials and securing evidence.

(c) Coverage Denial. If, as a result of a Water Entity's failure to perform the duties required of it as an insured, as set forth in this Section 5.4, or in the Project Insurance, coverage for a loss is ultimately denied in whole or in part by the insurer, then the Water Entity's right to indemnity by the Cooperating Respondents under Section 5.5.1 for such loss shall be reduced by the amount that would otherwise have been paid for by insurance.

5.5 Indemnities

5.5.1 Cooperating Respondent's Indemnity

(a) The Cooperating Respondents ("CR Indemnitors") shall indemnify, hold harmless and defend the Water Entities, and each of them, their respective successors and permitted assigns, and their respective past and then-current officers, directors, board members and employees (individually, "WE Indemnified Party"; collectively, "WE Indemnified Parties") from and against any and all third party claims, causes of action, suits, legal or administrative proceedings and any resulting damages, losses, penalties, fines or liabilities (collectively, "Third Party Claims") after the Effective Date arising as a direct result of (i) Watermaster's or WQA's administration, management, coordination or design of any part of the Project in accordance with and during or prior to the Term of this 2017 Project Agreement, and without negligence or willful misconduct or (ii) a Water Purveyor's construction, operation, maintenance, or service of water from one or more of the Project Facilities in accordance with and during or prior to the Term of this Agreement and without negligence or willful misconduct, including, but not limited to, Third Party Claims arising as a direct result of alleged migration of groundwater contamination due to the operation of one or more of the Project Facilities, alleged inverse condemnation due to the construction or operation of one or more of the Project Facilities, or the disposal of waste materials from one or more of the Project Facilities at or to any off-site location ("Offsite Disposal") covered under the Project Insurance or approved by the Cooperating Respondents according to the following procedures: If a Water Entity learns that an Offsite Disposal site will no longer accept disposal of waste materials from a Project Facility, that Water Entity must promptly notify the Cooperating Respondents and submit to the Insurer

and the Cooperating Respondents a proposed replacement Offsite Disposal location to be added to Project Insurance. The Cooperating Respondents will have the earlier of 90 days from receipt of the Water Entity's notice or 30 days from the Insurer's notification of a decision to add or reject the addition of the proposed Offsite Disposal location to Project Insurance, by which to object to the proposed Offsite Disposal location submitted by the Water Entity. Any such objection by the Cooperating Respondents must identify an approved alternative Offsite Disposal location. Absent such timely and proper objection by the Cooperating Respondents, the Water Entity replacement Offsite Disposal location shall be deemed approved by the Cooperating Respondents. However, in no event shall the CR Indemnitors have any obligation under this Section 5.5.1 to indemnify, hold harmless or defend the WE Indemnified Parties from and against any Third Party Claims arising from (i) the operation of automotive vehicles, (ii) the operation or maintenance of ordinary water treatment or distribution facilities that would be operated or maintained by a Water Purveyor in the absence of any Chemicals of Concern in raw water, (iii) any claims asserted by any WE Indemnified Party, or any contractor or subcontractor of a WE Indemnified Party for nonpayment, or (iv) the presence or migration in groundwater or drinking water of any pollutant other than a Chemical of Concern.

(b) Defense Obligations. With respect to Third Party Claims that allege claims that are both covered and not covered under the indemnification provided for in Section 5.5.1(a), the CR Indemnitors' defense obligation under Section 5.5.1(a) shall be as follows:

(i) If defense of such a Third Party Claim is provided under the Project Insurance, the Water Entity Insurance or any other insurance available to the respective WE Indemnified Party, then the CR Indemnitors' obligation to provide a defense under this Section 5.5.1 is excess to the limits of all such other insurance and any defense provided by such insurance that is not subject to the respective insurance policy coverage limits.

(ii) If defense for such a Third Party Claim is not provided under the Project Insurance, the Water Entity Insurance or any other insurance available to the respective WE Indemnified party, and the Third Party Claim alleges claims that are covered and claims that are not covered under the indemnification provided in Section 5.5.1(a), then the CR Indemnitors' obligation to provide a defense for such Third Party Claim shall, by mutual agreement among the WE Indemnified Party and the CR Indemnitors, be allocated on a provisional basis between

alleged claims covered and alleged claims not covered by the indemnity provided under Section 5.5.1(a). The CR Indemnitors shall pay that proportion or amount of defense costs allocated to the covered claims, and the WE Indemnified Party shall pay that proportion or amount of defense costs allocated to the not-covered claims. In the absence of any such agreement, either the WE Indemnified Party or the CR Indemnitors may invoke dispute resolution under Article 8 of this Agreement for purposes of obtaining a provisional allocation of defense costs as between claims covered and not covered by the CR Indemnitor's indemnity obligations under Section 5.5.1(a). The parties to any such dispute resolution proceeding shall cooperate to expedite the proceeding. Each WE Indemnified Party shall pay its own defense costs pending a mutual agreement or other determination of the provisional allocation of defense costs.

(iii) Upon entry of final judgment, settlement or other final resolution of any Third Party Claim for which CR Indemnitors have provided a defense subject to a provisional allocation in accordance with Section 5.5.1(b) (ii), the total amount of defense costs incurred by the CR Indemnitors and the WE Indemnified Party with respect to the Third Party Claim shall be subject to a final proportioned allocation. The CR Indemnitors' obligation shall be based upon all evidence available at the time of settlement, judgment or other final resolution of the matter(s). The amount of any costs of defense incurred by the WE Indemnified Party or the CR Indemnitors pursuant to the provisional allocation that exceeds the amount allocated to that party in the final allocation of defense costs shall be reimbursed by the other party within thirty (30) days after a final allocation is determined. If the parties cannot agree on a final allocation of defense costs, then either party may submit the matter for alternative dispute resolution pursuant to Article 8 of this Agreement.

(iv) CR Indemnitors shall have no obligation under this Section 5.5.1 to pay for the cost of pursuing any claim against any CR Indemnitor.

(c) Limitations. The CR Indemnitors' obligations to defend, indemnify and hold harmless for Third Party Claims within the scope of the indemnity provided under Section 5.5.1(a) are excess to the limits of the Project Insurance described in Section 5.2, the Water Entity Insurance described in Section 5.3, and any other insurance available to the respective WE Indemnified Party and shall apply only (i) after such limits are exhausted for any claim or for all claims in the aggregate covered by such Project Insurance, Water Entity Insurance or other

insurance available to the respective WE Indemnified Party; (ii) if the CR Indemnitors and the WE Indemnified Party mutually agree that there is no such insurance covering such Third Party Claim; or (iii) after no insurance carrier that issued such Project Insurance, Water Entity Insurance or other insurance has accepted coverage of such Third Party Claim (with or without a reservation of rights) within one-hundred-twenty (120) days after receiving notice of a claim, provided the Water Entities are pursuing available coverage in good faith. The CR Indemnitors' obligations to defend, indemnify and hold harmless under this Section 5.5.1 are limited to, and shall not exceed, the total amount of Twelve Million Dollars (\$12,000,000) for any single claim for indemnity and/or defense and for all claims for indemnity and/or defense of any or all of the WE Indemnified Parties in the aggregate except as specifically set forth herein. The \$12,000,000 limit on the Cooperating Respondents' indemnification obligation under this section shall not apply to claims arising from Offsite Disposal as described in Section 5.5.1(a), which claims may be made at any time. If any notice of claim for defense and/or indemnification is given to a CR Indemnitor by a WE Indemnified Party after expiration of the CR Extended Reporting Period (as defined below), such WE Indemnified Party shall not be entitled to indemnification or defense of such claim under this Section 5.5.1 unless the claim arises out of Offsite Disposal. Any amounts to be paid by the CR Indemnitors for self-insured retentions or deductibles applicable to the Project Insurance, shall not be credited toward the limitation on indemnity in this Section 5.5.1(c). Any amounts to be paid as Project Costs by the CR Indemnitors for self-insured retentions or deductibles applicable to any other insurance with coverage for a Third Party Claim against a WE Indemnified Party shall not be credited toward the limitation on indemnity in this Section 5.5.1(c).

(d) Extended Reporting Period. The obligations under this Section 5.5.1 shall survive from the Effective Date until five (5) years after the date of termination of this Agreement, pursuant to Article 9 hereof, except that the obligation for indemnity for "Offsite Disposal" shall continue without limitation. With regard to any particular Subproject and the Water Purveyor responsible for that Subproject, this Section 5.5.1 shall survive only until five (5) years after the termination or discontinuation of the Water Purveyor's operation of such Subproject, as provided in Section 9.3 (the "CR Extended Reporting Period") except that the indemnity for claims arising out of Offsite Disposal shall continue without limitation.

(e) Claims Period: A WE Indemnified Party must give notice of any claim for defense and/or indemnification under this Section 5.5.1 pursuant to the notice requirements set forth in Section 5.5.4 prior to expiration of the CR Extended Reporting Period except, however, that notice of claims arising out of Offsite Disposal as described in Section 5.5.1(c) may be made at any time. If any notice of claim for defense and/or indemnification is given to a CR Indemnitor by a WE Indemnified Party after expiration of the CR Extended Reporting Period, such WE Indemnified Party shall not be entitled to indemnification or defense of such claim under this Section 5.5.1 unless the claim arises out of Offsite Disposal.

(f) Indemnification of Contractors. To the extent that any Water Entity is required by a contractor to provide an indemnity in connection with the Project, the Cooperating Respondents shall perform the indemnity obligation on behalf of the Water Entity, provided that the Cooperating Respondents have given their written approval of the indemnity in advance of the Water Entity's execution of the contract. In the event the Cooperating Respondents fail to approve of the indemnity, and the Water Entity's resulting inability to provide the indemnity results in a higher price for the contractor's services, such additional price shall be a Project Cost.

(g) Subrogation. The Cooperating Respondents shall be subrogated to all of the rights of the Water Entity, and the Water Entity shall cooperate with the Cooperating Respondents in exercising those rights, under any contract between a Water Entity and an engineer, vendor, contractor or subcontractor, for the design, construction, operation or maintenance of Project Facilities, in connection with any WE Indemnified Party claim for indemnification under this Section 5.5.1 arising in whole or in part out of the acts or omissions of the respective engineer, vendor, contractor or subcontractor. In connection with any contractor claim for indemnity for which Cooperating Respondents have a duty to perform under Section 5.5.1(f), Cooperating Respondents shall be subrogated to all of the rights of the Water Entity under the contract with respect to such claim, the Cooperating Respondents' duty to perform shall be subject to all of the limitations and defenses of the Water Entity under the contract, and the Water Entity shall cooperate with the Cooperating Respondents in defending against the contractor's indemnity claim.

(h) Equitable Indemnity. The express indemnification provided for in this Section 5.5.1 is not a waiver of, and shall not in any way preclude, limit or otherwise affect, any claim for equitable indemnification that any WE Indemnified Party may have against the CR Indemnitors or any of them for any Third Party Claim not within the scope of such express indemnification. All such equitable indemnification claims are expressly reserved.

5.5.2 Further Indemnity

The CR Indemnitors shall also indemnify, hold harmless and defend the WE Indemnified Parties, and each of them, from and against any and all Third Party Claims asserted against any WE Indemnified Party in any legal or administrative proceeding initiated by any CR Indemnitor for the purpose of recovering any sums paid by the CR Indemnitors pursuant to this 2017 Project Agreement or for the purpose of pursuing any claims assigned under this 2017 Project Agreement. This Section 5.5.2 shall survive the termination of this 2017 Project Agreement without limitation.

5.5.3 Water Entities Indemnity

(a) Each Water Entity ("WE Indemnitor") shall defend, indemnify, and hold harmless the Cooperating Respondents, and each of them, and their respective successors and permitted assigns, and their respective past and then-current officers, directors and employees (individually, "CR Indemnified Party"; collectively, "CR Indemnified Parties") from and against any and all Third Party Claims after the Effective Date arising solely as a result of the willful misconduct of that WE Indemnitor or its employees during the term of this 2017 Project Agreement, as and once determined by binding arbitration under the terms of the dispute resolution provisions in this 2017 Project Agreement. The CR Indemnified Party shall provide prompt notice to the WE Indemnitor of the claim for indemnity. If the WE Indemnitor challenges the claim for indemnity, the CR Indemnified Party shall seek a determination of the WE Indemnitor's indemnity obligation under this provision using the Major Dispute provisions of Article 8.

(b) Extended Reporting Period. The obligations under this Section 5.5.3 shall survive from the Effective Date until five (5) years after the date of termination of this 2017 Project Agreement pursuant to Article 9 hereof, except that, with regard to any particular

Subproject and the Water Purveyor responsible for that Subproject, this Section 5.5.3 shall survive only until five years after the termination or discontinuation of the Water Purveyor's operation of the Subproject, as provided in Section 9.3 (the "WE Extended Reporting Period").

(c) Claims Period. A CR Indemnified Party must give notice of any claim for defense and/or indemnification under this Section 5.5.3 pursuant to the notice requirements set forth in Section 5.5.4 prior to expiration of the WE Extended Reporting Period. If a CR Indemnified Party gives any notice of claim for defense and/or indemnification to a WE Indemnitor after expiration of the WE Extended Reporting Period, such CR Indemnified Party shall not be entitled to indemnification or defense of such claim under this Section 5.5.3.

(d) Equitable Indemnity. The express indemnification provided for in this Section 5.5.3 is not a waiver of, and shall not in any way preclude, limit or otherwise affect, any claim for equitable indemnification that any CR Indemnified Party may have against the WE Indemnitors or any of them for any Third Party Claim not within the scope of such express indemnification, all such equitable indemnification claims are expressly reserved.

5.5.4 Notice Requirements

An Indemnified Party under Section 5.5.1, Section 5.5.2 or Section 5.5.3 shall give the Indemnitor under the applicable Section written notice of any claim or demand asserted or threatened by third parties against the Indemnified Party for which a defense and/or indemnity may be sought within thirty (30) days after receiving, or otherwise obtaining knowledge of, the threatened or asserted claim or demand, and shall provide the Indemnitor immediate access to all relevant information in its possession or control related to the claim or demand. The failure to provide notice pursuant to this Section 5.5.4 shall not affect any of the obligations under Sections 5.5.1, 5.5.2 or 5.5.3 in the absence of a showing of prejudice.

5.5.5 Selection of Counsel

(a) Complete Defense. If the Indemnitor: (i) assumes the duty to defend any claim or demand that may be subject to indemnification under this Agreement without a reservation of rights and (ii) agrees to pay the full amount of the claim, then the Indemnitor shall be entitled to defend the claim with counsel selected by such Indemnitor, and reasonably

acceptable to the Indemnified Party, upon delivery to the Indemnified Party of notice of the Indemnitor's election to do so. After delivery of such notice, the Indemnitor shall not be liable to the Indemnified Party under this Agreement for any legal or other expense subsequently incurred by the Indemnified Party in connection with such defense; provided, however, that the Indemnified Party shall have the right at its own expense to employ separate counsel to join in defense of the matter. If a similar claim or demand is made against more than one Indemnified Party at the same time, or if claims or demands against more than one Indemnified Party are consolidated in any way, the Indemnitor may employ the same counsel to defend all such claims. The Indemnified Party shall fully cooperate with counsel appointed by the Indemnitor and shall provide any and all documents, data, records, witnesses, or expertise within its organization and/or control and other assistance requested by counsel in defense of the claim or demand.

(b) Partial Defense. If the Indemnitor assumes the duty to defend with any reservation of rights or agrees to defend without an agreement to pay the full amount of the claim asserted, then the Indemnitor must defend the claim with counsel selected by the Indemnified Party whose fees shall be commercially reasonable in accord with the standards in the community.

5.5.6 Settlement of Claims

(a) If the Indemnitor: (i) assumes the duty to defend any claim or demand that may be subject to indemnification under this Agreement without a reservation of rights and (ii) agrees to pay the full amount of the claim, then the Indemnitor shall be entitled to settle the claim, following reasonable notice to the Indemnified Party of the intent to settle.

(b) If the Indemnitor assumes the duty to defend with any reservation of rights or agrees to defend without an agreement to pay the full amount of the claim asserted, then the Indemnitor can settle the claim only with the consent of the Indemnified Party. If the Indemnified Party wishes to settle the claim and the Indemnitor does not, then the Indemnitor cannot object to or prevent the settlement unless the Indemnitor assumes the defense of the Indemnified Party without a reservation of rights and agrees to pay the full amount of the claim.

ARTICLE 6. RESERVATION OF RIGHTS; RELEASES; ASSIGNMENT; TOLLING

6.1 Reservation of Rights

6.1.1 Relationship to 2002 Project Agreement

This 2017 Project Agreement applies to actions to be undertaken and costs to be incurred from its Operative Date and through its Term as described in Section 9.1. The 2002 Project Agreement established rights and obligations relative to actions taken and costs incurred before the Operative Date of the 2017 Project Agreement. Nothing in this Article 6 eliminates those rights and obligations as established in the 2002 Project Agreement as to actions taken and costs incurred before the Operative Date of this 2017 Project Agreement. Any disputes that arose under the 2002 Project Agreement are to be resolved under the dispute resolution provisions of that 2002 Project Agreement.

6.1.2 Water Entity Reservation

Except as expressly set forth in this Article 6, the Water Entities reserve all rights, claims, causes of action, counterclaims, cross claims, and defenses of any kind or nature against the Cooperating Respondents with respect to the BPOU groundwater contamination, including without limitation, claims for future costs and damages that are incurred separate and apart from the Project.

6.1.3 Cooperating Respondent Reservation

Except as expressly set forth in this Article 6, the Cooperating Respondents reserve all rights, claims, causes of action, counterclaims, cross claims, and defenses of any kind or nature against the Water Entities with respect to the BPOU groundwater contamination, including without limitation, claims for future costs and damages that are incurred separate and apart from the Project.

6.1.4 No Release of Non-Parties

Except as otherwise explicitly provided in this 2017 Project Agreement, it is not the intention of the Parties hereto to release any persons or entities not Parties to this 2017 Project Agreement from any claims or liabilities. All rights to pursue such parties are reserved.

6.2 Specific Releases

6.2.1 Release by Water Entities under this 2017 Project Agreement

Upon each payment from Cooperating Respondents to a Water Entity of Project Costs incurred by a Water Entity from and after the Operative Date of this 2017 Project Agreement, that Water Entity, on behalf of itself and its respective successors and assigns, hereby agrees to release, acquit and forever discharge (collectively, “release”) each Cooperating Respondent and its respective past and then-present officers, directors, shareholders (other than parents), employees, agents, representatives, contractors, attorneys, parents (provided they have signed the release and tolling agreement in the form attached as Exhibit H), subsidiaries, affiliates, insurers, successors and assigns (together with the Cooperating Respondents, the “CR Affiliates”) from any and all actions, causes of action, claims, demands, liabilities, damages, penalties, debts, losses, costs, expenses and fees (including without limitation litigation costs and attorney and consultant fees) of every kind and nature whatsoever, in law and in equity in connection with the Project under this 2017 Project Agreement, but only to the extent of such payment. The Water Entities further release the Cooperating Respondents and CR Affiliates for any claim to the extent that such claim is paid or resolved by an insurer payment under Project Insurance.

6.2.2 Release by Cooperating Respondents Under this 2017 Project Agreement

Each of the Cooperating Respondents, for and on behalf of itself and its respective successors and assigns, hereby agrees that it shall forever release, acquit and discharge (collectively, “release”) each Water Entity and its respective past and then-present officers, directors, shareholders, employees, agents, representatives, attorneys, parents, subsidiaries, affiliates, insurers, successors and assigns (together with the Water Entities, the “WE Affiliates”) from any and all actions, causes of action, claims, demands, liabilities, damages, penalties, debts, losses, costs, expenses and fees (including without limitation litigation costs and attorney and consultant fees) of every kind and nature whatsoever, in law and in equity, for each payment to a Water Entity of Project Costs incurred by a Water Entity in connection with the Project under this 2017 Project Agreement, but only to the extent of such payment. The Cooperating Respondents further release the Water Entities and WE Affiliates for any claim to the extent that such claim is paid or resolved by an insurer payment under Project Insurance.

6.2.3 Civil Code Section 1542

(a) The Parties to this 2017 Project Agreement have read and fully understand the statutory language of Section 1542 of the Civil Code of State of California (“Section 1542”), which reads as follows: “A general release does not extend to claims which the creditor does not know or suspect to exist in his or her favor at the time of executing the release, which if known by him or her must have materially affected his or her settlement with the debtor.”

(b) Accordingly, as to the releases given in Section 6.2.1 and 6.2.2, it is each Party’s intention to specifically waive and relinquish any and all protections, privileges, rights and benefits under Section 1542 as to the claims to be specifically released under Section 6.2.1 and 6.2.2, as between the Cooperating Respondents on the one hand and the Water Entities on the other hand.

(c) This 2017 Project Agreement does not establish as among the Cooperating Respondents the ultimate allocation for Project Costs.

6.2.4 Limitations

The Parties agree that, except to the extent recovered under Project Insurance, the covenants, specific releases and waivers set forth in this Section 6.2, shall not apply to: (1) claims asserted by third parties, including but not limited to claims by such third parties (a) arising out of alleged consumption of contaminated water or exposure to contaminants in air, soil, water or groundwater or (b) for costs of Replacement Water Supply after the Operative Date of the 2017 Project Agreement (unless paid for by Cooperating Respondents), nuisance, trespass or economic damage or (c) for damages proximately caused by the failure of any Cooperating Respondent to meet its UAO obligations and (2) claims arising from, or relating to, any obligations of a Party to a third party (including the Water Entities’ contractors, subcontractors or agents) under this 2017 Project Agreement.

6.3 **Assignment of Claims**

Each Water Entity providing the CR Affiliates with a release pursuant to Section 6.2.1 hereby also provides the Cooperating Respondents with an assignment of all claims which are

encompassed within the scope of each release, effective upon each release. Any costs or expenses, including reasonable attorneys' fees, a Water Entity is caused to incur as a result of the Cooperating Respondents' pursuit of an assigned claim against a third party shall be reimbursed by the Cooperating Respondents as Project Costs.

6.4 Tolling

6.4.1 Tolled Claims

The statutes of limitation and any other statute, law, rule or principle of equity with similar effect (collectively "Statutes of Limitation") shall be tolled with respect to: (1) any and all rights, claims, causes of action, counterclaims or cross claims the Water Entities have against the Cooperating Respondents, for any and all Project Costs that may be incurred by the Water Entities for continued operation of any of the Project Facilities after the termination of this 2017 Project Agreement pursuant to Article 9 (the "Water Entities' Tolled Claims") and (2) any and all rights, claims, causes of action, counterclaims or cross claims the Cooperating Respondents may have against the Water Entities for any and all Project Costs that may be incurred by the Cooperating Respondents for continued operation of any of the Project Facilities after the termination of this 2017 Project Agreement pursuant to Article 9 (the "Cooperating Respondents' Tolled Claims").

6.4.2 Tolling Period

The tolling period ("Tolling Period") for the Water Entities' and the Cooperating Respondents' Tolled Claims commenced on the Effective Date of this 2017 Project Agreement and by agreement of the Parties are tolled until four (4) years from the Effective Date. The Tolling Period shall be excluded from all computations of any limitations period applicable to the Tolled Claims. The Parties shall waive and shall not plead, assert, or otherwise raise any Statutes of Limitations applicable to the Tolled Claims as a bar to any Tolled Claim.

6.4.3 Extension of Tolling Period

In accordance with California Code of Civil Procedure Section 360.5, before the end of the Tolling Period described in Section 6.4.2, the Parties shall enter into an agreement that (1)

incorporates all of the provisions of this Section 6.4 and (2) extends the Tolling Period for four years from the expiration of the then current Tolling Period (“Tolling Extension”). Before the end of the Tolling Period of each successive Tolling Extension, the Parties shall execute a further Tolling Extension to extend the Tolling Period another four years, except that any Tolling Extension entered into less than four years prior to the end of the Term of this 2017 Project Agreement shall only extend the Tolling Period until ninety (90) days after the end of the Term of this 2017 Project Agreement.

ARTICLE 7. FORCE MAJEURE; CONDEMNATION

7.1 Definition

With respect to the Water Entities, a “Force Majeure” is any occurrence beyond the control of the affected Water Entity (including but not limited to its contractors, subcontractors, agents or consultants) that causes the Water Entity to be unable to perform its obligations under this 2017 Project Agreement despite its good faith efforts to fulfill the obligations. With respect to the Cooperating Respondents, a “Force Majeure” is any catastrophic event that precludes normal banking and funds transfers such as emergency closing of the Federal Reserve Banking system, termination of normal mail or expedited mail services due to national emergencies and similar events. Force Majeure shall not include: (1) normal seasonal events; (2) normal inclement weather; (3) the failure of the Water Entity to make timely application for any required permits or approvals; (4) the failure to have available funds from an Escrow Account due to the lack of timely submittal of budgets or related materials; or (5) as to a Force Majeure event claimed by a Cooperating Respondent, the failure to have funds available and transferred to either the Trust or Escrow Account due to cash flow difficulties other than due to a Force Majeure under this Section 7.1 or scheduling mistakes.

7.2 Notice and Scope of Water Entity Force Majeure

If a Water Entity is rendered wholly or partly unable to perform its obligations under this 2017 Project Agreement because of a Force Majeure, then that Water Entity’s performance shall be suspended for the duration of such Force Majeure to the extent such performance is affected by the Force Majeure. The Water Entity shall give the other Parties both telephone and written notice of a Force Majeure as soon as practicable under the circumstances, ordinarily within forty-eight (48) hours by telephone and within five (5) Working Days in writing. The suspension of performance shall be of no greater scope and duration than is required by the Force Majeure. The Water Entity shall use good faith efforts to remedy its inability to perform and to mitigate the effects of the Force Majeure. Once the Water Entity is able to resume performance of its obligations under this 2017 Project Agreement, it shall promptly give the other Parties written notice to that effect. The Cooperating Respondents’ obligation for payment shall be suspended only to the extent of the Force Majeure event. The Cooperating

Respondents shall resume the obligation for making payments on a normal basis within ten (10) Working Days after written notification by the affected Water Entity that the Force Majeure event has terminated.

7.3 Notice and Scope of Cooperating Respondent Force Majeure

If a Cooperating Respondent is unable to perform its obligations under this 2017 Project Agreement because of a Force Majeure, then the Cooperating Respondent's performance shall be suspended for the duration of such Force Majeure to the extent such performance is affected by the Force Majeure. The affected Cooperating Respondent shall give the other parties both telephonic and written notice of the Force Majeure as soon as practicable under the circumstances, ordinarily within forty-eight (48) hours by telephone and within five (5) Working Days in writing. The suspension of performance shall be of no greater scope and duration than is required by the Force Majeure. The Cooperating Respondent shall use good faith efforts to remedy its inability to perform, including but not limited to seeking alternative means of transferring funds if the obligation is a funding obligation. Once the Cooperating Respondent is able to resume performance of its obligations under this 2017 Project Agreement, it shall then promptly give the other Parties written notice to that effect, and shall, within five (5) Working Days after termination of the Force Majeure event, resume making payments as required by this 2017 Project Agreement.

7.4 Condemnation

7.4.1 Response to Condemnation Action

If any Project Facility is subject to proceedings for condemnation by power of eminent domain during the term of this 2017 Project Agreement ("Condemnation Action"), the affected Water Entity shall promptly provide the Cooperating Respondents with written notice of such proceedings in accordance with Section 10.7.1. The affected Water Entity(ies) shall defend any such Condemnation Action on all good faith grounds, including without limitation, reference to the more necessary public purposes of the affected Project Facility. The Cooperating Respondents shall have the right to consult with the affected Water Entity on decisions to be made in connection with all such proceedings, provided that the affected Water Entity shall take the lead role in such proceedings. In the event of any dispute between the affected Water

Entity and the Cooperating Respondents as to how to proceed in such proceedings, the decision of the affected Water Entity shall prevail. If the more necessary public use cannot be established, the Water Entity shall make reasonable efforts to: (i) continue operation of the affected Project Facility as a use compatible with the public purpose for which the property is condemned; (ii) obtain relocation assistance required under statute, so that the Project Facility can continue to operate to carry out the purposes contemplated in this 2017 Project Agreement; or (iii) obtain compensation from third parties or Public Funding Sources for impairment to the Project operations, including but not limited to the cost to reestablish the affected Project Facility to carry out the purposes of this 2017 Project Agreement. The litigation expenses, including reasonable attorney, appraisal, engineering and expert witness fees, attributable either to the Condemnation Action or to proceedings necessary to apportion the condemnation award, including without limitation all proceedings under this Section 7.4, shall be Project Costs. The Water Entities shall not be liable to the Cooperating Respondents as a result of the defense of the Condemnation Action. The Water Entities shall use reasonable efforts, if requested by the Cooperating Respondents, but have no obligation to replace the condemned Project Facility under this 2017 Project Agreement.

7.4.2 Condemnation Award

If, following the Condemnation Action, the affected Project Facility cannot be operated in full conformity with this 2017 Project Agreement, and the affected Water Entity receives a compensation award for the affected Project Facility, the Cooperating Respondents shall be entitled to recover a share of the condemnation award attributable to that portion of any Project Facility or real property paid for by the Cooperating Respondents and not previously reimbursed by Public Funding Sources under this 2017 Project Agreement. The Parties will negotiate in good faith in an effort to reach agreement as to the apportionment of the condemnation award and the terms and conditions to continue operation of all or a substantial portion of the remaining Project Facilities to meet the objectives of this 2017 Project Agreement.

ARTICLE 8. DISPUTE RESOLUTION

8.1 Scope

All disputes between the Parties regarding the rights and obligations of the Parties set forth in this 2017 Project Agreement are subject to the dispute resolution procedures contained in this Article except to the extent specifically set forth in Sections 2.3.2(g), 2.3.3(b), 3.4.2(d), 3.4.3, 4.2.4(b), 4.3.4(b), 4.4.4(b), 4.5.5(b), 4.6.10 and decisions made by WQA pursuant to Section 4.7.4 and 4.8.1.

8.2 Pre-Arbitration Procedures: Project Committee Review

As to disputes subject to arbitration, other than Insurance Disputes, audits under Section 4.9 or Watermaster determinations under Section 3.5.3, a Demand for arbitration can only be made after Project Committee consideration and decision.

8.3 Duty to Fund / Provisional Budgets

If the dispute involves a funding obligation set forth in this 2017 Project Agreement or a provisional budget as set forth in Sections 4.4.1, 4.5.1(b), and 4.5.2(b), other than a dispute regarding the amount of Financial Assurance to be provided, and except as otherwise expressly provided in this 2017 Project Agreement, the Cooperating Respondents must pay the disputed amount(s) that are due pursuant to this 2017 Project Agreement when due, even if such due date is prior to the commencement of arbitration under the provisions of this Article, until resolution of the dispute. Whenever possible, the Parties shall endeavor to resolve the dispute prior to the expenditure of funds. If funds have been expended and the dispute is resolved in favor of the Cooperating Respondents, whether the resolution is by the arbitrator, by the Project Committee or Subproject Committee, or by agreement of the Parties, then the Cooperating Respondents shall be entitled to receive an immediate refund that they may elect to have credited against the amount to be deposited in the Escrow Account for the next applicable Quarterly Schedule. As to any dispute concerning any increased amount of Financial Assurance to be provided, the Cooperating Respondents' funding obligation is not triggered until the dispute is resolved by arbitration pursuant to the procedures in this Article 8.

8.4 Dispute Thresholds for Purposes of Arbitration

8.4.1 The arbitration procedure shall be based on the dollar amount and/or issues in controversy as follows:

(a) Minor Disputes:

(i) claims involving a disputed amount of One Hundred Thousand Dollars (\$100,000) or less in a single year that are not otherwise characterized as a Major Dispute; and

(ii) claims that might otherwise be characterized as a Major Dispute but the Affected Parties agree should be resolved as a Minor Dispute.

(b) Major Disputes:

(i) a single claim involving a disputed amount of over One Hundred Thousand Dollars (\$100,000) in a single year;

(ii) claims involving a disputed amount that is capable of repetition that would total over One Hundred Thousand Dollars (\$100,000) if repeated over three years;

(iii) disputes not involving monetary issues, including without limitation, disputes for claims of delay or cessation of work due to Force Majeure, disputes involving UAO Subproject matters that require EPA concurrence, and disputes resulting from a Watermaster decision pursuant to Section 3.5.3; and

(iv) disputes over the results of audits, review, or accounting inquiries conducted pursuant to Section 4.9.

(c) Insurance Disputes, as governed by Section 8.12.

8.4.2 Upon agreement of all Affected Parties, claims against a single Party that individually are less than One Hundred Thousand Dollars (\$100,000) may be stayed until the aggregate such claims total more than One Hundred Thousand Dollars (\$100,000) so that the claims can be treated as a single Major Dispute upon election to arbitrate.

8.5 Commencement of Arbitration.

8.5.1 Any aggrieved Party or Parties may invoke arbitration under Article 8 by giving written notice of the dispute to all Parties to this 2017 Project Agreement and to Judicial Arbitration and Mediation Services, Inc. (“JAMS”) within the time limits set forth in Sections 8.6 and 8.12 (“Demand for Arbitration.”) For purposes of this Article, a Party or Parties demanding arbitration is referred to as “Claimant” and any opposing Party or Parties is referred to as “Respondent.”

8.5.2 The Demand for Arbitration shall include a short statement of its factual basis and the remedies sought, including, if applicable, the dollar amount in controversy, and shall identify the Affected Parties. Only Affected Parties have a right to submit argument or evidence in the arbitration proceedings. The Demand for Arbitration must be delivered to all Parties and may be delivered electronically. Thereafter, any Party to this 2017 Project Agreement that is not an Affected Party may elect to not receive any further pleadings related to the dispute.

8.5.3 Response to Demand for Arbitration

(a) If more than one Affected Party is identified as a Respondent in the Demand for Arbitration, those Affected Parties shall jointly notify Claimant within five (5) Working Days of service of the Demand for Arbitration, whether they are able to act jointly as a single Respondent for purposes of briefing, discovery, and submission of evidence to the arbitrator. If those Affected Parties are not able to act as a single Respondent, they shall notify Claimant as to the number of Respondents acting in the dispute, and they shall identify any subset of Affected Parties that may be deemed a single Respondent for purposes of the dispute.

(b) Within fifteen (15) Working Days of service of the Demand for Arbitration, each Respondent shall submit to JAMS and serve on other Parties a written response and a statement of any affirmative defenses, including counterclaims it may have.

8.5.4 The arbitration is deemed commenced when JAMS issues a commencement letter confirming that JAMS has received all payments required under the applicable fee schedule and that Claimant has provided JAMS with contact information for all Affected Parties along with evidence that the Demand for Arbitration has been served on all Affected Parties.

8.5.5 The arbitrator will consider no claim or counterclaim in the absence of prior notice pursuant to Sections 8.5.2 and 8.5.3 to the other Affected Parties, unless all Affected Parties agree that such consideration is appropriate notwithstanding the lack of prior notice. The arbitrator will consider no remedy or affirmative defense in the absence of prior notice pursuant to Sections 8.5.2 and 8.5.3 to the other Affected Parties, unless the arbitrator determines that no Affected Party has been unfairly prejudiced by such lack of formal notice or all Affected Parties agree that such consideration is appropriate notwithstanding the lack of prior notice.

8.5.6 No Claimant or Respondent may terminate or withdraw from arbitration after the issuance of the commencement letter, except by written agreement of all Affected Parties.

8.5.7 A Claimant or Respondent that asserts a claim or counterclaim may unilaterally withdraw that claim or counterclaim without prejudice by serving written notice on the other Affected Parties and the arbitrator. However, the opposing Parties may, within seven (7) Working Days of service of such notice, request that the arbitrator condition the withdrawal upon such terms as he or she may direct.

8.5.8 Unless otherwise directed by the arbitrator or agreed by the Affected Parties to a given dispute, wherever possible the Affected Water Entities shall strive to act as a single Claimant or Respondent; and the Cooperating Respondents participating in the dispute also shall strive wherever possible to act as a single Claimant or Respondent.

8.6 Time Limits

8.6.1 Any Party may seek arbitration of a decision of the Project Committee provided that the Demand for Arbitration described in Section 8.5.1 is served within the following time limits: (a) for a dispute involving an invoice the demand must be served within fifteen (15) Working Days of the decision; (b) for a dispute as to arbitrability the demand must be served within thirty (30) days of the decision; or (c) for all other disputes the demand must be served within sixty (60) days of the decision.

8.6.2 An Affected Party may unilaterally toll by notice to all other Affected Parties the obligation to submit a Minor Dispute to arbitration for the earlier of (a) one year, (b) until the aggregate of such claims against a single Party total more than Thirty-Five Thousand Dollars

(\$35,000), or (c) sixty (60) days after the Affected Party provides notice of termination of the tolling, whichever occurs first; such tolled claims shall be submitted as a single Minor Dispute.

8.6.3 For disputes concerning the results of an audit under Section 4.9, the demand must be served no later than thirty (30) days after the Water Entity written response provided pursuant to Section 4.9.2. For disputes concerning the Watermaster's determination under Section 3.5.3, the demand must be served no later than thirty (30) days after the Watermaster notifies the Affected Parties of its determination.

8.6.4 The time limits for submitting Insurance Disputes are set forth in the expedited arbitration procedures described in Section 8.12.

8.6.5 A Party does not waive its right to challenge subsequent recurring costs or actions by failing to serve a demand as to the earlier cost or action. Service of a Demand for Arbitration does not revive any portion of a dispute over recurring costs and actions that has been time-barred.

8.6.6 The Parties to a dispute may extend the time to serve a Demand for Arbitration by mutual agreement.

8.7 Designation of Arbitrator

8.7.1 If possible, the arbitrator for each dispute shall be selected by mutual agreement of the Cooperating Respondents, on the one hand, and the Water Entities, on the other, from a list of neutrals resident in the JAMS Los Angeles office (or, if the Los Angeles office has fewer than ten (10) qualified arbitrators, from other California offices).

8.7.2 If the Affected Parties do not jointly notify JAMS of the selection of an arbitrator within fifteen (15) Working Days of the Demand for Arbitration, JAMS shall send the Affected Parties a list of ten (10) arbitrator candidates resident in the Los Angeles office of JAMS. JAMS shall also provide each Claimant and Respondent with a brief description of the background and experience of each arbitrator candidate. JAMS may replace any or all names on the list of arbitrator candidates for reasonable cause at any time before the Affected Parties have submitted their choice pursuant to Section 8.7.3 below.

8.7.3 Within five (5) Working Days of service upon the Affected Parties of the list of names, all Parties acting as Claimant may collectively strike three (3) names and shall rank the remaining arbitrator candidates in order of preference; and all Parties acting as Respondent may collectively strike three (3) names and shall rank the remaining arbitrator candidates in order of preference. The remaining arbitrator candidate with the highest composite ranking shall be appointed the arbitrator. In the event of a tie, the affected Parties shall meet and confer to mutually agree upon one of those highest ranked candidates within five (5) calendar days, or the next highest ranked candidate shall be appointed. JAMS may grant a reasonable extension of the time to strike and rank the arbitrator candidates to any Claimant or Respondent without the consent of the other Claimant or Respondent.

8.7.4 If either Party fails to respond to a list of arbitrator candidates within five (5) Working Days after its service, or fails to respond according to the instructions provided by JAMS, JAMS shall deem the Party to have accepted all of the arbitrator candidates.

8.7.5 If, for any reason, the arbitrator who is selected is unable to fulfill the arbitrator's duties, a successor arbitrator shall be chosen in accordance with this Section. JAMS will make the final determination as to whether an arbitrator is unable to fulfill his or her duties, and that decision shall be final.

8.7.6 Any disclosures regarding the selected arbitrator shall be made as required by law or within ten (10) Working Days from the date of appointment. Such disclosures may be provided in electronic format, provided that JAMS will produce a hard copy to any Party that requests it. Claimant and Respondent and their representatives shall disclose to JAMS any circumstance likely to give rise to justifiable doubt as to the arbitrator's impartiality or independence, including any bias or any financial or personal interest in the result of the arbitration or any past or present relationship with Claimant or Respondent or their representatives. The obligation of the arbitrator, the Affected Parties and their representatives to make all required disclosures continues throughout the arbitration process.

8.7.7 At any time during the arbitration process, Claimant or Respondent may challenge the continued service of an arbitrator for cause. The challenge must be based upon information that was not available to the Party making the challenge at the time the arbitrator was selected.

A challenge for cause must be in writing and exchanged with opposing Parties, who may respond within five (5) Working Days of service of the challenge. JAMS shall make the final determination as to such challenge. Such determination shall take into account the materiality of the facts and any prejudice to any Party. That decision will be final.

8.8 Service of Documents

8.8.1 Arbitration documents must be served electronically on all Affected Parties, and such service shall be deemed complete as of the day of transmittal. In addition, the arbitrator may at any time require electronic filing of documents in an arbitration. If an arbitrator requires electronic filing, Claimant and Respondent shall maintain and regularly monitor a valid, usable and active email address for the receipt of all documents filed electronically, and filing shall be considered as filed with JAMS on the same date as transmittal. Alternatively, the arbitrator may at any time require electronic filing through JAMS electronic filing system. Any document filed electronically shall be considered as filed with JAMS when the transmission to JAMS electronic filing system is complete. Any document e-filed by 11:59 p.m. Pacific Time shall be deemed filed on that date. Upon completion of filing, JAMS electronic filing System shall issue a confirmation receipt that includes the date and time of receipt. The confirmation receipt shall serve as proof of filing.

8.8.2 Every document filed with JAMS electronic filing system shall be deemed to have been signed by the arbitrator, JAMS case manager, attorney or declarant who submits the document to JAMS electronic filing system and documents filed by attorneys shall bear the typed name, address and telephone number of the signing attorney. Documents containing signatures of third parties (*i.e.*, unopposed motions, affidavits, stipulations, etc.) may also be filed electronically by indicating that the original signatures are maintained by the filing Party in paper format.

8.8.3 Delivery of e-service documents through JAMS electronic filing system to other registered users shall be considered as valid and effective service and shall have the same legal effect as an original paper document. Recipients of e-service documents shall access their documents through JAMS electronic filing system. E-service shall be deemed complete when the Party initiating e-service completes the transmission of the electronic document(s) to JAMS

electronic filing system for e-filing and/or e-service. Upon actual or constructive receipt of the electronic document(s) by the Party to be served, JAMS electronic filing system shall issue a certificate of electronic service to the Party initiating e-service, and that certificate shall serve as proof of service.

8.8.4 If an electronic filing or service does not occur because of (1) an error in the transmission of the document to JAMS electronic filing system or served Party that was unknown to the sending Party; (2) a failure to process the electronic document when received by JAMS electronic filing system; (3) an Affected Party being erroneously excluded from the service list; or (4) other technical problems experienced by the filer, the arbitrator or JAMS may, for good cause shown upon such terms as may be just, permit the document to be filed *nunc pro tunc* to the date it was first attempted to be sent electronically. Or, in the case of service, the Affected Party shall, absent extraordinary circumstances, be entitled to an order extending the date for any response or the period within which any right, duty or other act must be performed.

8.8.5 For documents that are not filed electronically, service by an Affected Party under these Rules is effected by providing one signed copy of the document to each Affected Party and two copies in the case of a sole arbitrator and four copies in the case of a tripartite panel to JAMS. Service may be made by hand-delivery, overnight delivery service or certified U.S. mail with return receipt requested. Service by any of these means is considered effective upon the date of deposit of the document.

8.9 Ex Parte Communications

No Party may have any *ex parte* communication with an arbitrator. The arbitrator may authorize any Party to communicate directly with the arbitrator by email or other written means as long as copies are simultaneously forwarded to the JAMS Case Manager and the other Affected Parties.

8.10 Conduct of Arbitration for Minor Disputes

8.10.1 Minor Disputes shall be submitted to the arbitrator for expedited review. Under such expedited review, within fifteen (15) Working Days after receipt of the identification of number and makeup of Respondents in Section 8.5.3(a), Claimant shall submit a separate brief

directed to each Respondent of not more than fifteen (15) double-spaced pages, including any statement of facts and argument. Each Respondent's response required by Section 8.5.3(b) shall also include a brief of not more than fifteen (15) double-spaced pages, including any statement of facts and argument. Within five (5) Working Days after the response is served, Claimant may submit a reply brief of not more than three (3) double-spaced pages in reply to each response that was submitted to the arbitrator. Nothing herein precludes the attachment (without argument) of documents that are referred to in the briefs. If any party uses an expert opinion, the opinion must be included within the 15-page limitation but any documents supporting qualification of the expert may be part of the attachment.

8.10.2 There shall be no oral argument, unless, upon receipt of all briefs, the arbitrator elects to hear argument. The arbitrator, after consulting with the Affected Parties, shall determine the date, time and location of such argument, if any. There shall be no live testimony.

8.10.3 Where the Minor Dispute involves multiple aggregated claims, the Parties shall cooperate to develop an accelerated and cost-effective approach to briefing. In the event that the parties do not reach agreement, the arbitrator shall establish a plan that avoids excessive briefing and cost.

8.11 Conduct of Arbitration for Major Disputes

8.11.1 Preliminary Conference

A preliminary conference shall be conducted with Claimant and Respondent(s) or their counsel or representatives. The preliminary conference may address any or all of the following subjects: (1) the exchange of information in accordance with Section 8.11.2; (2) the schedule for discovery; (3) the pleadings of Claimant and Respondent(s) and any agreement to clarify or narrow the issues or structure the arbitration hearing; (4) the scheduling of the hearing and any pre-hearing exchanges of information, exhibits, motions or briefs; (5) the attendance of witnesses; (6) the scheduling of any dispositive motion; (7) the pre-marking of exhibits, the preparation of joint exhibit lists and the resolution of the admissibility of exhibits; (8) the form of the award; and (9) such other matters as may be suggested by Claimant and Respondent or the arbitrator. The preliminary conference may be conducted telephonically and may be resumed from time to time as warranted.

8.11.2 Discovery

(a) Immediately after commencement of the arbitration, Claimant and Respondent shall cooperate in good faith in the voluntary and informal exchange of all non-privileged documents and other information (including electronically stored information (“ESI”)) relevant to the dispute or claim. They shall complete an initial exchange of all relevant, non-privileged documents, including, without limitation, copies of all documents in their possession or control on which they rely in support of their positions and the names of individuals whom they may call as witnesses at the arbitration hearing, within twenty-one (21) calendar days after the date of the commencement letter. The arbitrator may modify these obligations at the preliminary conference.

(b) The arbitrator may authorize discovery in addition to the voluntary exchange of information described above, as appropriate for a given claim or dispute.

(c) Claimant and Respondent shall attempt to coordinate discovery to avoid unnecessary duplication. It is not the intent of the Parties to require multiple Water Entities to conduct searches or produce documents that duplicate searches conducted and documents produced by other Water Entities, or multiple Cooperating Respondents to conduct searches or produce documents that duplicate searches conducted and documents produced by other Cooperating Respondents. It is also not the intent for any Affected Party to conduct multiple searches or produce duplicative documents in response to similar or overlapping requests received from multiple sources.

(d) Document requests shall (1) be limited to documents that are directly relevant to the matters in dispute or to its outcome; and (2) be reasonably restricted in terms of time frame, subject matter and persons or entities to which the requests pertain. The Requests shall not be encumbered with extensive “definitions” or “instructions” or include broad phrasology designed to increase the scope of potentially responsive documents beyond what is directly relevant to the matters in dispute. The arbitrator may edit or limit the number of requests.

(e) There shall be production of electronic documents only from sources used in the ordinary course of business. Absent a showing of compelling need, no such documents are

required to be produced from backup servers, tapes or other media. Where the costs and burdens of e-discovery are disproportionate to the nature of the dispute or to the amount in controversy, or to the relevance of the materials requested, the arbitrator may either deny such requests or order disclosure on the condition that the requesting Party advance the reasonable cost of production to the other side, subject to the allocation of costs in the final award.

(f) Claimant is limited to one deposition of the Respondent or of one individual under the control of the Respondent, and vice versa, except that where the Affected Parties have indicated that they are not acting as a single unified Claimant or Respondent, a deposition of each non-unified Affected Party may be allowed by the arbitrator upon application. Claimant and Respondent shall attempt to agree on the time, location and duration of the deposition. If Claimant and Respondent do not agree, the arbitrator shall determine these issues. The necessity of additional depositions, if any, shall be determined by the arbitrator based upon the reasonable need for the requested information, the availability of other discovery options and the burdensomeness of the request on the opposing Parties and the witness. Expert depositions may be conducted only by agreement of Claimant and Respondent or by order of the arbitrator for good cause shown.

(g) As they become aware of new documents or information, including experts who may be called upon to testify, Claimant and Respondent continue to be obligated to provide relevant, non-privileged documents to supplement their identification of witnesses and experts and to honor any informal agreements or understandings between Claimant and Respondent regarding documents or information to be exchanged. At the hearing, the arbitrator may not consider documents that were not previously exchanged, or witnesses and experts that were not previously identified, unless agreed by Claimant and Respondent or upon a showing of good cause.

(h) Claimant and Respondent shall promptly notify JAMS when a dispute exists regarding discovery issues. There will be no briefing of the issue unless requested by the arbitrator. A conference shall be arranged with the arbitrator, either by telephone or in person, and the arbitrator shall decide the dispute on an expedited basis. Claimant and Respondent shall meet and confer in good faith prior to presenting any issues for the arbitrator's decision.

(i) The arbitrator shall set a discovery cutoff not to exceed seventy-five (75) calendar days after the preliminary conference. The arbitrator may extend this date for good cause shown.

8.11.3 Summary Disposition of a Claim or Issue

The arbitrator may permit any Claimant or Respondent to file a Motion for Summary Disposition of a particular claim or issue, either by agreement of all interested Parties or at the request of one Affected Party, provided other interested Affected Parties have reasonable notice to respond to the request.

8.11.4 Scheduling and Location of Hearing

(a) The arbitrator, after consulting with Claimant and Respondent, shall determine the date, time and location of the hearing. The arbitrator and Claimant and Respondent shall attempt to schedule consecutive hearing days if more than one day is necessary.

(b) The arbitrator, in order to hear a third-party witness, or for the convenience of Claimant and Respondent or the witnesses, may conduct the hearing at any location. Any JAMS Resolution Center may be designated a hearing location for purposes of the issuance of a subpoena or subpoena *duces tecum* to a third-party witness.

8.11.5 Hearing Submissions

(a) At least ten (10) Working Days before the arbitration hearing, Claimant and Respondent shall file with JAMS and serve and exchange: (1) a list of the witnesses they intend to call, including any experts; (2) a short description of the anticipated testimony of each such witness and an estimate of the length of the witness' direct testimony; (3) any written expert reports that may be introduced at the arbitration hearing; and (4) a list of all exhibits intended to be used at the hearing. Claimant and Respondent should exchange with each other copies of any such exhibits to the extent that they have not been previously exchanged. Claimant and Respondent should pre-mark exhibits and shall attempt to resolve any disputes regarding the admissibility of exhibits prior to the hearing.

(b) The arbitrator may require that Claimant and Respondent each submit a concise written statement of position, including summaries of the facts and evidence each intends to present, discussion of the applicable law and the basis for the requested award or denial of relief sought. The statements, which may be in the form of a letter, shall be filed with JAMS and served upon all Affected Parties at least five (5) Working Days before the hearing date. Rebuttal statements or other pre-hearing written submissions may be permitted or required at the discretion of the arbitrator.

(c) The arbitrator shall determine the schedule for Claimant and Respondent submissions, the page and form limitations for the submissions, and the schedule and form of any hearing(s).

8.11.6 Securing Witnesses and Documents for the Arbitration Hearing

At the written request of any Claimant or Respondent, the opposing Claimant or Respondent shall endeavor to produce for the arbitration hearing all specified witnesses in their employ or under their control without need of subpoena. However, if an Affected Party will not be producing a witness in its employ or under its control without subpoena, it shall notify the other Affected Parties that a subpoena will be necessary. The arbitrator may issue subpoenas for the attendance of witnesses or the production of documents either prior to or at the hearing pursuant to this Section. The subpoena or subpoena *duces tecum* shall be issued in accordance with the applicable law. Pre-issued subpoenas may be used in jurisdictions that permit them. If a Claimant or Respondent or a subpoenaed person objects to the production of a witness or other evidence, that Claimant or Respondent or subpoenaed person may file an objection with the arbitrator, who shall promptly rule on the objection, weighing both the burden on the producing Party and witness and the need of the proponent for the witness or other evidence.

8.11.7 The Arbitration Hearing

(a) The arbitrator will ordinarily conduct the arbitration hearing in the manner set forth in this Section 8.11.7. The arbitrator may vary these procedures if it is determined to be reasonable and appropriate to do so.

(b) The arbitrator shall determine the order of proof, which will generally be similar to that of a court trial.

(c) The arbitrator shall require witnesses to testify under oath.

(d) Strict conformity to the rules of evidence is not required, except that the arbitrator shall apply California evidentiary law relating to privileges and work product. The arbitrator shall consider evidence that he or she finds relevant and material to the dispute, giving the evidence such weight as is appropriate. The arbitrator may be guided in that determination by principles contained in the California Rules of Evidence. The arbitrator may limit testimony to exclude evidence that would be immaterial or unduly repetitive, provided that Claimant and Respondent are afforded the opportunity to present material and relevant evidence.

(e) The arbitrator shall receive and consider relevant deposition testimony of a Claimant or Respondent recorded by transcript or videotape, provided that the other Claimant or Respondent had the opportunity to attend and cross-examine. The arbitrator may in his or her discretion consider witness affidavits or other recorded testimony even if the other Claimant or Respondent has not had the opportunity to cross-examine, but will give that evidence only such weight as he or she deems appropriate.

(f) Claimant and Respondent will not offer as evidence, and the arbitrator shall neither admit into the record nor consider, prior settlement offers by the Parties or statements or recommendations made by a mediator or other person in connection with efforts to resolve the dispute being arbitrated, except to the extent that applicable law permits the admission of such evidence.

(g) The hearing, or any portion thereof, may be conducted telephonically or by video conference with the agreement of Claimant and Respondent or at the discretion of the arbitrator.

(h) When the arbitrator determines that all relevant and material evidence and arguments have been presented, and any interim or partial awards have been issued, the arbitrator shall declare the hearing closed. The arbitrator may defer the closing of the hearing until a date determined by the arbitrator in order to permit Claimant and Respondent to submit post-hearing

briefs, which may be in the form of a letter, and/or to make closing arguments. If post-hearing briefs are to be submitted or closing arguments are to be made, the hearing shall be deemed closed upon receipt by the arbitrator of such briefs or at the conclusion of such closing arguments, whichever is later.

(i) At any time before the award is rendered, the arbitrator may, *sua sponte* or on application of an Affected Party for good cause shown, reopen the hearing. If the hearing is reopened, the time to render the award shall be calculated from the date the reopened hearing is declared closed by the arbitrator.

(j) Any Claimant or Respondent may arrange for a record to be made of the hearing by a certified court reporter and shall inform the other Claimant or Respondent in advance of the hearing. The requesting Claimant or Respondent shall bear the cost of such record. If the other Claimant or Respondent agrees to share the cost of the record, it shall be made available to the arbitrator and may be used in the proceeding. If there is no agreement to share the cost of the record, it may not be provided to the arbitrator and may not be used in the proceeding, unless Claimant or Respondent arranging for the stenographic record agrees to provide access to the record either at no charge or on terms that are acceptable to the other Claimant or Respondent and the reporting service.

8.11.8 Waiver of Hearing

Claimant and Respondent may agree to waive the oral hearing and submit the dispute to the arbitrator for an award based on written submissions and other evidence as Claimant and Respondent may agree.

8.12 Conduct of Arbitration for Insurance Disputes

The conduct of Insurance Disputes shall be governed by the provisions of this Article 8, except that the arbitration shall be expedited by submitting a demand together with briefing as follows:

8.12.1 During the meet-and-confer period set forth in Section 5.4.1(h) for Insurance Disputes, the Parties shall also discuss and agree upon the selection of an arbitrator to resolve the Insurance Dispute. If the Parties are unable to agree upon an arbitrator, they shall follow the

method of selection set forth in Section 8.7, and the deadlines for submitting arbitration demands and briefs set forth below shall, if necessary, be extended until an arbitrator is selected.

8.12.2 For a dispute under Section 5.4.1(b), Claimant shall, within ten (10) Working Days after the initial notice of the dispute, submit an arbitration demand and concurrently submit a brief, with all supporting evidence to JAMS with copies to all Affected Parties.

8.12.3 Respondent(s) must submit a reply brief, if any, within five (5) Working Days after service of Claimant's brief, with service on all Parties. The arbitrator thereafter shall hold a telephonic hearing and promptly issue a decision in the matter, unless the arbitrator determines that further briefing is necessary. Such additional brief(s) shall be submitted to the arbitrator (with copies to all Parties) within five (5) Working Days after the arbitrator's request, and thereafter the arbitrator shall hold a telephonic hearing and issue a decision promptly but in any event within two (2) Working Days after submission of such additional brief(s). The arbitrator's decision is final and there shall be no right to appeal the decision, provided, however, that any Party may seek vacation or correction of the arbitrator's decision pursuant to Cal. Code of Civil Procedure Section 1286.2 (Grounds for Vacation of Award) or Section 1286.6 (Grounds for Correction of Award).

8.13 Awards for Major and Minor Disputes

8.13.1 Final Award

The arbitrator shall render a final award for all Major and Minor Disputes within thirty (30) calendar days after the date of the close of the hearing, or, if a hearing has been waived or the arbitrator determines that a hearing is not necessary pursuant to Section 8.10, within thirty (30) calendar days after the receipt by the arbitrator of all materials specified by Claimant and Respondent. The award shall consist of a written statement signed by the arbitrator regarding the disposition of each claim and the relief, if any, as to each claim. The award shall also contain a concise written statement of the reasons for the award. The award shall be issued by serving copies on Claimant and Respondent. Service shall be made electronically in accordance with any of the methods of service provided in Section 8.8.

8.13.2 Choice of Law

In determining the merits of the dispute, the arbitrator shall be governed by the choice of law provisions in Section 10.3 of this 2017 Project Agreement. The arbitrator will make no decision or ruling that is inconsistent with any order of the EPA, any Agency Requirement, or any term or condition of any permit to operate any portion of the Project.

8.13.3 Corrections in Awards

Within seven (7) calendar days after service of a partial final award or final award by JAMS, any Claimant or Respondent may serve upon the other Claimant or Respondent and on JAMS a request that the arbitrator correct any computational, typographical or other similar error in an award or the arbitrator may *sua sponte* propose to correct such errors in an award. A Claimant or Respondent opposing such correction shall have seven (7) calendar days thereafter in which to file any objection. The arbitrator may make any necessary and appropriate corrections to the award within twenty-one (21) calendar days of receiving a request or fourteen (14) calendar days after his or her proposal to do so. The arbitrator may extend the time within which to make corrections upon good cause. The corrected award shall be served upon Claimant and Respondent in the same manner as the award.

8.13.4 Exceptions to Finality of Award

The arbitrator's decision is final and there shall be no right to appeal the decision, provided, however, that (1) with respect to a UAO Subproject, if the dispute involves a proposed change of the Statement of Work, then no such change shall be implemented by the Subproject Committee without the concurrence of EPA as to the appropriateness of the change and (2) any Claimant or Respondent may seek vacation or correction of the arbitrator's decision pursuant to Cal. Code Civil Procedure Section 1286.2 (Grounds for Vacation of Award) or Section 1286.6 (Grounds for Correction of Award).

8.14 Settlement and Consent Award

Claimant and Respondent may agree, at any stage of the arbitration process, to submit the case to JAMS for mediation. The JAMS mediator assigned to the case may not be the arbitrator, unless all Parties so agree in writing. By their written agreement to have the arbitrator act as a

mediator or otherwise provide settlement assistance, Claimant and Respondent will be deemed to have consented in the arbitrator's doing so and such efforts will not disqualify the arbitrator from continuing to serve as arbitrator if settlement is not reached.

8.15 Sanctions

The arbitrator may order appropriate sanctions for a failure in bad faith by any Claimant or Respondent to comply with its obligations under any of these Rules or with an order of the arbitrator. These sanctions may include, but are not limited to, assessment of arbitration fees and arbitrator compensation and expenses; assessment of any other costs occasioned by the actionable conduct, including reasonable attorneys' fees; exclusion of certain evidence; drawing adverse inferences; or, in extreme cases, determining an issue or issues submitted to arbitration adversely to Claimant or Respondent that has failed to comply. Notwithstanding the foregoing, no award of the arbitrator shall include exemplary or punitive damages.

8.16 Additional Provisions Governing Disputes Submitted to the Arbitrator

8.16.1 Disputes as to Arbitrability

The arbitrator shall decide any dispute involving either the right to have a disputed matter submitted to arbitration or the level of arbitration, following Project Committee review of the disputed matter. The Parties will attempt to resolve disagreements about arbitrability informally prior to submitting notice of an arbitrability dispute to the arbitrator. The proponents and opponents of such dispute shall provide notice of the dispute and submit in writing their respective positions regarding the arbitrability dispute to the arbitrator along with the Demand for Arbitration, but in any event within thirty (30) days of the Project Committee's written decision on the underlying matter. There shall be only one joint submission not to exceed fifteen (15) pages by the Affected Parties that believe the dispute is arbitrable and only one joint submission not to exceed fifteen (15) pages by the Affected Parties that believe the dispute is not arbitrable. The arbitrator shall make his or her decision as to arbitrability within five (5) Working Days of the filing date of the last submission. Except as provided in Section 8.13.4, the arbitrator's decision is final. All notices and other obligations in this Article for underlying disputes for which arbitrability is at issue are automatically stayed until ten (10) Working Days after the arbitrator renders a final decision on arbitrability.

8.16.2 Res Judicata/Collateral Estoppel

Except as between the actual Parties to the dispute to the extent allowed under governing law, any determination or finding of any arbitration conducted pursuant to this Article shall not have any res judicata or collateral estoppel effect in any other arbitration conducted pursuant to this Article, or in any other action commenced by any person(s) or entity(ies) whomsoever in state or federal court, whether or not they are Parties to this 2017 Project Agreement.

8.16.3 Sharing of Arbitrator Fees and Costs

The JAMS arbitration fees and arbitrator compensation and expenses shall be borne one half by the Claimant and one half by the Respondent. Each Party shall bear its own attorney fees and costs in connection with the arbitration.

8.17 Confidentiality and Privacy

8.17.1 Exceptions to Arbitrator/JAMS Confidentiality

JAMS and the arbitrator shall maintain the confidential nature of the arbitration proceeding and the award, including the hearing, except as necessary in connection with a judicial challenge to or enforcement of an award, or unless otherwise required by the California Public Utilities Commission, the California Public Records Act or any other law or judicial decision. If disclosure by JAMS or the arbitrator is required by law or judicial decision, JAMS and the arbitrator shall inform the Parties to allow them to seek protection from such disclosure. Notwithstanding this provision, the existence of any dispute under these provisions and the resolution or outcome shall be made available to all Parties.

8.17.2 Party Attendance at Arbitration Hearing

Any Party to this 2017 Project Agreement may attend the arbitration hearing of any dispute under this provision, but this does not establish that the cost of doing so is a Project Cost.

ARTICLE 9. TERM OF THE 2017 PROJECT AGREEMENT

9.1 Term of the 2017 Project Agreement

The term of this 2017 Project Agreement (the "Term") shall commence upon the Operative Date, and shall continue for a period of ten (10) years except as follows: If the Cooperating Respondents satisfy the requirements contained in the UAO, as approved by EPA, prior to the expiration of the Term, the 2017 Project Agreement shall terminate upon such approval. However, if the final remedy Record of Decision ("Final ROD") for the BPOU requires the continued operation of all or a substantial portion of the Project Facilities, then this 2017 Project Agreement shall remain in effect for the remainder of the Term.

9.2 Good Faith Negotiations for Continued Operation of Project Facilities after Expiration of 2017 Project Agreement

The Parties agree to negotiate in good faith the terms and conditions for continued operation of the facilities and for Replacement Water Supply protections to the extent that the ROD or a Final ROD anticipates the continued operation of all or a substantial portion of the Project Facilities after the expiration of the Term.

9.3 Early Termination of Subprojects or Certain Components Thereof

9.3.1 UAO Subprojects

With respect to the UAO Subprojects, if (1) EPA concurs that further treatment of that chemical (or chemical group) is no longer required as to one or more UAO Subproject(s); (2) DDW agrees that further treatment of that chemical (or chemical group) is no longer required to satisfy the standard for removal of Chemicals of Concern pursuant to Section 2.1.5; and (3) DDW agrees that a particular treatment technology is used only for treatment of such chemical or group of chemicals, then the Water Purveyor responsible for the affected Subproject(s) shall either (1) terminate operation of the treatment technology(ies) being used to treat such chemical or group of chemicals, or (2) continue operation of such treatment technology(ies). If the Water Purveyor elects to continue treatment, then it shall do so at its own cost, and any subsequent Subproject budget(s) for the affected Subproject(s) shall omit

all costs (direct and indirect) attributable to such treatment technology(ies) no longer mandated by EPA.

9.3.2 SWS and CDWC Subprojects

With respect to the SWS and CDWC Subprojects, if (1) DDW agrees that further treatment of that chemical (or chemical group) is no longer required to satisfy the standard for removal of Chemicals of Concern pursuant to Section 2.1.5; and (2) DDW agrees a particular treatment technology is used at the SWS and/or CDWC Subproject(s) only for treatment of such chemical or group of chemicals, then the Water Purveyor responsible for the affected Subproject shall either: (1) terminate operation of such treatment technology(ies) being used to treat such chemical or group of chemicals, or (2) continue operation of the treatment technology(ies). If the Water Purveyor elects to continue treatment, then it shall do so at its own cost, and any subsequent Subproject budget for the affected Subproject shall omit all costs (direct and indirect) attributable to such treatment technology.

9.3.3 Notice of Election

Each Water Purveyor making an election pursuant to Section 9.3.1 or 9.3.2 shall promptly give notice, in accordance with Section 10.7.1, of how it has elected to proceed.

ARTICLE 10. MISCELLANEOUS

10.1 Court Approval

Watermaster shall submit the 2017 Project Agreement for approval to the Los Angeles County Superior Court (the "Court"), as required by the Judgment. If the Court fails to approve this 2017 Project Agreement in its entirety, or with modifications acceptable to all of the Parties, it shall be null and void.

10.2 Litigation Expenses

In any action or proceeding seeking to enforce this 2017 Project Agreement, excluding disputes submitted to the dispute resolution procedures of this 2017 Project Agreement, the prevailing Party shall be entitled to recover from the other Parties in that proceeding, in addition to all other sums recoverable, reasonable litigation expenses incurred by such prevailing Party, including, without limitation, attorney fees, expert witness fees and other related expenses and costs. Notwithstanding the foregoing, the losing Party shall only be liable for the reasonable attorney fees that would have been incurred had all of the prevailing Parties only used one law firm.

10.3 Governing Law

This 2017 Project Agreement shall be construed and enforced in accordance with the laws of the State of California without regard to its choice of law principles except to the extent federal law controls, in which case federal laws and regulations shall be construed and enforced. Nothing herein alters the provisions of Section 8.11.7 relative to the admissibility of evidence in an arbitration proceeding.

10.4 Waiver

No waiver by a Party of any provision of this 2017 Project Agreement shall be valid unless in writing and signed by an authorized representative of such Party. The waiver by any Party of any failure on the part of another Party to perform any of its obligations under this 2017 Project Agreement shall not be construed as a waiver of any future or continuing failure or failures. No waiver by a Water Entity shall be binding against other Water

Entities, and no waiver by a Cooperating Respondent shall be binding against other Cooperating Respondents.

10.5 Amendment of the 2017 Project Agreement

No amendment of this 2017 Project Agreement shall be binding upon the Parties unless it is in writing and executed by all of the Parties (except for any Party which was, or is, the subject of a bankruptcy, insolvency, or similar proceeding unless such Party assumed the 2017 Project Agreement and its obligations thereunder in such proceeding and has cured any defaults in connection with such assumption) (an "Amendment"). Any such Amendment shall state whether said Amendment shall be submitted to the Court for approval pursuant to the Judgment. If the Amendment is submitted for Court approval, such Amendment shall be effective on the later of (1) the date on which written notice is provided to the Parties that the Court has approved the Amendment, or (2) the effective date set forth in such Amendment. Notwithstanding the generality of this provision, an approved modification of the SOW is not an amendment to the 2017 Project Agreement that requires all Parties to execute an Amendment or requires further Court approval.

10.6 Complete Integration

As between the Water Entities, on the one hand, and the Cooperating Respondents, on the other hand this 2017 Project Agreement and the Exhibits attached hereto, set forth all of the covenants, provisions, agreements conditions and understandings with respect to the matters addressed in this 2017 Project Agreement and constitute a complete integration. In this regard, this 2017 Project Agreement recognizes and reserves rights and obligations under the 2002 Project Agreement, as described in Section 6.1 of this 2017 Project Agreement.

10.7 Notices and Distribution of Project-related Writings

Notices and other writings required or permitted to be distributed to the Parties pursuant to this 2017 Project Agreement shall be addressed to the mailing address and/or electronic ("e-mail") address for the Parties listed in Exhibit I to this 2017 Project Agreement. Any Party may change its contact information by providing notice of the new information in the manner provided in Section 10.7.3. Watermaster shall, periodically as necessary, update

the list of contact information for the Parties and circulate the revised list to all Parties. In order to allow for information technology that is not yet in existence and may be developed during the Term of this 2017 Project Agreement, the manner of giving notices electronically may be updated with the approval of all of the Parties in writing.

10.7.1 Notices Pursuant to Specified Sections

(a) Notices made pursuant to Sections 4.4.4(b), 4.5.5(b), 4.7.6, 4.7.7, 5.4.2(b)(1), 5.5.3, 7.3 and 9.3.3 shall be given in writing by same-day or next-day delivery (via personal messenger, U.S. Express Mail), or by any nationally-recognized commercial express delivery or courier service (with receipt) with postage or other charges prepaid in an envelope addressed to the Parties and Representatives identified in this Section at their respective addresses shown in the attached Exhibit I, and shall be effective (in all cases) upon receipt. Such notices shall be delivered to:

- The Designated Representatives of the Water Entities as set forth in Exhibit I.
- the affected Water Entity(ies),
- the Designated Representatives of the Cooperating Respondents as set forth In Exhibit I, and
- the affected Cooperating Respondent(s).

(b) An electronic copy of all notices given pursuant to subsection (a) of this Section 10.7.1 shall be provided concurrently to all Parties by e-mail.

10.7.2 Subproject Committee Notices and Other Distributions

All notices, agendas, minutes, reports, deliverables, and all other writings required or permitted to be distributed by the Subproject Committee pursuant to this 2017 Project Agreement, other than those covered by Section 10.7.1, shall be distributed by e-mail to the Water Entity Representative and the CR Project Coordinator, and by posting to the Project Extranet site (as provided in Section 10.7.4). Notice of the posting of such materials to the Project Extranet site shall be given to all Parties by e-mail, concurrently with such posting.

10.7.3 All Other Notices and Distributions

All other notices and other writings required or permitted under this 2017 Project Agreement shall be provided by e-mail to all Parties.

10.7.4 Project Extranet Site

(a) The Parties recognize the need for the electronic posting of notices and other writings required or permitted to be posted with the cost of the electronic site a Project Cost. It is possible that during the Term, the technology may change or more cost effective approaches may be identified which warrant modification of these provisions. Absent modification, the Cooperating Respondents shall at their expense continue to maintain an extranet web site accessible via the Internet (the "Project Extranet site") for the posting of all notices and other writings required or permitted by this Section to be posted to the Project Extranet site.

(b) The initial location of the Project Extranet hardware equipment shall be at the offices of Watermaster, which will manage the Project Extranet site. All costs associated with installation and maintenance of the Project Extranet site shall be Project Administrative Costs.

(c) Anyone posting notices or other writings to the Project Extranet site pursuant to this 2017 Project Agreement shall, in the concurrent e-mail notice of such posting, provide the Uniform Records Locator ("URL") location for such postings.

(d) All word processing or spreadsheet-type documents posted at the Project Extranet site shall be in Adobe PDF format with appropriate security and verification of their authenticity using then-current technology standards. The Parties may select an alternative format by mutual agreement at any time.

(e) Watermaster shall, by appropriate technical means, limit access to the Project Extranet site to the Parties and to those Party representatives (and EPA representatives) and insurer representatives who have been designated by the Parties as having access rights.

(f) The Watermaster shall conduct periodic backups to ensure that all documents stored on the Project Extranet site are also stored at a secure off-site location in an easily obtained format.

(g) To the extent that Water Entities have responsibilities for maintaining certain Project documents pursuant to this 2017 Project Agreement, they may discharge such responsibilities by storing such documents at the Project Extranet site in lieu of maintaining hard copies, provided notice of such posting (including a description of the items posted sufficient to identify such items) is provided to all Parties by e-mail, concurrently with such posting.

10.8 Computation of Time

In computing any period of time under this 2017 Project Agreement, where the last day would fall on a Saturday, Sunday, or federal or California state holiday, the period shall run until 5 p.m. Pacific Time on the next Working Day, except until 11:59 p.m. Pacific Time to the extent provided in Section 8.8.

10.9 Counterparts

This 2017 Project Agreement will be executed in counterparts each of which shall be deemed an original, and all of which, taken together, shall constitute one and the same instrument.

10.10 Assignment

No Party shall assign or otherwise transfer its rights or obligations hereunder without all of the other Parties' prior written consent, which shall not be unreasonably withheld.

10.11 Further Assurances

The Parties agree to execute and deliver all further documents and perform all further acts that may be reasonable and necessary to carry out the provisions of this 2017 Project Agreement.

10.12 Joint Drafting and Negotiation

This 2017 Project Agreement has been jointly negotiated and drafted. The language of this 2017 Project Agreement shall be construed as a whole according to its fair meaning and without regard to or aid of Civil Code Section 1654 and similar judicial rules of construction.

10.13 Article and Section Headings

Article and Section headings used in this 2017 Project Agreement are for reference only and shall not affect the construction of this 2017 Project Agreement.

10.14 No Third Party Beneficiaries

No third party shall be entitled to claim or enforce any rights hereunder.

10.15 Cooperating Respondent's Denial of Liability

Each of the Cooperating Respondents denies with respect to itself and its CR Affiliates any and all legal or equitable liability under any federal or state statute, regulation or common law. The Cooperating Respondents' entry into this 2017 Project Agreement and payments made hereunder shall not constitute an admission of any kind for any purposes whatsoever. This 2017 Project Agreement does not establish a joint venture, agency or partnership between the Cooperating Respondents.

10.16 Water Entity's Denial of Liability

Each of the Water Entities denies with respect to itself and its WE Affiliates any and all legal or equitable liability under any federal or state statute, regulation or common law. The Water Entities' entry into this 2017 Project Agreement, assumptions of obligations, and performance made hereunder shall not constitute an admission of any kind for any purposes whatsoever. This 2017 Project Agreement does not establish a joint venture, agency or partnership between the Water Entities.

10.17 Severability

In the event that any provision of this 2017 Project Agreement is determined by a court to be invalid, the court shall, if possible, reform the provision in a manner that is both

consistent with the intent of the Parties and legally valid. The remainder of this 2017 Project Agreement shall not be affected thereby.

10.18 Successors and Assigns Included as Parties

All covenants and agreements contained in this 2017 Project Agreement by or on behalf of any of the Parties hereto shall bind and inure to the benefit of their respective successors and permitted assigns, whether so expressed or not.

10.19 Insurance

This 2017 Project Agreement does not assign any claims or rights to recover losses (including, without limitation, defense costs) of any Cooperating Respondent against its insurers or subrogation rights to which a Cooperating Respondent's insurers may be entitled.

10.20 Organization/Authorization

Each of the Cooperating Respondents, and SGVWC, CDWC, and SWS hereby respectively represent and warrant to the others that each of them is a duly organized or constituted entity, with all requisite power to carry out its obligations under this 2017 Project Agreement, and that the execution, delivery and performance of this 2017 Project Agreement have been duly authorized by all necessary action of the board of directors or other governing body of such Party, and will not result in a violation of such Party's organizational documents. Attached as Exhibits of this 2017 Project Agreement are the Board resolutions respectively authorizing WQA (Exhibit J), VCWD (Exhibit K) and LPVCWD (Exhibit L) to enter into this 2017 Project Agreement. Watermaster shall execute this 2017 Project Agreement concurrently with all other Parties and the Court's approval of this 2017 Project Agreement pursuant to Section 10.1 shall constitute approval of Watermaster's entry into this 2017 Project Agreement.

IN WITNESS WHEREOF, this 2017 Project Agreement has been executed as of the date first set forth above.

COOPERATING RESPONDENTS:

Aerojet Rocketdyne, Inc.

By: _____

Name: _____

Title: _____

Azusa Land Reclamation Co., Inc.

By: _____

Name: _____

Title: _____

Hartwell Corporation

By: _____

Name: _____

Title: _____

Chemical Waste Management, Inc.

By: _____

Name: _____

Title: _____

Winco Enterprises Inc.

By: _____

Name: _____

Title: _____

WATER ENTITIES:

Main San Gabriel Basin Watermaster

By: _____

Name: _____

Title: _____

San Gabriel Basin Water Quality Authority

By: _____

Name: _____

Title: _____

La Puente Valley County Water District

By: _____

Name: _____

Title: _____

San Gabriel Valley Water Company

By: _____

Name: _____

Title: _____

Valley County Water District

By: _____

Name: _____

Title: _____

Suburban Water Systems

By: _____

Name: _____

Title: _____

California Domestic Water Company

By: _____

Name: _____

Title: _____

EXHIBIT “A”



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

March 14, 2017

The Cooperating Respondents
c/o Lawrence A. Hobel
Covington & Burling LLP
One Front Street
San Francisco, CA 94111

Re: Baldwin Park Operable Unit 2017 Project Agreement

Dear Mr. Hobel:

The U.S. Environmental Protection Agency ("EPA") understands that five of the Baldwin Park Operable Unit Potentially Responsible Parties (known as the "Cooperating Respondents") are prepared to recommend that their principals sign the 2017 Baldwin Park Operable Unit ("BPOU") project agreement ("the 2017 Project Agreement") between the Cooperating Respondents and seven San Gabriel Valley water agencies. We have reviewed the most current version of the 2017 Project Agreement and the most current version of Exhibit A of the 2017 Project Agreement ("the Statement of Work") and concluded that the 2017 Project Agreement provides the Cooperating Respondents with a means of continuing to satisfy the work requirements of EPA's Amended Unilateral Administrative Order, No. 2000-13 ("the Order"). We note that the Cooperating Respondents are currently parties to a Project Agreement entered into in 2002 with the same seven San Gabriel Valley water agencies and have been fulfilling their obligations under the Order through compliance with the 2002 Project Agreement. The term of the 2002 Project Agreement ends on May 8, 2017.

Specifically, each Cooperating Respondent which signs the 2017 Project Agreement will be in compliance with the EPA Order if:

- 1) The Los Angeles County Superior Court, which oversees the Judgment in the matter of the Upper San Gabriel Valley Municipal Water District v. City of Alhambra, et al., approves the Agreement;
- 2) The Cooperating Respondent satisfies its obligations to fund the continued operation and maintenance of the Project – and any subsequent design, construction, and operation and maintenance that may be required under the 2017 Project Agreement to meet the performance standards in EPA's Record of Decision and Explanation of Significant Differences ("ROD/ESD") – in accordance with the Agreement and EPA approvals; and
- 3) The Cooperating Respondent satisfies requirements in the EPA Order not specifically addressed in the Project Agreement, including but not limited to reporting requirements, efforts to obtain access, record preservation requirements, and off-site rule compliance.

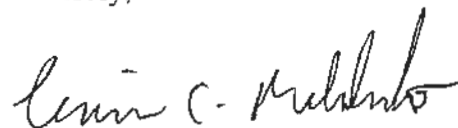
If the Project is performed in accordance with the 2017 Project Agreement and EPA approvals, we expect the work to be necessary and consistent with the National Oil and Hazardous Substances Pollution Contingency Plan, 55 Federal Register 8666 (1990), as amended and codified in 40 C.F.R. Part 300 et seq.

In addition, in other matters related to the BPOU cleanup:

- EPA concurs that a Force Majeure event as described in Article 7 of the 2017 Project Agreement will constitute a Force Majeure event under the UAO.
- EPA currently holds approximately \$32 million in a “special account” for the BPOU, as provided for under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended. EPA intends to hold a majority of the \$32 million and, to the extent permitted by CERCLA, other applicable law, regulations, and EPA guidance, may seek approval to use this fund in the event of a default by any of the Cooperating Respondents if needed to ensure the continuity of work required under the 2017 Project Agreement in order to meet the performance standards under EPA’s ROD/ESD.
- EPA confirms the following with respect to contracts for work that are not “Major Contracts,” as defined in Article 1 of the 2017 Project Agreement. EPA will not require that the Water Entities deliver a copy of the UAO to all such contractors, subcontractors, laboratories, and vendors used by the Water Entities, and EPA will not make compliance with the UAO a condition of such contracts. EPA also confirms that, notwithstanding Paragraph 55 of the UAO, the Cooperating Respondents will not be out of compliance with that provision of the UAO if contracts other than Major Contracts are handled as set forth above and in Section 3.3.4 (g) of the 2017 Project Agreement.
- EPA will continue to provide technical oversight by review of monthly and annual reports, regular communication with the approved project manager and, at EPA’s discretion, by participating in committees described in Article 3 of the 2017 Project Agreement.

Please contact me at (415) 972-3926 or Wayne Praskins at (415) 972-3181 with any questions.

Sincerely,



Lewis C. Maldonado
Chief, Hazardous Waste Branch
Office of Regional Counsel

EXHIBIT “B”

EXHIBIT B
Chemicals of Concern

1.	1,1,1-Trichloroethane
2.	1,1-Dichloroethane
3.	1,1-Dichloroethene
4.	1,2-Dichloroethane
5.	1,2,3-Trichloropropane
6.	1,4-Dioxane
7.	Acetone
8.	Benzene
9.	Carbon disulfide
10.	Carbon tetrachloride
11.	Chloroform
12.	Cis-1,2-dichloroethene
13.	Ethylbenzene
14.	Methylene chloride
15.	n-Nitrosodimethylamine (NDMA)
16.	Perchlorate
17.	Tetrachloroethene
18.	Toluene
19.	Trans-1,2-dichloroethene
20.	Trichloroethylene
21.	Xylene

EXHIBIT “C”

BPOU ESCROW AGREEMENT

THIS BPOU ESCROW AGREEMENT (“**Escrow Agreement**”) is made this ___th day of ___, 2017, by and among the entities listed in **Exhibit A** hereto (collectively with any and all Additional Cooperating Respondents, as hereinafter defined, the “**Cooperating Respondents**” and individually, a “**Cooperating Respondent**”), the entities listed in **Exhibit B** hereto (collectively, the “**Water Entities**” and individually, a “**Water Entity**”), and Citizens Business Bank, a California banking corporation (the “**Escrow Agent**”). Unless otherwise provided herein, capitalized terms have the meanings given in Section 1 hereof.

Recitals

WHEREAS, the Cooperating Respondents and the Water Entities have negotiated a definitive 2017 BPOU Project Agreement (the “**Project Agreement**”) which provides, among other things, for the establishment of an escrow (“**Escrow**”) to receive and disburse funds required to satisfy certain payment obligations of Cooperating Respondents under the Project Agreement;

WHEREAS, in accordance with the provisions of the Project Agreement, Cooperating Respondents and Regions Bank, an Alabama banking corporation (“**Trustee**”) have entered into that certain BPOU Trust Agreement (the “**Trust Agreement**”) establishing a trust fund (the “**Trust Fund**”) consisting of Financial Assurances (as defined in the Project Agreement) and for purposes of providing credit support for payment of Project Costs, all as more particularly defined and provided in the Project Agreement;

WHEREAS, this Escrow Agreement is the “**Escrow Agreement**” as defined and provided for in the Project Agreement and is entered into and shall become effective on and as of the PA Effective Date (as that term is defined below in Section 1.a);

WHEREAS, the Cooperating Respondents and Water Entities recognize that this Escrow Agreement creates an arrangement for the benefit of the Water Entities. As such, the Cooperating Respondents and Water Entities agree that the Cooperating Respondents do not have a beneficial interest in the Escrow Funds (other than their claims based upon any obligation that the Escrow Agent may have to make distributions or payments to the Cooperating Respondents as specifically set forth herein) and cannot exercise control over the Escrow Funds except to the limited extent described herein. Nevertheless, because it is the intention of the Cooperating Respondents and Water Entities that the Escrow Funds be used exclusively for the purposes described in this Escrow Agreement, out of an abundance of caution, and in order to further ensure that the Escrow Agent not disburse or make any payments or distributions out of the Escrow Funds to any Cooperating Respondent (other than any obligation the Escrow Agent may have to make payments or distributions out of the Escrow Funds as specifically set forth herein) the Cooperating Respondents and Water Entities have, for the avoidance of doubt, included the “**Insolvency Event**” and “**Precautionary Security Interest**” provisions included as Section 12.b and Section 12.c hereof; and

Statement of Agreement

NOW, THEREFORE, in consideration of the promises, covenants and conditions set forth herein and in the Project Agreement, and for other good and valuable consideration, the delivery and receipt of which is hereby acknowledged, the Cooperating Respondents, the Water Entities, and Escrow Agent for themselves and their permitted successors and assigns hereby agree as follows:

1. Definitions; Additional Cooperating Respondents.

a. Definitions. As used in this Escrow Agreement, the following terms shall have the meanings set forth below:

“**100% Condition**” is defined in Section 2.b.

“**Additional Cooperating Respondents**” is defined in Section 1.b.

“**Allocation Schedule**” means the Cooperating Respondent Allocation Schedule described in Section 2 hereof.

“**Cooperating Respondent(s)**” is defined in the introductory paragraph.

“**Collateral**” is defined in Section 12.c.

“**Day**” or “**day**” means a calendar day unless expressly stated to be a Working Day.

“**Deposit**” means an Initial Deposit (as hereinafter defined) or Subsequent Deposit (as hereinafter defined), in each case as the context requires.

“**Escrow**” is defined in the Recitals.

“**Escrow Account**” means the account in which the Escrow Agent maintains Escrow Funds.

“**Escrow Agent**” is defined in the introductory paragraph.

“**Escrow Agreement**” is defined in the introductory paragraph.

“**Escrow Funds**” means the total amount of all Deposits, including all payments made to Escrow Agent as a result of any demand made by the Watermaster or WQA upon Trustee as herein provided, and any and all interest or other income earned thereon as provided in Section 7 below.

“**Final Default**” means a declaration by the Watermaster at the end of the specified 150-day period during which Cooperating Respondents have had notice from Trustee of a shortfall in the amount of Financial Assurances in the Trust and have not cured such default.

“**Income**” is defined in Section 7.b.

“**Initial Deposit**” and “**Initial Deposits**” are defined in Section 3.d.

“Insolvency Event” means, with respect to a particular Cooperating Respondent: (a) the commencement of any case, action or proceeding before any court or other governmental authority relating to bankruptcy, reorganization, insolvency, liquidation, receivership, dissolution, winding-up or relief of debtors (**“Insolvency Proceeding”**) that is filed, initiated or brought by such Cooperating Respondent, as the debtor in such Insolvency Proceeding, or (b) any Insolvency Proceeding is filed, initiated or brought against such Cooperating Respondent, as the debtor in such Insolvency Proceeding, and such Insolvency Proceeding is not dismissed or otherwise terminated within sixty (60) days following the commencement thereof, or (c) any general assignment of assets made by such Cooperating Respondent for the benefit of creditors, or any composition, marshaling of assets for creditors, or other similar arrangement in respect of its creditors generally or any substantial portion of its creditors.

“PA Effective Date” means the date on which written notice is provided to all Cooperating Respondents and all Water Entities pursuant to the Project Agreement that the Los Angeles Superior Court having jurisdiction over the Judgment as defined in the Project Agreement (the **“Court”**) has approved the Project Agreement. Watermaster shall notify Escrow Agent of the PA Effective Date in writing, and shall deliver to Escrow Agent a true and complete copy of the approved Project Agreement, promptly following Watermaster’s receipt of notice of entry of the Court’s order approving the Project Agreement.

“Permitted Investment(s)” is defined in Section 7.a.

“Person” means an individual, partnership (general or limited), limited liability company, corporation, association, joint stock company, trust, joint venture, unincorporated organization, governmental entity (or any department, agency, or political subdivision thereof), or other entity (public or private).

“Project Agreement” is defined in the Recitals.

“Project Disbursement” is defined in Section 6.

“Proportionate Share” is defined in Section 3.d.

“Required Respondents” means 80% of the number of Cooperating Respondents party to this Escrow Agreement at the relevant time.

“Subsequent Deposit” and **“Subsequent Deposits”** are defined in Section 4.b.

“Termination” means a termination of this Escrow Agreement in accordance with the terms and conditions of Section 8.

“Trust Agreement” is defined in the Recitals.

“Trustee” is defined in the Recitals.

“Trust Fund” is defined in the Recitals.

“UCC” means the Uniform Commercial Code, as amended from time to time, in the State of California or any other state the laws of which are required to be applied in connection with the issue or perfection of security interests.

“**Water Entities**” is defined in the introductory paragraph.

“**Watermaster**” means Main San Gabriel Basin Watermaster.

“**WQA**” means San Gabriel Basin Water Quality Authority.

“**Working Day**” means a day other than a Saturday, Sunday or federal or California state holiday. For purposes of computing a period of time under this Escrow Agreement, where the last day of such period would fall on a day other than a Working Day, the period of time shall run until 5:00 p.m., Pacific time, of the Working Day immediately following such day.

The terms “**Subprojects**,” “**Project**,” “**Project Capital Costs**,” “**Quarterly Capital Schedule**,” “**Quarterly O&M Statement**,” “**Quarterly Capital Statement**,” “**Project Administrative Costs**,” “**Quarterly O&M Schedules**,” “**Subproject O&M Costs**,” “**Project O&M Costs**,” and “**Subproject O&M Budget**” are defined in the Project Agreement.

b. **Additional Cooperating Respondents.** Other Persons may become parties to this Escrow Agreement as additional Cooperating Respondents (“**Additional Cooperating Respondents**”) with respect to providing for payment of all or any portion of the Project as described in the Project Agreement. The joinder of each such Additional Cooperating Respondent as a party to this Escrow Agreement shall be evidenced by the delivery to Escrow Agent of a Joinder of Additional Cooperating Respondent, in the form of **Exhibit C** attached (without exhibits) hereto, duly executed by all Cooperating Respondents then parties to this Escrow Agreement and by such Additional Cooperating Respondent, and shall be effective on the later of: (i) the date therein provided, or (ii) two (2) Working Days after Escrow Agent receives all executed counterparts of the Joinder of Additional Cooperating Respondent. Upon the effective date of such Joinder of Additional Cooperating Respondent, the Additional Cooperating Respondent therein named shall be deemed a party to this Escrow Agreement and shall be bound by all of the provisions of this Escrow Agreement. Upon receipt by Escrow Agent of such Joinder of Additional Cooperating Respondent, Escrow Agent shall establish and maintain a separate sub-account for such Additional Cooperating Respondent as provided in this Escrow Agreement.

2. **Allocation Schedules.**

a. **Initial Allocation Schedule.** Concurrently with the execution and delivery of this Escrow Agreement, all Cooperating Respondents have delivered to Escrow Agent a schedule executed by a duly authorized representative of each Cooperating Respondent setting forth (a) the initial amount of the total Escrow Funds required to be issued or transferred by the Cooperating Respondents, and (b) the percentage share allocated to each Cooperating Respondent (the total of which shall at all times satisfy the 100% Condition, as hereinafter defined).

b. Form of Allocation Schedules; 100% Condition. The sum of the Escrow Funds set forth in the Allocation Schedule shall equal 100% of the total Escrow Funds required to be transferred or delivered to Escrow Agent pursuant to this Escrow Agreement (the “**100% Condition**”). The Allocation Schedule, as may be amended pursuant to the terms hereof, shall provide for a single percentage allocation for each Cooperating Respondent applicable to the entire Project, and Escrow Agent shall not be required to apply different percentages for the same Cooperating Respondents at the same time for different Subprojects. Any Allocation Schedule that fails to satisfy the 100% Condition may be disregarded by the Escrow Agent. In the event the initial Allocation Schedule fails to meet such requirements, the Escrow Agent shall promptly notify all Cooperating Respondents and Watermaster, on behalf of the Water Entities, of its decision to disregard the initial Allocation Schedule and the fact that the Escrow Agent is not able to perform its duties under this Escrow Agreement as a consequence thereof. Any amended Allocation Schedule failing to meet such requirements may be disregarded by the Escrow Agent, who shall continue to perform its duties hereunder pursuant to the conforming Allocation Schedule preceding any such defective Allocation Schedule. Any Cooperating Respondent(s) that has been the subject of an Insolvency Event (“insolvent Cooperating Respondent”) shall be excluded from calculations of the 100% Condition which shall be satisfied by the remaining Cooperating Respondents in the following manner: after the Escrow Funds credited to the subaccount of the insolvent Cooperating Respondent have been entirely depleted by disbursements made in accordance with the terms and conditions of this Escrow Agreement, the insolvent Cooperating Respondent’s percentage allocation shall be added to the remaining Cooperating Respondents’ percentage allocations in proportion to the Cooperating Respondents’ respective percentage allocations (excluding the allocation of the insolvent Cooperating Respondent(s)), until such time as the insolvent Cooperating Respondent may have emerged from bankruptcy proceedings and resumed its obligations under the Project Agreement and only if the Project Agreement as well as this Escrow Agreement and the Trust Agreement were assumed by the insolvent Cooperating Respondent in such proceedings and any defaults thereunder have been cured in connection with such assumption.

c. Amendment of Allocation Schedules. Subject to satisfaction of the 100% Condition, the percentages of the aggregate Escrow Funds required to be maintained by each of the Cooperating Respondents may be amended and restated by a new Allocation Schedule executed by all Cooperating Respondents previously listed on such Allocation Schedule, with the exception of any insolvent Cooperating Respondent, unless that insolvent Cooperating Respondent has emerged from bankruptcy proceedings and resumed its obligations under the Project Agreement and only if the Project Agreement as well as this Escrow Agreement and the Trust Agreement were assumed by the insolvent Cooperating Respondent in such proceedings and any defaults thereunder have been cured in connection with such assumption. Any such amendment shall become effective upon delivery to Trustee of such amended and restated Allocation Schedule, duly executed by the Cooperating Respondents listed and any Additional Cooperating Respondents listed therein.

d. Confidentiality and Disclosure of Allocation Schedules. The Allocation Schedule, as may be amended, shall be confidential, and Escrow Agent shall not disclose any Allocation Schedule or the contents thereof to any Person who has not executed such Schedule.

3. Creation of Escrow; Deposits.

a. **Appointment of and Acceptance by Escrow Agent.** The Cooperating Respondents and the Water Entities hereby accept the appointment by WQA, which is hereby made, of Escrow Agent to serve as escrow agent hereunder. Escrow Agent hereby accepts such appointment and, upon receipt by wire transfer of the Escrow Funds in accordance with Sections 3.c. and 3.h., below, agrees to hold, invest and disburse the Escrow Funds in accordance with this Escrow Agreement. Escrow Agent shall promptly notify Watermaster of the execution of this Escrow Agreement by all Persons herein named as parties.

b. **Payment Method.** All subsequent payments to Escrow Agent shall be made by wire transfer, cashier's check, or other immediately available United States funds in accordance with separate wire transfer instructions given to the Cooperating Respondents by Escrow Agent.

c. **Initial Quarterly Statements from Watermaster.** No later than May 22, 2017, the Watermaster shall deliver to Escrow Agent and to each of the Cooperating Respondents: (i) an initial Quarterly Capital Statement, if any, substantially in the form of **Exhibit D** attached hereto, setting forth the amount of all capital funds to be deposited by the Cooperating Respondents in the Escrow Account for Project Capital Costs, along with copies of the initial Quarterly Capital Schedules for each Subproject, for the period from July 1, 2017 through September 30, 2017; and (ii) the initial Quarterly O&M Statement, substantially in the form of **Exhibit E** attached hereto, setting forth the total amount of O&M funds for each Subproject and the total amount of Project Administrative Costs required to be deposited by the Cooperating Respondents in the Escrow Account, along with copies of the Quarterly O&M Schedules for each Subproject O&M Budget, covering all such costs as then projected for the period from July 1, 2017 through December 31, 2017.

d. **Escrow Request for Payment.** Within two (2) Working Days after its receipt of the initial Quarterly Capital Statement, if any, and within two (2) Working Days after its receipt of the initial Quarterly O&M Statement, Escrow Agent shall (i) calculate each Cooperating Respondent's pro rata share of the aggregate amount of the initial Quarterly Capital Statement and/or initial Quarterly O&M Statement, based on such Cooperating Respondent's percentage responsibility indicated on the then-current Allocation Schedule, required to be paid by each Cooperating Respondent (its "**Proportionate Share**"), and (ii) notify each Cooperating Respondent of the Proportionate Share such Cooperating Respondent must pay to Escrow Agent (as to each Cooperating Respondent, an "**Initial Deposit**," and as to all Cooperating Respondents, collectively, the "**Initial Deposits**").

e. **Initial Deposits by Cooperating Respondents.** By no later than June 12, 2017, each Cooperating Respondent shall pay to Escrow Agent an amount equal to such Cooperating Respondent's Initial Deposit, and Escrow Agent shall receive, administer, and disburse the Initial Deposits, as escrow agent, in accordance with the terms and conditions of this Escrow Agreement. Any existing Escrow Funds associated with the Cooperating Respondents that are contained in the Escrow Account maintained by the Escrow Agent under the BPOU Escrow Agreement made as of March 29, 2002 among the Escrow Agent, Cooperating Respondents and Water Entities as defined therein, after subtracting any remaining Project Disbursements due

pursuant to such agreement, shall be credited towards and deemed to be a part of the Initial Deposit, and shall be subject to the terms of this Escrow Agreement.

f. Certificate of Payment of Initial Deposits. Within three (3) days after Escrow Agent's receipt of all such Initial Deposits, Escrow Agent shall execute and deliver to the Watermaster (with copies to the WQA and all Cooperating Respondents) an Escrow Agent's Certificate of Payment of Deposits in the form of **Exhibit F** attached hereto, completed with reference to such Initial Deposits.

g. Failure to Make Initial Deposit; Notices by Escrow Agent. If Escrow Agent does not receive all required Initial Deposits from the Cooperating Respondents by June 12, 2017, Escrow Agent shall, not later than three (3) days after said deadline, (i) execute and deliver to Watermaster an Escrow Agent's Certificate of Insufficient Escrow Funds in the form of **Exhibit G** attached hereto, with copies to all Cooperating Respondents, (ii) execute and deliver to Trustee an Escrow Agent's Certificate and Demand for Payment in the form of **Exhibit H** attached hereto, with copies to all Cooperating Respondents, and (iii) notify all Cooperating Respondents of the Cooperating Respondent(s) who failed to pay the full amount due. Within three (3) days after Escrow Agent's receipt of all such Initial Deposits from the Cooperating Respondents and/or the Trustee, and in any event by no later than June 26, 2017 (if Escrow Agent has by that time received all such Initial Deposits), Escrow Agent shall execute and deliver to the Watermaster (with copies to the WQA and all Cooperating Respondents) an Escrow Agent's Certificate of Payment of Deposits in the form of **Exhibit F** attached hereto, completed with reference to all Initial Deposits received by Escrow Agent from the Cooperating Respondents and/or the Trustee.

h. Collection by Watermaster. If Escrow Agent does not provide Watermaster with a Certificate of Payment of Deposits with respect to all required Initial Deposits due to a failure by the Cooperating Respondents or the Trustee to make the Initial Deposits hereunder by close of business on June 26, 2017, then the Watermaster (on behalf of the Water Entities) shall have the right to directly make demand on Trustee for immediate payment to Escrow Agent of the full amount of the deficiency, and Escrow Agent shall accept such payment from Trustee (along with appropriate written instructions from the Trustee regarding the allocation of such payment to the credit of each Cooperating Respondent for whose account such payment is made) without requiring any consent or other instruction of the Cooperating Respondents and shall administer, and disburse the Initial Deposits, as Escrow Agent, in accordance with the terms and conditions of this Escrow Agreement. Except as Escrow Agent may otherwise be instructed in writing by all parties hereto, Escrow Agent shall not be required to return to Trustee or any Cooperating Respondent any overpayment that may be received by Escrow Agent as herein provided.

4. Subsequent Deposits.

a. Quarterly Statements from Watermaster. Watermaster shall, no later than forty (40) days before the start of each calendar quarter (beginning with the second full calendar quarter following the PA Effective Date), deliver to Escrow Agent and to each Cooperating Respondent (i) the Quarterly Capital Statement for such quarter, substantially in the form of **Exhibit D** attached hereto and setting forth the aggregate amount of cash to be deposited by the Cooperating Respondents in the Escrow Account to pay Project Capital Costs for the Project

along with copies of the corresponding Quarterly Capital Schedules for each Subproject; and (ii) the Quarterly O&M Statement for such quarter, substantially in the form of **Exhibit E** attached hereto and setting forth the projected aggregate amount of O&M funds for the Project and the aggregate amount of cash to fund Project Administrative Costs then required to be deposited by the Cooperating Respondents in the Escrow Account for the next quarter only, along with copies of the Quarterly O&M Schedules for each Subproject O&M Budget.

b. Escrow Request for Payment. Within two (2) Working Days after its receipt of each such subsequent Quarterly Capital Statement and/or each such subsequent Quarterly O&M Statement, Escrow Agent shall (i) calculate the Proportionate Share of the total amount of such Quarterly Capital Statement and/or such Quarterly O&M Statement required to be paid by each Cooperating Respondent, and (ii) notify each Cooperating Respondent of the Proportionate Share such Cooperating Respondent must pay to Escrow Agent (as to each Cooperating Respondent, a “**Subsequent Deposit**,” and as to all Cooperating Respondents, collectively, the “**Subsequent Deposits**”).

c. Subsequent Deposits by Cooperating Respondents. By no later than twenty-one (21) days prior to the start of each calendar quarter during the term of the Project Agreement, each Cooperating Respondent shall pay to Escrow Agent an amount equal to such Cooperating Respondent’s Subsequent Deposit for such quarter, and Escrow Agent shall receive, administer, and disburse the Subsequent Deposits, as escrow agent, in accordance with the terms and conditions of this Escrow Agreement.

d. Certificate of Payment of Subsequent Deposits. Within three (3) days after Escrow Agent’s receipt of all such Subsequent Deposits as are then required to satisfy the payment obligations of all Cooperating Respondents in accordance with the most recent Quarterly Capital Statement and Quarterly O&M Statement delivered to Escrow Agent by Watermaster, Escrow Agent shall execute and deliver to the Watermaster (with copies to the WQA and all Cooperating Respondents) an Escrow Agent’s Certificate of Payment of Deposits in the form of **Exhibit F** attached hereto, completed with reference to such Subsequent Deposits.

e. Failure to Make Subsequent Deposits; Notices by Escrow Agent. If Escrow Agent does not receive all such required Subsequent Deposits from the Cooperating Respondents at least twenty-one (21) days prior to the start of each such calendar quarter as provided herein, Escrow Agent shall, not later than three (3) days after said deadline, (i) execute and deliver to Watermaster an Escrow Agent’s Certificate of Insufficient Escrow Funds in the form of **Exhibit G** attached hereto, with copies to all Cooperating Respondents, (ii) execute and deliver to Trustee an Escrow Agent’s Certificate and Demand for Payment in the form of **Exhibit H** attached hereto, with copies to all Cooperating Respondents, and (iii) notify all Cooperating Respondents of the Cooperating Respondent(s) who failed to pay the full amount due. When, pursuant to Section 4.f or otherwise, Escrow Agent receives from Trustee a transfer of the cash proceeds of Financial Assurances equal to the amount of any such shortfall, Escrow Agent shall credit the sub-account of such Cooperating Respondent with such amount. Within three (3) days after Escrow Agent’s receipt of all such Subsequent Deposits, and in any event by no later than five (5) Working Days prior to the start of such quarter (if Escrow Agent has by that time received all such Subsequent Deposits), Escrow Agent shall execute and deliver to the Watermaster (with copies to the WQA and all Cooperating Respondents) an Escrow Agent’s

Certificate of Payment of Deposits in the form of **Exhibit F** attached hereto, completed with reference to all Subsequent Deposits received by Escrow Agent from the Cooperating Respondents and/or the Trustee.

f. Collection by Watermaster. If Escrow Agent does not provide Watermaster with a Certificate of Payment of Deposits with respect to Subsequent Deposits for any calendar quarter by no later than five (5) Working Days prior to the start of such quarter, then the Watermaster or WQA (each acting on behalf of the Water Entities) shall have the right to directly make demand on Trustee for payment to Escrow Agent of the full amount of the deficiency, and Escrow Agent shall accept such payment from Trustee without requiring any consent or other instruction of the Cooperating Respondents and shall administer and disburse the Deposits, as escrow agent, in accordance with the terms and conditions of this Escrow Agreement. Except as Escrow Agent may otherwise be instructed in writing by all parties hereto, Escrow Agent shall not be required to return to Trustee or any Cooperating Respondent any overpayment that may be received by Escrow Agent as herein provided.

5. Deposit of Draws from Trust Agreement.

a. Deposits by Trustee. If Trustee deposits additional funds with Escrow Agent, in response to a demand by the Watermaster or WQA upon Trustee for payment to Escrow Agent of either (i) the full amount of all remaining Financial Assurances of a particular Cooperating Respondent upon the occurrence of an Insolvency Event involving such Cooperating Respondent, or (ii) subject to the provisions of the Trust Agreement, including without limitation the opportunity to cure a default (whether cured by the defaulting Grantor or a non-defaulting Grantor) provided therein, the full amount of all remaining Financial Assurances of all Cooperating Respondents following a Final Default by the Cooperating Respondents with respect to their obligations to maintain sufficient Financial Assurances with the Trustee, Escrow Agent shall accept such payment from Trustee without requiring confirmation of Trustee's compliance with the Trust Agreement or any consent or other instruction of the Cooperating Respondents and shall administer and disburse the Deposits, as escrow agent, in accordance with the terms and conditions of this Escrow Agreement.

b. Statement to Trustee of Excess Deposits. Promptly following Escrow Agent's receipt of a deposit by Trustee pursuant to Section 5.a above for the account of a particular Cooperating Respondent, Escrow Agent shall prepare and deliver to Trustee, with copies to all other Cooperating Respondents, a written statement setting forth the amount of any excess funds then credited to the sub-account of such Cooperating Respondent which is over and above the amount then required to be maintained in such Cooperating Respondent's sub-account. If and when any Subsequent Deposit is thereafter required to be made by such Cooperating Respondent, Escrow Agent shall first apply such excess funds to the amount of such required Subsequent Deposit and the amount then required to be paid by such Cooperating Respondent toward such Subsequent Deposit shall be reduced by the amount so credited. Promptly following application of such excess funds to a Subsequent Deposit, Escrow Agent shall prepare and deliver to Trustee, with copies to all other Cooperating Respondents, a written statement setting forth the remaining amount of such excess funds, if any, then credited to the sub-account of such Cooperating Respondent which is over and above the amount then required to be maintained in such Cooperating Respondent's sub-account. As a matter between the Water Entities and such

Cooperating Respondent, with which Escrow Agent need not be concerned, such excess amount shall be deemed Financial Assurances of such Cooperating Respondent and a part of the Trust Fund until subsequently disbursed as herein provided.

6. Watermaster Request to Pay Invoices.

In accordance with the Project Agreement, Watermaster shall, on a monthly basis, submit to Escrow Agent a Watermaster Payment Request in the form of **Exhibit I** attached hereto (“Watermaster Payment Request”), setting forth the total amount due from the Cooperating Respondents to pay all invoices attached thereto for Project Capital Costs, Subproject O&M Costs, and Project Administrative Costs payable pursuant to the Project Agreement, including a detailed schedule of the Subproject Invoices and Administrative Cost Invoices covered by the disbursement. Notwithstanding the amounts of estimated costs reflected in any Quarterly Capital Statement or any Quarterly O&M Statement, within three (3) Working Days after its receipt of a Watermaster Payment Request, Escrow Agent shall disburse to WQA, to the extent of available Escrow Funds (including, without limitation, from Escrow Funds credited to subaccounts of Cooperating Respondents who have deposited the full amount of their Proportionate Shares of required deposits), the amount therein stated (each such disbursement is hereinafter referred to as a “**Project Disbursement**”).

7. Investment of Escrow Funds.

a. Permitted Investments. Deposits received by Escrow Agent and held in the Escrow Account, pending disbursement thereof as provided in this Escrow Agreement, shall be invested from time to time by Escrow Agent in money market funds whose investments are restricted to obligations of, or obligations fully guaranteed as to payment of principal and interest by, the United States or any agency or instrumentality thereof, including, without limitation, the U.S. Treasury (“**Permitted Investments**”); provided that any such money market fund shall have a Standard & Poor’s Rating Service rating of “AA,” or better; and provided, further, that Escrow Agent shall at all times maintain the right and ability to liquidate or otherwise withdraw Escrow Funds from such Permitted Investments within such time as shall enable Escrow Agent to disburse Escrow Funds strictly as and when required pursuant to this Escrow Agreement.

b. Income; Confidentiality. All paid income derived from the Permitted Investments (“**Income**”) shall be and remain part of the Escrow Funds, and each Cooperating Respondent’s share of the Income paid on the Escrow Funds during the preceding quarter, to the extent not used by Escrow Agent to cover any required payment pursuant to a Watermaster Payment Request, shall be credited towards the next Subsequent Deposit required to be made by such Cooperating Respondent. Escrow Agent shall maintain a sub-account for each Cooperating Respondent showing the Initial Deposit, all Subsequent Deposits, all Project Disbursements, all Income of such Cooperating Respondent, and other permitted expenses. Information about any Cooperating Respondent’s sub-account shall remain strictly confidential vis-à-vis the Water Entities and shall not be available to any party other than the Cooperating Respondents. Information about any Cooperating Respondent’s sub-account shall not be confidential vis-à-vis the other Cooperating Respondents, and such information shall be made available to any of the other Cooperating Respondents upon request.

c. Limitation on Escrow Agent's Duties. Escrow Agent shall have no duty to account to any Cooperating Respondent for any loss of earnings resulting from a particular Permitted Investment or for any potential earnings that might have been obtained by investing in a particular Permitted Investment. Nothing contained in this Escrow Agreement shall be construed to: (i) make Escrow Agent responsible for any investment loss incurred in connection with Permitted Investments, (ii) require Escrow Agent to seek the highest or any other particular return on Permitted Investments, or (iii) provide the Water Entities or Cooperating Respondents with any recourse against Escrow Agent for the actions or omissions of parties issuing or underwriting Permitted Investments. Water Entities and Cooperating Respondents acknowledge that the Permitted Investments: (a) might not be insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency, (b) are not obligations of the Escrow Agent and are not backed, endorsed or guaranteed in any way by the Escrow Agent, and (c) involve an investment risk, including possible loss of the principal invested.

8. Termination.

This Escrow Agreement shall terminate upon the earlier of (i) the date Escrow Agent receives a written notice from the Watermaster or WQA that the Project Agreement has been terminated and that no payments are or will be due from the Cooperating Respondents thereunder, or (ii) ten (10) years and three (3) months following the PA Effective Date, provided that there shall not then be outstanding any unpaid request submitted to Escrow Agent for disbursement of Escrow Funds or any unfulfilled demand upon Trustee to pay or transfer to cash proceeds of any Financial Assurances as expressly provided under the Trust Agreement, or as soon thereafter following said date as all such unpaid disbursement requests and such other unfulfilled demands, if any, are satisfied.

9. Distribution of Funds Upon Termination.

Upon Termination of this Escrow Agreement, Escrow Agent shall, after first deducting from the remaining Escrow Funds, pro rata from the sub-accounts of all Cooperating Respondents based on their respective Proportionate Shares, all fees and costs of Escrow Agent to which Escrow Agent is then entitled to receive hereunder, disburse to each Cooperating Respondent any remaining Escrow Funds credited to such Cooperating Respondent's subaccount with Escrow Agent.

10. Accounting.

a. Records and Tax Information. Escrow Agent shall maintain records of the Initial Deposits and Subsequent Deposits received from each Cooperating Respondent and shall maintain records of and allocate all Income among the Cooperating Respondents in proportion to the balance of each Cooperating Respondent's sub-account with Escrow Agent. Each Cooperating Respondent shall forward to Escrow Agent such taxpayer identification information as is necessary for Escrow Agent to provide tax information to each Cooperating Respondent, and to the appropriate taxing authorities, as required by law, including, without limitation, its employer identification number and a properly completed IRS Form W-9; and Escrow Agent shall provide such tax information to each Cooperating Respondent, and to the appropriate taxing authorities, as required by law. Each of the Cooperating Respondents shall be responsible for and

shall pay when due all income taxes on Income attributable to such Cooperating Respondent's share of the Escrow Funds, and none of the Water Entities shall have any liability therefor.

b. Monthly Statements. Escrow Agent shall provide to WQA, to Watermaster and to each Cooperating Respondent monthly statements showing, for the aggregate Escrow Account, the Escrow Funds balance at the beginning of each calendar month, the aggregate amount of all Initial Deposits and Subsequent Deposits received by Escrow Agent during the month, all Project Disbursements made during the month, all Income received during the month, and all other permitted expenses paid during the month, and the undisbursed balance of Escrow Funds at the end of the month. Nothing in this report shall reveal the Cooperating Respondents' confidential Allocation Schedules or the Proportionate Shares set forth therein. In addition, Escrow Agent shall provide separate monthly statements to each Cooperating Respondent showing, for such Cooperating Respondent's respective sub-account, the balance at the beginning of the month, all deposits, withdrawals, income received and expenses paid during the month, and the balance at the end of the month.

11. Notices.

Except for monthly statements from Escrow Agent to the Cooperating Respondents as provided in Section 10.b above, which statements can be sent by regular mail, all notices, demands, certificates and requests given or required to be given hereunder shall be in writing, and shall be given either by overnight delivery through a private overnight courier service, or by facsimile transmission with hard copy thereof sent by such overnight delivery no later than one (1) Working Day thereafter, and shall be given as follows:

To Escrow Agent:

Citizens Business Bank
701 North Haven Ave., Suite 350
Ontario, CA 91764
Attn: Rhonda Malone, Vice President – Trust Operations Manager
Facsimile (909) 945-2903

To Cooperating Respondents and Water Entities, as applicable, to their respective addresses listed on **Exhibit J** hereto,

or to such other place or to the attention of such other individual as a party may from time to time designate by written notice to all other parties given as herein required. Escrow Agent shall be entitled to rely upon any notice, signature or writing which it shall in good faith believe to be genuine and to be signed or presented by a proper party or parties. Escrow Agent is not obligated to confirm the genuineness, accuracy, sufficiency, manner of execution, or validity of any statement or report submitted to it pursuant to this Escrow Agreement. Any notice required or permitted by this Escrow Agreement shall be deemed effective upon receipt.

12. Responsibility of Escrow Agent; Adverse Claims; Insolvency Events.

a. **Duties of Escrow Agent.** Escrow Agent shall act at all times in a neutral manner and strictly in accordance with the provisions of this Escrow Agreement. The Cooperating Respondents and Water Entities jointly and severally agree to indemnify, protect and hold Escrow Agent harmless from any and all loss, liability and expense for anything which is done or omitted by it in good faith and not contrary to the express provisions of this Escrow Agreement and agree to reimburse Escrow Agent for all its losses and expenses (subject to the provisions of Section 13 below), including reasonable counsel fees, incurred by it in the performance of its duties and responsibilities hereunder except those which may be occasioned by Escrow Agent's own negligence or willful misconduct. Escrow Agent shall not be required to recognize any other agreement between the other parties hereto even though reference thereto may be made herein and whether or not it may have knowledge thereof, it being the intent of the parties hereto that Escrow Agent's duties and responsibilities are only those as are expressly set forth herein. Escrow Agent shall not be required to confirm or challenge any representation or omission in any Quarterly Capital Statement, Quarterly O&M Statement, Watermaster Payment Request, or other report, notice or schedule submitted to Escrow Agent pursuant to this Escrow Agreement. Escrow Agent shall have no responsibility whatsoever with respect to the undertakings of any other party hereto or to any notices or undertakings of anyone not a party hereto.

b. **Insolvency Event.** The parties acknowledge and agree that all Escrow Funds are not and shall not be deemed to be property of the Cooperating Respondents, or of the estate of any of them, within the meaning of Section 541 of the U.S. Bankruptcy Code, and the Cooperating Respondents hereby disclaim, release, and waive any right they, or any of them, may have to assert that they have any equitable title to the Escrow Funds, subject to their rights as expressly provided in this Escrow Agreement and the Project Agreement. The occurrence of an Insolvency Event with respect to any or all of the Cooperating Respondents shall not operate to stay, terminate, cancel, suspend, excuse, delay, impede or otherwise interfere with or impair the rights of the Water Entities and performance by Escrow Agent of its duties under this Escrow Agreement. Unless Escrow Agent is specifically prevented by operation of law or by the provisions of an injunction or restraining order issued by a court of competent jurisdiction prohibiting Escrow Agent from carrying out its duties hereunder, Escrow Agent shall continue performing its duties hereunder, including, without limitation, making all required disbursements, sending all required notices to Cooperating Respondents, and making all required demands upon Trustee for funding as herein provided. Further, upon the occurrence of an Insolvency Event involving a particular Cooperating Respondent, the Watermaster (acting on behalf of the Water Entities) shall have the right to directly make demand on Trustee for payment to Escrow Agent of the full amount of such Cooperating Respondent's remaining Financial Assurances maintained with Trustee, and Escrow Agent shall accept such payment from Trustee without requiring any consent or other instruction of the Cooperating Respondents and shall administer, and disburse the Deposits, as escrow agent, in accordance with the terms and conditions of this Escrow Agreement.

c. **Precautionary Security Interest.** As a precautionary matter, and without affecting or limiting the nature of the transfer of Escrow Funds to Escrow Agent as herein provided, each Cooperating Respondent hereby grants to Watermaster, for the benefit of the Water Entities, as security for all obligations of such Cooperating Respondent under this Escrow

Agreement and under the Project Agreement, a first priority security interest in any and all right or interest such Cooperating Respondent may now or at any time hereafter have in the Escrow, Escrow Account, Escrow Funds and in all proceeds of the foregoing (collectively, for purposes of this Subsection 12.c., the “**Collateral**”).

i. Watermaster shall have all rights, powers and authorities of a secured party as provided in and arising out of the provisions of the UCC. Watermaster shall prepare and file a UCC-1 or UCC1 financing statement covering the Collateral described in **Exhibit K** attached hereto (and timely subsequent continuation statements) with respect to each Cooperating Respondent, as debtor, in the appropriate filing office of the jurisdiction in which the Cooperating Respondent is located (as provided in the UCC) covering the Collateral. Any deposit account or Permitted Investment in which Escrow Funds are held shall be maintained in the name of the Escrow Agent. In order to perfect the Watermaster’s precautionary security interest, Escrow Agent and Cooperating Respondents agree and acknowledge that the same are held by the Escrow Agent (x) subject to the precautionary security interest granted in favor of the Watermaster and (y) as agent for the Watermaster with respect to such precautionary security interest.

ii. At the request of any Cooperating Respondent or Watermaster, a Cooperating Respondent shall promptly provide Watermaster with the following information in writing: (1) the state in which such Cooperating Respondent is organized (and, if different, the state in which such Cooperating Respondent has its principal place of business or chief executive office), and (2) the formal legal name of such Cooperating Respondent as set forth in its current charter documents.

iii. Each Cooperating Respondent understands and agrees that with respect to the Collateral: (1) Watermaster may pursue any right or remedy available at law that Watermaster may have (separately, successively, or simultaneously with any other right or remedy); (2) no delay or omission by Watermaster shall impair any of its rights or remedies; and (3) Watermaster may assign its rights or interest under this Section 12 to any successor to Watermaster. The foregoing rights and remedies of Watermaster, as secured party, shall be enforced and exercised in a manner consistent with the provisions of this Escrow Agreement, including, without limitation, those provisions pertaining to the use and purposes of the Escrow Funds.

iv. Except as otherwise provided in Section 9 of this Escrow Agreement, Escrow Agent subordinates in favor of Watermaster any security interest, lien or right of setoff Escrow Agent may have, now or in the future, against the Escrow or any sub-account.

v. Each Cooperating Respondent covenants and agrees that it shall not pledge or grant any security interest in the Collateral or any portion thereof. Each Cooperating Respondent represents and warrants to the other parties herein that such Cooperating Respondent has the power and authority to transfer its initial Collateral hereunder, and title in and to its initial Collateral is free of all liens, security interests, and restrictions on transfer or pledge except as created hereunder.

d. Covenant Not to Interfere. Cooperating Respondents acknowledge and agree: (i) that the Water Entities have entered into, or are entering into, the Project Agreement and this Escrow Agreement in reliance on the continuing availability of funds to pay for Project Capital Costs and Project O&M Costs as and when they are incurred, (ii) that the Water Entities have incurred and will incur substantial contractual obligations in connection with the construction, installation, improvement, maintenance and operation of the Project, and (iii) that the Water Entities may incur substantial liability and losses if Escrow Funds are not at all times available to be drawn upon and disbursed strictly as and when required pursuant to the provisions of the Project Agreement and under this Escrow Agreement. Therefore, Cooperating Respondents shall not make or submit to Escrow Agent any request, direction, demand, claim, or instruction which is inconsistent with the provisions of this Escrow Agreement or which causes, or could reasonably be expected to cause, Escrow Agent to delay or refrain from making any disbursement of Escrow Funds requested by Watermaster in accordance with the provisions of this Escrow Agreement. Furthermore, the Cooperating Respondents shall not commence an action seeking declaratory relief with respect to the disposition of Escrow Funds, or an action for interpleader of Escrow Funds, and Cooperating Respondents waive any right they may have to do so, it being understood and agreed by the Cooperating Respondents and Water Entities that any claim or dispute among them regarding the propriety, sufficiency, and amount of any Watermaster Payment Request, or of any request or demand by Escrow Agent upon Trustec for payment as instructed hereunder shall be resolved through arbitration as provided in the Project Agreement.

c. Notice of Interpleader. If, notwithstanding the provisions of Section 12.d above, Escrow Agent receives a request, direction, demand, claim, or instruction from any of the Cooperating Respondents which conflicts with the provisions of this Escrow Agreement or with any request of the Watermaster or other Water Entity, or if Escrow Agent becomes a party defendant in any action or proceeding seeking to enjoin, restrain, or otherwise prevent Escrow Agent from carrying out its duties hereunder, and if, in response to any such conflicting or adverse claim or any such action or proceeding, Escrow Agent intends to seek declaratory relief with respect to any of its duties hereunder or to commence an interpleader action, Escrow Agent shall (i) promptly notify all other parties of the conflicting request, direction, demand, claim, or instruction, and (ii) shall refrain from commencing any such action for a period of ten (10) days thereafter in order to allow the other parties to provide Escrow Agent with appropriate instructions to resolve any such conflicting or adverse claim and, unless prohibited by law or a court order, to continue making all required disbursements from available Escrow Funds, without reduction, and making all required demands upon the Cooperating Respondents and Trustec for Deposits, and to otherwise continue performing its duties hereunder without further delay and without liability to any of the other parties, subject to compliance by Escrow Agent with its express duties hereunder. Immediately upon receiving any such notice from Escrow Agent, the Cooperating Respondents shall execute and deliver to Escrow Agent all such written instructions as Escrow Agent shall reasonably require in order to continue performing its duties hereunder without hindrance or delay. Cooperating Respondents hereby indemnify and agree to defend and hold harmless the Water Entities and Escrow Agent from and against any and all claims, losses, demands, liabilities, and expenses (including reasonable attorneys' fees and related legal costs) arising out of any breach by any of the Cooperating Respondents of its covenants under this Section 12.

13. Escrow Compensation.

a. Escrow Agent's Fees and Expenses. Escrow Agent shall be entitled to compensation for Escrow Agent's services in accordance with the fee schedule attached hereto as **Exhibit L**, which may be amended from time to time, with the consent of the WQA and the Required Respondents. All compensation payable to Escrow Agent, and any investment counsel, accountants, custodians of trust property, brokers, agents and attorneys employed by Escrow Agent in connection with the discharge of its duties as Escrow Agent and expressly provided for in the fee schedule attached hereto as **Exhibit L**, shall be the responsibility of WQA and shall be included in and budgeted for as a Project Administrative Cost (excluding any charges offset by available earnings credit) and deducted from available Escrow Funds according to approved Quarterly O&M Schedules.

b. Statement of Fees and Expenses. At least forty-five (45) days prior to the beginning of each calendar quarter during the term of this Escrow Agreement, Escrow Agent shall deliver to the Watermaster and to each Cooperating Respondent a statement setting forth Escrow Agent's estimate of all fees and expenses that will be incurred and charged by Escrow Agent for such quarter.

14. Choice of Law; Jurisdiction.

This Escrow Agreement shall be governed by and be construed in accordance with the laws of the State of California, without respect to choice of law provisions thereof. Any dispute between Escrow Agent, on the one hand, and any of the other parties hereto, on the other hand, arising under this Escrow Agreement shall be determined in the United States District Court for the Central District of California or, in the absence of federal jurisdiction, in a state court located in Los Angeles County, California. In the event that such a dispute arising under this Escrow Agreement is resolved by an order or decision of the court then the prevailing party or parties shall be entitled to an award for its or their reasonable attorneys' fees (including the allocable cost of internal legal counsel) and costs against the non-prevailing party or parties.

15. Resignation, Removal, Successor.

a. Resignation. Escrow Agent may resign from this Escrow Agreement by notice in writing given to the WQA and Cooperating Respondents sixty (60) days before such resignation is to take effect, and thereby become discharged from those obligations hereby created which arise following the effective date of such resignation and delivery of all Escrow Funds and related accountings to Escrow Agent's successor.

b. Replacement of Escrow Agent. Escrow Agent may be removed at any time by a written notice given by WQA to Escrow Agent, the Cooperating Respondents, and the remaining Water Entities or, if WQA ceases to exist, then for cause as provided for in the Project Agreement, and shall be replaced within the time and manner provided in the Project Agreement.

c. Successor. Upon its appointment as such, each successor Escrow Agent shall execute, acknowledge and deliver to its predecessor, and also to the Cooperating Respondents and Water Entities, an instrument in writing accepting such appointment hereunder, and thereupon such successor without any further act shall become vested with all the rights,

immunities, and powers, and shall be subject to all of the duties and obligations of its predecessor, and every predecessor escrow agent shall promptly deliver all Escrow Funds held by it hereunder to such successor. No successor Escrow Agent shall be accountable or liable for any acts or omissions of a predecessor escrow agent except to the extent such accountability or liability arises by operation of law upon the merger, conversion, or other reorganization involving Escrow Agent. In the event that a successor has not been appointed within thirty (30) days after the date of such resignation or removal or by the date of such dissolution, incapacity or vacancy, Escrow Agent shall deposit the full amount of the Escrow Funds with the clerk of the U.S. District Court for the Central District of California and shall interplead all of the parties hereto. Upon so depositing the Escrow Funds and filing its pleading, Escrow Agent shall be released from all future liability under the terms hereof that arise after and are not based on facts or occurrences that exist prior to the effective date of such resignation or removal.

16. Headings.

The headings in this Escrow Agreement are merely for convenience and shall not be used in interpreting any of the provisions.

17. Binding Effect; Successors and Assigns.

This Escrow Agreement shall be binding upon, and inure to the benefit of, the respective parties hereto and their respective successors and permitted assigns.

18. Counterparts.

This Agreement may be executed in counterparts, each of which shall be deemed an original, and all of which shall constitute one and the same instrument.

19. Modification.

Except as otherwise specifically set forth herein in Section 2 (Allocation Schedules), this Escrow Agreement may not be amended, altered or modified except by written instrument duly executed by Escrow Agent, by the Required Respondents, and by the Watermaster on behalf of the Water Entities. Notwithstanding the foregoing, this Escrow Agreement may not be amended, altered or modified materially to change the obligations of any Cooperating Respondent unless such Cooperating Respondent has executed the written instrument for such amendment. Notwithstanding any other provision of this Escrow Agreement to the contrary, this Escrow Agreement may not be altered or amended to increase the duties, responsibilities or liabilities of Escrow Agent without Escrow Agent's consent, unless Escrow Agent has been offered a reasonable period of time to resign before such alteration or amendment becomes effective.

20. Assignment.

Except as specifically set forth herein, no party shall assign its rights or obligations under this Agreement without the prior written consent of the other parties. No Cooperating Respondent shall have the right to encumber any portion of the Escrow Funds or subject the Escrow Funds to the claims of any third party creditor, and any such purported grant of an encumbrance shall be void ab initio.

21. Third Parties.

Nothing contained in this Escrow Agreement shall be construed to create any rights in any Person not a party to this Escrow Agreement.

22. Severalty of Provisions.

If any provision of this Escrow Agreement or its application to any Person or in any circumstance shall be invalid or unenforceable, the application of such provision to persons or entities and in circumstances other than those as to which it is invalid or unenforceable, and the other provisions of this Escrow Agreement, shall not be affected by such invalidity or unenforceability.

23. Time of the Essence.

Time is of the essence of each and every provision of this Escrow Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Escrow Agreement to be executed as of the day and year first written above.

ESCROW AGENT:

Citizens Business Bank

By: _____

Name: _____

Title: _____

COOPERATING RESPONDENTS:

Acrojet-Rocketdyne, Inc.

By: _____

Its: _____

Azusa Land Reclamation Co., Inc.

By: _____

Its: _____

Hartwell Corporation

By: _____

Its: _____

Chemical Waste Management, Inc.

By: _____

Its: _____

Winco Enterprises, Inc.

By: _____

Its: _____

WATER ENTITIES:

Main San Gabriel Basin Watermaster

By: _____

Its: _____

San Gabriel Basin Water Quality Authority

By: _____

Its: _____

La Puente Valley County Water District

By: _____

Its: _____

San Gabriel Valley Water Company

By: _____

Its: _____

Valley County Water District

By: _____

Its: _____

Suburban Water Systems

By: _____

Its: _____

California Domestic Water Company

By: _____

Its: _____

Escrow Agreement
Exhibit A

Cooperating Respondents

Aerojet Rocketdyne, Inc.

Azusa Land Reclamation Co., Inc.

Hartwell Corporation

Chemical Waste Management, Inc.

Winco Enterprises Inc.

Escrow Agreement
Exhibit B

Water Entities

Main San Gabriel Basin Watermaster

San Gabriel Basin Water Quality Authority

La Puente Valley County Water District

San Gabriel Valley Water Company

Valley County Water District

Suburban Water Systems

California Domestic Water Company

Escrow Agreement
Exhibit C

JOINDER OF ADDITIONAL COOPERATING RESPONDENT

By their execution and delivery of this Joinder of Additional Cooperating Respondent (this "Joinder"), and effective as of the date set forth below, the undersigned agree that ("Additional Cooperating Respondent") has become and is a party to that certain BPOU Escrow Agreement among the parties executing this Joinder (other than Additional Cooperating Respondent), a copy of which is attached as Exhibit A hereto and incorporated herein by reference (the "Escrow Agreement"). Except as otherwise expressly defined in this Joinder, all capitalized terms used herein shall have the meaning assigned to them in the Escrow Agreement.

Additional Cooperating Respondent shall be entitled to all rights and benefits of Cooperating Respondents under, and shall be bound by all provisions of, the Escrow Agreement.

Within two (2) Working Days after the effective date of this Joinder, the Cooperating Respondents (including Additional Cooperating Respondent) shall deliver to Escrow Agent a true and complete copy of this Joinder together with an amended Allocation Schedule setting forth the applicable percentage allocations of the total amount to be paid hereafter by each of the Cooperating Respondents (including Additional Cooperating Respondent) as provided in the Escrow Agreement.

This Joinder may be executed in two or more counterparts, each of which shall be deemed an original instrument and all of which shall constitute one and the same agreement.

Dated to be effective as of _____.

Additional Cooperating Respondent:

By: _____

Its: _____

Existing Cooperating Respondents
[Insert signature blocks for all existing
Cooperating Respondents]:

Escrow Agent:

By: _____

Its: _____

Escrow Agreement
Exhibit D

QUARTERLY CAPITAL STATEMENT

To: _____ (“Escrow Agent”)

Re: Escrow Agreement dated _____, ____ (“Escrow Agreement”), among Escrow Agent, the Water Entities (as therein defined), and the Cooperating Respondents (as therein defined).

This Quarterly Capital Statement (“Statement”) is delivered to Escrow Agent by the undersigned, Main San Gabriel Basin Watermaster (“Watermaster”), pursuant to Section ___ of the Escrow Agreement (except as otherwise expressly set forth in this Statement, all capitalized terms used in this Statement shall have the meanings assigned to them in the Escrow Agreement), and covers the calendar quarter beginning _____, ____ (the “Funding Period”):

(a) Attached to this Statement are true and complete copies of the Quarterly Capital Schedules for the Funding Period, which have been approved by the appropriate Subproject Committees for the Subprojects in accordance with the procedures and requirements of the Project Agreement.

(b) The total amount of all funds required to be deposited with and held by Escrow Agent for Project Capital Costs for the Funding Period is _____ dollars (\$_____) (the “Required Payment”).

(c) Escrow Agent is entitled and required under the Escrow Agreement to collect the Required Payment from the Cooperating Respondents upon receipt of this Certificate.

Executed as of this ____ day of _____, ____.

MAIN SAN GABRIEL BASIN WATERMASTER

By: _____

Its: _____

cc: WQA and Cooperating Respondents

Escrow Agreement
Exhibit E

QUARTERLY O&M STATEMENT

To: _____ (“Escrow Agent”)

Re: Escrow Agreement dated _____, ____ (“Escrow Agreement”), among Escrow Agent, the Water Entities (as therein defined), and the Cooperating Respondents (as therein defined).

This Quarterly O&M Statement (“Statement”) is delivered to Escrow Agent by the undersigned, Main San Gabriel Basin Watermaster (“Watermaster”), pursuant to Section ___ of the Escrow Agreement (except as otherwise expressly set forth in this Statement, all capitalized terms used in this Statement shall have the meanings assigned to them in the Escrow Agreement), and sets forth the amount of O&M funds required to be deposited with Escrow Agent for the calendar quarter beginning _____, ____ (the “Funding Period”):

(a) Attached to this Statement are true and complete copies of the Quarterly O&M Schedules for the Funding Period, which have been approved in accordance with the procedures and requirements of the Project Agreement.

(b) The total amount of all funds required to be deposited with and held by Escrow Agent for Project O&M Costs for the Funding Period is _____ dollars (\$_____) (the “Required Payment”).

(c) Escrow Agent is entitled and required under the Escrow Agreement to collect the Required Payment from the Cooperating Respondents upon receipt of this Certificate.

Executed as of this ____ day of _____, ____.

MAIN SAN GABRIEL BASIN WATERMASTER

By: _____

Its: _____

cc: WQA and Cooperating Respondents

Escrow Agreement
Exhibit F

ESCROW AGENT'S CERTIFICATE OF PAYMENT OF DEPOSITS

To: _____ (“Watermaster”)

Re: Escrow Agreement dated _____, ____ (“Escrow Agreement”), among Escrow Agent, the Water Entities (as therein defined), and the Cooperating Respondents (as therein defined).

The undersigned hereby certifies to the Watermaster, on behalf of [_____] (“Escrow Agent”), that:

- (a) In accordance with the provisions of the Escrow Agreement, Escrow Agent has received from or for the account of the Cooperating Respondents the total sum of \$ _____, representing payment in full of all Deposits, as that term is defined in the Escrow Agreement, required to be paid to Escrow Agent by the Cooperating Respondents pursuant to the Quarterly Capital Statement and Quarterly O&M Statement previously delivered to Escrow Agent by Watermaster, each dated _____, ____ for the Funding Period therein described.
- (b) The full amount of the Deposits shall be held, administered and disbursed by Escrow Agent in accordance with the terms and conditions of the Escrow Agreement.

IN WITNESS WHEREOF, I have executed this Certificate as an authorized representative of Escrow Agent as of this ____ day of _____, ____.

[INSERT NAME OF ESCROW AGENT]

By: _____

Its: _____

cc: WQA and Cooperating Respondents

Escrow Agreement
Exhibit G

ESCROW AGENT'S CERTIFICATE OF INSUFFICIENT ESCROW FUNDS

To: _____ (“**Watermaster**”)

Re: Escrow Agreement dated _____, _____ (“**Escrow Agreement**”), among Escrow Agent, the Water Entities (as therein defined), and the Cooperating Respondents (as therein defined).

The undersigned hereby certifies to the Watermaster, on behalf of [_____] (“**Escrow Agent**”), that:

- (a) As of the date of this Certificate, Escrow Agent has not received the full amount of the Deposits, as that term is defined in the Escrow Agreement, required to be paid to Escrow Agent by the Cooperating Respondents as provided in the Quarterly Capital Statement and Quarterly O&M Statement previously delivered to Escrow Agent by Watermaster, each dated _____, _____, for the Funding Period therein described. The total amount of the deficiency is \$_____ (the “**Deficiency Amount**”).
- (b) Escrow Agent has delivered, or shall concurrently herewith deliver, to Trustee a Certificate and Demand for Payment in the form required by the Escrow Agreement, demanding immediate payment of the Deficiency Amount in full.

IN WITNESS WHEREOF, I have executed this Certificate as an authorized representative of Escrow Agent as of this ____ day of _____, _____.

[INSERT NAME OF ESCROW AGENT]

By: _____

Its: _____

cc: WQA and Cooperating Respondents

Escrow Agreement
Exhibit H

ESCROW AGENT'S CERTIFICATE AND DEMAND FOR PAYMENT

To: _____ (“Trustee”)

Re: BPOU Trust Agreement dated _____, ____ (“Trust Agreement”),
between Trustee and the Grantors (as therein defined) for the benefit of the Water Entities
(as therein defined).

The undersigned hereby certifies to Trustee, on behalf of [_____] (“Escrow Agent”), that:

- (a) _____ “Cooperating Respondent”, known in the Trust Agreement as a “Grantor”) is in breach of that certain Escrow Agreement dated _____, 2017 by and among Escrow Agent, Grantors, and Water Entities (the “Escrow Agreement”), in that Cooperating Respondent was required under the Escrow Agreement to deposit certain funds with Escrow Agent (the “Required Payment”) on or before _____ (the “Payment Deadline”), and Cooperating Respondent did not make the full Required Payment to Escrow Agent by the Payment Deadline. The total amount of the deficiency is \$ _____ (the “Deficiency Amount”).
- (b) Escrow Agent is authorized and required by Grantors and the Water Entities, pursuant to the Escrow Agreement, to obtain the Deficiency Amount from Trustee if Cooperating Respondent does not pay the full Required Payment to Escrow Agent by the Payment Deadline.
- (c) Escrow Agent is now entitled and required under the Escrow Agreement to submit this Certificate and Demand for Payment to Trustee and to receive the Deficiency Amount from Trustee.
- (d) Escrow Agent understands that Trustee is entitled and required under the Trust Agreement to pay the Deficiency Amount to Escrow Agent on behalf of Cooperating Respondent upon receipt of this Certificate.

DEMAND IS HEREBY MADE upon you, as Trustee, for immediate payment of the Deficiency Amount in full.

IN WITNESS WHEREOF, I have executed this Certificate and Demand for Payment as an authorized representative of Escrow Agent as of this ____ day of _____, ____.

[INSERT NAME OF ESCROW AGENT]

By: _____

Its: _____

cc: Cooperating Respondents

Escrow Agreement
Exhibit I

WATERMASTER PAYMENT REQUEST

To: _____ (“Escrow Agent”)

Re: Escrow Agreement dated _____, ____ (“Escrow Agreement”), among Escrow Agent, the Water Entities (as therein defined), and the Cooperating Respondents (as therein defined).

This Watermaster Payment Request (“**Payment Request**”) is delivered to Escrow Agent by the undersigned, Main San Gabriel Basin Watermaster (“**Watermaster**”), pursuant to Section ___ of the Escrow Agreement (except as otherwise expressly set forth in this Statement, all capitalized terms used in this Payment Request shall have the meanings assigned to them in the Escrow Agreement):

(a) The invoices attached hereto, which are invoices for Project Capital Costs, Subproject O&M Costs, and Project Administrative Costs, have been authorized and approved in accordance with the procedures and requirements of the Project Agreement, and are to be paid by Escrow Agent on behalf of the Cooperating Respondents upon submission of this Watermaster Payment Request.

(b) The total amount of invoices for Project Capital Costs is \$_____ [write “0” if not applicable].

(c) The aggregate amount of the invoices attached hereto is _____ dollars (\$ _____) (the “**Aggregate Payment Amount**”).

(d) Upon receipt of this Payment Request, Escrow Agent is entitled and required under the Escrow Agreement to pay to the San Gabriel Basin Water Quality Authority, on behalf of the Cooperating Respondents, the Aggregate Payment Amount represented by the attached invoices.

Executed as of this ____ day of _____, ____.

MAIN SAN GABRIEL BASIN WATERMASTER

By: _____

Its: _____

cc: WQA and Cooperating Respondents

Escrow Agreement
Exhibit J

Contact Information

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Escrow Agreement
Exhibit K

UCC1 COLLATERAL DESCRIPTION

THIS FILING IS MERELY A PRECAUTIONARY FILING; THE PARTIES DO NOT INTEND THAT COOPERATING RESPONDENT (AS DEFINED BELOW) HAVE ANY INTEREST IN THE COLLATERAL

All right, title, and interest, if any, of the entity named in this financing statement as debtor ("Cooperating Respondent"), in and to the following described personal property and related rights, now owned and hereafter acquired, now existing and hereafter created or arising, fixed or contingent, and wherever located, and in all proceeds thereof, in each case whether or not held for the sole account of Cooperating Respondent:

All money and property transferred, delivered, and deposited from time to time by or for the account of Cooperating Respondent, to and with the entity named herein as secured party ("Watermaster"), pursuant to that certain BPOU Escrow Agreement (as the same may be amended from time to time, the "Escrow Agreement") among Cooperating Respondent, Watermaster, Citizen's Business Bank ("Escrow Agent"), and others, and in the Escrow Account (as therein defined), and in all Escrow Funds (as therein defined), and in any and all subaccounts maintained by Escrow Agent that are attributable to or for the account of Cooperating Respondent, and all money, deposit accounts, instruments, and investment property comprising the Escrow Account and any and all Permitted Investments (as defined in the Escrow Agreement), including, without limitation, all securities, securities accounts, and money, and all general intangibles under and arising out of the Escrow Agreement.

EXHIBIT “D”

EXHIBIT D
2017 PROJECT AGREEMENT STATEMENT OF WORK

INTRODUCTION

The Statement of Work (SOW) descriptions provided herein define the intended scope of work for the various subprojects pursuant to the BPOU “2017 Project Agreement.” Capitalized terms used herein have the meanings given to them in the 2017 Project Agreement. This document may be modified in accordance with Section 2.1.2(c) and Section 2.3.1 of the 2017 Project Agreement.

BACKGROUND

Multiple areas of the San Gabriel Basin aquifer are contaminated with volatile organic compounds (VOCs) and other chemicals of concern. One such area has been designated by EPA as the Baldwin Park Operable Unit (BPOU). High levels of trichloroethylene (TCE) were first detected in 1979. Since that time, numerous wells have been found to have varying concentrations of TCE, tetrachloroethylene (PCE), carbon tetrachloride (CTC), and other VOCs. EPA designated a total of 19 industries as Potentially Responsible Parties (PRPs) in the BPOU, including the Original Cooperating Respondents.

In 1998 the Watermaster and the Original Cooperating Respondents initiated discussion on a joint Basin cleanup and water supply project. In the fall of 2000, negotiations between the Original Cooperating Respondents and water agencies resumed, and in January 2001 a 25-page preliminary agreement was reached between six Water Entities and the Original Cooperating Respondents.

In March 2002, after lengthy negotiations, the Original Cooperating Respondents and seven Water Entities signed the BPOU “2002 Project Agreement,” which was approved by the EPA and approved by the Los Angeles County Superior Court (the legal authority creating the Watermaster to manage the water quality of the Basin) in May 2002. The 2002 BPOU Project was developed with the intent to utilize as much existing WE infrastructure as possible and integrate this cleanup effort into existing water purveyor operations and serve treated water to public water systems.

A groundwater extraction plan (Extraction Plan) was developed to meet the EPA’s objectives of contaminant capture and removal for the BPOU and to provide a water supply for water purveyors impacted by contamination. Groundwater extraction facilities for the Extraction Plan were constructed in phases, beginning with the Subarea 3 (SA3) wells. Operations of the groundwater extraction facilities are underway by the WEs. The Remedial Design/Remedial Action SOW (EPA, June 30, 2000) established standards and procedures to be used in evaluating the performance of this Extraction Plan. In addition, the EPA has approved a Performance Standards Evaluation Plan for the BPOU. The operation of the Extraction Plan will continue to be evaluated by EPA using the following two Performance Standards:

Capture of Contaminated Groundwater: A hydraulic barrier, formed by intercepting contaminant flow paths at the extraction locations, shall be used to minimize further migration of contaminated groundwater. Groundwater levels in piezometers and existing production wells will continue to be used to evaluate operation with respect to this Standard. Groundwater contour maps, flow lines, and capture zones will be created using this data to represent the hydraulic barrier.

Removing Contaminant Mass: The weight of individual contaminants will continue to be calculated using monthly extraction amounts and laboratory results of water quality sampling.

The Extraction Plan includes extraction and treatment in the northern central portion of the BPOU plume, SA1, using wells owned by VCWD. The operation of these facilities is expected to cause the level of contamination in the raw water produced from the SA3 wells to stabilize and eventually decrease. Water extracted and treated in the southern portion of the BPOU plume, SA3, is from the La Puente Valley County Water District (LPVCWD) well field, City of Industry's (COI) San Fidel well field, the San Gabriel Valley Water Company (SGVWC) B5 well field, the SGVWC B6 well field, and the California Domestic Water Company (CDWC) well field.

The three VCWD SA1 extraction locations, when designed, were expected to remove large quantities of contaminants and limit, and possibly prevent, further migration of highly contaminated groundwater toward the SA3 wells. Because contaminants downgradient of the SA1 extraction locations will continue to migrate toward the SA3 wells, the effect of this SA1 extraction has not resulted in an immediate reduction in the contaminant concentrations at the SA3 wells. Over the life of the Extraction Plan, the SA1 extraction locations are intended to limit the contaminant concentrations that must be treated at the SA3 wells. Removing the contaminants from the water upgradient of the SA3 wells is expected to eventually result in decreased contaminant concentrations in the SA3 wells.

As a result of the BPOU investigations by the EPA and extensive groundwater monitoring by several entities, Chemicals of Concern ("COCs") referenced on Exhibit B to the 2017 Project Agreement (other than 1,2,3 TCP) were specified in the BPOU Record of Decision (ROD) and Explanation of Significant Differences (ESD). These COCs provided the basis for treatment facility design. An additional chemical (1,2,3 TCP) was subsequently added. The existing treatment trains are made up of several modules which provide redundant treatment for many of the COCs, as required by the State Water Resources Control Board, Division of Drinking Water (DDW). Treatment trains have some flexibility to treat a range of different concentrations of COCs which may occur in the future. In the event that additional contaminants require treatment, the 2017 Project Agreement contains provisions that establish the circumstances under which the 2017 Agreement imposes obligations on the parties and circumstances under which the Parties have reserved rights.

I. SUBAREA ONE SUBPROJECT

This is the Subarea One Subproject (also referred to as the “VCWD Subproject”) section of the SOW pursuant to the 2017 Project Agreement.

VCWD operates wells at their SA1-1, SA1-2, and Lante (SA1-3) sites, located within the northern portion of the BPOU known as Subarea 1 (SA1). The SA1-1 well site is located at the southwest corner of 4th Street and Arrow Highway in Irwindale; the SA1-2 well is located at 4937 Azusa Canyon Road in Baldwin Park; and the Lante Well and treatment facility site are located at 5120 Lante Street in Baldwin Park. The VCWD SA1-1, SA1-2, and Lante wells, treatment facility, and associated facilities are known as the “VCWD Subproject”.

A. SUBPROJECT EXTRACTION - TREATMENT

The VCWD Subproject has been built and is owned and operated by VCWD. The maximum design capacity was originally in excess of 7,000 gallons per minute (gpm) as a means for meeting the EPA UAO extraction plan annual average pumping rate of 6,000 gpm. However, on December 12, 2012, the EPA approved changes to the VCWD Subproject extraction plan, reducing the annual average pumping rate from 7,000 gpm to 6,000 gpm, and additionally approved seasonal extraction changes with prior EPA approval. With the addition of a new extraction well or reactivation of the Arrow well on the treatment facility site and the implementation of the modified treatment system configuration, both discussed below as part of this SOW, the maximum design capacity is 6,600 gpm, and the targeted average operating capacity is 6,000 gpm. It is anticipated that the VCWD Subproject will run on a continuous (24 hours per day / 7 days per week) basis in accordance with the SOW, except during routine maintenance.

Extraction Wells

The VCWD Subproject has three wells with varying pumping capabilities. The targeted average groundwater extraction rate for the VCWD Subproject is 6,000 gpm. Extraction rates can vary daily or weekly but are expected to average the targeted rate over time. Table 1 is a summary of VCWD well characteristics.

Actual extraction rates may vary over different periods. For example, rates may vary for specific periods of time, including daily or weekly or monthly in response to operational issues or constraints (e.g., wells, treatment plant); seasonal differences in pumping and changes in water table conditions. Extraction rates, however, are expected over time to average the EPA requirements, currently set forth in Table 1. Pursuant to Section 2.3 of the 2017 Project Agreement, EPA remedy requirements may be modified to increase or reduce pumping, or to eliminate or add treatment processes, in response to reductions or increases in COC concentrations or extraction rates required to control the COCs, subject to the Cooperating Respondents’ (CRs’) continuing obligation to provide Replacement Water Supply in the event of reduced pumping as specified in section 2.2 of the 2017 Project Agreement.

Table 1 – VCWD Subproject Wells

Well	Capacity (gpm)	EPA Target Extraction Rate (gpm)	Diameter (in)	Depth (ft)	Screen Intervals (ft bgs)
SA1-1	3,400	1,000	20	671	248-650
SA1-2	2,400	backup to SA1-1	20	670	258-650
Lante	3,400	5,000*	20	600	275-577

bgs = below ground surface

*Combined total flow from Lante and SA1-3 well field

In addition to the existing extraction wells listed above, EPA has approved and VCWD may be constructing a new well at the treatment facility site or upgrading the existing Arrow well in order to increase the extraction flows from the site where there are higher concentrations of COCs. The EPA's current required annual extraction rate for the Lante and SA1-3 well field is 5,000 gpm. The plan is to meet this extraction rate by increasing the capacity at the SA1-3 well field, which will include either the development and construction of a new well or the reactivation and refurbishment of the Arrow well.

Chemicals of Concern

Currently known COCs for the VCWD Subproject are summarized in Table 2.

Table 2 – VCWD Subproject Chemicals of Concern

COC	MCL/NL	Units	Average Concentration		
			SA1-1	SA1-2	Lante
TCE	5	ug/l	ND	0.89	17.5
PCE	5	ug/l	1.3	2.5	43.6
CTC	0.5	ug/l	ND	--	ND
1,2-DCA	0.5	ug/l	ND	ND	ND
1,1-DCE	6	ug/l	ND	ND	4.8
Cis-1,2-DCE	6	ug/l	ND	ND	1.06
1,2,3-TCP	5	ng/l	ND	8.8	7.07
Perchlorate	6	ug/l	7.55	9.6	6.09
NDMA	10	ng/l	ND	ND	ND
1,4-dioxane	1	ug/l	ND	0.56	1.72

MCL = Maximum Contaminant Level

NL = Notification Level

ND = Non Detect

Average Concentrations are for the period of 1/1/15-4/30/15 for SA1-1, 1/1/16-12/31/16 for the Lante wells and for May 2012 for SA1-2. SA1-2 has not been in operation since January 2010, except for a short period of operation in May 2012.

Groundwater Monitoring

Groundwater monitoring for the VCWD Subproject is currently performed at the individual extraction wells, piezometers, and upgradient monitoring wells. Twelve piezometers (PZ1-1AD, PZ1-1AS, PZ1-1BD, PZ1-1BS, PZ1-2AD, PZ1-2AS, PZ1-2BD, PZ1-2BS, PZ1-3AD, PZ1-3AS, PZ1-3BD, and PZ1-3BS) are located near the VCWD wells and are used to monitor groundwater elevations. DDW has designated the

following as upgradient monitoring wells for the VCWD Subproject: MW5-03, MW5-11, MW5-18, MW5-13, and MW5-17. The scope of such groundwater monitoring may change, consistent with regulatory requirements.

Treatment System

Contaminated groundwater is treated at the VCWD treatment facility through a series of treatment systems to remove the COCs. A schematic flow diagram of the current DDW approved treatment system is shown in Figure 1 and the following is a brief summary of 1) the components of the current DDW approved treatment system; and 2) the components of the new treatment systems and revised configurations currently being constructed and implemented.

Groundwater from the wells is conveyed first to four air strippers used to remove VOCs from the water. The VOC-laden air is then conveyed to an off-gas vapor phase granular activated carbon (VPGAC) treatment system to adsorb the VOCs to the carbon and discharge clean air. Spent VPGAC is periodically removed and replaced with fresh VPGAC following regulatory requirements.

Water from the air stripper wet well is pumped to a liquid phase granular activated carbon (LGAC) treatment system to adsorb remaining VOCs, and in particular, 1,2,3-TCP. Spent LGAC is periodically removed and replaced with fresh LGAC following regulatory requirements. From the LGAC, water is conveyed to two regenerable ion exchange systems (ISEP) for removal of perchlorate and nitrate (only one ISEP is currently in service). Following the ISEP systems, water is conveyed to a low pressure ultraviolet (LPUV) treatment system to remove NDMA, 1,4-dioxane, and VOCs (if present).

Hydrochloric acid is injected into the treatment stream downstream of the air strippers to adjust the water's pH, hydrogen peroxide is injected into the treatment stream ahead of the LPUV system to help oxidize 1,4-dioxane in the LPUV system, sodium hypochlorite is injected into the treatment stream downstream of the LPUV system to disinfect the water prior to conveying the water to SWS's Plant 121, and ortho-polyphosphate is injected into the treatment stream at SWS's Plant 121 and at the Lante treatment facility to help reduce "red water" problems in the SWS and VCWD distribution systems. The treated water is then distributed to SWS and VCWD customers, however, historically, all flows have been delivered to SWS.

The treatment capacity of the current treatment facility is restricted due to higher than expected concentrations of nitrate and sulfate, which reduce the effectiveness of the existing ISEP treatment systems to remove perchlorate. In addition, only one ISEP system is currently operational and there are no current plans to operate both ISEP systems.

Modified Treatment System Configuration

The following changes are currently being made to the existing treatment facility following CR agreement under a 2010 agreement with VCWD and EPA approval. A single pass ion exchange (SPIX) system to remove perchlorate has been constructed and startup testing and DDW permitting of this system is expected before the effective date of the 2017 BPOU Project Agreement. Once permitted by DDW, water from the air stripper wet well will be pumped to the SPIX system to remove perchlorate. Spent SPIX resin

will then periodically be removed and replaced with fresh resin following regulatory requirements. Following the SPIX system, a portion of that water will be conveyed to the LGAC system and then on to a reconfigured ISEP system. The two ISEP systems are currently being reconfigured to remove one ISEP system from service and use one ISEP system for removal of nitrates only. In addition, piping will be installed and changes to the LPUV wet well will be made to allow for blending of the plant flows bypassing the ISEP system (not treated for nitrate) with the water treated through the single ISEP system (treated for nitrate removal).

Once the treatment system is reconfigured to treat perchlorate with the SPIX system, treat partial flows to remove nitrate with a single ISEP system, and blend bypassed and treated flows to reduce nitrate concentrations, the second ISEP system will be decommissioned.

Treatment System Waste Disposal & Material Recycling

Treatment system operations generate various waste streams that must be disposed of in accordance with all applicable local, state, and federal regulations. The waste from the VCWD Subproject includes: air stripper packing, VGAC, LGAC, SPIX rinse water, SPIX resin, LPUV lamps, and ISEP resin, and nitrate brine discharge to county sewer.

Pipelines

The Lante Well and the Arrow Well, which is proposed to be reactivated, are located at the Lante Treatment Facility site; therefore, raw water from the Lante Well is conveyed directly to the treatment system on-site. Raw water from the SA1-1 and SA1-2 well sites is conveyed to the VCWD treatment facility through approximately 1,200 feet of 16-inch diameter pipeline and approximately 1,450 feet of 24-inch diameter pipeline.

Treated water from the VCWD treatment facility is conveyed to SWS and VCWD customers as described below under Section III. A 30-inch treated water pipeline, approximately 20,000 feet long, was constructed to convey water to SWS' Plant 121.

The VCWD treatment facility is also configured to convey water to VCWD customers through VCWD's existing piping network; however, historically VCWD has not delivered treated water from the VCWD treatment facility to VCWD customers.

In addition to the raw and treated water pipelines, two parallel 6-inch wastewater (brine) disposal pipelines, measuring approximately 12,000 feet each, connect VCWD's treatment facility to the industrial sanitary sewer line in Sunset Avenue near Puente Avenue.

No additional raw or treated water pipelines are required for VCWD to meet its obligations under this Project Agreement to supply water to its customers, or to SWS.

B. SUBPROJECT IMPROVEMENTS & MODIFICATIONS

Future Planned Treatment System Modifications

- 1) To the extent that dates are expressed in this section, they represent the Parties current best estimate as to earliest date that the associated task is likely to be completed. The Parties understand that these dates are subject to change based on

a variety of factors, many of which are beyond the control of the Parties, and that target dates may be jointly amended to reflect changed circumstances.

- 2) Increased Pumping Capacity at SA1-3 Well Field: A new extraction well or upgrading the existing Arrow well will be designed, constructed, developed, tested, and permitted at the designated location on the VCWD Lante Plant site. VCWD and the CRs agree to meet to establish reasonable milestones and dates for this project.
- 3) SPIX Performance – The performance of three different SPIX resins is being evaluated. The most cost effective resin which also provides the highest level of reliable water quality will be selected for long term use. Should new resins or regeneration processes become available in the marketplace, these new resins or regeneration processes will be similarly evaluated.
- 4) Chemical Dosage – The dosing with chemicals used to adjust pH and the addition of ortho-polyphosphate to prevent the potential occurrence of “red water” will be reevaluated in light of the then current potable water needs of VCWD and SWS and the elimination of the current ISEP resin that alters the anionic character of water. VCWD and the CRs agree to meet to establish reasonable milestones and dates for this project.
- 5) LPUV - The effectiveness of the Low Pressure UV/Oxidation (or advanced oxidation) will be evaluated, with the goal of optimizing performance. Possible actions will include: reducing the number of operating lamps; increasing the time lamps remain in service, and reducing hydrogen peroxide dosage. VCWD and the CRs agree to meet to establish reasonable milestones and dates for this project.
- 6) Hydrogen Peroxide Quench - VCWD has secured funding with the assistance of the San Gabriel Basin Water Quality Authority (WQA) for a proposed LGAC system to quench hydrogen peroxide levels in the treated water after the LPUV system. VCWD and the CRs agree to meet to establish reasonable milestones and dates for this project, with consideration given to current 1,2,3-TCP concentrations in the plant influent and whether excess LGAC design capability exists as determined in item 7 below.
- 7) LPGAC –VCWD and the CRs will use reasonable best efforts to ensure that an evaluation of LGAC performance will be conducted to determine if the efficiency and cost effectiveness of 1,2,3-TCP removal can be improved through methods such as flux through carbon beds to reduce number of vessels and consideration/DDW permitting of react and return carbon. VCWD and the CRs agree to meet to establish reasonable milestones and dates for this project.
- 8) VCWD will periodically review whether changes to the operations of the facility warrant the reduction of plant staffing levels and shall implement cost saving measures where appropriate.

- 9) Once the plant modifications and new well or Arrow well are operating, as a follow-up to the CDM Smith Technical Memorandum on the Subarea 1 Analysis for BPOU Remedy Evaluation dated August 31, 2012, VCWD, in conjunction with SWS and the CRs, will undertake completion of an evaluation of SA1 performance in order to seek EPA approval of a further reduction in the EPA approved extraction plan (in particular, elimination of all pumping from SA1-1 and SA1-2).
- 10) VCWD with the assistance of WQA will apply for available first-dollar public funding for nitrate treatment costs, consistent with Section 4.8.1 of the 2017 Project Agreement.

C. MANAGEMENT OF VCWD TREATED WATER

VCWD customers are generally served by wells other than associated with the VCWD Subproject (Wells SA1-1, SA1-2, and Lante). The primary supply of treated water from the VCWD treatment facility goes to SWS. VCWD has agreed to transfer to SWS, and SWS has agreed to accept up to 7,000 gpm of water produced at the VCWD Subproject, to offset production lost from the SWS 139 and 140 Wellfields.

The Project Water from VCWD is delivered to SWS when it passes through the meter at the Reginald A. Stone Plant (Plant 121). The meter is owned by the VCWD Subproject and is annually tested and recalibrated as necessary by a third party contracted by SWS. SWS will notify VCWD so that it may observe any meter testing or calibration efforts. The provisions of the 2017 Project Agreement Section 4.5.6 describe the transfer cost that SWS will be required to make, which will be credited against Project Costs.

If a Hydrogen Peroxide Quench is in operation, VCWD customers can be served by the VCWD Subproject. If conditions at the Maine and Nixon Wellfields warrant use of the Project Water, the Cooperating Respondents must still meet the Water Supply needs of SWS under this 2017 Project Agreement.

D. MONITORING & REPORTS

VCWD will monitor COCs, and other constituents in its BPOU Project extraction wells, monitoring wells, and piezometer wells in accordance with Agency Requirements. The costs of such monitoring and reporting shall be a Project Cost except to the extent that VCWD would be required to do so under Agency Requirements as to a groundwater source unimpaired by CoCs. VCWD will simultaneously provide to the Cooperating Respondents the monthly monitoring data it sends to DDW or EPA.

VCWD will provide the CR Project Coordinator and WE Project Coordinators prompt notice of any condition that materially upsets facility operations under the SOW (e.g., facility shutdown, reduction in throughput, material change in permitted emissions, release of hazardous substances, exceedance of permitted water concentrations or any situation involving a violation of a permit condition or condition that could give rise to a permit violation). Subsequently, the WE Project Coordinator shall provide notice of steps taken to respond to the upset condition.

II. LPVCWD SUBPROJECT

This is the La Puente Valley County Water District (“LPVCWD”) section of the SOW pursuant to the 2017 Project Agreement.

LPVCWD operates a well field (the “LPVCWD Well Field” or the “Well Field”) within the southern portion of the BPOU known as Subarea 3 (“SA3”) located at 1695 Puente Avenue, just south of Interstate 10. The LPVCWD Well Field and treatment facility and associated facilities described below are known as the “LPVCWD Subproject”. LPVCWD serves approximately 2,500 customers (approximately 9,600 people) in the cities of La Puente, Baldwin Park, and City of Industry in eastern Los Angeles County. This service area is provided drinking water from the LPVCWD Subproject.

A. **SUBPROJECT EXTRACTION - TREATMENT**

The LPVCWD Subproject has been built and is owned and operated by LPVCWD. The facilities generally have a maximum design capacity of 2,500 gallons per minute (gpm) with an estimated target average operating capacity of 2,250 gpm. It is anticipated that the LPVCWD Subproject will run on a continuous (24 hours per day / 7 days per week, or “24/7”) basis in accordance with this SOW, except during routine maintenance. Treated water from the LPVCWD Subproject shall be primarily for the use of LPVCWD's customers, with excess water provided to Suburban Water Systems (SWS) and City of Industry (COI). LPVCWD has agreed to transfer to SWS, and SWS has agreed to accept, any water produced at the LPVCWD Subproject in excess of LPVCWD's customer needs.

Extraction Wells

The LPVCWD Well Field has three (3) wells, with current pumping capacities and current EPA required target average groundwater extraction rate as set forth in Table 1. LPVCWD should meet this target extraction rate primarily using Well 5, with Wells 2 and 3 used as secondary sources.

Although extraction rates are expected over time to average the EPA target extraction rate requirements, actual extraction rates may be lower (and vary) over different periods. For example, rates may vary for specific periods of time, including daily or weekly or monthly variations in response to operational issues or constraints (e.g. at the wells or treatment plant), seasonal differences in pumping, and changes in water table conditions. Pursuant to section 2.3 of the 2017 Project Agreement, EPA remedy requirements may be modified to increase or reduce pumping, or to eliminate or add treatment processes, in response to reductions or increases in COC concentrations or extraction rates required to control the COCs, subject to the CRs continuing obligation to provide Replacement Water Supply in the event of reduced pumping as specified in section 2.2 of the 2017 Project Agreement.

Table 1 – LPVCWD Wells

Well	Current Well Capacities (gpm)	EPA Target Extraction Rate (gpm)	Diameter (in)	Depth (ft)	Screen Intervals (ft bgs)
2	1,700	currently standby	16	947	600-604 636-766 825-845 897-940
3	2,000	currently standby	16	800	620-770
5	2,500	2,250	20	778	592-630 640-683 690-710 720-740 746-768

bgs = below ground surface

Chemicals of Concern

Currently known COCs for the LPVCWD Subproject are summarized in Table 2, below.

Table 2 – LPVCWD COCs

COC	MCL/NL	Units	Average Concentration		
			Well 2	Well 3	Well 5
TCE	5	ug/l	70	2.2	15
PCE	5	ug/l	3.4	ND	1.6
CTC	0.5	ug/l	2.9	ND	0.63
1,2-DCA	0.5	ug/l	2.0	ND	ND
1,2- DCE	.5	ug/l	1.3	ND	.53
1,1-DCA	5	ug/l	.6	ND	ND
Cis-1,2-DCE	6	ug/l	1.2	ND	ND
Chloroform	N/A	ug/l	1.9	ND	.55
Perchlorate	6	ug/l	54	9.8	20
NDMA	10	ng/l	150	3.1	38
1,4-dioxane	1	ug/l	1.4	ND	ND

MCL = Maximum Contaminant Level

NL = Notification Level

ND = Non Detect

Average Concentrations set forth in Table 2 are from the period of 8/1/14 to 7/31/16.

Groundwater Monitoring

Groundwater monitoring for the LPVCWD Subproject is performed at the individual extraction wells, piezometers, and upgradient monitoring wells. Four piezometers (PZ3-LP3AD, PZ3-LP3AS, PZ3-LP3BD, and PZ3-LP3BS) are located at the LPVCWD Well Field and are used to monitor groundwater elevations. The SGVWC B6C Well and VCWD Big Dalton Well have been designated by DDW as upgradient monitoring wells for the LPVCWD Subproject. The scope of such groundwater monitoring may change, consistent with Agency Requirements.

Treatment System

Contaminated groundwater is treated at the LPVCWD Well Field through a series of treatment systems to remove the COCs. A schematic flow diagram of the treatment system is shown in Figure 4, attached hereto, and the following is a brief summary of the components of the treatment system.

Groundwater from the wells is conveyed first to two air strippers to remove VOCs from the water. The VOC-laden air is then conveyed to an off-gas VPGAC treatment system, which adsorbs the VOCs onto the carbon, and discharges clean air. Spent VPGAC is periodically removed and replaced with fresh VPGAC in accordance with regulatory requirements. Water is then pumped from the air stripper wet wells to a single pass ion exchange (SPIX) system to remove perchlorate. Spent SPIX resin is periodically removed and replaced with fresh resin in accordance with regulatory requirements. Following the SPIX system, water is conveyed to a LPUV system to remove NDMA, 1,4-dioxane, and VOCs (if present). Sulfuric acid is injected into the treatment stream ahead of the SPIX system to adjust the water's pH and hydrogen peroxide is injected into the treatment stream ahead of the LPUV system to help oxidize 1,4-dioxane. Sodium hydroxide is injected into the treatment stream downstream of the LPUV system to adjust the water's pH; ortho-polyphosphate is injected into the treatment stream downstream of the LPUV system to help reduce the potential for "red water" problems in the distribution system; and, sodium hypochlorite is injected into the treatment stream downstream of the LPUV system to disinfect the water prior to conveying the water to LPVCWD's 100,000 gallon Hudson Reservoir, located at 15629 Hudson Avenue in the City of La Puente. The treated water is then distributed to LPVCWD's customers and to nearby water purveyors through various interconnections.

Treatment System Waste Disposal

Treatment system operations generate various waste streams that must be disposed of in accordance with all applicable local, state, and federal regulations. The waste from the LPVCWD Subproject includes: air stripper packing material, VPGAC, inlet filters, SPIX rinse water, SPIX resin, and LPUV lamps.

Pipelines

The LPVCWD Subproject is located at the LPVCWD Well Field and therefore the raw water is conveyed directly to the treatment system on-site. Treated water from the LPVCWD Subproject can be conveyed to LPVCWD customers, SWS and COI.

In order to deliver LPVCWD treated water to SWS, an existing 6-inch diameter emergency connection between LPVCWD and SWS near Glendora Avenue and Hacienda Boulevard was increased to a 12-inch diameter connection. This 12-inch connection can deliver up to 2,500 gpm of treated water to the SWS distribution system. Water from the LPVCWD Subproject is delivered to SWS when it passes through the meter at the 128 interconnection. The meter is a LPVCWD Subproject meter and LPVCWD is responsible for maintaining the meter, including annual testing and having it recalibrated if needed. The costs of the meter and its testing are Project Costs.

LPVCWD currently has an 8-inch connection to Rowland Water District ("RWD") capable of conveying 1,000 gpm of water from the LPVCWD Water System and the LPVCWD Subproject to RWD's distribution system. This connection can also deliver water from RWD to LPVCWD in the event of disruption of LPVCWD's water supply.

LPVCWD currently has six interconnections with COI that may be used to convey treated water from LPVCWD to COI and vice versa.

At this time, no additional raw water or treated water pipelines are required for LPVCWD to meet its obligations under this Project Agreement to supply water to its customers, to SWS or to COI.

B. SUBPROJECT IMPROVEMENTS AND MODIFICATIONS

LPVCWD and the Cooperating Respondents have agreed under the 2002 Project Agreement to evaluate, and, as appropriate, implement, certain improvements and modifications to the LPVCWD Subproject, all as more fully described below. To the extent not completed under the 2002 Project Agreement, these evaluations and, implementation, as appropriate and consistent with Agency Requirements, shall be continued under this 2017 Project Agreement and any disagreements as to actions to be taken under the 2017 Agreement shall be as provided in section 2.3.

- 1) SPIX Performance – The performance of three different SPIX resins is being evaluated. The most cost effective resin that also provides reliable water quality will be selected for long term use. Completion of the resin evaluation is scheduled for June 30, 2017. Should new resins or new regeneration processes become available in the marketplace, these new resins and processes may be similarly evaluated.
- 2) Air Stripper Performance – The performance of current air strippers is under evaluation, including evaluation of changes to the air:water ratio, whether the offgas vapor system can operate without heaters or if heaters have to be replaced. Completion of the evaluations is scheduled for April 1, 2017. Any mutually agreed upon changes resulting from the evaluations must be approved by DDW before implementation.
- 3) Chemical Dosage – The dosing with chemicals used to adjust pH and the addition of ortho-polyphosphate to prevent the potential occurrence of “red water” is being reevaluated under the 2002 Project Agreement in light of transition from ISEP to SPIX. Completion of the evaluations will occur by June 30, 2017 under the 2002 Project Agreement. Any mutually agreed upon changes resulting from the evaluations must be approved by DDW before implementation.
- 4) LPUV Systems - The effectiveness of the LPUV/Oxidation (or advanced oxidation) will be evaluated, with the goal of optimizing performance. Possible actions will include: reducing the number of operating lamps; increasing the time lamps remain in service, and reducing hydrogen peroxide dosage. Completion of the evaluations will occur by October 1, 2017 under the 2002 Project Agreement. Any mutually agreed upon changes resulting from the evaluations must be approved by DDW before implementation.

C. MANAGEMENT OF LPVCWD TREATED WATER

LPVCWD relies on the LPVCWD Subproject to meet its customers' water needs. Water in excess of LPVCWD customer need is available to be supplied to SWS and COI. LPVCWD provides treated water to SWS under the 2002 Project Agreement and will continue to provide such treated water to SWS pursuant to this 2017 Project Agreement. LPVCWD may also provide its excess water to COI in the event that COI experiences a disruption in its water supply.

D. MONITORING AND REPORTS

LPVCWD will monitor COCs, and other constituents in its BPOU Project extraction wells, monitoring wells, and piezometer wells in accordance with Agency Requirements. The costs of such monitoring and reporting shall be a Project Cost except to the extent that LPVCWD would be required to do so under Agency Requirements as to a groundwater source unimpaired by CoCs. LPVCWD will simultaneously provide to the Cooperating Respondents the monthly monitoring data it sends to DDW or EPA.

LPVCWD will provide the CR Project Coordinator and WE Project Coordinators prompt notice of any condition that materially upsets facility operations under the SOW (e.g., facility shutdown, reduction in throughput, material change in permitted emissions, release of hazardous substances, exceedance of permitted water concentrations or any situation involving a violation of a permit condition or condition that could give rise to a permit violation). Subsequently, the WE Project Coordinator shall provide notice of steps taken to respond to the upset condition.

III. B5 SUBPROJECT

This is the SGVWC B5 Subproject ("B5 Subproject") section of the SOW pursuant to the 2017 Project Agreement.

SGVWC operates wells at its Plant B5 within the southern portion of the BPOU known as Subarea 3 (SA3), located at 209 Perez Place in the City of Industry ("COI"). In addition, the COI produces water from a well (Well 5) in its San Fidel well field located off of San Fidel Avenue, south of Valley Boulevard. Water produced from COI Well 5 is treated at Plant B5 and then returned to COI pursuant to an agreement between SGVWC and COI, a copy of which is attached hereto as Exhibit A. SGVWC's Plant B5 wells, the COI Well, Plant B5 treatment facility, and associated facilities are known as the "B5 Subproject."

A. SUBPROJECT EXTRACTION - TREATMENT

The B5 Subproject has been built and is owned and operated by SGVWC. The facilities generally have a maximum design capacity of 7,800 gallons per minute (gpm). It is anticipated that the B5 Subproject will run on a continuous (24 hours per day / 7 days per week, or "24/7") basis in accordance with the SOW, except during routine maintenance.

Extraction Wells

The B5 Subproject has four wells, including COI Well 5, with varying pumping capabilities. The current EPA required targeted average groundwater extraction rate for the B5 Subproject is 7,000 gallons per minute (gpm). SGVWC meets this target extraction rate using wells B5B, B5E, and COI well 5, with well B5D as an alternate source.

Actual extraction rates may vary over different periods. For example, rates may vary for specific periods of time, including daily or weekly or monthly in response to operational issues or constraints (c.g., wells, treatment plant); seasonal differences in pumping and changes in water table conditions. Extraction rates, however, are expected over time to average the EPA requirements, currently set forth in Table 1. Pursuant to section 2.3.3 of the 2017 Project Agreement, EPA remedy requirements may be modified to increase or reduce pumping, or to eliminate or add treatment processes, in response to changes in COC concentrations or extraction rates required to control the COCs, subject to the CRs continuing obligations under the 2017 Project Agreement.

Table 1 –B5 Subproject Wells and COI Well

Well	Capacity (gpm)	EPA Target Extraction Rate (gpm)	Diameter (in)	Depth (ft)	Screen Intervals (ft bgs)
B5B	3,300	3,000	20	516	172-185 236-254 286-302 328-340 386-408 426-478
B5D	2,750	currently standby	18	1,335	980-1,315
B5E	3,300	3,000	16	800	500-800
COI5	1,200	1,000	20	980	380-810

bgs = below ground surface

Chemicals of Concern

Currently known COCs for the B5 Subproject are summarized in Table 2.

Table 2 – SGVWC Plant B5 Subproject Chemicals of Concern

COC	MCL/NL	Units	Average Concentration			
			B5B	B5D	B5E	COI5
TCE	5	ug/l	2.5	ND	15	3.0
PCE	5	ug/l	2.1	ND	2.8	8.1
CTC	0.5	ug/l	ND	0.71	2.0	ND
1,1-DCE	6	ug/l	ND	ND	0.80	1.7
1,2-DCA	0.5	ug/l	ND	ND	0.82	ND
Cis-1,2-DCE	6	ug/l	ND	ND	1.0	ND
Perchlorate	6	ug/l	7.3	ND	15	3.0
NDMA	10	ng/l	4.3	ND	94	ND
1,4-dioxane	1	ug/l	<0.5	ND	<0.5	<0.5

MCL = Maximum Contaminant Level

NI. = Notification Level

ND = Non Detect

Average concentrations are for the period of 7/1/15-6/30/16.

Groundwater Monitoring

Groundwater monitoring for the B5 Subproject is performed at the individual extraction wells, piezometers, and upgradient monitoring wells. Ten piezometers (PZ3-5EAD, PZ3-5EAS, PZ3-5EBD, PZ3-5EBS, PZ3-5BA, PZ3-5BB, PZ3-CI5AD, PZ3-CI5AS, PZ3-CI5BD, and PZ3-CI5BS) located at SGVWC’s Plant B5 and COI San Fidel well fields are used to monitor groundwater elevations. Monitoring well MW5-22, MW6-1, and COI Well 5 have been designated by DDW as upgradient monitoring wells for the B5 Subproject. The scope of such groundwater monitoring may change, consistent with regulatory requirements.

Treatment System

Contaminated groundwater is treated at the B5 Subproject treatment facility through a series of treatment systems to remove the COCs. A schematic flow diagram of the treatment system is shown in Figure 1 and the following is a brief summary of the treatment system components.

Groundwater from the wells is conveyed first through eight pairs of LPGAC vessels to remove VOCs from the water. Spent LPGAC is periodically removed and replaced following regulatory requirements. Water is then conveyed through a SPIX system to remove perchlorate. SPIX resin is periodically removed and replaced following regulatory requirements. Following the SPIX system, water is conveyed to a LPUV treatment system to remove NDMA, 1,4-dioxane, and VOCs (if present). Hydrogen peroxide is injected into the treatment stream ahead of the LPUV system to help oxidize 1,4-dioxane in the LPUV system. Sodium hypochlorite is injected into the treatment stream downstream of the LPUV system to neutralize excess peroxide and to disinfect the water prior to conveying the water to SGVWC's two onsite reservoirs which have a combined capacity of 3,700,000 gallons. The fully treated water is then distributed to SGVWC's customers and transported to the COI for its use.

Treatment System Waste Disposal

Treatment system operations generate various waste streams that must be disposed of in accordance with all applicable local, state, and federal regulations. The waste from the B5 Subproject includes: LPGAC, LPGAC backwash water, inlet filters, SPIX rinse water, SPIX resin, and LPUV lamps. A 35,000 gallon bolted steel backwash tank is located on site to hold the backwash water before being discharged to the local sewer system.

Pipelines

Raw water from the onsite B5 Subproject wells is conveyed directly to the on-site B5 Subproject treatment facility. Raw water from the COI San Fidel well field is conveyed to the B5 Subproject treatment facility through approximately 4,100 feet of 16-inch diameter pipeline.

Treated water from the B5 Subproject treatment facility is conveyed to SGVWC's customers through SGVWC's piping network. The treated water pipelines include approximately 6,000 feet of 16-inch diameter pipelines installed in Sixth Street and Lomitas Avenue which delivers treated water to the COI.

No additional raw or treated water pipelines are required for SGVWC to meet its obligations under the 2017 Project Agreement, including to supply water to its customers or to COI, except any new pipeline or connection as may be required to supply Replacement Water. SGVWC agrees that it has no current need for a pipeline between the B5 and B6 facilities. The Parties agree that the B5-B6 pipeline is not currently necessary, and they agree that a "reasonable discretion" standard will be presented to the Project Committee and in any dispute as the standard by which to determine whether reimbursement is warranted if, in the future, the B5-B6 pipeline is built and the CRs do not agree to reimburse SGVWC's capital costs.

B. SUBPROJECT IMPROVEMENTS & MODIFICATIONS

SGVWC and the Cooperating Respondents agree to evaluate certain improvements and modifications to the B5 Subproject, all as more fully described below. Any disagreements as to actions to be taken based on these evaluations shall be resolved as provided in Section 2.3 of the 2017 Project Agreement.

- 1) LPGAC – Change-out of LPGAC has been significantly more frequent than originally predicted, due to the presence of 1,2-DCA in influent groundwater. SGVWC agrees to investigate and seek approval from DDW regarding permitting of react and return carbon if efficiency and cost effectiveness of VOC removal is improved.
- 2) SPIX Performance - Should new resins or new regeneration processes become available in the marketplace, these new resins and processes may be evaluated.

C. MANAGEMENT OF TREATED WATER

Pursuant to section 2.3.5(j)(ii) of the 2017 Project Agreement, and in accordance with the CDWC section of the SOW, CDWC is constructing a pipeline and connection that will enable SGVWC to make available potable water in accordance with Agency Requirements to CDWC as a Replacement Water Supply. Once the pipeline and connection are operational, SGVWC shall make available to CDWC during each calendar year 3,800 acre feet (af) in accordance with the following targeted average flow rates and amounts: (a) SGVWC shall make 1,467 af of water available to CDWC, at a targeted average rate of 2,800 gpm continuous flow, during the 4 month period from December-March (Cool Weather Months); and (b) SGVWC shall make 2,333 af of water available to CDWC, at a targeted average rate of 2,200 gpm continuous flow during the 8 month period from April-November (Warm Weather Months). The Cooperating Respondents acknowledge that adjustments may be made to the targeted average rates in order to achieve the agreed upon amounts of water (af) described above. Notwithstanding the foregoing, SGVWC, CDWC and the Cooperating Respondents acknowledge that delivery of water made available to CDWC described in this section may be reduced or temporarily halted due to a Force Majeure event as defined in section 7.1 of the 2017 Project Agreement. By January 31 of the following year, SGVWC and CDWC shall jointly prepare and submit to the Cooperating Respondents an annual report documenting monthly deliveries of water transferred pursuant to this section during the preceding 12 month period from January to December.

SGVWC agrees to treat and return the same quantity of water (up to 1,100 gpm average annual flow) received by SGVWC from COI Well 5 to COI, if such water can be used by COI.

To the extent that SGVWC meets its obligations to make water available to CDWC in accordance with this Section III.C, the Cooperating Respondents will not claim or assert that SGVWC has any additional obligation to meet Replacement Water Supply needs of any Water Purveyor under the 2017 Project Agreement.

D. MONITORING & REPORTS

SGVWC will monitor COCs, and other constituents in its BPOU Project extraction wells, monitoring wells, and piezometer wells in accordance with Agency Requirements. The costs of such monitoring and reporting shall be a Project Cost except to the extent that SGVWC would be required to do so under Agency Requirements as to a groundwater source unimpaired by CoCs. SGVWC will simultaneously provide to the Cooperating Respondents the monthly monitoring data it sends to DDW or EPA.

SGVWC will provide the CR Project Coordinator and WE Project Coordinators prompt notice of any condition that materially upsets facility operations under the SOW (c.g., facility shutdown, reduction in throughput, material change in permitted emissions, release of hazardous substances, exceedance of permitted water concentrations or any situation involving a violation of a permit condition or condition that could give rise to a permit violation). Subsequently, the WE Project Coordinator shall provide notice of steps taken to respond to the upset condition.

IV. SGVWC B6 SUBPROJECT

This is the SGVWC B6 Subproject ("B6 Subproject") section of the SOW pursuant to the 2017 Project Agreement.

SGVWC currently operates wells at its Plant B25 and Plant B26 sites (with Plant B6 wells on standby) within the southern portion of the BPOU, known as Subarea 3 (SA3). The Plant B25 wells are located at the corner of Bess Avenue and Dalewood Street in the City of Baldwin Park; the Plant B26 wells are located at 1517 Virginia Avenue in the City of Baldwin Park; and the Plant B6 wells and treatment facility are located at 14104 Corak Street in Baldwin Park. SGVWC's Plant B25, Plant B26, and Plant B6 wells, treatment facility, and associated facilities are known as the B6 Subproject.

A. SUBPROJECT EXTRACTION - TREATMENT

The B6 Subproject has been built and is owned and operated by SGVWC. The facilities generally have a maximum design capacity of 7,800 gallons per minute (gpm). It is anticipated that the B6 Subproject will run on a continuous (24 hours per day / 7 days per week, or "24/7") basis in accordance with the SOW, except during routine maintenance.

Extraction Wells

The B6 Subproject has six (6) wells with varying pumping capabilities. The current EPA required targeted average groundwater extraction rate for the B6 Subproject is 6,500 gallons per minute (gpm). SGVWC meets this target extraction rate using wells B25A, B25B, B26A, and B26B, with wells B6C and B6D as secondary sources.

Actual extraction rates may vary over different periods. For example, rates may vary for specific periods of time, including daily or weekly or monthly in response to operational issues or constraints (e.g., wells, treatment plant); seasonal differences in pumping and changes in water table conditions. Extraction rates, however, are expected over time to average the EPA requirements, currently set forth in Table 1. Pursuant to section 2.3.3 of the 2017 Project Agreement, EPA remedy requirements may be modified to increase or reduce pumping, or to eliminate or add treatment processes, in response to changes in COC concentrations or extraction rates required to control the COCs, subject to the Cooperating Respondents' continuing obligations under the 2017 Project Agreement.

Table 1 --B6 Subproject Wells

Well	Capacity (gpm)	EPA Target Extraction Rate (gpm)	Diameter (in)	Depth (ft)	Screen Intervals (ft bgs)
B6C	3,000	currently standby	18	526	275-506
B6D	3,000	currently standby	18	1,078	760-1,032
B25A	2,800	2,500	20	800	400-780
B25B	2,800	2,500	20	1,030	850-1,010
B26A	1,100	750	20	800	380-780
B26B	1,100	750	20	1,030	855-1,015

bgs = below ground surface

Chemicals of Concern

Currently known COCs for the B6 Subproject are summarized in Table 2.

Table 2 – B6 Subproject Chemicals of Concern

COC	MCL/NL	Units	Average Concentration					
			B6C	B6D	B25A	B25B	B26A	B26B
TCE	5	ug/l	1.1	74	50	29	29	68
PCE	5	ug/l	ND	3.3	26	8.4	2.2	2.0
CTC	0.5	ug/l	ND	4.8	2.2	5.2	1.2	11
1,1-DCA	5	ug/l	ND	0.58	<0.5	ND	ND	ND
1,2-DCA	0.5	ug/l	ND	2.2	1.3	<0.5	1.5	2.5
1,1-DCE	6	ug/l	ND	<0.5	4.8	2.2	<0.5	<0.5
Cis-1,2-DCE	6	ug/l	ND	1.7	4.7	2.5	1.0	1.4
Perchlorate	6	ug/l	12	47	38	17	34	55
NDMA	10	ng/l	ND	100	90	29	130	110
1,4-dioxane	1	ug/l	ND	1.8	1.9	1.0	1.2	2.5

MCL = Maximum Contaminant Level

NI = Notification Level

ND = Non Detect

Average Concentrations are for the period of 9/1/15-8/31/16.

Groundwater Monitoring

Groundwater monitoring for the B6 Subproject is performed at the individual extraction wells, piezometers, and upgradient monitoring wells. Eight piezometers (PZ3-1AD, PZ3-1AS, PZ3-1BD, PZ3-1BS, PZ3-2AD, PZ3-2AS, PZ3-2BD, and PZ3-2BS) located at B6 Subproject wellfields are used to monitor groundwater elevations. Multiport monitoring wells MW5-05, MW5-08, MW5-15, and the following production wells: LPVCWD Well 2; LPVCWD Well 3; VCWD Big Dalton Well; and VCWD Paddy Lane Well, have been designated by DDW as upgradient monitoring wells for the B6 Subproject. The scope of such groundwater monitoring may change, consistent with regulatory requirements.

Treatment System

Contaminated groundwater is treated at the B6 Subproject treatment facility through a series of treatment systems to remove the COCs. A schematic flow diagram of the treatment system is shown in Figure 1, and the following is a brief summary of the treatment system components.

Groundwater from the wells is conveyed first to four air strippers used to remove VOCs from the water. The VOC-laden air is then conveyed to an off-gas VPGAC treatment system, which adsorbs the VOCs onto the carbon and discharges clean air. Spent VPGAC is periodically removed and replaced following regulatory requirements. The water is then pumped from the air stripper wet well to a SPIX system to remove perchlorate. SPIX resin is periodically removed and replaced following regulatory requirements. Hydrochloric acid is injected into the treatment stream ahead of the SPIX system to adjust the pH. Following the SPIX system, water is conveyed to a LPUV system to remove NDMA, 1,4-Dioxane, and some VOCs (if present). Hydrogen peroxide is injected into the treatment stream ahead of the LPUV system to help oxidize 1,4-dioxane in the LPUV system. Sodium hypochlorite is injected into the treatment stream downstream of the LPUV system to neutralize excess peroxide and to disinfect the water prior to pumping the water from the LPUV system wet well to SGVWC's two onsite reservoirs which have a combined capacity of 1.5 million gallons. Ortho-polyphosphate is also injected into the treatment stream downstream of the LPUV system to reduce the potential for "red water" problems in the distribution system. The fully treated water is then distributed to SGVWC's customers.

In addition to the treatment facilities described above, SGVWC has constructed a regenerable ion exchange system (nitrate IX) at the B6 Subproject to reduce nitrate levels in compliance with regulatory requirements. Startup testing and DDW permitting of the nitrate IX system is expected to be completed in 2017. Once permitted by DDW, a portion (or slip stream) of the water from the perchlorate SPIX system will be conveyed to the nitrate IX system to remove nitrate. Effluent from the nitrate IX system will be blended back with the treated effluent from the perchlorate SPIX system before being conveyed to the LPUV system. Nitrate IX regeneration water will be discharged to the industrial sanitary sewer under permit from the Sanitation Districts of Los Angeles County. The totality of the Cooperating Respondents' obligation to pay for costs associated with nitrate, including disposal of nitrate IX brine waste water and nitrate IX resin, is as described in Section 2.3.5(i)(2) of the 2017 Project Agreement. Nitrate treatment facilities are not Project Facilities.

Treatment System Waste Disposal

Treatment system operations generate various waste streams that must be disposed of in accordance with all applicable local, state, and federal regulations. The waste from the B6 Subproject includes: air stripper packing, VPGAC, inlet filters, perchlorate SPIX rinse water, perchlorate SPIX resin, nitrate IX brine waste water, nitrate IX resin, and LPUV lamps. A 40,000 gallon bolted steel backwash tank is located onsite to hold the backwash water from the perchlorate SPIX vessels before being discharged to the local sewer system.

Pipelines

Raw water from the B25 and B26 well sites is conveyed to the B6 Subproject treatment facility through approximately 5,400 feet of 24-inch diameter pipeline and approximately

3,600 feet of 30-inch diameter pipeline. Treated water from the B6 Subproject treatment facility is conveyed for drinking water in accordance with the provisions below.

Treated water from the B6 Subproject treatment facility is conveyed to SGVWC's customers through SGVWC's piping network. In addition to the raw and treated water pipelines, two parallel 6-inch industrial wastewater pipelines measuring approximately 3,700 feet connect the B6 Subproject treatment facility to the industrial sanitary sewer line in Willow Avenue near Francisquito Avenue. These pipelines will be used for the nitrate IX waste discharge described above.

No additional raw or treated water pipelines are required for SGVWC to meet its obligations under the 2017 Project Agreement, including to supply water to its customers, except any new pipeline or connection as may be required to supply Replacement Water. SGVWC and the Cooperating Respondents agree that the B5-B6 pipeline is not currently necessary, and they agree that a "reasonable discretion" standard will be presented to the Project Committee and in any dispute as the standard by which to determine whether reimbursement is warranted if, in the future, the B5-B6 pipeline is built and the CRs do not agree to reimburse SGVWC's capital costs.

B. SUBPROJECT IMPROVEMENTS & MODIFICATIONS

SGVWC and the Cooperating Respondents agree to evaluate certain improvements and modifications to the B6 Subproject, all as more fully described below. Any disagreements as to actions to be taken based on these evaluations shall be resolved as provided in Section 2.3 of the 2017 Project Agreement.

- 1) B6 Process Improvement and Energy Efficiency Project – Includes evaluation of the effectiveness of the LPUV/Oxidation (or advanced oxidation) Systems, removal of the obsolete ISEP treatment system, upgrade of the existing LPUV treatment system to a pressurized UV oxidation treatment system and elimination of the LPUV wet well booster pumps, with the goal of optimizing performance and lowering costs.
- 2) SPIX Performance – Should new resins or new regeneration processes become available in the marketplace, these new resins and processes may be evaluated.
- 3) Air Stripper Performance – Performance of the current air strippers is under evaluation, including evaluation of changes to the air: water ratio, whether the offgas vapor system can operate without heaters or if heaters must be replaced.

C. MANAGEMENT OF TREATED WATER

SGVWC agrees to make a Replacement Water Supply available to CDWC as described in the section of the SOW for the Plant B5 Subproject.

To the extent that SGVWC makes water available to CDWC in accordance with the Plant B5 Subproject section of the SOW, the Cooperating Respondents will not claim or assert that SGVWC has any additional obligation to meet Replacement Water Supply needs of any Water Purveyor under the 2017 Project Agreement.

D. MONITORING & REPORTS

SGVWC will monitor COCs, and other constituents in its BPOU Project extraction wells, monitoring wells, and piezometer wells in accordance with Agency Requirements. The costs of such monitoring and reporting shall be a Project Cost except to the extent that SGVWC would be required to do so under Agency Requirements as to a groundwater source unimpaired by CoCs. SGVWC will simultaneously provide to the Cooperating Respondents the monthly monitoring data it sends to DDW or EPA.

SGVWC will provide the CR Project Coordinator and WE Project Coordinators prompt notice of any condition that materially upsets facility operations under the SOW (e.g., facility shutdown, reduction in throughput, material change in permitted emissions, release of hazardous substances, exceedance of permitted water concentrations or any situation involving a violation of a permit condition or condition that could give rise to a permit violation). Subsequently, the WE Project Coordinator shall provide notice of steps taken to respond to the upset condition.

V. CDWC SUBPROJECT

CDWC operates wells at their Bassett Wellfield within the southern portion of the BPOU, known as Subarca 3 (SA3). The Bassett Wellfield is located along the western bank of the San Gabriel River from immediately north and south of Interstate 10 to Valley Boulevard in the Cities of Baldwin Park, Industry and El Monte and in the unincorporated area of Los Angeles County.

A. SUBPROJECT EXTRACTION - TREATMENT

CDWC serves wholesale customers in Whittier, La Habra, and Brea. CDWC operates the Bassett Wellfield within the southern portion and on the western edge of the BPOU. The Bassett Wellfield and CDWC treatment facility and associated facilities described below are known as the “CDWC Subproject.”

Extraction Wells

The CDWC Subproject has seven wells with varying pumping capabilities. Although the CDWC Subproject is not a UAO Subproject, the effectiveness of the UAO remedy assumes that the CDWC Subproject operates at an average annual extraction rate of 8,000 gpm (the “CDWC minimum extraction rate”) and CDWC has agreed to do so in accordance with this SOW.

To allow CDWC to operate efficiently, the highest priority for CDWC is to run Well #3 or Well #10 at full capacity and within the operating provisions of the DDW operating permit, which should afford some protection to Well #2 and Well #8 and allow water from Wells #2 and #8 to be used for blending with treated water. To the extent possible, Well #6 also will be operated to provide some protection for Well #5A.

Although extraction rates are expected over time to average the EPA target extraction rate requirements, actual extraction rates may be lower (and vary) over different periods. For example, rates may vary for specific periods of time, including daily or weekly or monthly variations in response to operational issues or constraints (e.g., at the wells or treatment plant), seasonal differences in pumping, and changes in water table conditions. The CDWC minimum extraction rate may be modified under section 2.3 to revise pumping or eliminate, add or revise treatment processes in response to reductions or increases in COC concentrations or extraction rates required to control the COCs, subject to the CRs continuing obligation as respects Replacement Water Supply in the event of reduced pumping as specified in section 2.2 of the 2017 Project Agreement.

CDWC has constructed a new well (Well #10), with an expected capacity of 5,000 gpm, which has been incorporated into CDWC’s existing water supply at the Bassett Wellfield.

Table 1 -- CDWC Bassett Wells

Well	Capacity (gpm)	EPA Assumed Target Extraction Rate (gpm)	Diameter (in)	Depth (ft)	Screen Intervals (ft bgs)
2	3,200	8,000 Combined Annual Total Average	20	806	437-492 683-710 717-736 761-782
3	4,500		20	820	197-785
5A	4,200		20	931	460-660 700-900
6	4,300		20	812	200-800
8	3,000		18	610	200-580
10	5,000		24	840	400-820
14	3,300		20	700	410-550 550-870

bgs = below ground surface

Chemicals of Concern

The COCs for the CDWC Subproject are summarized in Table 2.

Table 2 – CDWC Chemicals of Concern

COC	MCL/NL	Units	Average Concentration						
			2	3	5A	6	8	10	14
TCE	5	ug/l	0.78	30	8.6	22	ND	35	5.0
PCE	5	ug/l	0.81	22	7.9	20	1.6	35	3.8
CTC	0.5	ug/l	ND	1.7	ND	ND	ND	0.69	ND
1,1-DCA	5	ug/l	ND	ND	ND	ND	ND	ND	ND
1,2-DCA	0.5	ug/l	ND	ND	ND	ND	ND	ND	ND
1,1-DCE	6	ug/l	ND	3.7	1.4	3.0	ND	4.6	ND
Cis-1,2-DCE	6	ug/l	ND	3.0	0.89	2.3	ND	4.6	ND
Perchlorate	6	ug/l	2.7	11	1.2	5.2	1.1	5.7	14
NDMA	10	ng/l	ND	15	ND	ND	ND	2.1	2.1
1,4-Dioxane	1	ug/l	--	--	--	--	--	1.0	--

MCL = Maximum Contaminant Level

NL = Notification Level

ND = Non Detect

*Based on low-level perchlorate data

Average Concentrations are for the period of January 2014 – November 2016. Except for Well 10, there are no 1,4-Dioxane data for the period January 2014 – November 2016.

Groundwater Monitoring

Groundwater monitoring for the CDWC Subproject is performed at the individual extraction wells and upgradient monitoring wells. The State Water Resources Control Board, Division of Drinking Water (DDW) has designated the following as upgradient

monitoring wells for the CDWC Subproject: B25A and B25B production wells and the MW5-23 monitoring well.

Treatment System

Contaminated groundwater is treated at the CDWC treatment facilities through a series of treatment systems to remove the COCs. A schematic flow diagram of the treatment system is shown in Figure 1 and the following is a brief summary of the components of the treatment system.

Groundwater from Well #3, or Well #10 depending on system operating conditions, is conveyed first to a single pass ion exchange system (SPIX) to remove perchlorate. Spent IX resin is periodically removed and replaced with fresh resin following regulatory requirements. Following the IX system, water is conveyed to a low pressure ultraviolet (LPUV) treatment system to remove NDMA. In the event DDW requires CDWC to commence treatment for 1,4-Dioxane, CDWC will implement the use of chemical injection ports that are part of the LPUV treatment system as part of the 1,4-Dioxane treatment process. The LPUV effluent water, which would include hydrogen peroxide if the chemical injection ports mentioned in the preceding sentence are put into use, is then blended with groundwater from Wells #5A and #6. The water flows into a wet well and is then pumped through three air strippers used to remove VOCs from the water. The VOC-laden air is then conveyed to an off-gas vapor phase granular activated carbon (VPGAC) treatment system, which adsorbs the VOCs onto the carbon, and discharges clean air. Spent VPGAC is periodically removed and replaced with fresh VPGAC following regulatory requirements. The effluent water is then injected with a 50% sulfuric acid solution for pH control. Water is then pumped from the air stripper wet well to CDWC's 5 million gallon reservoir located on site. Sodium hypochlorite is injected into the treatment stream upstream of the reservoir. From CDWC's reservoir, flows are conveyed in a pipeline and blended with flows from Wells #8 and #2 and then conveyed to CDWC customers and CDWC's Plant 3.

Treatment System Waste Disposal

Treatment system operations generate various waste streams that must be disposed of in accordance with all applicable local, state, and federal regulations. The waste from the CDWC Subproject includes: air stripper packing material, VPGAC, IX resin, and UV lamps.

Pipelines

Raw water from the Bassett Wellfield is conveyed to the CDWC treatment facility through CDWC's existing piping network. Treated water from the CDWC treatment facility is conveyed to CDWC customers through CDWC's existing piping network.

At this time, no additional raw or treated water pipelines are required for CDWC to meet its obligations under this Project Agreement to supply water to its customers, with the exception of the short pipeline segment described below and potential future waste/sewer pipelines.

B. SUBPROJECT IMPROVEMENTS & MODIFICATIONS

CDWC and the CRs have agreed under the 2002 Project Agreement to evaluate, and, as appropriate, implement certain improvements and modifications to the CDWC Subproject, as more fully described below. These actions are intended to allow CDWC to improve reliability. To the extent not completed under the 2002 Project Agreement, these evaluations and, implementation, as appropriate, shall be continued under this 2017 Agreement. These include:

- 1) Water Deliveries from San Gabriel Valley Water Company – subject to the priority of CDWC meeting the CDWC minimum extraction rate through its extraction wells, San Gabriel Valley Water Company (“SGVWC”) shall make water available to CDWC during each calendar year 3,800 acre feet (af) in accordance with the following targeted average flow rates and amounts: (a) SGVWC shall make 1,467 af of water available to CDWC, at a targeted average rate of 2,800 gpm continuous flow, during the 4 month period from December-March (Cool Weather Months); and (b) SGVWC shall make 2,333 af of water available to CDWC, at a targeted average rate of 2,200 gpm continuous flow during the 8 month period from April- November (Warm Weather Months). The Cooperating Respondents acknowledge that adjustments may be made to the targeted rates throughout the year in order to achieve the agreed upon amounts of water (af) described above. Notwithstanding the foregoing, SGVWC, CDWC and the Cooperating Respondents acknowledge that delivery of water made available to CDWC described in this section may be reduced or temporarily halted due to a Force Majeure event as defined in section 7.1 of the 2017 Project Agreement. By January 31 of the following year, SGVWC and CDWC shall jointly prepare and submit to the Cooperating Respondents an annual report documenting monthly deliveries of water transferred pursuant to this section during the preceding 12 month period from January to December. SGVWC shall make the water available upon completion of the new pipeline and connection to be constructed under Item 2, below, which shall be used to transfer such water from SGVWC to CDWC’s distribution system.
- 2) Construction of New Pipeline and Connection Between CDWC and SGVWC – CDWC will construct a 12-inch diameter pipeline, and install the meters, valves, controls and appurtenances related thereto, to connect SGVWC’s distribution pipeline in Gilman Road in the City of Industry to CDWC’s 36” inlet line to CDWC’s Bassett Reservoir located on Gilman Road in the City of Industry. CDWC shall manage and oversee that construction. Construction of that pipeline and connection will be based on updates to existing design plans dated September 2010 as prepared by Civiltec Engineering, Inc.

C. MANAGEMENT OF CDWC TREATED WATER

CDWC relies on treatment facilities to meet its customer water needs. The wellfield historically has produced groundwater at a maximum rate of about 20,000 gpm in the summer and a minimum rate of about 8,000 gpm in the winter. CDWC must provide up to 10,000 gpm to Suburban Water Systems' Whittier-La Mirada System (note that Suburban Water Systems' Whittier-La Mirada System is not included in the BPOU and is a completely separately operated system from Suburban Water Systems' San Jose System, which is within the BPOU) on demand, and must provide up to 15,000 gpm to the cities of La Habra and Brea on demand. If CDWC is not able to meet those demands, CDWC will cause, if feasible, to have such water available from alternative sources for these periods rather than through the addition of treatment capacity, all in accordance with Section 2.2 of the 2017 Project Agreement; provided, however, that CDWC will have no claim for Replacement Water under that section unless its customer demand exceeds 17,200 gpm. Additional treatment facilities may be required and constructed in the event the above-referenced CDWC customer demands cannot reliably be met by available Replacement Water Supply. CDWC may also be able to reduce production (but not below the CDWC minimum extraction rate without EPA concurrence) should excess water from other BPOU facilities (e.g., B5 subproject) be made available to CDWC, or upon receipt of other Replacement Water pursuant to this Agreement. CDWC anticipates that it can accept the SGVWC committed supply that is described in Section III of SGVWC's B5 and B6 Sections of the SOW and maintain EPA's minimum extraction rate of 8,000 gpm.

D. MONITORING & REPORTS

CDWC will monitor COCs, and other constituents in its BPOU Project wells in accordance with Agency requirements. The costs of such monitoring and reporting shall be a Project Cost except to the extent that CDWC would be required to do so under Agency Requirements as to a groundwater source unimpaired by COCs. CDWC will simultaneously provide to the Cooperating Respondents the monthly monitoring data it sends to DDW or EPA.

CDWC will provide the CR Project Coordinator and WE Project Coordinator prompt notice of any upset condition that materially upsets facility operations under the SOW (e.g., facility shutdown, reduction in throughput, material change in permitted emissions, release of hazardous substances, exceedance of permitted water concentrations or any situation involving a violation of a permit condition or condition that could give rise to a permit violation). Subsequently, the WE Project Coordinator shall provide notice of steps taken to respond to the upset condition.

VI. SWS SUBPROJECT

SWS operated two wellfields within the eastern portion of the BPOU, the SWS 139 Wellfield and SWS 140 Wellfield, which met its customers' needs in its San Jose Hills District (SJHD). By 2000, water produced from the wells within these two wellfields contained measurable concentrations of Chemicals of Concern (COCs).

The SWS-139 Wellfield has four wells with a maximum pumping capability of about 13,000 gpm. In calendar years 1997 and 2000, the SWS-139 Wellfield produced about 13,000 and 11,000 acre feet (AF) of water respectively. SWS has been unable to operate the SWS 139 Wellfield since 2001 because of the presence of COCs.

The SWS-140 Wellfield has three wells with a maximum pumping capability of about 7,000 gpm. In calendar years 1997 and 2000, the SWS-140 Wellfield produced about 8,000 and 5,400 AF of water, respectively. The SWS 140 Wellfield was taken out of service in 2002 because of the presence of COCs. Since then, SWS has been able to operate Well 140 W5 but only when other water is available for blending.

During the term of the 2002 Project Agreement, the connection between LPVCWD and SWS was upgraded so that SWS could accept any excess treated water from the LPVCWD Subproject. Acceptance of this treated water by SWS partially offsets production lost at SWS-139 and SWS-140.

Water from the LPVCWD Subproject is delivered to SWS when it passes through the meter at the 128 interconnection. The meter is a LPVCWD Subproject meter and LPVCWD is responsible for maintaining the meter, including annual testing and having it recalibrated if needed. The costs of the meter and its testing are Project Costs.

The VCWD Subproject included the construction of a 30" diameter pipeline from the VCWD treatment plant to the SWS-121 reservoirs. SWS agrees to accept up to 7,000 gpm of treated water from the VCWD Lante Treatment Facility to offset production lost at the SWS-139 and 140 Wellfields.

Water from the VCWD Subproject is delivered to SWS when it passes through the meter at the interconnection of the SA-1 Subproject and SWS Reginald Stone Reservoir. The meter is a VCWD Subproject meter and SWS is responsible for maintaining the meter, including annual testing and having it recalibrated if needed. The cost of the meter and its testing are Project Costs.

SWS received permission from the Watermaster and the Los Angeles Regional Water Quality Control Board to construct three new groundwater production wells (121W1, 142W2 and 151W2) for offsetting production lost at the SWS-139 and SWS-140 Wellfields (CR Contributed Wells). These CR Contributed Wells were constructed and placed into service in the vicinity of the SWS 121 reservoirs.

Table 1 CR Contributed Wells

MAXIMUM PUMPING CAPACITY FOR CR CONTRIBUTED WELL	
151 W-2	3,401 gpm
142 W-2	2,772 gpm
121 W-1	2,016 gpm

Average of three highest months of production for the last five years. (2011 to 2015)

Because of the presence of COCs, SWS may not be able to continue to use these CR Contributed Wells in the future or may need to limit production from these wells if they are unable to blend water at the 121 facility to 80% of MCLs as required by the current permit.

Table 2 - Chemicals of Concern SWS Actively Monitored Wells (SJHD)

ACTIVE WELLS						
COC	MCL/NI.	Units	Average Concentration			
			121W1	140W5	142W2	151W2
TCE	5	ug/l	ND	2.9	ND	2.2
PCE	5	ug/l	ND	ND	ND	ND
CTC	0.5	ug/l	ND	ND	ND	0.3
1,1-DCE	6	ug/l	ND	0.1	ND	0.3
Cis-1,2-DCE	6	ug/l	ND	ND	ND	ND
Perchlorate	6	ug/l	5.1	6.3	2.9	2.8
NDMA	10	ug/l	ND	5.0	ND	0.2

ND = Non-Detect

Average concentrations are derived from samples taken and tested during calendar year 2016.

In the last five years, SA-1 has generally not provided SWS with 5,500 gpm and, on average, has provided in the range of 3,600 gpm. LPVCWD Subproject currently provides on average 1,036 gpm. SWS also currently utilizes, when possible, the 140W5 well. However, because of perchlorate contamination in this well, it can only be used when there are other adequate water sources available to blend at the 121 Reservoir in order to satisfy the DDW requirements for the 121 facility. On average for the last five years, SWS has been able to produce 1,027 gpm from the 140W5 well.

A. 2017 PROJECT AGREEMENT ACTIONS

SWS agrees to continue to accept a maximum of 7,000 gpm from the VCWD Subproject. SWS also agrees to continue to accept water, when available, from the LPVCWD Subproject. SWS will continue to utilize whatever water it can from its 139 and 140 Wellfields consistent with the needs for COC migration control and the requirements of DDW. SWS will also continue to utilize water, if any, from the CR Contributed Wells, consistent with all DDW requirements.

To the extent that Replacement Water Supply is needed, SWS agrees to limit such Replacement Water Supply to the maximum levels of 2400 AF/month from April-November (Warm Weather Months), and 1,575 AF/month from December-March (Cool Weather Months). In Sept. of each year, SWS will provide the 10 year rolling average of production to meet customer demand for the San Jose Hills system presented on a monthly basis. SWS will discuss these averages with the CRs at any time.

Suburban will provide credit towards the replacement water requirement for the actual production from any of the wells in the 139 or 140 Wellfield and water received from the other Water Purveyors under this 2017 Project Agreement. In addition, SWS will credit the CR Contributed Wells at their Maximum Pumping Capacity as set forth in Table 1, subject only to the proviso that if the wells are not producing at all or in part because of the presence of COCs, then there would be a commensurate reduction in the credit given.

B. MONITORING & REPORTS

SWS will monitor COCs, and other constituents in its BPOU Project extraction wells, monitoring wells, and piezometer wells in accordance with Agency Requirements. The costs of such monitoring and reporting shall be a Project Cost except to the extent that SWS would be required to do so under Agency Requirements as to a groundwater source unimpaired by CoCs. SWS will simultaneously provide to the Cooperating Respondents the monthly monitoring data it sends to DDW or EPA.

SWS will provide the CR Project Coordinator and WE Project Coordinators prompt notice of any condition that materially upsets facility operations under the SOW (e.g., facility shutdown, reduction in throughput, material change in permitted emissions, release of hazardous substances, exceedance of permitted water concentrations or any situation involving a violation of a permit condition or condition that could give rise to a permit violation). Subsequently, the WE Project Coordinator shall provide notice of steps taken to respond to the upset condition.

EXHIBIT “E”

EXHIBIT “F”

EXHIBIT F
Initial Subproject Annual O & M Cost Budgets for the BPOU (w/ Low Energy UV)
May 1, 2017 through December 31, 2017

O & M ITEMS	SGVWC B6	SGVWC B5	SGVWC B4	VCWD SA-1	LPVCWD	CDWC/VOC	CDWC Trojan/NDMA	CDWC VDC/NDMA	CDWC Ion Exchange	SWS
	12 Months of Operation	12 Months of Operation		12 Months of Operation	12 Months of Operation	12 Months of Operation	12 Months of Operation	12 Months of Operation	12 Months of Operation	SWS 136/140
						a	b	=a+b		
1. Power & Gas (Incl. credit where applicable)	\$376,667	\$325,333	\$ -	\$431,173	\$136,500	\$253,667	\$36,333	\$292,200	\$72,600	\$200
2. Labor (w/fringe)	\$413,333	\$100,000	\$ -	\$468,656	\$176,667	\$48,333	\$48,333	\$96,667	\$96,667	\$22,880
3. Carbon - LGAC/VGAC	\$42,667	\$653,333	\$ -	\$40,000	\$11,700	\$70,867	\$0	\$70,867	\$0	\$0
4. Carbon Disposal - incl. above	\$0	\$0	\$ -	\$0	\$0	\$0	\$0	incl. above	\$0	\$0
5. Transportation	\$2,467	\$1,000	\$ -	\$11,667	\$4,333	\$0	\$0	\$0	\$0	\$0
7. Water Testing	\$80,000	\$90,000	\$ -	\$68,433	\$50,000	\$12,867	\$12,867	\$25,733	\$9,600	\$72,000
8. Reports/Compliance	\$20,000	\$20,000	\$ -	\$39,333	\$13,333	\$6,000	\$6,000	\$12,000	\$6,000	\$0
9. Permits/Renewals	\$3,333	\$2,667	\$ -	\$13,333	\$6,000	\$1,333	\$1,333	\$2,667	\$0	\$0
10. Operations Monitoring	\$2,667	\$2,667	\$ -	\$4,700	\$10,000	\$600	\$600	\$1,200	\$0	\$0
11. Brine Disposal	\$0	\$0	\$ -	\$0	\$6,667	\$0	\$0	\$0	\$0	\$0
12. Media/Supplies	\$0	\$0	\$ -	\$955,834	\$308,215	\$101,567	\$27,367	\$128,933	\$0	\$0
Credits	\$0	\$0	\$ -	-\$33,620	-\$7,692	\$0	\$0	\$0	\$0	\$0
12a. Filter Cartridges	\$0	\$0	\$ -	\$0	\$15,400	\$0	\$0	\$0	\$0	\$0
12b. Hydrochloric Acid Bulk	\$176,667	\$0	\$ -	\$233,333	\$0	\$0	\$0	\$0	\$0	\$0
12c. Hydrochloric Acid Drum	\$0	\$0	\$ -	\$0	\$0	\$0	\$0	\$0	\$0	\$0
12d. Hydrogen Peroxide	\$73,333	\$33,333	\$ -	\$106,667	\$18,867	\$0	\$0	\$0	\$0	\$0
12e. Orthophosphophate	\$43,333	\$0	\$ -	\$0	\$5,333	\$0	\$0	\$0	\$0	\$50,000
12f. Salt	\$0	\$0	\$ -	\$95,630	\$0	\$0	\$0	\$0	\$0	\$0
12g. Sodium Hydroxide	\$0	\$0	\$ -	\$0	\$5,760	\$0	\$0	\$0	\$0	\$0
12h. UV Lamps	\$0	\$0	\$ -	\$43,200	\$30,000	\$21,933	\$21,933	\$43,867	\$0	\$0
12i. V-Guard	\$0	\$0	\$ -	\$0	\$0	\$0	\$0	\$0	\$0	\$0
12k. Disinfection - Sodium Hypochlorite	\$76,667	\$36,667	\$ -	\$80,000	\$25,200	\$2,100	\$2,100	\$4,200	\$0	\$0
12l. Resin - ISEP	\$666,667	\$565,333	\$ -	\$430,624	\$180,800	\$0	\$0	\$0	\$287,200	\$0
12m. Sulfuric Acid	\$0	\$0	\$ -	\$0	\$15,547	\$74,200	\$0	\$74,200	\$0	\$0
12n. Other Expendables	\$0	\$0	\$ -	\$0	\$10,000	\$3,333	\$3,333	\$6,667	\$1,333	\$0
13. Off-site Pipe Maint.	\$0	\$0	\$ -	\$0	\$0	\$0	\$0	\$0	\$0	\$ -
14. Repair/Replacement	\$86,667	\$86,667	\$ -	\$142,238	\$60,000	\$72,667	\$13,667	\$86,333	\$3,333	\$ -
15. Contractor Labor	\$293,333	\$160,000	\$0	\$133,333	\$87,333	\$16,800	\$16,800	\$33,600	\$3,600	\$ -
16. Direct Eng./Legal	\$50,608	\$0	\$0	\$50,608	\$48,035	\$14,664	\$0	\$14,664	\$0	\$ -
16b. Direct Eng. - Yorke Engineering	\$38,128	\$0	\$ -	\$38,128	\$30,056	\$14,664	\$0	\$14,664	\$0	\$ -
16c. Lab Costs/Sampling - Air Quality Monitoring	\$12,480	\$0	\$ -	\$12,480	\$11,312	\$ -	\$0	\$0	\$0	\$ -
16d. Legal	\$0	\$0	\$ -	\$ -	\$3,333	\$ -	\$0	\$0	\$0	\$ -
16e. Stetson Engineers - Training, Maint. & Insp.	\$0	\$0	\$ -	\$ -	\$3,333	\$ -	\$0	\$0	\$0	\$ -
16f. Engineering	\$0	\$0	\$ -	\$0	\$0	\$0	\$0	\$0	\$0	\$ -
17. Insurance	\$0	\$6,667	\$ -	\$37,300	\$12,000	\$5,167	\$5,167	\$10,333	\$4,667	\$ -
18. Taxes	\$0	\$0	\$ -	\$0	\$ -	\$0	\$0	\$0	\$0	\$ -
19. Water Purchases	\$0	\$0	\$ -	\$0	\$0	\$0	\$0	\$0	\$0	\$87,069
22. Acid/ System Maintenance	\$0	\$0	\$ -	\$0	\$0	\$0	\$0	\$0	\$0	\$ -
Subtotal	\$2,408,408	\$2,083,667	\$0	\$2,416,809	\$933,783	\$604,731	\$170,467	\$776,197	\$487,000	\$232,149
Other Annual Costs										
a. O & M Mgmt. Fee (2016 due on Jan-2017)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
b. O&M Performance Fee - 4.6 %	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
c. Water Transfer Cost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
d. Other O&M Costs	\$0	\$0	\$0	\$0	\$13,333	\$0	\$0	\$0	\$0	\$0
Subtotal	\$0	\$0	\$0	\$0	\$13,333	\$0	\$0	\$0	\$0	\$0
Total	\$ 2,408,408	\$ 2,083,667	\$ -	\$ 2,416,809	\$ 947,116	\$ 604,731	\$ 170,467	\$ 776,197	\$ 487,000	\$ 232,149

Grand Total Annual O&M

\$9,350,146

May 1, 2017 through December 31, 2017

EXHIBIT “G”

Exhibit G
Project Administrative Costs Budget
Operative Date Through May 9, 2017 through December 31, 2017

TASK	Estimate	
	May 2017 -	December 2017
A. Project Administrative Costs (Non- Subproject)		
1. Main San Gabriel Basin Watermaster		
a. Watermaster Insurance Premium (3 years)	\$	80,000.00
b. Stetson Insurance Premium	\$	-
c. Cooperative Respondent Project Insurance Premium (wrap around)	\$	-
d. Risk Manager	\$	-
e. Cost Consultant	\$	-
f. Watermaster Staff Costs	\$	112,000.00
f.1 Other Watermaster Administrative Cost (ACI, FedEx, PGI etc...)	\$	800.00
g. EPA Conformance Costs/Monitoring Costs (Blaine Tech)	\$	41,213.00
g.1 EPA Conformance Costs/Monitoring Costs (Weck Labs. - PSEP)	\$	40,667.00
h. Stetson General Admin. Task	\$	53,400.00
h.1 Stetson Special Task	\$	63,328.00
i. Watermaster Legal Costs	\$	9,600.00
j. Audit Costs	\$	-
k. LDC Technical Services - Database & Tech. Support, Data Validation, BPO	\$	75,000.00
Main San Gabriel Basin Water Master Subtotal	\$	476,008.00
2. San Gabriel Basin Water Quality Authority		
a. Authority Insurance	\$	-
b. Authority Staff Costs	\$	71,912.00
c. Authority Legal Costs	\$	-
d. Escrow Agent Costs	\$	12,800.00
e. Funding Acquisition	\$	132,000.00
f. Norm Brand Fees	\$	-
g. Spare Parts Inventory - Lease, Insurance	\$	6,691.00
San Gabriel Basin Water Quality Authority Subtotal	\$	223,403.00
Project Administrative Costs Subtotal	\$	699,411.00
TOTAL	\$	699,411.00

EXHIBIT “H”

**FORM OF
PARENT COMPANY RELEASE AND TOLLING AGREEMENT**

This Parent Company Release and Tolling Agreement (“Parent Company Agreement”) is dated as of [_____], 2017, by and between _____ (“[Parent Company]”), on the one hand, and the Main San Gabriel Basin Watermaster (“Watermaster”), the San Gabriel Basin Water Quality Authority (“WQA”), La Pucnte Valley County Water District (“LPVCWD”), San Gabriel Valley Water Company (“SGVWC”), Suburban Water Systems (“SWS”), California Domestic Water Company (“CDWC”) and Valley County Water District (“VCWD”), collectively, the “Water Entities,” on the other hand. Terms in italic bold-face type in the text herein have the same meaning as defined in the 2017 BPOU Project Agreement (“2017 Project Agreement”) by and between the Water Entities and Aerojet Rocketdyne, Inc., Azusa Land Reclamation Co., Inc., Hartwell Corporation, Chemical Waste Management, Inc., and Winco Enterprises Inc., collectively, the “Cooperating Respondents.” At times herein the Water Entities and [Parent Company] are referred to collectively as the “Parties” and each Water Entity is referred to individually as a “Party.”

RECITALS

A. WHEREAS, _____ (“[Subsidiary]”) is a wholly-owned subsidiary of [Parent Company].

B. WHEREAS, [Subsidiary] and the Water Entities are parties to the 2017 Project Agreement.

C. WHEREAS, the 2017 Project Agreement contains, *inter alia*, certain specific releases to be provided by the Water Entities to [Subsidiary], on the one hand, and by [Subsidiary] to the Water Entities, on the other.

Parent Company Agreement

D. WHEREAS, the 2017 Project Agreement also contains certain tolling provisions.

E. WHEREAS, [Parent Company] desires to be provided with the same specific releases as are to be provided to [Subsidiary] under the 2017 Project Agreement.

F. WHEREAS, the Water Entities are willing to provide those releases to [Parent Company] if [Parent Company] provides the Water Entities with the same specific releases as are to be provided by [Subsidiary] under the 2017 Project Agreement and agrees to the tolling provisions contained herein.

NOW, THEREFORE, [Parent Company] and the Water Entities, acting in good faith and desiring to resolve their potential claims against each other, to the extent provided in this Parent Company Agreement with respect to the currently known groundwater contamination in the *BPOU*, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, agree as follows:

AGREEMENT

ARTICLE 1. RESERVATION OF RIGHTS; RELEASES; TOLLING

1.1 Reservation of Rights

1.1.1 Water Entity Reservation

Except as expressly set forth in this Article, the Water Entities reserve all rights, claims, causes of action, counterclaims, cross claims, and defenses of any kind or nature against [Parent Company] with respect to the *BPOU* ground water contamination, including without limitation, claims for future costs and damages that are incurred separate and apart from the *Project*.

1.1.2 [Parent Company] Reservation

Except as expressly set forth in this Article, [Parent Company] reserves all rights, claims, causes of action, counterclaims, cross claims, and defenses of any kind or nature against the Water Entities with respect to the *BPOU* groundwater contamination, including without limitation, claims for future costs and damages that are incurred separate and apart from the *Project*.

1.1.3 No Release of Non-Parties

Except as otherwise provided in this Parent Company Agreement, it is not the intention of the Parties hereto to release any other persons or entities not Parties to this Agreement from any claims or liabilities. All rights to pursue such parties are expressly reserved.

1.2 **Specific Releases**

1.2.1 [Parent Company] Release

[Parent Company], for and on behalf of itself and its respective successors and assigns, hereby agrees that it shall forever release, acquit and discharge (collectively, "release") each Water Entity and its respective past and then-present officers, directors, shareholders, employees, agents, representatives, attorneys, parents, subsidiaries, affiliates, insurers, successors and assigns (each a "Water Entity Releasee") from any and all actions, causes of action, claims, demands, liabilities, damages, penalties, debts, losses, costs, expenses and fees (including without limitation litigation costs and attorney and consultant fees) of every kind and nature whatsoever, in law and in equity, whether known or unknown, suspected or unsuspected, foreseen or unforeseen for each payment made after the *Effective Date* for the Water Entities' *Project Costs*, but only to the extent of such payment. [Parent Company] further releases each

Water Entity and Water Entity Releasee for any claim to the extent that such claim is paid or resolved by an insurer payment under Project Insurance.

1.2.2 Civil Code Section 1542

(a) The Parties to this Parent Company Agreement have read and fully understand the statutory language of Section 1542 of the Civil Code of State of California (“Section 1542”), which reads as follows: “A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor.”

(b) Accordingly, as to the releases given in Section 1.2.1 of this Parent Company Agreement, each Party hereto acknowledges that it may hereafter discover facts different from, or in addition to, the facts which it now knows or believes to be true with respect to the groundwater contamination in the *BPOU*, but that it is each Party’s intention to specifically waive and relinquish any and all protections, privileges, rights and benefits under Section 1542 as to the claims to be specifically released under Section 1.2.1 of this Parent Company Agreement, as between [Parent Company] on the one hand and the Water Entities on the other hand.

(c) Nothing in this Parent Company Agreement nor entering into this Agreement shall constitute a limitation or waiver of any rights that [Parent Company] may have or may in the future have as against the Cooperating Respondents.

1.2.3 Release by Water Entities for Project Costs

Upon each payment from Cooperating Respondents to a Water Entity of *Project Costs* incurred by a Water Entity from and after the *Effective Date*, that Water Entity, on behalf of itself and its successors and assigns, hereby agrees to release, acquit and forever discharge

(collectively, “release”) each [Parent Company] Affiliate from any and all actions, causes of action, claims, demands, liabilities, damages, penalties, debts, losses, costs, expenses and fees (including without limitation litigation costs and attorney and consultant fees) of every kind and nature whatsoever, in law and in equity in connection with the *Project*, but only to the extent of such payment. The Water Entity further releases each [Parent Company] Affiliate for any claim to the extent that such claim is paid or resolved by an insurer payment under Project Insurance.

1.2.4 Limitations

The Parties agree that, except to the extent recovered under *Project Insurance*, the covenants, specific releases and waivers set forth in this Section 1.2 shall not apply to claims asserted by third parties, including but not limited to claims by such third parties (a) arising out of alleged consumption of contaminated water or exposure to contaminants in air, soil, water or groundwater or (b) for costs of replacement water (unless paid for by Cooperating Respondents), nuisance, trespass or economic damage or (c) for damages proximately caused by the failure of any Cooperating Respondent to meet its *UAO* obligations.

1.3 Tolling

1.3.1 Tolled Claims

The statutes of limitation and any other statute, law, rule or principle of equity with similar effect (collectively “Statutes of Limitation”) shall be tolled with respect to: (1) any and all rights, claims, causes of action, counterclaims or cross claims the Water Entities have against [Parent Company] for any and all unpaid *Project Costs*, including *Project Costs* that may be incurred by the Water Entities for continued operation of any of the *Project Facilities* after the termination of the 2017 Project Agreement pursuant to Article 9 thereof (the “Water Entities’ Tolled Claims”) and (2) any and all rights, claims, causes of action, counterclaims or cross

claims [Parent Company] may have against the Water Entities for any and all *Project Costs* that may be incurred by [Parent Company] for continued operation of any of the *Project Facilities* after the termination of the 2017 Project Agreement pursuant to Article 9 thereof (the “[Parent Company]’s Tolled Claims”).

1.3.2 Tolling Period

The tolling period (“Tolling Period”) for the Water Entities and [Parent Company]’s Tolled Claims shall commence on the *Effective Date* and continue for a period of four years. The Tolling Period shall be excluded from all computations of any limitations period applicable to the Tolled Claims. The Parties shall waive and shall not plead, assert, or otherwise raise any Statutes of Limitations applicable to the Tolled Claims as a bar to any Tolled Claim.

1.3.3 Extension of Tolling Period

In accordance with California Code of Civil Procedure Section 360.5, before the end of the Tolling Period, the Parties shall enter into an agreement that (1) incorporates all of the provisions of this Section 1.3 and (2) extends the Tolling Period for four years from the expiration of the initial Tolling Period (“Extension Agreement”). Before the end of the Tolling Period of each successive Extension Agreement, the Parties shall execute a further Extension Agreement to extend the Tolling Period another four years, except that any Extension Agreement entered into less than four years prior to the end of the Term of the 2017 Project Agreement shall only extend the Tolling Period until ninety (90) days after the end of the Term of the 2017 Project Agreement.

ARTICLE 2. MISCELLANEOUS

2.1 **Effectiveness**

This Parent Company Agreement shall become effective upon the *Effective Date*.

Parent Company Agreement

2.2 Governing Law

This Parent Company Agreement shall be construed and enforced in accordance with the laws of the State of California without regard to its choice of law principles except to the extent federal law controls, in which case federal laws and regulations shall be construed and enforced.

2.3 Waiver

No waiver by a Party of any provision of this Agreement shall be valid unless in writing and signed by an authorized representative of such Party. The waiver by any Party of any failure on the part of another Party to perform any of its obligations under this Agreement shall not be construed as a waiver of any future or continuing failure or failures. No waiver by a Water Entity shall be binding against other Water Entities.

2.4 Amendment of this Parent Company Agreement

No amendment of this Parent Company Agreement shall be binding upon the Parties unless it is in writing and executed by all of the Parties.

2.5 Agreement as Complete Integration

As between the Water Entities, on the one hand, and [Parent Company], on the other hand, this Parent Company Agreement sets forth all of the covenants, provisions, agreements, conditions and understandings with respect to the matters addressed in this Parent Company Agreement and constitutes a complete integration.

2.6 Counterparts

This Parent Company Agreement will be executed in counterparts each of which shall be deemed an original, and all of which, taken together, shall constitute one and the same instrument.

2.7 Notice

All notices and other writings required or permitted to be given hereunder shall be in writing, and shall be given by personal delivery, facsimile or by a private overnight courier service, and shall be given as follows:

To Parent Company:

[insert]

To Main San Gabriel Basin Watermaster:

[insert]

To San Gabriel Basin Water Quality Authority:

[insert]

To La Puente Valley County Water District:

[insert]

To San Gabriel Valley Water Company:

[insert]

To Suburban Water Systems:

[insert]

To California Domestic Water Company:

[insert]

To Valley County Water District:

[insert]

or to such other place or to the attention of such other individual as a party may from time to time designate by written notice to all other parties given as herein required. Any notice required or permitted by this Agreement shall be deemed effective upon receipt.

2.8 Assignment

No Party shall assign or otherwise transfer its rights or obligations hereunder without the other Parties' prior written consent.

2.9 Joint Drafting and Negotiation

This Parent Company Agreement has been jointly negotiated and drafted. The language of this Agreement shall be construed as a whole according to its fair meaning and without regard to or aid of Civil Code Section 1654 and similar judicial rules of construction.

2.10 Article and Section Headings

Article and Section headings used in this Parent Company Agreement are for reference only and shall not affect the construction of this Agreement.

2.11 No Third Party Beneficiaries

No third party shall be entitled to claim or enforce any rights hereunder.

2.12 [Parent Company]'s Denial of Liability

[Parent Company] denies with respect to itself any and all legal or equitable liability under any federal or state statute, regulation or common law. [Parent Company]'s entry into this Parent Company Agreement shall not constitute an admission of any kind for any purposes whatsoever.

2.13 Water Entity's Denial of Liability

Each of the Water Entities denies with respect to itself any and all legal or equitable liability under any federal or state statute, regulation or common law. The Water Entities' entry into this Parent Company Agreement shall not constitute an admission of any kind for any purposes whatsoever.

2.14 Severability

In the event that any provision of this Parent Company Agreement is determined by a court to be invalid, the court shall reform the provision in a manner that is both consistent with the intent of the Parties and legally valid. The remainder of this Agreement shall not be affected thereby.

2.15 Successors and Assigns Included as Parties

All covenants and agreements contained in this Parent Company Agreement by or on behalf of any of the Parties hereto shall bind and inure to the benefit of their respective successors and permitted assigns, whether so expressed or not.

2.16 Insurance

This Agreement does not assign any claim or rights to recover losses (including, without limitation, defense costs) of [Parent Company] against its insurers or subrogation rights to which [Parent Company's] insurers may be entitled.

2.17 Organization/Authorization

[Parent Company], and SGVWC, CDWC, and SWS hereby respectively represent and warrant to the others that each of them is a duly organized or constituted entity, and that the execution and delivery of this Parent Company Agreement have been duly authorized by all necessary action of the board of directors or other governing body of such Party, and will not result in a violation of such Party's organizational documents. Attached as Exhibits to the 2017

Project Agreement are the Board resolutions respectively authorizing WQA (Exhibit K), VCWD (Exhibit L) and LPVCWD (Exhibit M) to enter into the 2017 Project Agreement and this Agreement as an exhibit to the 2017 Project Agreement. Watermaster shall execute this Agreement concurrently with all Parties and the Court's approval of the 2017 Project Agreement shall constitute approval of Watermaster's entry into this Agreement as well as the 2017 Project Agreement.

IN WITNESS WHEREOF, this Parent Company Agreement has been executed as of the date first set forth above.

WATER ENTITIES:

Main San Gabriel Basin Watermaster

By: _____
Name: _____
Title: _____

San Gabriel Basin Water Quality Authority

By: _____
Name: _____
Title: _____

La Puente Valley County Water District

By: _____
Name: _____
Title: _____

San Gabriel Valley Water Company

By: _____
Name: _____
Title: _____

Valley County Water District

By: _____
Name: _____
Title: _____

Suburban Water Systems

By: _____
Name: _____
Title: _____

California Domestic Water Company

By: _____
Name: _____
Title: _____

PARENT COMPANY:

(Name of Parent Company)

By: _____

Name: _____

Title: _____

EXHIBIT “I”

EXHIBIT I
Contact List for Water Entities and Cooperating Respondents

Water Entities:

Main San Gabriel Basin Watermaster
725 North Azusa Avenue
Azusa, CA 91702
Phone: (626) 815-1300
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Kelly Gardner (kelly@watermaster.org)
Raymond Castro (raymond@watermaster.org)

Attorneys:

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San Gabriel Basin Water Quality Authority

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Attorneys:

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Fax: (213) 744-0093
Richard E. Padilla (rpadilla@omlawyers.com)

Valley County Water District

14521 East Ramona Boulevard
Baldwin Park, CA 91706
Phone: (626) 338-7301
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Tom Mortenson (tmortenson@vcwd.org)

Attorneys:

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Keith Lemieux, Esq. (keith@lemieux-oneill.com)

LaPuente Valley County Water District

112 North First Street
La Puente, CA 91744
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Fax: (626) 330-2679
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Roy Frausto (rfrausto@lapuentewater.com)

Attorneys:

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Roland Trinh (RTrinh@lagerlof.com)

San Gabriel Valley Water Company

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Attorneys:

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Suburban Water Systems

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Covina, CA 91724
Phone: (626) 543-2669
Richard Rich / General Manager
(rrich@swws.com)

Craig S. Bloomgarden
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California Domestic Water Company

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WE Project Coordinator:

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Covina, CA 91724

Phone: (626) 967-6202

Fax: (626) 331-7065

Stephen B. Johnson (stevej@stetsonengineers.com)

John Cardoza (johnc@stetsonengineers.com)

Cooperating Respondents:

Aerojet Rocketdyne, Inc.

Environmental Remediation

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Sacramento, CA 95813

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Fax: (916) 351-8666

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Lawrence A. Hobel (lhobel@cov.com) Direct/Phone (415) 591-7028

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Chemical Waste Management successor to Oil & Solvent Processing Company (OSCO)

c/o Chemical Waste Management, Inc.

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Fax: (303) 914-9927

Steve Richtel (srichtel@wm.com)

Chemical Waste Management, Inc.

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Allied Waste Industries, Inc. (for Azusa Land Reclamation, Inc.)

[]

Attorneys:

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c/o Parker Hannifin Corporation
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Fredrick L. Tolhurst (ftolhurst@cohenlaw.com) / (412) 297-4930

CR Project Coordinator:

[TBD]

EXHIBIT “J”

EXHIBIT J

San Gabriel Valley Water Quality Authority Board Resolution

NOT AVAILABLE – WILL BE PROVIDED

EXHIBIT “K”

EXHIBIT K

Valley County Water District Board Resolution

NOT AVAILABLE – WILL BE PROVIDED

EXHIBIT “L”

EXHIBIT L

La Puente Valley County Water District Board Resolution

NOT AVAILABLE – WILL BE PROVIDED

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3 asmith@nossaman.com
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Los Angeles, California 90017
5 Telephone: (213) 612-7800
Facsimile: (213) 612-7801
6

EXEMPT FROM FILING FEES
GOVERNMENT CODE SECTION 6103

7 Attorneys for Main San Gabriel Basin Watermaster
8
9
10

11 SUPERIOR COURT OF THE STATE OF CALIFORNIA
12 FOR THE COUNTY OF LOS ANGELES
13

14 UPPER SAN GABRIEL VALLEY MUNICIPAL)
WATER DISTRICT,)

15 Plaintiff,)

16 vs.)

17 CITY OF ALHAMBRA, et al,)

18 Defendants.)
19
20
21
22

Case No: C 924 128

PETITION BY WATERMASTER FOR
APPROVAL OF BALDWIN PARK
OPERABLE UNIT PROJECT AGREEMENT
RENEWAL

*Assigned for All Purposes to the Honorable
Maureen Duffy-Lewis, Dept. 38*

Hearing on Petition

Date: April 28, 2017

Time: 9:30 a.m.

Place: Dept. 38

RES ID: 170106186042

1 **I. INTRODUCTION.**

2 On May 9, 2002, this Court approved Watermaster's participation in the Baldwin
3 Park Operable Unit ("BPOU") Project Agreement ("2002 Agreement"). The 2002 Agreement
4 set a landmark precedent providing over \$350 million dollars to clean-up contaminated water
5 supplies for beneficial re-use in the Main San Gabriel Groundwater Basin ("Basin").

6 The 2002 Agreement represented the culmination of many years of intense
7 negotiations among Watermaster, the United States Environmental Protection Agency ("EPA")
8 and 15 parties with widely divergent interests,¹ resulting in a funding mechanism to both
9 cleanup contaminated groundwater and restore critically needed water supplies. (Zampiello
10 Decl., ¶ 5). This remediation effort involves the operation of six treatment projects by Basin
11 water purveyors, the cost of which is funded by the Cooperating Respondents ("Project").

12 By its express terms, the 2002 Agreement is set to expire on May 9, 2017.
13 Pursuant to Article 9.2 of the Project Agreement, the parties² agreed to negotiate the terms
14 and conditions for renewal in good faith.³ Consistent with this contractual provision, for the
15 past two years, the Watermaster, the Water Quality Authority ("WQA"), the Water Entities, the
16 Cooperating Respondents, and the United States Environmental Protection Agency ("EPA")
17 have engaged in negotiations to establish the terms for Project renewal. (Zampiello Decl., ¶ 8).

18
19
20 ¹ The original parties to the Project Agreement are: Main San Gabriel Basin Watermaster, San Gabriel Basin
21 Water Quality Authority, San Gabriel Valley Water Company, La Puente Valley County Water District, Valley
22 County Water District, California Domestic Water Company and Suburban Water Systems (collectively, the
23 "Water Entities") on the one hand, and Aerojet-General Corporation known as Aerojet Rocketdyne, Inc.
24 ("Aerojet"), Azusa Land Reclamation Co. Inc. ("ALR"), Fairchild Holding Corporation ("Fairchild"), Hartwell
25 Corporation ("Hartwell"), Huffey Corporation ("Huffey"), Oil & Solvent Process Company now known as Chemical
26 Waste Management, Inc. (Chemical Waste"), Reichhold, Inc. ("Reichhold"), and Wynn Oil Company now known
27 as Winco Enterprises, Inc. ("Wynn") (collectively, the "Cooperating Respondents") on the other hand.

28
² Since the execution of the Agreement, three of the original parties have declared bankruptcy and are no longer
subject to the 2002 Agreement, to wit: Fairchild, Huffey, and Reichhold. Accordingly, the parties to the 2017
Agreement are Aerojet, ALR, Hartwell, Chemical Waste, and Wynn.

³ Section 9.2 of the Project Agreement provides: "Extension of the Term: The Parties agree to negotiate in good
faith in an effort to reach agreement as to the terms and conditions of an extension of the Term in the event that
the Final ROD anticipates, or any of the Parties desire, the continued operation of all or a substantial portion of
the Project Facilities."

1 Attached hereto as Exhibit "A" is the proposed BPOU Project Renewal
2 Agreement ("2017 Agreement"). This form of Agreement has been approved by counsel for all
3 of the Parties. (Zampiello Decl., ¶ 18). However the 2017 Agreement must be approved by
4 the Parties themselves, which process is ongoing. (Zampiello Decl., ¶ 18). Watermaster has
5 already approved the 2017 Agreement subject to the approval of all the other Water Entities
6 involved. (Zampiello Decl., ¶ 19). Watermaster also recommends that the Court approve the
7 2017 Agreement, which approval is a precondition to the effectiveness of the 2017 Agreement.
8 (Zampiello Decl., ¶ 20). Watermaster shall file a Supplemental Brief with the Court which shall
9 update the status of the Agreement's approval by the Parties, prior to the hearing. This
10 procedure is being utilized in order to bring this matter before the Court prior to the expiration
11 of the 2002 Agreement.

12 The basic principles of the 2017 Agreement are consistent with those of the 2002
13 Agreement. (Zampiello Decl., ¶ 16). The 2017 Agreement calls for the operation of six
14 subprojects to pump and treat contaminated Basin waters for potable use within the Basin.
15 (Zampiello Decl., ¶ 10). The costs of the Project are funded in their entirety by the
16 Cooperating Respondents and financial assurances are posted to secure their funding
17 obligations. (Zampiello Decl., ¶ 17).

18 Watermaster's role under the 2017 Agreement continues to be that of providing
19 administration, coordination and monitoring services for the Project as a whole. (Zampiello
20 Decl., ¶ 16). The reasonable and necessary costs of the services performed by Watermaster
21 will be funded by the Cooperating Respondents. (Zampiello Decl., ¶ 17).

22 Renewal of the 2002 Agreement will require approval by this Court. Renewal of
23 the 2002 Agreement is essential so that the funding obligations and treatment facilities can be
24 maintained, without dramatic adverse impacts to the more than 1.2 million people who rely on
25 the Basin as a source of water supply. (Zampiello Decl., ¶¶ 21, 23). The importance of this
26 renewal is underscored by the recent state of the Basin which suffered from the worst drought
27 in California's recorded history, extremely low water levels, and severe limitations on imported
28 water supplies due to prolonged drought conditions and other factors including environmental,

1 judicial and regulatory constraints on water supplies from the Bay-Delta. (Zampiello Decl., ¶
2 22). Approval by this Court of the 2017 Project Agreement will effectuate the cooperative
3 solution among the parties necessary to continue essential groundwater remediation efforts in
4 the Basin. (Zampiello Decl., ¶ 23).

5 **II. HISTORY OF THE PROJECT.**

6 Extensive groundwater contamination was discovered in the Basin, resulting from
7 the use and improper handling and disposal of various chemicals. High levels of
8 trichloroethylene ("TCE") were first detected in 1979, and since then over 30 wells have been
9 impacted by varying concentrations of TCE, perchloroethylene ("PCE"), carbon tetrachloride
10 ("CTC"), and other volatile organic compounds ("VOCs"). EPA began investigating
11 groundwater contamination in the Basin during the early 1980's, and in 1984, the Basin was
12 declared a Superfund site. EPA divided the contaminated area into several discrete units,
13 known as Operable Units. The BPOU is a several-mile long area of groundwater
14 contamination in and near the cities of Baldwin Park, Azusa and Irwindale.

15 From the mid-1980's to the mid-1990's, EPA conducted extensive investigation
16 and developed a cleanup plan to address the contamination. In the meantime, water
17 purveyors were dealing with the water supply impacts of the contamination by building
18 treatment facilities where practical, and by building new wells and finding alternative sources of
19 water.

20 In March 1994, EPA selected an interim remedy for the BPOU through the
21 issuance of a Record of Decision ("ROD"). The objectives of the ROD are to: (1) prevent the
22 contaminated groundwater from moving into clean or less contaminated areas and depths; (2)
23 remove a significant mass of contamination from the groundwater; and (3) provide the
24 necessary data to determine final cleanup standards for the area. Shortly after the issuance of
25 the ROD, EPA began to name the companies responsible for the groundwater contamination.
26 In 1997, during the final pre-implementation stages of the ROD, three new contaminants,
27 perchlorate, n-nitrosodimethylamine ("NDMA") and 1-4 dioxane, were discovered within the
28 BPOU. Perchlorate is an inorganic chemical that does not respond to the treatment

1 technology used for VOC's. In fact, when the presence of perchlorate was initially discovered
2 in the BPOU, there was no known cost-effective treatment for removal of perchlorate to the
3 level necessary to meet state action levels.

4 As a result of the discovery of the new contaminants, a water supply crisis
5 emerged in the southern portion of the BPOU and water purveyors were forced to shut down
6 wells because there was no cost-effective treatment available. In addition, the discovery
7 necessitated further investigation by EPA and modification of the remediation plan to address
8 the newly discovered contaminants. In response to the new contamination problem,
9 Watermaster spearheaded an effort to secure a practical technology to address perchlorate
10 contamination in order to restore the impacted water supplies. In 1998, Watermaster initiated
11 discussions with the Cooperating Respondents and EPA, with the objective of facilitating a
12 cleanup plan that would not only treat the contaminated water but also provide potable water
13 for delivery to customers.

14 In 1999, EPA updated the ROD, through the issuance of an Explanation of
15 Significant Differences ("ESD"), to address the newly discovered contaminants. By 1999,
16 effective technologies were available for the treatment of perchlorate. The ESD provides for
17 the incorporation of treatment technologies to treat perchlorate, NDMA, and 1-4 dioxane. The
18 updated ROD provides for the construction and operation of groundwater extraction wells,
19 treatment facilities, and conveyance facilities capable of pumping and treating large amounts
20 of groundwater from two broad sub-areas of contamination within the BPOU. The ROD also
21 reflects EPA's preference that the treated groundwater be delivered to water purveyors for
22 distribution to their residential and business customers through existing distribution systems.

23 In June 2000, EPA issued an Unilateral Administrative Order ("UAO") directing
24 nineteen responsible parties to begin implementation of the groundwater cleanup under the
25 ROD. Thereafter, Watermaster continued to participate in discussions among the responsible
26 parties and certain impacted water purveyors, with the objective of developing a combined
27 groundwater cleanup and potable water supply project that would address the requirements of
28 the UAO.

1 Following several months of intense negotiations facilitated by EPA, the Water
2 Entities and Cooperating Respondents executed a Memorandum of Understanding ("MOU") on
3 January 12, 2001. Under the provisions of the MOU, the parties agreed to negotiate a
4 definitive agreement for the funding, construction and operation of the Project over a 15-year
5 period.

6 Following execution of the MOU in January 2001, the parties were engaged in
7 intense negotiations for over a year in an effort to craft a definitive agreement that meets their
8 respective needs and is satisfactory to EPA for implementing the requirements of the ROD.
9 During the course of the negotiations, it was necessary to resolve a myriad of difficult issues,
10 including Project technology issues, the funding mechanism and financial assurances to be
11 provided by the Cooperating Respondents, responsibilities of the Water Entities, the scope of
12 Project insurance and indemnities, and the nature and scope of public funding to be
13 administered through the WQA. The negotiation process culminated in a final Project
14 Agreement approved by all parties, the EPA and this Court. The 2002 Agreement represented
15 a delicate balance among the competing interests and priorities of the parties and EPA, and
16 set a national precedent for achieving the dual goals of groundwater cleanup and restoration of
17 water supplies. (Zampielo Decl., ¶¶ 4, 5).

18 **III. THE 2002 AGREEMENT AND OPERATION.**

19 The 2002 Agreement called for: (1) the implementation of EPA's mandated
20 clean-up of contaminated groundwater within the Basin; and (2) restoration of desperately
21 needed water supplies within the San Gabriel Valley. (Zampielo Decl., ¶ 9).

22 The Project consists of six separate subprojects, each involving water extraction,
23 treatment and distribution facilities owned and operated by a water purveyor within the San
24 Gabriel Basin. (Zampielo Decl., ¶ 10). The Project facilities are designed to help meet the
25 water supply needs of the purveyors and to address the groundwater remediation objectives
26 formulated by the EPA. (Zampielo Decl., ¶ 10). The 2002 Agreement provided for, among
27 other things: (1) the construction, operation and management of the Project facilities by the
28 respective water purveyors; (2) funding and financial assurances by the Cooperating

1 Respondents for Project costs; (3) coordination and administration of the Project by
2 Watermaster; and (4) administration and oversight by WQA of reimbursements from federal
3 and state funding sources. (Zampiello Decl., ¶ 11).

4 The Project was originally funded and financially assured by eight of the
5 responsible parties named in the EPA's Unilateral Administrative Order of June 30, 2000 ("the
6 UAO") on a joint several basis. Since the initiation of the Project, three of the original
7 responsible parties have declared bankruptcy and are no longer subject to the Project
8 Agreement.

9 Expenditures pursuant to the 2002 Agreement have exceeded \$350 million; of
10 that amount, the public funding secured by WQA has totaled approximately \$42 million.
11 (Zampiello Decl., ¶ 15).

12 **IV. THE 2017 AGREEMENT.**

13 **A. The Basic Principles Of The 2017 Agreement Are Consistent With Those Of** 14 **The 2002 Agreement.**

15 Similar to the 2002 Agreement, the 2017 Agreement calls for the operation of six
16 subprojects to pump and treat contaminated Basin waters for potable use within the Basin.
17 (Zampiello Decl., ¶ 16). The costs of the project are funded in their entirety by the Cooperating
18 Respondents and financial assurances are posted to secure their funding obligations.
19 (Zampiello Decl., ¶ 17).

20 Watermaster's role under the Project Agreement has included the following
21 tasks:

- 22 1. Providing EPA interface for the subprojects, including technical and
23 administrative coordination through Watermaster staff and consultants;
- 24 2. Participating on the technical coordinating committee for the Project and
25 on each of the individual subproject committees;
- 26 3. Providing accounting services necessary to track Project costs,
27 invoices, and payments, and to create budgets;
- 28 4. Retaining the services of an engineering consultant to oversee the

1 Project in accordance with the provisions of the Judgment;

2 5. In the event of a Project modification, determining which of the
3 subproject operators will implement the required changes;

4 6. Arranging for and supervising required groundwater monitoring; and

5 7. Preparing and submitting required Project-wide reports to EPA.

6 (Zampiello Decl., ¶ 12).

7 The individual subproject operators, along with the WQA, have been involved in
8 assuring compliance with applicable federal and state environmental laws. (Zampiello Decl., ¶
9 13). The EPA has maintained overall responsibility for the remediation of the groundwater and
10 has been actively involved in supervising the work and monitoring the results to ensure that
11 Project remediation goals are met. (Zampiello Decl., ¶ 13). Since the individual subprojects
12 are owned and operated by several water purveyors, it is essential that an entity with Basin-
13 wide authority be involved to help coordinate these subprojects to assist in meeting both the
14 Basin water supply goals and the requirements of the Judgment. (Zampiello Decl., ¶ 14).
15 Each of the operating Water Entities is a party to the Judgment and Watermaster is invested
16 with authority to deal with Basin-wide groundwater contamination issues. (Zampiello Decl., ¶
17 14).

18 Watermaster's role under the 2017 Agreement continues to be that of providing
19 administration, coordination and monitoring services for the Project as a whole. (Zampiello
20 Decl., ¶ 16). The reasonable and necessary costs of the services performed by Watermaster
21 will be funded by the Cooperating Respondents. (Zampiello Decl., ¶ 17).

22 **B. Differences Between the 2017 Agreement and the 2002 Agreement.**

23 Although the basic principles of the 2017 Agreement and the 2002 Agreement are
24 consistent, there are differences in several areas. The most significant differences are
25 summarized below:

26 1. Project Administration. There are differences in how the overall project will be
27 administered, by Watermaster. Watermaster no longer sits as a member of each Subproject
28 Committee for the individual subprojects. Under the 2017 Agreement these Subproject

1 Committees are composed of the water purveyor managing the subproject and a Cooperating
2 Respondent representative. However, any party can request the participation of Watermaster
3 in the Subproject Committee deliberations. These changes are designed to streamline the
4 day-to-day administration of the individual subprojects. Watermaster continues to oversee the
5 administration, coordination, monitoring and the budgeting process for the subprojects through
6 a Project Committee established for this purpose. Steve Johnson of Stetson Engineers, the
7 Watermaster engineer, will serve as the Water Entity project coordinator. Mr. Johnson served
8 as UAO Project Manager under the 2002 Agreement. This change has been approved by
9 EPA. (Praskins Decl., ¶ 11)

10 2. EPA Ordered Modification for Non-COCs. The Cooperating Respondents are no
11 longer *contractually* obligated under the 2017 Agreement to implement an EPA ordered
12 modification to treat a contaminant which is not a Chemical of Concern. A Chemical of
13 Concern is a contaminant for which the Cooperating Respondents have acknowledged
14 responsibility. It is perhaps unlikely that the Cooperating Respondents will choose to
15 challenge such an EPA order, so this change may not be of great consequence. However, the
16 Water Entities operating treatment projects are not obligated to continue with the treatment if
17 the Cooperating Respondents are unwilling to fund the required modification. Again, this is a
18 change approved by the EPA. (Praskins Decl., ¶ 11)

19 3. New Provisions for Treating Contaminants Other than Chemicals of Concern. If
20 a subproject is impacted by a contaminant which is not listed in the 2017 Agreement as a
21 Chemical of Concern, and that treatment is required by any regulatory agency, the water
22 purveyor operating the subproject is required to negotiate to achieve the continued operation
23 of the subproject. If agreement cannot be reached, and the new contaminant can be treated
24 using existing facilities, the Cooperating Respondents have agreed to provide up to \$300,000
25 a year per subproject for increased operation and maintenance costs. If the subproject cannot
26 be operated within that capped amount, the water purveyor may suspend operations. With
27 regard to treatment of a new contaminant that requires new capital facilities, the Cooperating
28 Respondents have agreed to provide a capped amount of \$1.25 million of new capital for each

1 subproject and up to \$600,000 for annual increased O&M costs for each subproject. If the new
2 contaminant cannot be treated with the capital and O&M amounts provided by the 2017
3 Agreement, the water purveyor may suspend operations unless other arrangements are
4 negotiated.

5 4. Nitrate Treatment. Nitrate treatment was not specifically addressed in the 2002
6 Project Agreement, but in the case of Valley County Water District was handled by a separate
7 agreement. The 2017 Agreement has specific provisions permitting nitrate treatment to
8 continue at Valley County Water District and proceed at the B-6 subproject operated by San
9 Gabriel Valley Water Company.

10 5. Financial Assurances. The 2002 Agreement required the Cooperating
11 Respondents to post financial assurances to secure their financial obligations in the form of
12 cash or a letter of credit. The Cooperating Respondents and, in particular, Aerojet
13 Rocketdyne, were desirous of expanding the permitted form of financial assurances to include
14 a surety bond. The 2017 Agreement permits the use of a surety bond for 50% of the obligation
15 of any Cooperating Respondent to post financial assurances.

16 6. Indemnity. For some time now, the Water Entities have been concerned about
17 their potential legacy liability for the disposal of contaminants removed by the treatment
18 projects at offsite locations, such as landfills. A significant new feature of the 2017 Agreement
19 is the more expansive indemnity provided by the Cooperating Respondents for offsite disposal,
20 which makes them fully responsible, for any liability that may be incurred by Water Entities.

21 7. Term of Agreement. In contrast to the 15 year term of the 2002 Agreement, the
22 term of the 2017 Agreement is 10 years unless the Cooperating Respondents are able to
23 satisfy the requirements of the UAO issued by the EPA before then. The 2017 Agreement also
24 provides for good faith negotiations for continued operation of the Project Facilities if the Basin
25 is not cleaned up when the term expires in 2027.

26 8. Insurance. The Insurance coverage for Watermaster's activities is the same as
27 provided by the 2002 Agreement. The market for Project Insurance covering the Water
28 Purveyors has proved to be much more difficult than it was for the 2002 Agreement, when a 15

1 year policy for \$100 million in coverage was obtained. Nonetheless, the Water Purveyors have
2 been able to secure \$30,000,000 to \$40,000,000 in insurance, the amount being dependent on
3 the specific coverage involved. An insurance policy covering the full, 10 year term of the 2017
4 Agreement is not available in today's market, so the contract provides a mechanism and
5 criteria for the renewal of the required insurance. These insurance provisions are agreeable to
6 all parties and have been approved by the EPA. (Praskins Decl. ¶ 11)

7 **V. WATERMASTER'S ROLE UNDER THE PROPOSED PROJECT AGREEMENT IS**
8 **SUPPORTED BY THE JUDGMENT HEREIN.**

9 This Court approved Watermaster's participation in the 2002 Agreement on May
10 9, 2002. Watermaster's role under the 2017 Agreement continues to be that of providing
11 administration, coordination and monitoring services for the Project as a whole. (Zampietro
12 Decl., ¶ 16). These tasks are (1) consistent with Watermaster's role under the 2002
13 Agreement approved by this Court; and (2) contemplated by provisions already in the
14 Judgment before this Court.

15 As previously determined by this Court, section 40(a) of the Judgment requires
16 Watermaster to develop an adequate and effective program of Basin management, including
17 "the maintenance, improvement, and control of water quality and quantity of the Basin."

18 Section 40(c) provides as follows:

19 "Watermaster may act individually or participate with others to carry
20 on technical and other necessary investigations of all kinds and
21 collect data necessary to carry out the herein stated purposes. It
22 may engage in contractual relations with the EPA or other agencies
23 in furtherance of the cleanup of the Basin and enter into contracts
24 with agencies of the United States, the State of California, or any
25 political subdivision, municipality, or district thereof, to the extent
26 allowed under the applicable federal or state statutes."
27
28

1 Further, Section 40(d) of the Judgment requires Watermaster to adopt “programs
2 to promote, manage and accomplish cleanup of the Basin and its waters including but not
3 limited to, measures to confine, move, and remove contaminants and pollutants.”

4 Accordingly, the role of Watermaster under the 2017 Agreement will not require
5 any change in the Judgment. Rather, Court approval is being sought to (1) meet a
6 requirement of the 2017 Agreement; (2) ensure that the Court is fully informed of the continued
7 workload to be undertaken by Watermaster; and (3) ensure that all parties to the Judgment
8 have an opportunity to review the 2017 Agreement and raise any possible objections.

9 **VI. CONCLUSION.**

10 When previously approved by this Court, the 2002 Agreement set a national
11 precedent by achieving agreement among parties with widely divergent interests to facilitate
12 both the cleanup of contaminated groundwater and the abatement of the water supply crisis in
13 the San Gabriel Valley. (Zampiello Decl., ¶ 4). The 2002 Agreement provided a necessary
14 funding mechanism in excess of \$350 million to address both the BPOU groundwater
15 contamination and restore critically needed water supplies. (Zampiello Decl., ¶¶ 4, 5).

16 Consistent with the 2002 Agreement, Watermaster's role under the 2017 Agreement
17 continues to be that of providing administration, coordination and monitoring services for the
18 Project as a whole. (Zampiello Decl., ¶ 16). The reasonable and necessary costs of the
19 services performed by Watermaster will be funded by the Cooperating Respondents and
20 financial assurances are posted to secure their funding obligations. (Zampiello Decl., ¶ 17). In
21 addition, insurance coverage will cover Watermaster's activities. (Zampiello Decl., ¶ 17).
22 Indemnity is also provided by the Cooperative Respondents for offsite disposal, which makes
23 the Cooperating Respondents responsible for any liability that may be incurred by the Water
24 Entities. (Zampiello Decl., ¶ 17).

25 During its regularly scheduled public board meeting, Watermaster voted to recommend
26 approval of the 2017 Agreement to this Court, subject to approval of the 2017 Agreement by all
27 of the Water Entities. (Zampiello Decl., ¶ 19). All of these approvals are expected to be
28 forthcoming prior to the date of hearing on this matter. (Zampiello Decl., ¶ 18). Watermaster

1 will file supplemental briefings, as appropriate, or brief the Court on the status of these
2 approvals at the time of hearing.

3 Approval by this Court will formalize the collaborative, good faith negotiations among
4 Watermaster, WQA, the Water Purveyors, the Cooperating Respondents, and the EPA to
5 extend the Agreement to continue the necessary remediation efforts for the benefit of the more
6 than 1.2 million people who rely on the Basin as a source of water supply. (Zampielo Decl., ¶¶
7 8, 21, 23).

8 Accordingly, Watermaster respectfully requests Court approval of the 2017 Agreement.

9
10 Dated: March 15, 2017

NOSSAMAN LLP
Frederic A. Fudacz
Alfred E. Smith

11
12
13 By: 

Frederic A. Fudacz

Attorneys for Main San Gabriel Basin Watermaster

1 9. The 2002 Agreement called for: (1) the implementation of EPA's
2 mandated clean-up of contaminated groundwater within the Basin; and (2) restoration of
3 critically necessary water supplies within the San Gabriel Valley.

4 10. The Project consists of six separate subprojects, each involving water
5 extraction, treatment and distribution facilities owned and operated by a water purveyor within
6 the Basin. The Project facilities are designed to help meet the water supply needs of the
7 purveyors and to address the groundwater remediation objectives formulated by the EPA.

8 11. The 2002 Agreement provided for, among other things: (1) the
9 construction, operation and management of the Project facilities by the respective water
10 purveyors; (2) funding and financial assurances by the Cooperating Respondents for Project
11 costs; (3) coordination and administration of the Project by Watermaster; and (4)
12 administration and oversight by WQA of reimbursements from federal and state funding
13 sources.

14 12. Watermaster's role under the Project Agreement has included the
15 following tasks:

16 a. Providing EPA interface for the subprojects, including technical and
17 administrative coordination through Watermaster staff and consultants;

18 b. Participating on the technical coordinating committee for the Project
19 and on each of the individual subproject committees;

20 c. Providing accounting services necessary to track Project costs,
21 invoices, and payments, and to create budgets;

22 d. Retaining the services of an engineering consultant to oversee the
23 Project in accordance with the provisions of the Judgment;

24 e. In the event of a Project modification, determining which of the
25 subproject operators will implement the required changes;

26 f. Arranging for and supervising required groundwater monitoring;

27 and

28 g. Preparing and submitting required Project-wide reports to EPA.

1 13. The individual subproject operators, along with the WQA, have been
2 involved in assuring compliance with applicable federal and state environmental laws. The
3 EPA has maintained overall responsibility for the remediation of the groundwater and has been
4 actively involved in supervising the work and monitoring the results to ensure that Project
5 remediation goals are met.

6 14. Since the individual subprojects are owned and operated by several water
7 purveyors, it is essential that an entity with Basin-wide authority be involved to help coordinate
8 these subprojects to assist in meeting both the Basin water supply goals and the requirements
9 of the Judgment. Each of the operating Water Entities is a party to the Judgment and
10 Watermaster is invested with authority to deal with Basin-wide groundwater contamination
11 issues.

12 15. Expenditures pursuant to the 2002 Agreement have exceeded \$350
13 million; of that amount, the public funding secured by WQA has totaled approximately \$42
14 million.

15 16. The basic principles of the 2017 Agreement are consistent with those of
16 the 2002 Agreement. The 2017 Agreement calls for the operation of six subprojects to pump
17 and treat contaminated Basin waters for potable use within the Basin. Watermaster's role
18 under the 2017 Agreement continues to be that of providing administration, coordination and
19 monitoring services for the Project as a whole.

20 17. The costs of the Project are funded in their entirety by the Cooperating
21 Respondents and financial assurances are posted to secure their funding obligations. In
22 addition, insurance coverage will cover Watermaster's activities. Indemnity is also provided by
23 the Cooperative Respondents for offsite disposal, which makes the Cooperating Respondents
24 responsible for any liability that may be incurred by the Water Entities.

25 18. Attached hereto as Exhibit "A" is a true and correct copy of the 2017
26 Agreement. This form of Agreement has been approved by counsel for all of the Parties. The
27 2017 Agreement must still be approved by the Parties themselves, which process is ongoing
28 and is expected to be completed prior to the time of hearing on this matter.

1 19. During its regularly scheduled public meeting on March 1, 2017,
2 Watermaster approved the 2017 Agreement, subject to the approval of the Water Entities and
3 this Court.

4 20. Watermaster respectfully recommends that this Court approve the 2017
5 Agreement, which approval is a precondition to the effectiveness of the 2017 Agreement.

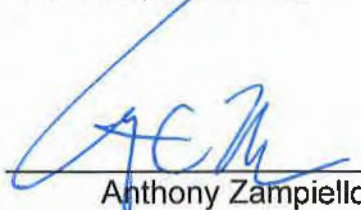
6 21. Renewal of the 2002 Agreement is essential so that the funding
7 obligations and treatment facilities can be maintained, without dramatic adverse impacts to the
8 public.

9 22. The importance of this renewal is underscored by the recent state of the
10 Basin which suffered from the worst drought in California's recorded history, extremely low
11 water levels, and severe limitations on imported water supplies due to prolonged drought
12 conditions and other factors including environmental, judicial and regulatory constraints on
13 water supplies from the Bay-Delta.

14 23. Approval by this Court of the 2017 Project Agreement will effectuate the
15 cooperative solution among the parties necessary to continue essential groundwater
16 remediation efforts in the Basin for the benefit of the more than 1.2 million people who rely on
17 the Basin as a source of water supply.

18
19 I declare under penalty of perjury under the laws of the State of California that the
20 foregoing is true and correct.

21 Executed on this 10th day of March, 2017 in Azusa, California.

22
23
24
25 
26 _____
27 Anthony Zampielo
28

Declaration of
Wayne Praskins

1 6. In 1997, during the final pre-implementation stages of the ROD, three new
2 contaminants, (perchlorate, NDMA, and 1,4-dioxane) were discovered within the BPOU.
3 Perchlorate is an inorganic chemical that is not efficiently removed by the treatment
4 technologies typically used for VOCs.

5 7. EPA updated the ROD in 1999, through the issuance of an Explanation of
6 Significant Differences (“ESD”), to address the presence of perchlorate, NDMA, and
7 1,4-dioxane. By 1999, effective technologies were available for the treatment of
8 perchlorate. The ESD provides for the incorporation of treatment technologies to treat
9 perchlorate, NDMA, and 1,4-dioxane. The updated ROD provides for the construction
10 and operation of groundwater extraction wells, treatment facilities and conveyance
11 facilities capable of pumping and treating large amounts of groundwater from two broad
12 sub-areas of contamination within the BPOU.

13 8. The ROD reflects EPA’s preference that the treated groundwater be
14 delivered to water purveyors for distribution to their residential and business customers
15 through existing distribution systems.

16 9. In June 2000, EPA issued a Unilateral Administrative Order (the “UAO”)
17 under Section 106 of CERCLA directing nineteen responsible parties to begin design
18 and construction of the groundwater cleanup under the ROD.

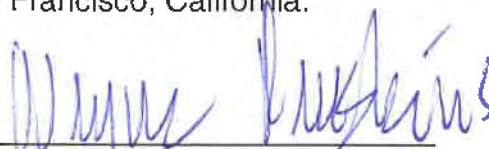
19 10. Following issuance of the UAO, EPA facilitated negotiations between eight
20 of the responsible parties and seven water entities, including Watermaster, to formulate
21 a definitive agreement for a joint groundwater remediation and water supply project (the
22 “Project”) to be funded by the responsible parties. These negotiations led to the 2002
23 BPOU Project Agreement (“2002 Agreement”), which was strongly supported by the
24 EPA, and approved by this Court. The 2002 Agreement has been the vehicle to
25 implement the EPA’s groundwater cleanup plan and provide needed water supplies for
26 the BPOU.

27
28

1 11. EPA has similarly been a key participant in the negotiation of the 2017
2 BPOU Project Renewal Agreement ("2017 Agreement"), which is designed to continue
3 the remediation efforts undertaken pursuant to the 2002 Agreement. EPA will have
4 overall responsibility for the groundwater remediation aspects of the Project and will be
5 actively involved in supervising the work and monitoring the results to ensure that
6 Project remediation goals are met. The EPA strongly supports the 2017 Agreement in
7 order to continue this critical remediation effort. The EPA has approved all of the
8 changes in the 2017 Agreement from the provisions of the 2002 Agreement.

9 I declare under penalty of perjury under the laws of the State of California that
10 the foregoing is true and correct.

11 Executed this 9th day of March 2017, at San Francisco, California.

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14 _____
Wayne Praskins

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STAFF REPORT



Meeting Date: April 10, 2017

To: Honorable Board of Directors

Subject: Purchase of Computer Equipment to Support the Meter Read Collection System Project

Purpose - *Purchase of a computer equipment to support the use of the Neptune radio read software.*

Recommendation - *Authorize the General Manager to purchase computer equipment from Highroad Information Technology for a price of \$16,753.*

Fiscal Impact - *The 2017 District Capital Outlay Budget appropriates \$45,000 for a Meter Read Collection System. The cost for the purchase of this computer equipment along with the previously approved Neptune radio read meter data collector unit and Neptune radio read software is within the 2017 Budget appropriation.*

Previous Related Action - *In December 2016, the Board approved the 2017 Capital Outlay Budget that appropriated funds for a meter read collection system and on March 27, 2017, the Board approved the purchase of the Neptune radio read meter data collector unit and Neptune radio read software.*

Summary

At the March 27, 2017 Board of Directors meeting, the Board approved the purchase of the Neptune radio read meter data collector unit and Neptune radio read software for a price of \$15,805. At that meeting staff reported that in 2010 the District purchased a radio read collection unit (Gateway V.1 Collector) and installed it at the Main Street Reservoir Site. The collection unit was able to collect reads from approximately 450 meters on a regular basis, without needing to drive by these meters. This meter read information was transmitted back to a computer at the Main Office and allowed staff to identify customers with leaks or excessive usage in between the bi-monthly meter reading period. Although this data was useful, it was difficult to navigate the software and to produce useful reports. Since that time, there has been advances in meter collection technology and the software system as well. Staff had requested and received a demonstration of the new Neptune meter read collection unit (Gateway V.4 Collector) and software system. District staff believes the new meter read collection unit will be able to collect at least twice the amount of meter reads than the first version collector and may even result in the ability to read 60-70% of all the meters in the District's service area. The software has also been improved by making the navigation of this data much more user-friendly.

Staff's recommendation, which was approved, was to move forward first with purchasing one meter read collection unit along with the software upgrade and then determine the number of collectors that would be required to remotely read all the meters within the District's service area. In addition, it was

reported that new computer equipment at the Main Office would be required to complete this project. Staff coordinated with the District's IT service provider, Highroad IT, on the specifications of this equipment. Highroad was requested and provided a quote for the purchase of the preferred computer equipment and for installation and set-up (enclosed). The proposed equipment will be utilized as a server for not only the Neptune software but to host other software the District utilizes (i.e., accounting & gis software). At the upcoming meeting, Mr. Mike Parra from Highroad IT will provide some additional information on the details of the proposed computer equipment.

Fiscal Impact

The 2017 District Capital Outlay Budget appropriates \$45,000 for a Meter Read Collection System. The cost for the purchase of the proposed computer equipment is \$16,753. This cost along with the approved purchase of the Neptune radio read meter data collector unit and Neptune radio read software brings the project subtotal to \$32,558, which is within the 2017 Budget appropriation. This will leave approximately \$12,442 for the purchase of an additional collector, if needed.

Recommendation

Authorize the General Manager to purchase computer equipment from Highroad Information Technology for a price of \$16,753.

Respectfully Submitted,

Greg B. Galindo

General Manager

Attachments

- Quote from Highroad IT for computer equipment



4000 MacArthur Blvd East Tower • Suite 600 • Newport Beach, CA 92660
 T 949-417-5734 • F 949-209-2628 • www.highroadit.com

April 6, 2017 – Revised 1

Mr. Greg Galindo
La Puente Valley County Water District
 112 N. First Street
 La Puente, CA 91744

Dear Mr. Galindo,

We have prepared the following quote for the “Rack Mountable” Virtual GIS Server Host:

Product	Description	Qty	Cost	Total Cost
License	Remote Connection Protocol	8	\$132.00	\$1,056.00
Hardware	DL380 GEN9 E5-2640 V3 US SVR SBY	1	\$3,949.00	\$3,949.00
Hardware	8GB 1RX4 PC4-2133P-R KIT	6	\$329.00	\$1,974.00
Hardware	600GB 12G SAS 10K 2.5IN SC ENT HD	2	\$545.00	\$1,090.00
Hardware	800W FS PLAT HT PLG P/S KIT	2	\$359.00	\$718.00
License	CAREPACK 3YR 24X7 DL380 GEN9 FC SVC	1	\$1,872.00	\$1,872.00
Hardware	PWR CORD 110V 10A 1.83M 5-15P C13	2	\$10.00	\$20.00
Hardware	25FT CAT6 PATCH CABLE	2	\$31.00	\$62.00
Hardware	WIN SVR STD CORE 2016 SGL 2 CORE	8	\$111.00	\$888.00
Hardware	OB WIN SVR CAL 2016 SGL OLP NL U CAL	8	\$38.00	\$304.00
Hardware	Synology Disk Station	1	\$400.00	\$400.00
Hardware	4TB SATA Hard Drive	4	\$165.00	\$660.00
Software	Virtual Server Software	1	\$560.00	\$560.00
Professional Services	Configuration & Setup	32	\$100.00	\$3,200.00
			GRAND TOTAL	\$16,753.00

This document is confidential and proprietary information of Highroad Information Technology, LLC. It is intended for the use of La Puente Valley County Water District personnel only. Any distribution of this document to any persons other than La Puente Valley County Water District personnel is strictly prohibited.

Valid thru April 14, 2017

Quote: 032717:ILJWAMH7770204



4000 MacArthur Blvd East Tower • Suite 600 • Newport Beach, CA 92660
T 949-417-5734 • F 949-209-2628 • www.highroadit.com

ACCEPTANCE

I, Greg Galindo, hereby authorize Highroad Information Technology to furnish all Professional Services mentioned in this quote for which, **La Puente Valley County Water District** agrees to pay the amount mentioned in said quote and all applicable taxes.

ACCEPTED: _____ DATE: _____
Greg Galindo / General Manager

Please sign and email Dean Parra, if you accept this quote. If you have any questions, please do not hesitate to contact me.

Sincerely,

Dean Parra
Highroad Information Technology
(949) 417 – 5734

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Memo



To: Honorable Board of Directors
From: Greg B. Galindo, General Manager
Date: April 10, 2017
Re: LPVCWD's 2015 Water Master Plan

Background

A Water Master Plan (WMP) is an essential planning tool; it provides a roadmap for implementing capital improvements needed to continue providing high quality service to the LPVCWD's customers. It also serves as a useful tool to inform and gain customer support of needed improvements and demonstrates that prudent planning is a key part of managing the LPVCWD.

Based on available records, the first LPVCWD WMP was created in 1996 to review the existing system at the time and make improvement recommendations. Subsequently, the WMP was updated in 2002 and 2009 to evaluate and recommend improvements accordingly.

Discussion

The 2015 WMP update was prepared collaboratively by Civiltec Engineering, Inc. and LPVCWD staff to update the existing 2009 WMP, and to provide a framework for existing and future water system planning. The WMP's primary objectives include the analysis of the following areas: land use and water requirements, water quality and water supply, evaluation of the existing system, hydraulic modeling, and capital improvement project planning.

Notable updates on the 2015 WMP include the following:

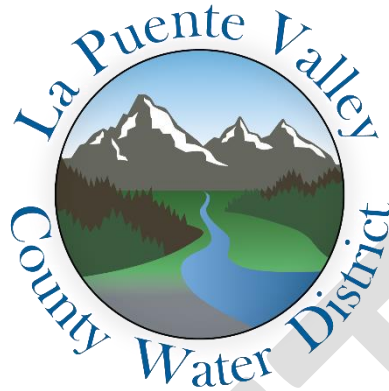
- Detailed Hydraulic Model – Used to simulate fire flows, existing demand scenarios, and future demand scenarios
- 10-Year CIP Planning Analysis – Provides a roadmap and overview cost summary for planning CIP based on a level of priority
- Recycled Water System – Reduces the reliance of imported water supplies to meet customer demands and provides an alternative source of water supply for irrigation use

The 2015 WMP serves as a guide for the future planning of LPVCWD's water system. The recommended projects proposed in the WMP will address existing system deficiencies, replacement of aging infrastructure, large capital maintenance projects, fire flow improvements, and ensure that existing facilities are capable (or require upgrading) to meet future demands. In addition, the WMP provides a strategy for planning CIP's based on a level of priority, and provides a 10-year overview of expenditures for each respective CIP.

The WMP is a living document that will be evaluated continuously by LPVCWD staff to identify and ensure that the LPVCWD water system provides its customers with high quality water for residential, commercial, industrial and fire protection uses that meets or exceeds all local, state and federal standards and to provide courteous and responsive service at the most reasonable cost.

Enclosure(s)

Draft Final - La Puente Valley County Water District 2015 Water Master Plan



2015 WATER MASTER PLAN UPDATE

FOR

LA PUENTE VALLEY COUNTY WATER DISTRICT

LOCATED AT

**112 N 1st STREET
LA PUENTE, CA 91744**

Submitted: April 2017



CHAPTER ONE – INTRODUCTION

1.1 General Description

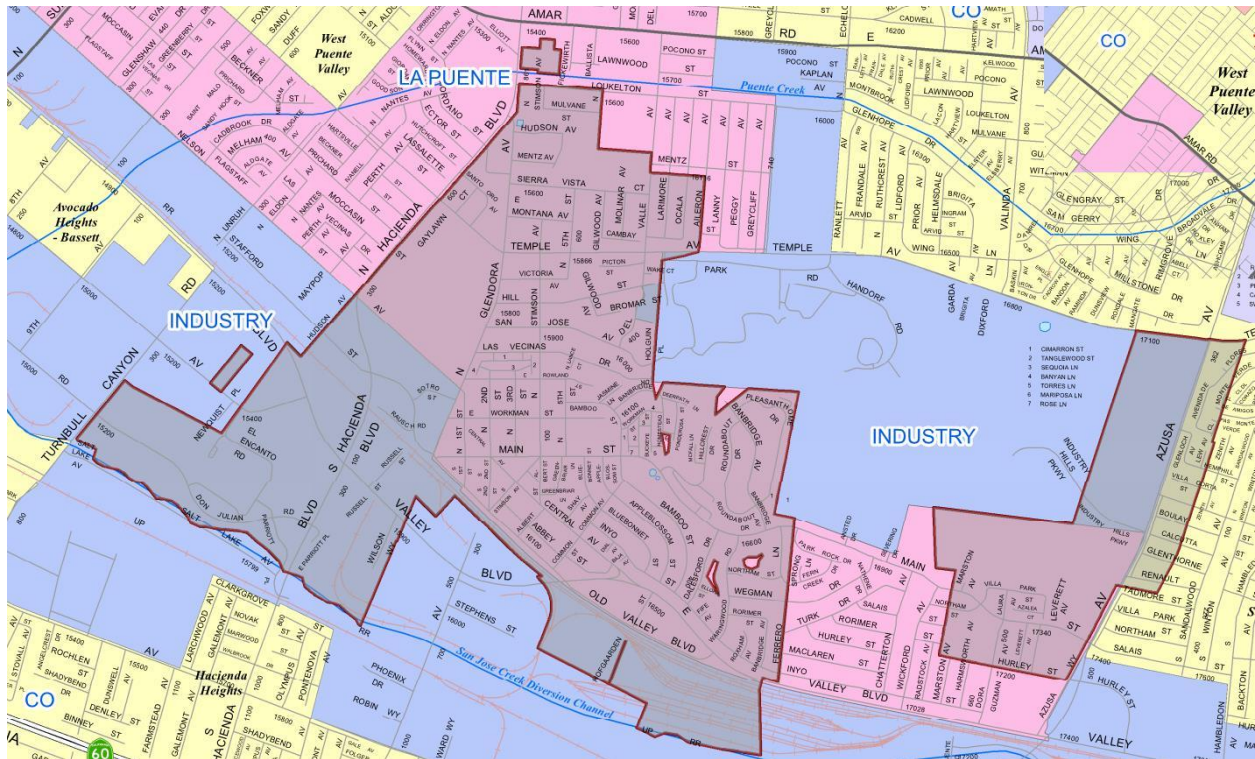
This Water Master Plan (WMP) is a stand-alone living document intended to provide comprehensive analysis of the La Puente Valley County Water District (LPVCWD) water system. Any recommendations for capital improvements are made from the perspective of the historical data available and at the time of the WMP’s preparation.

LPVCWD maintains interconnectivity with nearby water suppliers primarily supported by numerous interconnects with the City of Industry Waterworks System (CIWS). As a result, benefits in supply, storage and distribution are achieved by coordinating operation between both systems that will enable LPVCWD to maximize redundancy and minimize or delay the cost of improvements wherever possible.

1.2 Study Area

The LPVCWD serves portions of the City of La Puente and the City of Industry, as well as unincorporated portions of Los Angeles County. The boundary map of the service area is provided in **Figure 1-1**.

Figure 1-1 – Boundary Map of LPVCWD





CHAPTER ONE - INTRODUCTION

LA PUENTE VALLEY COUNTY WATER DISTRICT

In addition, LPVCWD manages and operates the Industry Public Utilities Water System, which includes 1,860 residential service connections, 34.4 miles of distribution and transmission mains, 1 active well, 5 booster pump stations, and 3 reservoirs.

1.3 Study Period

Historical data for the six-year period, from calendar years 2010 to 2016, is considered as representative of existing conditions. This period has been referenced herein as the Study Period.

1.4 Scope of Report

Following are the tasks completed as part of this master planning project.

1.4.1 Land Use and Water Requirements

Land Use Analysis

Civiltec acquired and reviewed the land use elements of the General Plans for the City of La Puente, City of Industry and the Los Angeles County Department of Regional Planning in order to determine the planners' vision for development within the LPVCWD water system boundary. *Civiltec* summarized and delineated existing land use designations by acreage and number of parcels.

Civiltec acquired and reviewed the latest Southern California Association of Governments (SCAG) Land Use Database for Los Angeles County with regard to those parcels served by LPVCWD. The SCAG Land Use Database uses a Modified Anderson Land Use Classification system, which represents actual and specific land use based on aerial survey.

Water Demand Analysis

Civiltec acquired, reviewed, analyzed, and reconciled customer billing data, water production data and telemetry for the Study Period, as available. This analysis provided an understanding of demand on a pressure zone by pressure zone basis.

Impact of Pending Development (aka Near-Term Development)

An understanding of near-term development is important for determining an appropriate level of developer contribution. In addition to onsite improvements, developers should be responsible for mitigating offsite impacts to the system.

Civiltec contacted the City of La Puente, the City of Industry and Los Angeles County regarding pending development within the existing service boundary.

1.4.2 Establishment of Evaluation Criteria

Early in the planning process, *Civiltec* issued a memo detailing proposed Design Criteria and Planning Criteria based on research of previous planning efforts, industry standards, compliance



requirements, and input from LPVCWD staff provided at the Kick-off Meeting. *Civiltec* coordinated a follow-up meeting with LPVCWD staff to establish and adopt Design Criteria and Planning Criteria to be used as a baseline for determining the adequacy of existing infrastructure to meet current and pending development demands.

Design Criteria

Design Criteria deal with parameters related to the proper sizing and configuration of infrastructure from a hydraulic point of view. The concepts of system performance, system redundancy, customer expectations, regulatory compliance, and emergency preparedness will be built into the criteria, which will target the following areas of concern: supply, storage, transmission, system pressure, and fire flow.

Planning Criteria

Planning Criteria deals with parameters related to cyclical infrastructure replacement due to age and condition. The primary concern of Planning Criteria is to establish the practical service life of each system component and a performance indicator to verify whether maintenance or replacement will result in an economic benefit. These performance indicators may include efficiency, reliability and maintenance history.

1.4.3 Hydraulic Modeling

A hydraulic computer model (Water Model) is an important tool for assessing the distribution system with respect to capacity, compliance, efficiency, and surge. A number of tasks are necessary to construct the new Water Model up to a level where LPVCWD can have confidence in the results it generates, as delineated in the following subsections.

Water Model Construction

- ◆ *Civiltec* programed all pipes including diameter, length, material, estimated roughness and installation date.
- ◆ *Civiltec* programed all junctions (i.e. connections between pipe ends) including elevation and designation (e.g. demand node, fire hydrant location, facility, etc.).
- ◆ *Civiltec* programed all well and booster pumps including elevation, design head and flow per the latest efficiency test, operational settings, and installation date.
- ◆ *Civiltec* programed all control valves including elevation, size, and function (i.e. flow control, pressure reducing, pressure sustaining, etc.).
- ◆ *Civiltec* programed all tanks including base elevation, high water line, dimensions and construction date.
- ◆ *Civiltec* allocated demand to the nearest demand node based on the water demand analysis.



Steady State Calibration

- ◆ Steady state simulation is appropriate for any analysis that may be considered a snapshot in time, such as examining system performance under peak or emergency conditions.
- ◆ Steady state calibration involves verifying vertical control (i.e. the elevations of junctions, tanks and facilities) and adjusting pipe roughness to match actual flow characteristics. Following Water Model construction, *Civiltec* calibrated it against steady state field data to assure that simulation results reflect actual system performance.
- ◆ Field testing was performed at various locations to be determined in coordination with LPVCWD staff (This represents one test in each pressure zone; additional field testing may be performed to improve confidence in the Water Model). A field test consisted of pressure monitoring at two locations before and during a hydrant flow test at a third location. The collected field data at each test location is composed of pressure readings at appropriate locations, pitot tube readings at the flow hydrant, flow test time and duration, flow stream observations (i.e. more or less turbulent), and other boundary conditions that would have an impact on the test result such as tanks levels, pump and valve flow. To the extent feasible, field testing was completed with pumps turned off and gravity storage as the primary source of supply. In cases where there is no gravity storage or where gravity storage is insufficient to support normal operations on its own, telemetry data was used to define the boundary conditions during the test. In the absence of telemetry data at the pressure zone level, a methodology for estimating boundary conditions was devised and applied.
- ◆ Estimated roughness was assigned to each pipe in the Water Model based on AWWA¹ and/or Army Corps of Engineers² recommendations for pipe material and age. Incremental adjustments were made to the estimated roughness on a global basis until a best fit is achieved. The target tolerance for calibration is plus or minus 5 psi or 5% of static pressure at each test location. The calibration process and the raw field test data is provided in an appendix in the final WMP report.

Demand Allocation for Simulation

- ◆ *Civiltec* developed demand allocation to the Water Model across three dimension: (1) scale, (2) simulation type and (3) projection in time. When testing the capacity of the system against design criteria, an appropriate combination of these demand dimension will be applied to the simulation.
- ◆ *Scale* was designated as peak hour demand (PHD), maximum day demand (MDD), average day demand (ADD), and minimum day demand (Min Day).

¹ American Water Works Association. (2012). *Manual of Water Supply Practices-M32: Computer Modeling of Water Distribution Systems*.

² Walski et al. (1988). *Predicting Internal Roughness in Water Main: EL-88-2*.



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LA PUENTE VALLEY COUNTY WATER DISTRICT

- *Simulation type* was designated as Steady State. Steady State means a discrete demand allocated to each demand node.
- *Projection in time* considers (1) existing conditions, and (2) conditions following completion of known development projects (aka near-term).

Scenario Development

- A Water Model scenario is a combination of modeling databases that represents a set of fixed and variable data describing the conditions of a simulation. Scenarios were programmed and stored in the Water Model to simulate conditions described by the design criteria. Simulation results represent system capacity and were compared system requirements in the evaluation process.
- *Fixed data* do not change with time, and are generally described as infrastructure (i.e. the location, alignment, geometry and connectivity of pipes, pumps, valves, tanks and aquifers). The Water Model stores fixed data as Element Databases, and the modeler selects precisely which elements to include in a simulation by defining a Facility Set (i.e. a collection of Element Databases).
- *Variable data* are subject to change with time, including pump or valves settings and controls, demand, supply availability, aquifer depth, etc. The Water Model stores variable data as Data Subsets, and the modeler selects precisely which variable data to include in a simulation by defining a Data Set (i.e. a collection of Data Subsets).

Steady State Simulation

- *Civiltec* simulated fire flow under MDD conditions at each hydrant location to determine system capacity relative to the fire marshal's requirements. Care was taken to accurately apply allowances for multiple hydrants providing coverage to commercial, industrial and institutional (CII) areas.

1.4.4 Supply Analysis

Review of Sources of Supply

- *Civiltec* defined the supply portfolio serving the needs of LPVCWD based on current agreements, rights and contracts.
- *Civiltec* examined alternative sources of supply.
- *Civiltec* rated all current and alternative sources of supply in terms of reliability, sustainability and availability.



Future Supply Requirements

- ◆ *Civiltec* evaluated the capacity of current sources of supply against design criteria under existing and near-term demand conditions.

Supply to Pressure Zones

- ◆ *Civiltec* evaluated the capacity of current supply to each pressure zone against design criteria under existing and near-term demand conditions.

1.4.5 Facility Analysis

Production Infrastructure

- ◆ Production infrastructure generally consists of wells, raw water transmission pipelines, treatment and imported water connections. *Civiltec* evaluated the capacity of production infrastructure against design criteria under existing and near-term demand conditions.

Emergency Supply Infrastructure

- ◆ Generally, emergency supply consists of interconnections with neighboring purveyors and secondary connections with wholesalers. *Civiltec* identified all sources of emergency supply by source, location, direction of flow, capacity, governing agreements, and historical usage. *Civiltec* provided a facility description of each identified emergency supply source.

Booster Pumping Stations

- ◆ *Civiltec* reviewed pump efficiency tests for all booster pumps and evaluated their current performance relative to the manufacturer's performance curves, as available.

Storage

- ◆ The storage analysis focused on the adequacy of existing storage to provide for emergency, firefighting and operational purposes as defined by design criteria under existing and near-term demand conditions.

Pressure Reducing Stations

- ◆ Pressure reducing stations that serve as normal sources of supply to a pressure zone or sub-zone were evaluated against design criteria relative to their capacity to deliver the range of expected normal and emergency flows per the continuous and intermittent flow rating of the valve or valves in the station under existing and near-term demand conditions.
- ◆ Pressure reducing stations that serve as emergency sources of supply were evaluated against design criteria relative to their capacity to deliver emergency flows per the



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LA PUENTE VALLEY COUNTY WATER DISTRICT

intermittent flow rating of the valve or valves in the station while operating in tandem with other emergency sources under existing and near-term demand conditions.

Treatment and Blending

- ◆ *Civiltec* reviewed the adequacy of existing treatment and blending facilities operated by LPVCWD with respect to water quality and capacity.

Disinfection

- ◆ *Civiltec* examined the adequacy of existing disinfection stations with respect to their capacity to maintain a residual throughout the system while operating within DDW parameters.

1.4.6 Distribution System Analysis

Transmission Pipelines

- ◆ Transmission pipelines are intended to efficiently transport large volumes of water between facilities. *Civiltec* examined the efficiency and capacity of these pipelines to deliver normal flow under existing and near-term demand conditions.

Distribution Pipelines

- ◆ Distribution pipelines are intended to deliver water to end users and fire hydrants. *Civiltec* examined the efficiency and capacity of these pipelines to deliver normal and emergency flow under existing and near-term demand conditions.

1.4.7 Water Quality Requirements

Assessment of Trends

- ◆ *Civiltec* analyzed water quality trends that impact the current sources of supply.

Legislative and Regulatory Review

- ◆ *Civiltec* stays abreast of local, state and federal water quality legislation and regulation through a variety of public policy sources. *Civiltec* identified and discussed new and pending water quality legislation and regulation that may impact LPVCWD operations, facilities or policies. *Civiltec* identified and described those legislative and regulatory initiatives that may impact LPVCWD.

Legislative and Regulatory Impacts

- ◆ Based on our review of new and pending water quality legislation and regulation, *Civiltec* described the potential impacts in physical, operational and economic terms.



1.4.8 Planning Analysis

Planning criteria use two factors to identify system components whose replacement would create a net benefit. The first factor is age and is derived from the average historical replacement cycle for a system component. This implies that some components are replaced prior to the average cycle and others last longer than the average cycle. As such, age by itself is insufficient to determine whether a system component should be replaced. The second factor is a performance indicator. As performance drops off, the benefit of replacement increases. A combination of age and performance provides a solid foundation for determining the benefits of replacement.

Replacement Budgeting & Scheduling

- ◆ Based on statistical analysis of assets and service life cycle, *Civiltec* estimated the frequency and cost of expected equipment and infrastructure replacement for budgeting and scheduling purposes.

Identification of Capital Replacement Projects

- ◆ *Civiltec* developed a methodology for identifying capital replacement projects for wells, pipelines, pumps and tanks.

Identification of Cyclical Maintenance Requirements

- ◆ *Civiltec* developed a methodology for identifying cyclical maintenance requirements for tank coatings, pump overhauls, valve refurbishments, meter replacement and maintenance of other appurtenances.

1.4.9 Capital Improvement Program (CIP)

Cost Estimating Framework

- ◆ *Civiltec* established a uniform cost estimating methodology suitable for planning purposes. To the extent feasible, the methodology was based on historical records provided by LPVCWD and *Civiltec*'s experience with related projects.

Identification of Deficiencies

- ◆ Based on hydraulic evaluation and cyclical replacement analysis, *Civiltec* identified system deficiencies and recommend mitigation as a series of projects and programs. Each project or program was discussed individually and included a description, a justification, a priority, and a cost estimate. As applicable, project descriptions may also include opportunities for synergy, alternative solutions, qualification for alternative funding options, and recommendations for field verification or further study.



Presentation of the CIP

- ◆ *Civiltec* presents the CIP in tabular form by type in accordance with LPVCWD preferences for organization and budgeting.

1.4.10 Water Conservation

Water Conservation Goal Review

- ◆ *Civiltec* reviewed the water conservation goals for LPVCWD, the City or any other jurisdiction that may impact water reduction within the water system boundary.

1.5 Abbreviations

The following abbreviation appear in this report:

ADD	average day demand
AFY	acre-feet per year
AF	acre-foot
AWWA	American Water Works Association
BP	Heavy Commercial/Business Park
BPS	booster pump station
CC	Community Commercial
CC&N	certificate of convenience and necessity
CFS	cubic foot per second
CIWS	City of Industry Waterworks System
DU	dwelling unit
ft	feet
GIS	geographic information system
gpm	gallons per minute
HDR	High Density Residential
HGL	hydraulic grade line
HP	horsepower
HWL	high water line
in	inches
INST	Institutional
L	liter
lbs	pounds
LDR	Low Density Residential
LPVCWD	La Puente Valley County Water District
LWL	low water line
MDD	maximum day demand



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MDD+FF	maximum day demand plus fire flow
MDR	Medium Density Residential
MFR	multi-family residential
MGD	millions of gallons per day
MG	milligram
MSGB	Main San Gabriel Basin
MTR	meter
MWD	Metropolitan Water District of Southern California
OS	Open Space
PD	Planned Development
PF	peaking factor
PHD	peak hour demand
PPB	parts per billion
PPM	parts per million
PRV	pressure reducing valve
psi	pounds per square inch
RFI	request-for-information
SCAG	Southern California Association of Governments
SDWA	Safe Drinking Water Act
SFR	single family residential
UDF	unit demand factor
USGVMWD	Upper San Gabriel Valley Municipal Water District
WDF	water duty factor
WMP	Water Master Plan
µg	Microgram

1.6 Conversions

Various units of measure are used for efficient communication of quantities related to and included in engineering calculations. For purposes of consistency, the units referred to in this WMP, their typical usage and their conversions to equivalent units are provided in the sections below.

1.6.1 Volumetric Flow Rate

Volumetric flow rate is presented with a variety of different units depending on context. Volumetric flow rate is generally expressed as a unit of volume per unit of time. The following volumetric flow rate units appear in this report:

Gallons per Minute (GPM)

GPM is commonly used to describe the flow capacity of a pump, valve, fire hydrant or other appurtenance. This unit was used to program the Water Model.



Cubic Foot per Second (CFS)

Metropolitan Water District of Southern California (MWD) typically rates the capacity of its interconnections in terms of CFS. This unit is often used for scientific calculations and for describing the capacity of structures that experience relatively high instantaneous flows (i.e. rivers, weirs, channels, spillways, transmission pipelines, etc.).

Acre-feet per Year (AFY)

When discussing volumetric flow over a long period of time, AFY is often used. Examples of the use of AFY include recharge of an aquifer, seasonal demand associated with agricultural irrigation, the conversion of a snowpack into melt, and management of large surface reservoirs.

Million Gallons per Day (MGD)

Certain facilities are designed to accommodate a daily cycle and include adequate retention to equalize normal fluctuation throughout the day.

Table 1-1 provides conversions for the above volumetric flow rates.

Table 1-1 – Volumetric Flow Rate Conversions

Conversion	GPM	CFS	AFY	MGD
1 GPM equals	1	0.002228	1.613	0.00144
1 CFS equals	448.9	1	724.0	0.6464
1 AFY equals	0.620	0.001381	1	0.000893
1 MGD equals	694.4	1.547	1120.1	1

1.6.2 Volume

Volume is presented with a variety of different units depending on context. The following units of volume appear in this report (with a brief description):

- Gallon – standard U.S. measurement
- Cubic foot (CF) – standard U.S. scientific measurement
- Acre-foot (AF) – typical annual supply measurement
- Liter (L) – scientific measurement in metric



Table 1-2 provides conversions for the above volumes

Table 1-2 – Volume Conversions

Conversion	Gallon	CF	CCF	AF	L
1 Gallon equals	1	0.1337	0.001337	3.069×10^{-6}	0.2642
1 CF equals	7.481	1	0.01	2.296×10^{-5}	28.32
1 CCF equals	748.1	100	1	0.002296	2,832
1 AF equals	325,872	43,560	435.6	1	1,233,480
1 L equals	3.785	0.03531	0.0003531	8.107×10^{-7}	1

1.6.3 Other Units

Other common units of measure that may be found in this report include:

- Milligrams per liter (mg/L), which is equivalent to parts per million (PPM)
- Micrograms per liter (µg/L), which is equivalent to parts per billion (PPB)
- Pounds (lbs)
- Mile = 5,280 feet
- Foot = 12 inches

1.7 Acknowledgments

We, at **Civiltec engineering inc.**, would like to express our appreciation for the cooperation and valuable assistance of the LPVCWD management and staff. In particular, the efforts of the following individuals proved to be invaluable:

- Greg Galindo – General Manager
- Cesar Oritz – Water Production & Treatment Supervisor
- Roy Frausto – Compliance Officer / Project Engineer

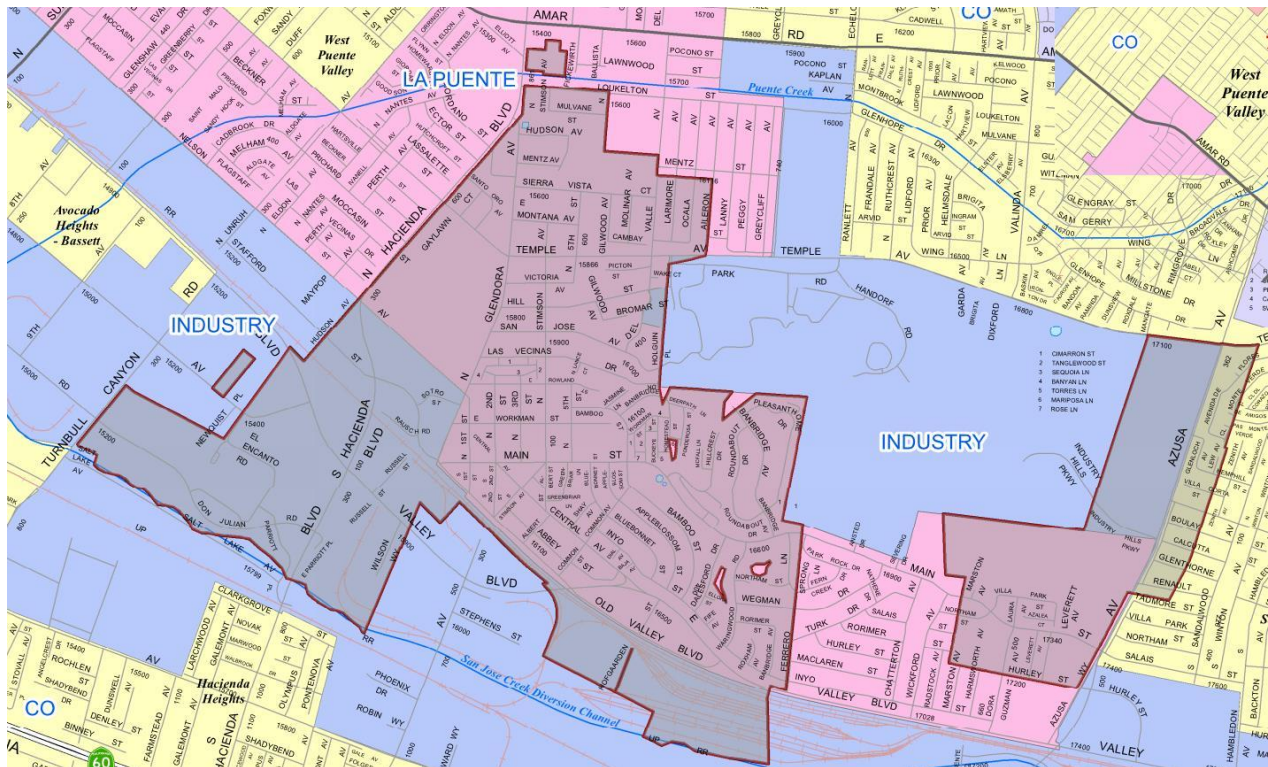


CHAPTER TWO – LAND USE & WATER REQUIREMENTS

2.1 General Description

The purpose of Chapter 2 is to lay out the context for Land Use planning as it influences LPVCWD. LPVCWD serves portions of the City of La Puente and City of Industry, as well as unincorporated portions of Los Angeles County. The boundary map of the service area is provided in Figure 2-1.

Figure 2-1 – Boundary Map LPVCWD



2.2 Land Use Analysis

Land use within LPVCWD’s service area in the City of La Puente is primarily residential with some commercial, institutional and open space areas. In the City of Industry, demand is primarily commercial and industrial. Within the unincorporated areas of Los Angeles County, land use is primarily residential.

The LPVCWD’s service area in the City of Industry is believed to be at full build out. Therefore, when considering potential growth rates for the LPVCWD as a whole, the population of the City of La Puente is used as a key indicator. The population of La Puente has fluctuated minimally since the year 2000. During the 14-year period of 2000-2014, the city’s total population has decreased by 1.4% from 41,063 to 40,478.¹

¹ 2015 SCAG Profile of the City of La Puente <http://www.scag.ca.gov/Documents/LaPuente.pdf>



CHAPTER TWO – LAND USE AND WATER REQUIREMENTS

LA PUENTE VALLEY COUNTY WATER DISTRICT

2.3 Pending Development

On January 22, 2016, the Planning Division of La Puente began reviewing an application of future development (Plan Development Permit, Agreement and Tentative Tract Map) for a 4.5-acre lot consisting of 45 detached single family homes at 747 Del Valle Avenue.²

2.4 Water Demand

Water production capacity must be capable of satisfying all water demands and water losses. Water demands are considered to be the sum of all water delivered to customers and billed for at a commodity rate. Water losses include water uses whose revenue cannot be recovered through activities such as water quality sampling, flushing, pumping to waste, hydrant testing, fire suppression, unmetered construction water and street cleaning water. Water losses also include other forms of unaccounted water such as leaks, reconciliation of inaccurate meters, unauthorized uses, pipe breaks and undocumented maintenance.

For purposes of this Water Master Plan, the term water demand refers to the level of water production necessary to satisfy customer demands and typical losses. Water losses are not referred as a separate category or water use; rather, they are considered a functional reality of managing a distribution system that must be considered when projecting requirements and recommending improvements.

An understanding of demand fluctuation is key to appropriate sizing of infrastructure and facilities. The following sections provide analysis of steady state and dynamic demand fluctuation.

As of 2015, the LPVCWD had 2,568 service connections consisting of 2,058 residential, 400 commercial, 12 industrial, and 98 irrigation service connections.³

2.4.1 Current Water Demand

From 2010 to 2016, the average yearly water usage was approximately 1,691.66 AF. For the years 2010 through 2016, the annual water use data, as provided by LPVCWD, are shown in **Table 2-1**. From 2010 to 2014, water usage increased due to population increase and other elements; however, the usage decreased in 2015 and 2016 as a result of emergency water conservation measures.

² Planning Division of City of La Puente

³ LPVCWD 2015 Annual Report to the State Drinking Water Program LPVCWD



CHAPTER TWO – LAND USE AND WATER REQUIREMENTS

LA PUENTE VALLEY COUNTY WATER DISTRICT

Table 2-1 – Current Water Demand

Year	Water Use (AFY)	Water Use (gpm)
2010	1,609.06	996.89
2011	1,736.83	1,076.05
2012	1,773.61	1,098.84
2013	1,934.91	1,198.77
2014	1,868.42	1,157.58
2015	1,484.08	919.46
2016	1,434.70	889.46
Average	1,691.66	1,069.60

2.4.2 Steady State Peaking Factors

For planning purposes, there are three steady state conditions of interest: (1) Average Day Demand (ADD), (2) Maximum Day Demand (MDD) and (3) Peak Hourly Demand (PHD). The values of these peaking factors are calculated in the following chapters of the Water Master Plan.

Calculation of Average Day Demand

Utilizing the procedures for determining ADD as outlined by the California Regulations Related to Drinking Water, §64554 (b) (3), the average water usage between 2010 through 2016 was averaged to yield an ADD of 4.63 AF.

ADD serves as a benchmark and a planning tool for long-term issues at the system level, such as supply acquisition and integrated resources management.

Calculation of MDD and PHD Peaking Factors

MDD serves as a planning tool at the pressure zone level. MDD is the peak loading for typical booster-reservoir pressure zones for analysis of supply requirements. The maximum day demand was calculated using data provided by LPVCWD between 2010 through 2016. The average MDD of these years is 10.23 AF. The peaking factor is the ratio of the MDD to ADD (2.21).

In large pressure zones, the demographic diversity of the connections creating the demand tends to mediate the degree of variation between ADD and MDD. For example, in Zone 1 of the LPVCWD system (the largest zone), the standard peaking factor of 2.21 can be considered adequate for planning purposes. However, in smaller zones such as Zone 5, with just 10 connections, user demographics tend to be much less diverse, and MDD can vary much more significantly, sometimes by as much as a factor of 8.



CHAPTER TWO – LAND USE AND WATER REQUIREMENTS

LA PUENTE VALLEY COUNTY WATER DISTRICT

MDD is also used to help define certain emergency conditions, especially MDD plus Fire Flow.

PHD serves as a planning tool at the pipe level. Pipes must function adequately under this loading. Also, PHD is the peak loading for sub-zones (e.g. Zones 1A and 2A) for analysis of supply requirements.

A peaking factor is the ratio of the target demand to ADD (3.31). Peaking factors were derived by analyzing data to develop an understanding of pressure zone level demand, sorting for the peak day and peak hour, and scaling to account for the historical peak month production and for attenuation. **Table 2-2** summarizes an analysis of actual water use data during the study period.

Table 2-2 – Peaking Factors

Demand Condition	Code	MGD	GPM	PF
Average Daily Demand	ADD	1.55	1,075	1.00
Maximum Daily Demand	MDD	3.42	2,373	2.21
Peak Hour Demand	PHD	5.13	3,559	3.31

2.4.3 Future Water Demand

Over the past 20 years, the number of service connections increased at an average rate of approximately 1% per year. This growth rate is based on the similar growth rates identified in the LPVCWD’s historic number of service connections and the projected long-term growth rate in the City of La Puente. The future water demand over the next 20 years, including ADD and MDD, is shown in **Table 2-3**.

Table 2-3 – Existing and Future Water Demand

Year	Water Use (AFY)	ADD (gpm)	MDD (gpm)
2015	1,735	1,075	2,373
2020	1,822	1,129	2,492
2025	1,914	1,186	2,617
2030	2,010	1,245	2,748
2035	2,110	1,307	2,885
Increase	375	232	512
% Increase	21.6 %		



CHAPTER TWO – LAND USE AND WATER REQUIREMENTS

LA PUENTE VALLEY COUNTY WATER DISTRICT

The LPVCWD system is composed of 5 different water pressure zones. The future ADD water use in AFY by each pressure zone will be utilized for future urban planning, infrastructure improvements, facility improvements, and so on. The future water use within LPVCWD’s pressure zones over the next 20 years is shown in the **Table 2-4**. In addition, future ADD and MDD water use presented as gpm within LPVCWD’s pressure zones over the next 20 years is shown in **Table 2-5**.

Table 2-4 – Future LPVCWD Water Use by Zones (AFY)

Year	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Total
2015	1,161	499	28	41	6	1,735
2020	1,219	523	30	43	7	1,822
2025	1,280	550	32	45	7	1,914
2030	1,345	578	33	47	7	2,010
2035	1,412	606	35	49	8	2,110

Table 2-5 – Future ADD and MDD by Zones (gpm)

Scenario	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Total
2015						
ADD	719	309	18	25	4	1,075
MDD	1,588	682	38	56	9	2,373
2020						
ADD	755	325	19	26	4	1,129
MDD	1,667	716	41	59	9	2,492
2025						
ADD	793	340	20	28	5	1,186
MDD	1,751	752	43	61	10	2,617
2030						
ADD	833	357	21	29	5	1,245
MDD	1,838	790	45	65	10	2,748
2035						
ADD	874	375	22	31	5	1,307
MDD	1,930	829	48	68	11	2,886

Based on the water use data between 2010 and 2016, the percentage of water use per each pressure zone is presented in **Table 2-6**.

Table 2-6 – Water Usage Percentage of Each Zone

Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Total
66.9 %	28.7 %	1.68 %	2.34 %	0.38 %	100 %

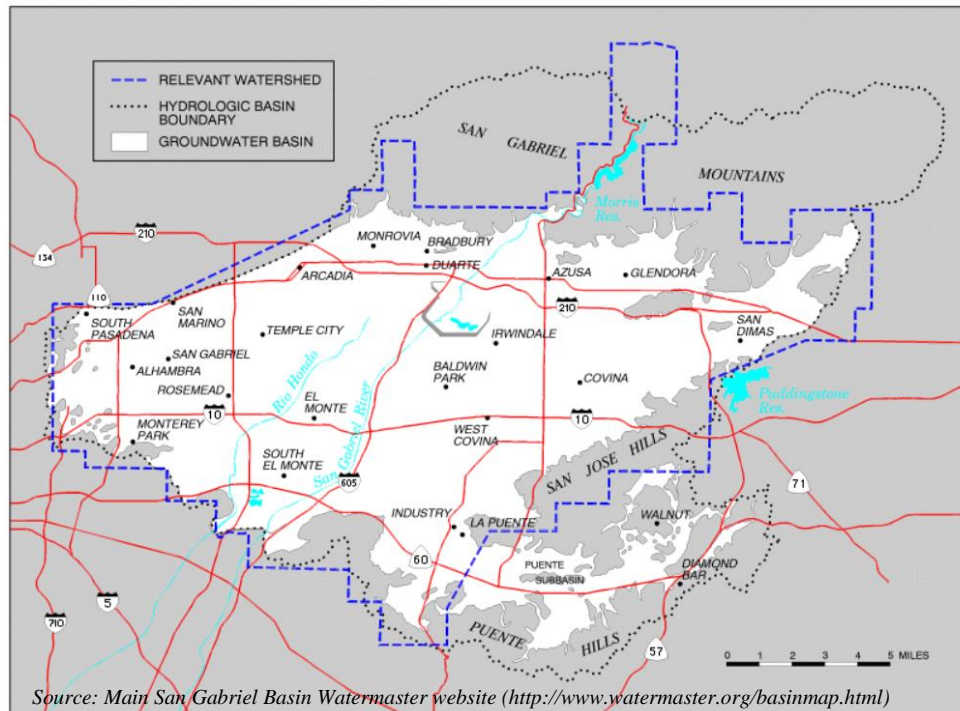


CHAPTER THREE- SOURCES OF SUPPLY

3.1 General Description

LPVCWD’s preferred non-emergency source of supply is from three groundwater wells that produce water from the adjudicated Main San Gabriel Basin (MSGB). The Main San Gabriel Groundwater Basin is bounded by the San Gabriel Mountains to the north, San Jose Hills to the east, Puente Hills to the south, and by a series of hills and the Raymond Fault to the west. The boundary map of MSGB is provided in **Figure 3-1**. The watershed is drained by the San Gabriel River and Rio Hondo, a tributary of the Los Angeles River. Surface area of the groundwater basin is approximately 167 square miles. The fresh water storage capacity of the basin is estimated to be about 8.6 million acre-feet¹

Figure 3-1 – The Boundary Map of MSGB



3.2 Water Rights & Agreements

On January 4, 1973, LPVCWD was adjudicated 1,097.00 acre-feet of water rights based on groundwater production that occurred between calendar years 1953 and 1967, inclusive. Subsequently, LPVCWD obtained the water rights of El Encanto Properties on July 22, 1974 in the amount of 33.40 acre-feet. Thus, LPVCWD’s total adjudicated water rights were set at 1,130.40 acre-feet (0.57197%) of all adjudicated water rights in the Basin. Amendments to the adjudication were approved on June 21, 2012. The amendments worked to expand conjunctive

¹ Main San Gabriel Basin Watermaster Annual Report 2014-2015 Appendix B Page B2 of 6



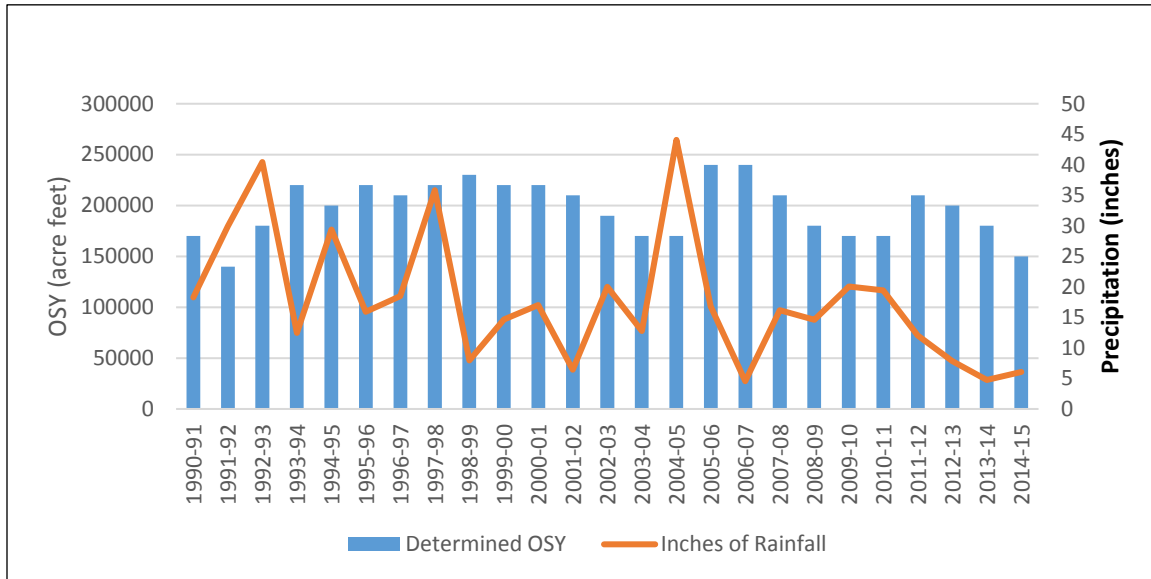
CHAPTER THREE – SOURCES OF SUPPLY

LA PUENTE VALLEY COUNTY WATER DISTRICT

use of groundwater and surface water for future use, to enhance long-term sustainability of water supplies. The Amended Judgement, including a list of adjudicated water rights, is included as Appendix A.

Over time, as rainfall has fluctuated, the MSGB Watermaster has adjusted the Operating Safe Yield (OSY) accordingly. Data for the last 25 years can be seen in **Figure 3-2**².

Figure 3-2 – Rainfall Precipitation (in)



The OSY for 2015-2016 is currently set at 150,000 AF. LPVCWD’s 0.57197% of this total is equal to 857.955 AF.

Utilizing the Metropolitan Water District of Southern California (MWD) distribution system, the Upper District provides water to the MSGB Watermaster³.

3.2.1 Alternative Sources

LPVCWD maintains 11 interconnections with surrounding water purveyors. Nine (9) of these interconnections provide emergency backup supply to LPVCWD and provide the surrounding purveyors with emergency backup supply. When LPVCWD’s wells are down for maintenance or other reasons, LPVCWD receives water from adjacent water purveyors via these interconnections. Currently there is only a single 8-inch pipeline that connects the eastern portion of LPVCWD’s distribution system (Zone 2) with LPVCWD’s treated water supply. Interconnections from City

² Main San Gabriel Basin Watermaster Report on Preliminary Determination of Operating Safe Yield For 2015-16 Through 2019-20

³ <http://upperdistrict.org/about/service-area/>



CHAPTER THREE – SOURCES OF SUPPLY

LA PUENTE VALLEY COUNTY WATER DISTRICT

of Industry and Rowland Water District provide the backup supply to the eastern portion of LPVCWD. The information of alternative source is provided in **Table 3-1**.

Table 3-1 – Location of Alternative Sources

Connection	From - To	Type	Size	Zone Served	Capacity (gpm)	Status
<i>Suburban Water Systems</i> N. Hacienda Blvd. & Loukelton St.	SWS - LPVCWD	Groundwater	6"	Zone 1	700	Active
<i>Suburban Water Systems</i> Azusa Way & Hurley St.	LPVCWD - SWS	Groundwater	6"	Zone 2	500	Emergency
<i>San Gabriel Valley Water Co.</i> Don Julian Rd. & Turnbull Canyon Rd.	SGVWC - LPVCWD	Groundwater	8"	Zone 1	1,200	Active
<i>San Gabriel Valley Water Co.</i> Proctor Ave. & El Encanto	SGVWC - LPVCWD	Groundwater	8"	Zone 1	800	Active
<i>Rowland Water District</i> Azusa Way & Hurley St.	RWD - LPVCWD	Surface Water	10"	Zone 2	700	Emergency
<i>City of Industry Waterworks System</i> San Jose Ave. & Holguin Place	CIWS - LPVCWD	Groundwater	4"	Zone 5	500	Active
<i>City of Industry Waterworks System</i> San Jose Ave. & Holguin Place	CIWS - LPVCWD	Groundwater	12"	Zone 2	1,600	Active
<i>City of Industry Waterworks System</i> Industry Hills-Pump Stat. 1 (Hill St.)	LPVCWD - CIWS	Groundwater	12"	Zone 1	1,600	Emergency
<i>City of Industry Waterworks System</i> Ind. Hills-Pump Stat. 3 (Industry Hills Pkwy.)	CIWS - LPVCWD & LPVCWD - CIWS	Groundwater	10"	Zone 2	1,600	Active
<i>City of Industry Waterworks System</i> Valley Blvd. & Proctor Ave.	CIWS - LPVCWD & LPVCWD - CIWS	Groundwater	14"	Zone 1	1,600	Active
<i>City of Industry Waterworks System</i> Pleasanthome Drive & Industry Hills Reservoir	CIWS - LPVCWD & LPVCWD - CIWS	Groundwater	10"	Zone 3	1,600	Active



CHAPTER THREE – SOURCES OF SUPPLY

LA PUENTE VALLEY COUNTY WATER DISTRICT

3.3 Water Reliability, Sustainability, Availability

The reliability, sustainability and availability of LPVCWD’s water is directly dependent upon a wide network of sources.

When LPVCWD requires more water than its annual production rights, they are able to pump over the established water rights by leasing water rights from other stakeholders with the notice to the MSGB Watermaster. Also, the deficit water can be purchased from imported water. If LPVCWD pumped over the established water rights without leasing or purchasing from other water sources, then it will be charged through the assessment invoice from the MSGB Watermaster and that fee will be used to fill up the deficit of water from imported water sources.

In 2013-14, MWD doubled its annual conservation and outreach budget from \$20M to \$40M and called on its retail water agencies to implement “extraordinary conservation measures” to reduce water demand. In the 2013-14 fiscal year, the region saved about 923,000 AF of water.⁴ MWD also actively supports multiple recycling and groundwater recovery programs to balance the region’s water portfolio.

From 2011 to 2014, each year has been dryer than the previous year.

In 2013-14, the MSGB Watermaster set new OSY levels to help encourage conservation and continued to make progress towards building regional water supply independence as follows:

- ◆ Established a Reliability Storage Program with a target reserve of 100,000 acre-feet
- ◆ Implemented a new Water Resource Development Assessment to pay for the Reliability Storage Program
- ◆ Paved the way for importing Colorado River water into the Basin, providing additional supplies
- ◆ Set new OSY levels that will help encourage water conservation
- ◆ Expanded outreach efforts to improve consumer conservation
- ◆ Continue to make progress on groundwater cleanup and water quality protection project

LPVCWD acquired services from Montgomery Watson Harza (MWH) to produce a recycled water feasibility study that was completed in May 2011. LPVCWD’s potable groundwater sources currently pump over its annual allotment by approximately 40%, thereby requiring them to pay replenishment fees to the MSGB Watermaster. A total of 74 reuse sites with a demand of 375 AFY in and adjacent to its service area within the City of Industry were identified. The feasibility study identified four (4) Alternatives for providing recycled water to LPVCWD’s service area. Of the 4 alternatives, Alternative 2 (Pumped System) was the recommended recycled water system

⁴ http://www.mwdh2o.com/PDF_About_Your_Water/2.1.1_Regional_Progress_ReportSB60.pdf



CHAPTER THREE – SOURCES OF SUPPLY

LA PUENTE VALLEY COUNTY WATER DISTRICT

design. The recommended design utilizes the City of Industry’s 36-inch recycled water transmission line as the source of supply for the system. This alternative includes tapping into the 36” transmission line along the San Jose Creek Channel at Patriot Place that could serve approx. 280 AFY to identified customers through a new pump station.

The construction of a recycled water system will require the District, for the first time in several decades, to obtain a loan to finance such a project. The investment in a recycled water system will deliver recycled water to several irrigation customers and replace the use of drinking water for irrigation. The current drought has made it clear that reliance on imported water for groundwater replenishment is not the best long-term solution for the regions’ water supply needs. By incorporating recycled water into the District’s overall supply, the District would reduce its dependence on this expensive water source.

The District has partnered with Upper San Gabriel Valley Municipal Water District to secure a \$428,000 grant from the State Department of Water Resources for Phase 1 of the Recycled Water System Project. This grant will cover approximately 25 percent of the estimated cost of Phase 1, which is expected to serve 50 acre feet of recycled water per year to irrigation customers on Don Julian Avenue. Phases 2 and 3 are planned to deliver an additional 140 acre feet per year. The current cost to produce 190 acre feet of water that is over the District’s annual production right is approximately \$170,000. The overall cost of all 3 Phases is estimated at \$7.5 million. The District is pursuing low interest loans and any available grant funding to fund this project that would otherwise not be cost effective. This new drought resistant source of water improves long-term water supply reliability for all the District’s customers. For purposes of the 10-year Capital Improvement Program (CIP) budgeting allocations (Chapter 9 – Table 9-21), Phase 1 will be the only Phase included on the list of Capital Projects. Phase 2 and Phase 3 will be reviewed and analyzed further by LPVCWD staff to determine the feasibility of constructing during the next 10 years.

3.4 Supply to Pressure Zones

LPVCWD maintains five separate pressure zones as shown in **Figure 3-3**. **Table 3-2** below summarizes the basic features of the five zones.

Table 3-2 – Ground Elevation Range of Pressure Zones

Zone	Elevation (ft AMSL)	
	Low	High
1	307	442
2	378	541
3	536	690
4	453	630
5	557	568



CHAPTER THREE – SOURCES OF SUPPLY

LA PUENTE VALLEY COUNTY WATER DISTRICT

In 2015, four zones were partially serviced with water purchased from outside LPVCWD. **Table 3-3** below list the source, size, capacity, and status for each respective zone.

Table 3-3 – Zones Capacity

Zone	Source(s) ⁵	Size (inch)	Capacity (gpm)	Status
1	SWS	6	700	Active
	SGVWC	8	1,200	Active
	SGVWC	8	800	Active
	CIWS	12	1,600	Emergency
	CIWS	14	1,600	Emergency
2	RWD	10	700	Emergency
	CIWS	10	1,600	Emergency
	CIWS	12	1,600	Active
3	CIWS	10	1,600	Active
5	CIWS	4	500	Active

Based on system theory, supply to a pressure zone is defined as Q_{in} . For purposes of analysis, supply as Q_{in} is considered as the sum of all non-emergency sources entering a pressure zone, including wells, treatment facilities, booster stations, and control valves. We will evaluate the capacity of current supply to each pressure zone against design criteria under existing and near-term demand conditions. Accordingly, each element of the water supply, storage, production, interconnection and distribution systems will be evaluated for necessary improvements to address deficiencies under the current and near-term conditions in Chapter 9.

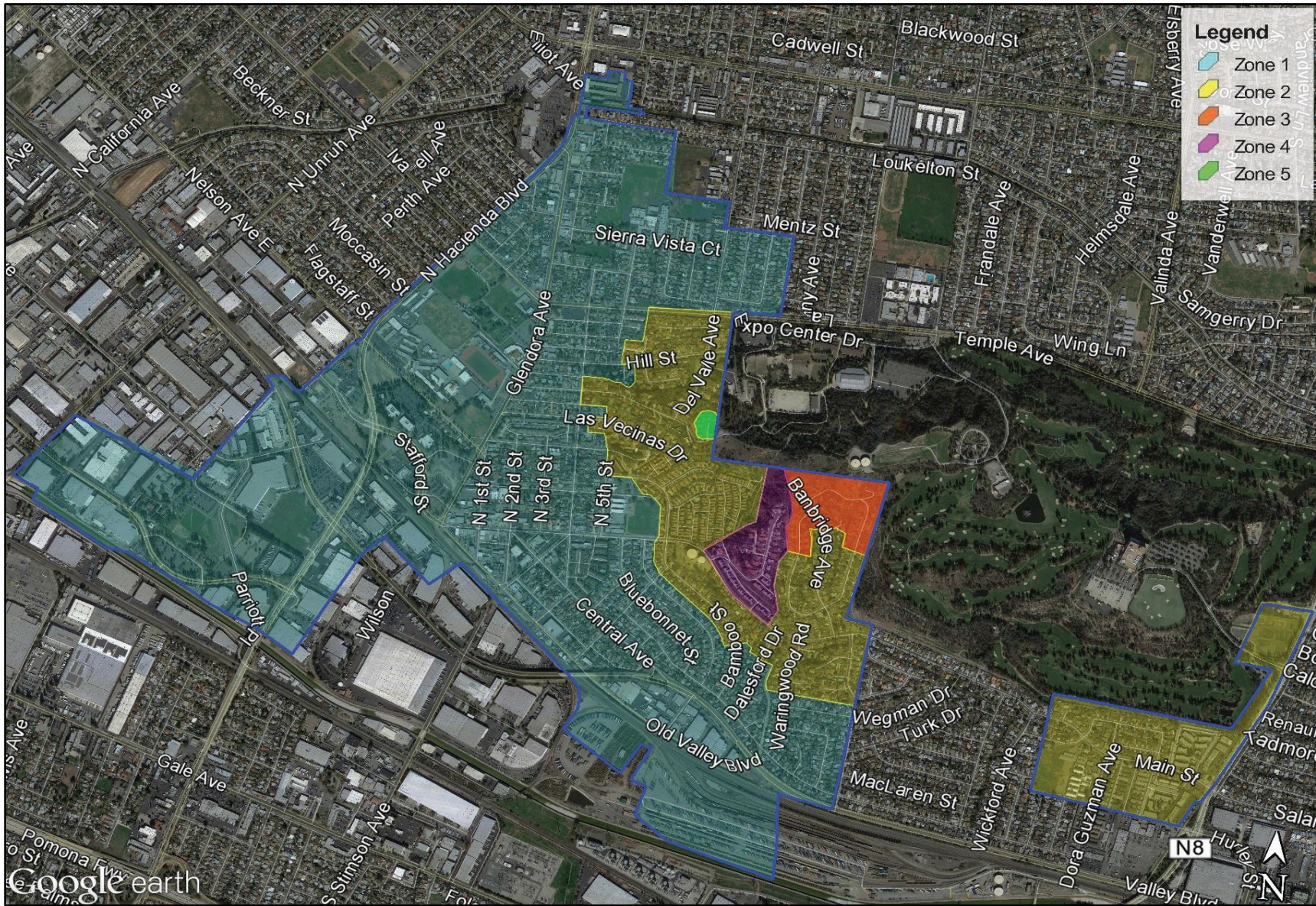
⁵ SWS – Suburban Water Systems
 SGVWC – San Gabriel Valley Water Company
 CIWS – City of Industry Water System
 RWD – Rowland Water District



CHAPTER THREE – SOURCES OF SUPPLY

LA PUENTE VALLEY COUNTY WATER DISTRICT

Figure 3-3 – Boundary of Pressure Zones in LPVCWD





CHAPTER FOUR- WATER QUALITY

4.1 General Description

Chapter 4 details the status and potential impacts of water quality on the LPVCWD.

The United States Environmental Protection Agency (EPA) and the Division of Drinking Water (DDW) are the public agencies responsible for drafting and implementing regulations that ensure drinking water is safe to consume. EPA and DDW establish drinking water standards that limit contaminant concentrations in water provided to the public.

LPVCWD regularly tests its drinking water using approved methods to ensure its safety. Over 100 compounds are monitored in LPVCWD's water supply and detected constituents are reported accordingly. In 2015, all water delivered by LPVCWD met or surpassed State and Federal drinking water standards.

In addition, the MSGB Watermaster, who manages the groundwater basin where LPVCWD extracts its supply, continuously and vigilantly reviews upcoming State and Federal drinking water regulations. MSGB Watermaster has been proactive in the monitoring of unregulated emerging contaminants in anticipation of new water quality standards.

4.2 Consumer Confidence Report

Water utilities in California have been required to provide an annual report to their customers since 1991, which summarizes the prior year's water quality and explains important issues regarding their drinking water. In 1996, the United States Congress reauthorized the Safe Drinking Water Act (SDWA), which was originally passed in 1974 and later amended in 1986. The 1996 reauthorization called for the enhancement of nation-wide drinking water regulations to include important components such as source water protection and public information. The LPVCWD 2015 Water Quality/Consumer Confidence Report was prepared in compliance with the consumer right-to-know regulations required by the SDWA 1996 amendments and is provided in Appendix TBD.

4.3 Safe Drinking Water Act

The federal government, with the passage of the Safe Drinking Water Act (U.S. Congress, 1974) through the EPA, was given the authority to set drinking water quality standards for all drinking water delivered by community (public and/or private) water suppliers. The SDWA requires two types of standards: primary and secondary. Primary standards are enforceable and intended to protect public health, to the extent feasible, using technology, treatment techniques, and other means, which the EPA determines are generally available on the date of the enactment of the SDWA. Primary standards include performance requirements (Maximum Contaminant Levels, or MCL's) and/or treatment requirements. The SDWA also contains provisions for secondary drinking water standards for MCLs on contaminants that may adversely affect odor or appearance of water. Secondary standards are not enforceable.



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LA PUENTE VALLEY COUNTY WATER DISTRICT

The SWDA has established processes for identifying and regulating drinking water contaminants to protect human health. The Candidate Contaminant List and the Unregulated Contaminant Monitoring Rule are scientifically rigorous processes for determining the appropriate status of currently unregulated contaminants. Regulations regarding these processes were enacted by amendment to the SDWA in 1996 to address emerging constituents.

4.4 Current and Pending Water Quality Related Legislation

Changes to water quality regulations and standards and the review of legislation is closely monitored by numerous stakeholders including EPA, DDW and AWWA. The following sections provide a summary of pressing issues cited by these agencies that may impact LPVCWD.

4.4.1 Hexavalent Chromium

Hexavalent chromium, also known as chromium 6, is the subject of significant developments at the state and federal levels. Though there are currently no existing or proposed drinking water standard specifically targeting chromium 6, the California Office of Environmental Health Hazard Assessment has proposed a public health goal of 0.02 parts per billion (20 parts per trillion) in July 2011. DDW proposed an MCL for chromium 6 of 0.010 milligram per liter (10µg/L) and announced the availability of the proposed MCL for public comment. DDW reviewed the comments submitted by interested parties and responded to them in the final statement of reasons. On April 15, 2014, DDW submitted the hexavalent chromium MCL regulations package to the Office of Administrative Law (OAL) for its review for compliance with the Administrative Procedure Act. On May 28, OAL approved the regulations, which were effective on July, 2014. The EPA and members of Congress have signaled their intent to focus on chromium 6 in drinking water. It should be noted that chromium 6 is currently indirectly monitored under the total chromium MCL of 50µg/L at the state level and 100µg /L at the federal level.

4.4.2 Impacts of Climate Change

Climate change has the potential to affect the reliability of both local and imported water supplies, and adds its own uncertainties to the challenges of planning. Climate change could also increase water demand. For example, studies conducted by the National Center for Atmospheric Research for Inland Empire Utilities Agency, suggest a 0.21 to 3.81 degrees F temperature increase and -19 to +8 percent change in winter precipitation in Southern California between 2000 and 2030 (Groves, Knopman, Lempert, Berry, & Waifan, 2008). Studies conducted by the Southern California Association of Governments (SCAG) suggest that current temperatures will increase by 1 to 2 degrees F by 2050, and by 4 degrees F above current levels by 2100 (Governments, 2009). Higher temperatures and reduced precipitation are expected to increase evapotranspiration and irrigation water demands; however, higher temperature may also result in increased humidity which could offset a portion of the demand increase. Reliability estimates developed by the California Department of Water Resources (DWR) for the State Water Project (SWP) supplies account for the impacts of climate change.

Traditional planning methods assume that future hydrologic conditions will be representative of past conditions (from early 1900s). However, as demonstrated by current weather patterns, future



CHAPTER FOUR – WATER QUALITY

LA PUENTE VALLEY COUNTY WATER DISTRICT

climate and hydrologic conditions may differ from past observations due to climate change and extremities of climate variation that have recently manifested. In addition to climate change and natural variation, other uncertainties such as population projections and unforeseen regulatory changes, may pose risks to resource management strategies that assume the status quo.

It is important to make a distinction between climate and weather. Climate is how the atmosphere behaves in an area over a long period of time, while weather is the state of the atmosphere over a short period of time.

Climate change was once considered an issue for a distant future but now has moved into the present. It can be defined as a change in global or regional climate patterns primarily due to human-induced emissions of heat-trapping gases.

According to the 2014 National Climate Assessment (NCA), “climate change is already affecting American people in far-reaching ways. Certain types of extreme weather events have become more frequent and/or intense, including prolonged periods of heat, heavy downpours, and, in some regions, floods and droughts. In addition, warming is causing sea level to rise and glaciers and Arctic sea ice to melt, and oceans are becoming more acidic as they absorb carbon dioxide”.¹

Climate change is expected to affect California’s water supply conditions, with one of the most significant impacts being reduction in mountain snowpack due to warmer temperatures that will likely increase evapotranspiration rates and extend growing seasons.

Per the 2010 California Drought Contingency Plan², regions that rely heavily upon surface water or surface water recharge could be particularly affected as runoff and surface water supply becomes more variable, and more demand is placed on groundwater and availability for surface water for groundwater recharge is limited. Climate change and a projected increase in California’s population will also affect water demand. Southern California entered a drought state in 2012 throughout 2016.

The impact of climate change on LPVCWD is unknown at this time, but it may cause a decrease in available supplies and an increase in demand. It is recommended to maintain a dialogue with local jurisdictions, the County of Los Angeles and the State of California on the subject of climate change regulation.

4.4.3 Electronic Dissemination of Consumer Confidence Reports (CCR)

SDWA requires public drinking water system administrators to electronically post water quality reports to all customers on an annual basis. The US Senate enacted the “End Unnecessary Costs Caused by Report Mailing Act of 2011” (S.1578, HR.1340) intended to increase the efficiency of required correspondence by utilizing modern communications technology. As a result, LPVCWD utilizes electronic communication of water quality reports. California water purveyors are currently able to electronically submit the CCR as of 2013.

¹ “Highlights”. Climate Change Impacts in the United States. U.S. National Climate Assessment.

² California Drought Contingency Plan 2010. California Department of Water Resources.



4.4.4 “Safe Harbor” for MTBE

The US House of Representative is considering the “Domestic Fuels Protection Act” (HR.4345) whose provisions would allow polluters to pass on to communities and their customers the cost of cleaning up drinking water sources contaminated by MTBE (methel tertiary-butyl ether). This issue of “safe harbor” for contamination by MTBE came up previously, and the House and Senate ultimately did not include such provisions in the comprehensive energy bill enacted in 2005.

If MTBE is present in LPVCWD groundwater, LPVCWD may become responsible for its cleanup. It is recommended LPVCWD monitor legislation regarding the issue regarding MTBE cleanup.

4.4.5 EDCs and Pharmaceuticals

There are increasing concerns over the detection of endocrine-disrupting compounds (EDCs) and other pharmaceuticals in water. Per AWWA, both non-point source runoff and sewage effluent from properly operated waste treatment plants may contain minute traces of these compounds. Some minute quantities of these products will pass through animals and humans who use them, and enter the waste stream. They are typically not completely destroyed or removed by wastewater treatment processes. The concern does not stem from the detected concentrations of these compounds, but from their mere existence. As detection instruments become more and more sensitive, extremely low concentrations of constituents in water can be detected. Modern devices are now able to detect compounds at the parts-per-trillion level, and are breaching the parts-per-quadrillion boundary in some cases. To date, however, no concentrations of EDCs or pharmaceuticals have been detected which pose a health risk. Research is ongoing.

The impact on LPVCWD is unknown at this time. It is recommended LPVCWD monitor legislation regarding potential development of MCLs for EDCs.

4.4.6 Groundwater Replenishment Reuse

DDW has proposed updated regulations for groundwater replenishment with recycled municipal wastewater (See Appendix TBD). These regulations would provide guidance, standards and requirements for the implementation of a Groundwater Replenishment Reuse Project (GRRP). A GRRP sponsor would be responsible for demonstrating project feasibility, compliance and monitoring.

These regulations may impact the conclusions of the feasibility study being undertaken by Upper San Gabriel Valley Municipal Water District (USGVMWD) regarding its Indirect Reuse Groundwater Replenishment Project, per U.S. Dept. of the Interior:

The USGVMWD will investigate and seek solutions to reverse diminishing groundwater supplies in the main San Gabriel Basin. The objective is to offset current interruptible imported supplies with 10,000 to 20,000 acre-feet annually of locally supplied recycled water within the next 8 to 13 years. The feasibility study will evaluate multiple sources of reclaimed water and compare these alternatives



CHAPTER FOUR – WATER QUALITY

LA PUENTE VALLEY COUNTY WATER DISTRICT

against a "no project" alternative in order to determine the best method for replenishment for the study area.

LPVCWD may have an opportunity to participate as member agency in the USGVMWD project, depending on the outcome of the study.

The Metropolitan Water District of Southern California (MWD) under partnership with the Sanitation Districts of Los Angeles is also currently exploring the potential of a water purification project to reuse water currently discharged to the Pacific Ocean for recharge of regional groundwater basins in Los Angeles and Orange counties. MWD would construct a new purification plant and distribution lines to groundwater basins. The operational phases of the project could call for deliveries of up to 150 MGD of purified water and the construction of about 60 miles of distribution lines to convey the water to spreading basins and/or injection well sites in both of the counties.³ This project would be the first in-region production of water by MWD and may beneficially impact LPVCWD supply with recharge extending to the Main San Gabriel Basin.

4.5 Local Contamination

In 1991, the levels of volatile organic compounds (VOCs) in the LPVCWD wellfield began to exceed the maximum contamination levels set by the DDW. In 1997, several new chemicals not previously identified as concern (including perchlorate, NDMA, and 1,4-dioxane) were discovered in the District's wellfield. These contaminants are treated through the La Puente Treatment Plant. The summary of water quality data for Well 2, 3 and 5 is described in **Table 4-2**.

The concentration trend (2012 to 2016) of these contaminants in the raw water (Well Nos. 2, 3 and 5) is described in **Table 4-1**.

Table 4-1 – Trend of Water Quality

Contaminants	Well 2	Well 3	Well 5
TCE	Decreasing	Decreasing	Decreasing
PCE	Constant	Decreasing	Decreasing
CTC	Decreasing	Decreasing	Decreasing
1,2 DCA	Constant	Decreasing	Decreasing
Perchlorate	Constant	Decreasing	Constant
Nitrate	Increasing	Increasing	Constant
NDMA	Constant	Decreasing	Decreasing
1,4 Dioxane	Increasing	Decreasing	Decreasing

³ The Metropolitan Water District of Southern California, Regional Recycled Water Program



CHAPTER FOUR – WATER QUALITY

LA PUENTE VALLEY COUNTY WATER DISTRICT

The average raw water contaminant concentration levels in 2015 with their respective MCL/NL for Wells No. 2, No. 3, and No. 5 are listed in **Table 4-2**.

Table 4-2 – Average Water Quality and MCL/NL

Contaminants	Well 2	Well 3	Well 5	MCL/NL
TCE	55.5 ug/l	0.82 ug/l	13.7 ug/l	5 µg/L
PCE	3.3 ug/l	ND	1.1 ug/l	5 µg/L
CTC	2.7 ug/l	ND	0.5 ug/l	0.5 µg/L
1,2 DCA	2 ug/l	ND	0.4 ug/l	0.5 µg/L
Perchlorate	39 ug/l	7.9 ug/l	15.9 ug/l	6 µg/L
Nitrate (As Nitrogen)	6.7 mg/l	8.1 mg/l	6.5 mg/l	10 mg/L
NDMA	91.7 ng/l	ND	26.4 ug/l	*10 µg/L
1,4 Dioxane	1.6 ug/l	ND	0.2 ug/l	*1 µg/L
ND = Non Detect MCL = Maximum Contaminant Level * Notification Level (NL)				

4.6 Current Water Treatment

The La Puente Treatment Plant, at 1695 Puente Avenue in the City of Baldwin Park, was completed in February of 2000. This treatment facility includes the following elements to treat groundwater from wells No. 2, No. 3, and No. 5:

- ◆ Two parallel air stripping towers with off-gas carbon for treating VOCs.
- ◆ An ion exchange (4 vessels) for treating perchlorate.
- ◆ A hydrogen peroxide injection system and two Ultraviolet light/oxidation systems in parallel for treating NDMA and 1,4- dioxane.
- ◆ Two booster pump stations.

The layout and flow diagram of La Puente Treatment Plant is shown in **Figure 4-1** and **Figure 4-2**.

After treatment, the water is piped to the District’s Hudson Booster Station located in the City of La Puente and pumped into the District’s water system. The water is closely monitored and tested to assure that the water delivered to the public complies with all Federal and State drinking water



CHAPTER FOUR – WATER QUALITY

LA PUENTE VALLEY COUNTY WATER DISTRICT

regulations. The Treatment Plant current capacity is 2,500 gallons per minute, meeting 100% of the District's water needs.

4.7 Puente Valley Operable Unit Intermediate Zone Project

The District prides itself on its efforts over the past 25 years to provide groundwater cleanup (treatment) in the Main San Gabriel Groundwater Basin. In fact, the District was the first water agency in the San Gabriel Valley to provide multi-barrier treatment for various contaminants at its groundwater treatment facility, which kick started other groundwater treatment projects in the Valley. Over the years, the District's groundwater treatment plant has removed tons of contaminants. Our District's overall goal is to leave the groundwater basin free of contamination for future generations, so that it may continue to be used to meet the needs of its residents.

In mid-2014, the District was presented with an opportunity to further make a difference in remediating groundwater contamination in the Main San Gabriel Basin, more specifically the Puente Valley area. Under an order by US EPA, several industrial companies have been planning for several years to construct a highly efficient groundwater treatment system. This system would be comprised of 50 monitoring wells, 7 production wells, and multiple treatment technologies. In 2015, a property was purchased, by the lead industrial company, to construct the groundwater treatment facility. This property is located within the District's service area and in close proximity to the District's water distribution facilities. Since District staff already has experience operating a similar groundwater treatment system, the District has agreed to operate the Puente Valley Operable Unit Intermediate Zone (PVOU IZ) treatment facility. The District will receive fully treated water, which meets all State and Federal drinking water standards, into its water system and will utilize this water as a back-up supply for the District and for neighboring water purveyors.

In November 2014, the District and the lead industrial company signed a Term Sheet to move forward with plans for the District to operate and deliver water from the proposed groundwater treatment plant. The plant will need to be operated on a continual basis and any surplus water in excess of the needs of the District will be conveyed to another neighboring Water Agency. The plant will improve water quality in the groundwater basin, provide an additional emergency water supply for the community of La Puente, and create an additional revenue source for the District. The groundwater treatment system and associated improvements are anticipated to be constructed over the next two to three years with groundwater treatment starting in 2019/2020.



Figure 4-1 - Layout of LPVCWD Water Treatment Facility

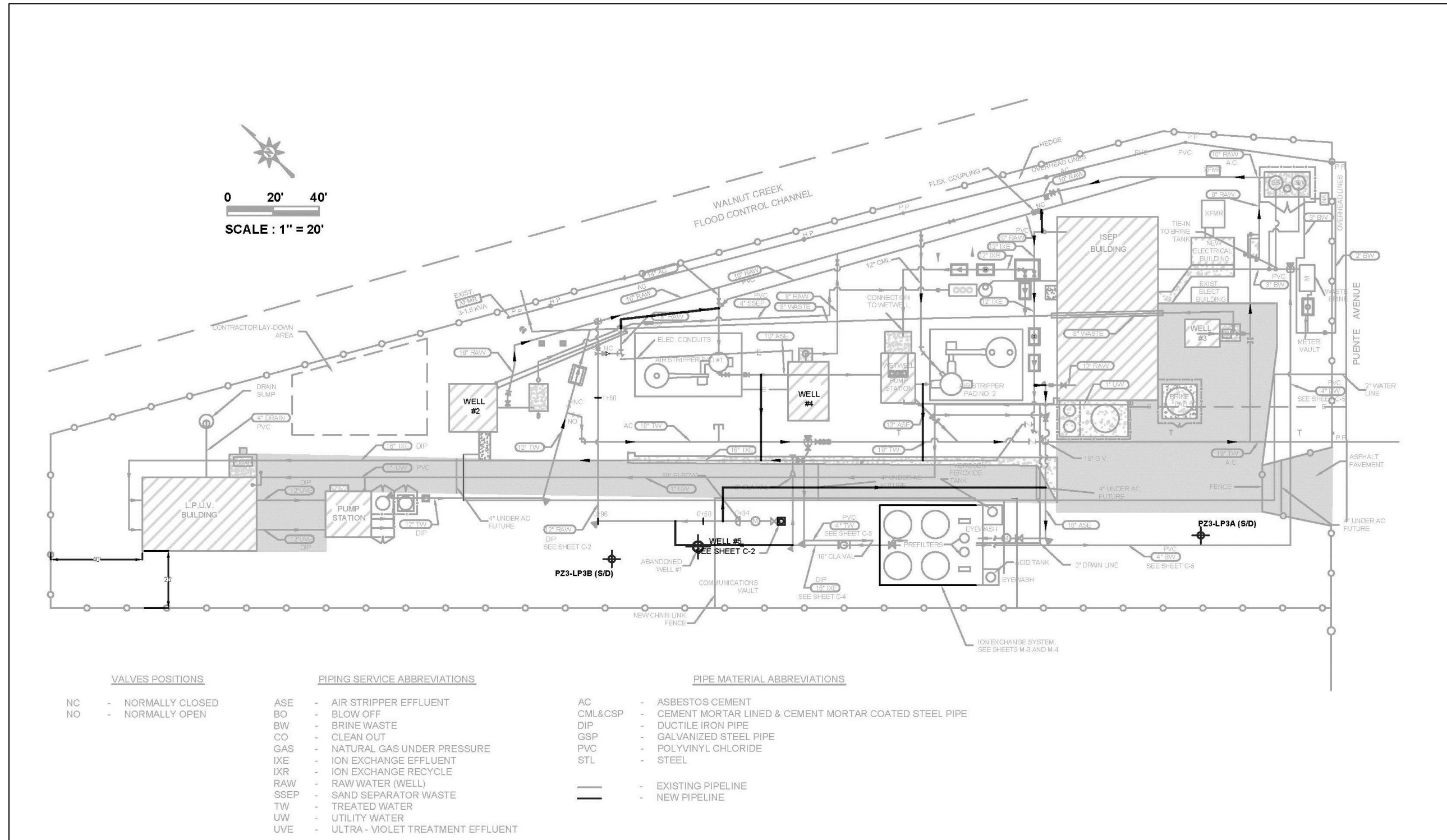
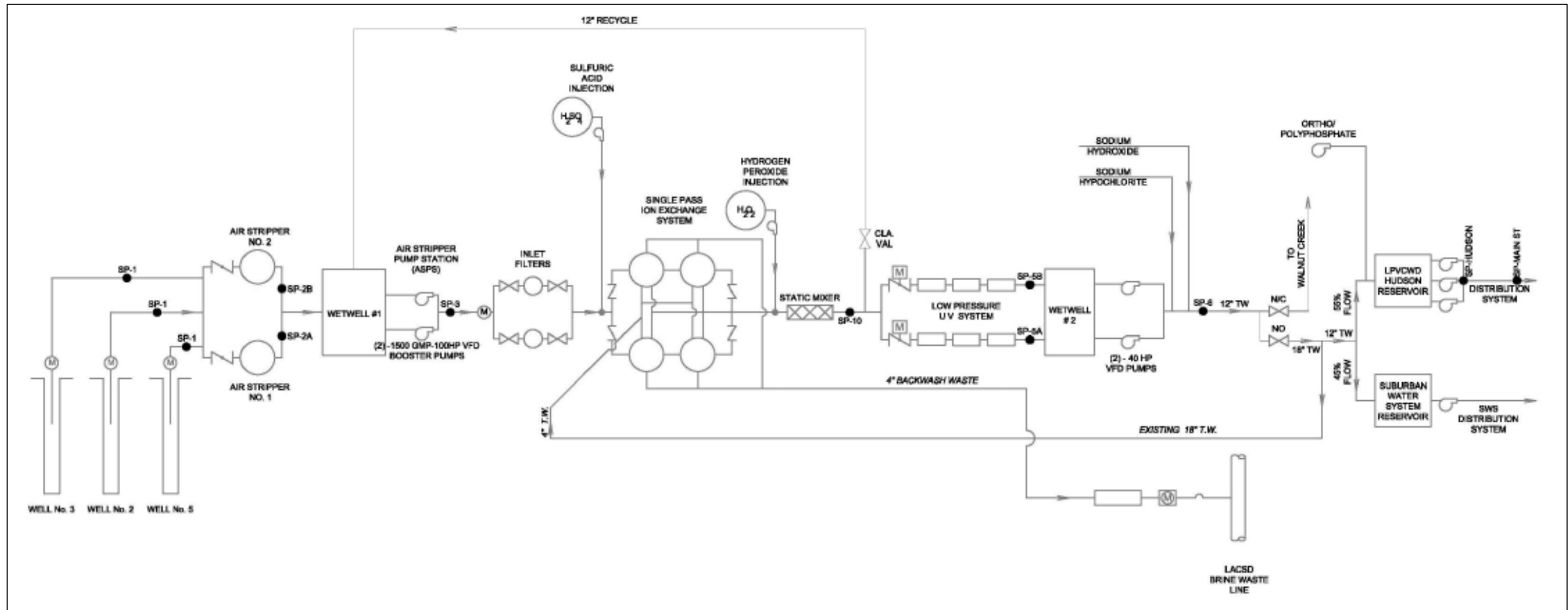


Figure 4-2 – Flow Diagram of LPVCWD Water Treatment Facility





CHAPTER FIVE – EXISTING WATER SYSTEM

LA PUENTE VALLEY COUNTY WATER DISTRICT

CHAPTER FIVE - EXISTING WATER SYSTEM

5.1 General Description

LPVCWD was founded in 1924. LPVCWD’s primary source of water supply comes from the Main San Gabriel Groundwater Basin. Once extracted, water is treated through LPVCWD’s Treatment Plant and then conveyed to the Hudson Reservoir in Zone 1 of LPVCWD distribution system. In total, LPVCWD operates five interconnected pressure zones where 96% of customers are located in Zones 1 and 2. Booster Stations are located within the system to lift water to Zones 2, 3, 4, and the Industry Hills Reservoirs. Zone 5 and Zone 3 are both serviced by the Industry Hills Reservoirs, which also provide emergency supply for Zone 2.

LPVCWD’s system includes approximately 2,500 service connections, 34.2 miles of distribution and transmission mains, 3 active wells, 6 booster pump stations, and 3 reservoirs. Most of LPVCWD’s infrastructure was constructed in the 1950’s and 60’s.

5.2 Supply System Facilities

The supply system for LPVCWD consists of groundwater wells and emergency intertie connections. Under normal operating conditions, all supply is provided by groundwater.

5.2.1 Groundwater Wells

LPVCWD owns three active wells (2, 3 & 5), one abandoned/destroyed well (1) and two inactive wells (4 and Orange). Wells 2, 3 and 5 are located at LPVCWD’s well field at 1695 Puente Avenue in Baldwin Park. Currently, only Wells 2, 3 and 5 are operational. The area of the groundwater basin in which wells draw their water from is contaminated. A treatment plant was installed to treat contaminated groundwater to potable water standards as required by the DDW. Details of the active LPVCWD wells are shown in **Table 5-1**. Under normal operation Well No. 5 supplies all the source water to the treatment facility.

Table 5-1 – LPVCWD Active Wells

Well Designation	Year Installed	SCE Eff. Test	Capacity (gpm)	Total Head (ft)	Depth (ft)	Casing Dia (in)	Energy Source	Status
No. 2	1976 ¹	Yes	1,606	215	947	16	Electric	Active
No. 3	1989 ²	Yes	1,101	203	800	16	Electric	Active
No. 5	2008	Yes	2,286	247	785	20	Electric	Active

In addition, details on two inactive wells and one abandoned well are shown in **Table 5-2**.

¹ Well No. 2 was originally drilled in 1926 and re-drilled in 1976

² Well No. 3 was originally drilled in 1962 and re-drilled in 1989



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Table 5-2 – LPVCWD Inactive Wells

Well Designation	Year Installed	Capacity (gpm)	Depth (ft)	Casing Dia (in)	Energy Source	Status
No. 1	1925	NA	200	NA	NA	Abandoned
No. 4	1973	1,000	743	16	Natural Gas	Inactive
Orange			232			Inactive

5.2.2 Emergency Interconnections

LPVCWD has nine (9) emergency intertie connections with its neighboring agencies. **Table 5-3** below shows the summary of these connections.

Table 5-3 – Emergency Intertie Summary

Connection	Source	Zone Served	Size (in)	Capacity (gpm)
<i>Suburban Water Systems</i> Azusa Way & Hurley St.	SWS	LP Zone 2	6	500
<i>Suburban Water Systems</i> N. Hacienda Blvd. & Loukelton St.	SWS	LP Zone 1	6	700
<i>City of Industry Waterworks System*</i> San Jose Ave. & Holguin Place	CIWS	LP Zone 2	12	1,600
<i>City of Industry Waterworks System*</i> San Jose Ave. & Holguin Place	CIWS	LP Zone 5	4	500
<i>City of Industry Waterworks System*</i> Industry Hills-Pump Stat. 1 (Hill St.)	CIWS	LP Zone 1	12	1,600
<i>City of Industry Waterworks System*</i> Ind. Hills-Pump Stat. 3 (Industry Hills Pkwy.)	CIWS	LP Zone 2	10	1,600
<i>City of Industry Waterworks System*</i> Valley Blvd. & Proctor Ave.	CIWS	LP Zone 1	14	1,600
<i>Rowland Water District</i> Azusa Way & Hurley St.	RWD	LP Zone 2	10	700
<i>San Gabriel Valley Water Co.</i> Don Julian Rd. & Turnbull Canyon Rd.	SGVWC	LP Zone 1	8	1,200
<i>San Gabriel Valley Water Co.</i> Proctor Ave. & El Encanto	SGVWC	LP Zone 1	8	800

*Denotes Emergency Interconnection



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5.3 Booster Pumps

The LPVCWD has six (6) booster pumping stations within its District. Each one has between two (2) or three (3) booster pumps with varying horse-powers, design flows, and design heads.

Table 5-4 contains the summary of each booster pump in accordance to its booster pump station. If the pump had a recent SCE efficiency test, those results are shown below.

Table 5-4 – Booster Pump Data

Booster Station	Booster Pump Designation	Suction Zone	Discharge Zone	Horse Power	SCE Eff. Test/Year	Capacity (gpm)	Total Head (ft)	Design Flow (gpm)	Design Head (ft)
Hudson Booster Station	Booster 1	Hudson Tank	PZ 1	75	Yes/2014	1,170	164.4	1,700	142
	Booster 2	Hudson Tank	PZ 1	75	Yes/2014	980	160	1,700	142
	Booster 3	Hudson Tank	PZ 1	75	N/A	---	---	1,700	142
Pressure Zone 2 (PZ 2)	Booster 1*	PZ 1	PZ 2	50	Yes/2013	725	154	700	231
	Booster 2	PZ 1	PZ 2	150	No/2013	1,290 (Z4) 1,620 (Z2)	305.4 (Z4) 240.7 (Z2)	1,556	277
	Booster 3*	PZ 1	PZ 2	60	Yes/2013	850	186.7	890	208
Pressure Zone 3 (PZ 3)	Booster 1	PZ 2	Industry Hills Tanks	10	Yes/2013	200	127	270	127
	Booster 2	PZ 2	Industry Hills Tanks	40	Yes/2013	620	131	680	133
Sub-Pressure Zone 3 (Sub PZ 3)	Booster 1*	PZ 3	Sub PZ 3	1.5	N/A	---	---	90	360
	Booster 2*	PZ 3	Sub PZ 3	1.5	N/A	---	---	90	360
Pressure Zone 4 (PZ 4)	Booster 1*	PZ 1	PZ 4	15	N/A	---	---	111	273
	Booster 2*	PZ 1	PZ 4	15	N/A	---	---	111	273
La Puente Treatment Plant	Booster 1*	LPUV Wetwell	Hudson Tank	40	Yes/2014	650	62	1,500	70
	Booster 2*	LPUV Wetwell	Hudson Tank	40	Yes/2014	735	60	1,500	70

* under the Booster Pump Designation column on **Table 5-4** indicates VFD (variable frequency drive) controlled. VFD controlled pumps minimize pressure fluctuation and match the supply to demand. The other booster pumps are fixed speed pumps.



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5.4 Control Valves

Within the LPVCWD system, there are seven (7) control valves – three pressure relief valves and four pressure reducing valves: one (1) LP Pressure Zone 4 pressure relief valve, one (1) LP Pressure Zone 2 pressure relief valve, one (1) pressure zone 3 relief valve, one (1) LP Pressure Zone 5 pressure reducing valve, one (1) LP Zone 1 pressure reducing valve, and two (2) LP Pressure Zone 2 pressure reducing valve.

The LP Zone 4 pressure relief valve maintains discharge pressure from La Puente’s Pressure Zone 4 by relieving excess flow back to La Puente’s Pressure Zone 1. This control valve is programmed to be normally closed unless the upstream pressure reaches above 125 psi.

The LP Zone 2 pressure relief valve maintains discharge pressure from La Puente’s Pressure Zone 2 by relieving excess flow back to La Puente’s Pressure Zone 1. This control valve is programmed to be normally closed unless the upstream pressure reaches above 95 psi.

The LP Pressure Zone 3 pressure relief valve maintains a consistent pressure in Zone 3 when the Zone 3 pump station is operated and feed from the Industry Hills Reservoirs is interrupted.

The LP Pressure Zone 5 pressure reducing valve help maintain a minimum pressure in LP Zone 5 by allowing water from the Industry Hills tank to flow into Zone 5. This control valve is programmed to be active with the set point of 66 psi.

The LP Zone 1 pressure reducing valve maintains a minimum pressure in LP Zone 1 by allowing water from the industry public utilities to flow into Zone 1.

The LP Pressure Zone 2 pressure reducing valves help maintain a minimum pressure in LP Zone 2 by allowing water from the Industry Hills tank to flow into Zone 2. This control valve is programmed to be normally closed unless the downstream pressure reaches below 44 psi.

5.5 Reservoirs

Zone 2 and 4 of the distribution system are supplied by the 3 million gallon and 1.8 million gallon reservoirs located on Main Street. The 3 million gallon steel tank was relined and repainted in 2009. The 1.8 million gallon steel tank was constructed in 2005. The 100,000 gallon concrete Hudson Reservoir is a transfer station from the treatment facility to Zone 1. With the completion of the relining and repainting of the 3 million gallon tank, LPVCWD’s water storage facilities are all currently in good condition.

Table 5-5 below shows the summary of the reservoirs within LPVCWD.



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Table 5-5 – Reservoir Summary

Reservoirs	Base Elevation (ft)	Overflow Elevation (ft)	Depth (ft)	Geometry	Capacity (MG)
Hudson	321	335	16	Rectangle	0.1
Main Street No.1	450	488	40	Circular	3.0
Main Street No.2	450	488	40	Circular	1.8

5.6 Distribution System

The Distribution system for LPVCWD consists of transmission pipelines and distribution pipelines. Transmission pipelines are intended to efficiently carry large volumes of water between facilities while distribution pipelines carry water to LPVCWD's users and fire hydrants within each pressure zone accordingly.

5.6.1 Pipelines

LPVCWD's water system has approximately 34.2 miles of water pipeline, ranging in size from 2 inch to 18 inch. According to the Water Model database, there is about 180,619 feet (34.2 miles) within LPVCWD system and about 70,488 feet (13.4 miles) of pipelines are between 10 inches and 18 inches. Asbestos cement is the most common pipeline material within the system. LPVCWD's system also has pipelines of cement mortar lined and coated steel, polyvinyl chloride (PVC), and ductile iron. Asbestos cement pipe is no longer readily available due to environmental hazards associated with manufacturing and installation. When pipeline replacement within the system is needed, the asbestos cement pipe is replaced with PVC or ductile iron pipe.



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Table 5-6 shows the breakdown of existing pipelines by diameter and material of pipelines.

Table 5-6 – Pipeline Summary

Size (in)	ACP	CIP	DIP	PVC	STL	STEEL CML&C	Totals
2	44	742	-	90	514	-	1,390
4	14,339	-	37	729	1,352	-	16,457
6	46,998	-	815	3,390	184	32	51,419
8	38,376	-	740	914	731	85	40,846
10	3,968	-	2,203	231	-	37	6,439
12	19,323	1,020	1,824	-	43	2,149	24,359
14	9,562	93	-	-	-	-	9,655
16	20,070	-	-	-	364	-	20,434
18	1,835	-	7,416	-	350	-	9,601
	154,515	1,855	13,035	5,354	3,538	2,303	180,600

5.6.2 Pressure Zones

Currently, there are five pressure zones in the District’s distribution system.

- Pressure Zone 1 is served by the Hudson Booster Station and the Main Street Reservoir.
- Pressure Zone 2 is served by the Pressure Zone 2 Booster Station located at the Main Street Reservoir site and active interconnections with Industry Public Utilities.
- Pressure Zone 3 receives water from Zone 2 and Industry Hills Reservoirs. Pressure for Zone 3 is provided by a metered interconnection with the Industry Hills Reservoir. The



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Banbridge booster pump station supplies water directly to the Industry Hills Reservoir during off peak hours to replenish water used on a routine basis.

- Pressure Sub – Zone 3 is served the Sub-Zone 3 booster pump station which receives water from the Industry Hills Reservoir.
- Pressure Zone 4 is served by the Pressure Zone 4 Booster Station located at the Main Street Reservoir site to the west of Pressure Zone 2 Booster Station. The Pressure Zone 4 Booster Station lifts water from Pressure Zone 1 to Pressure Zone 4. Pump 2 of the Zone 2 Booster Station also provides through automatic control flow to fire requirements in Zone 4
- Pressure Zone 5 (Holguin Place) is served through a 4-inch connection from the City of Industry Water System. The ten customers on Holguin Place receive water from the Industry Hills Reservoirs through a 4-inch metered pressure reducing valve which is set to maintain 65 psi. Zone 5 can also be served from the District's Zone 2.

Figure 5-1 contains a map of the District's system showing each Pressure Zone accordingly.



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Figure 5-1 – Pressure Zone Map





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5.7 Treatment Facilities

The Treatment Facility at LPVCWD is part of a cooperative effort to remove the groundwater contaminants from the Baldwin Park Operable Unit (BPOU), a subunit of the San Gabriel Valley Superfund site. The Main San Gabriel Basin Watermaster (Watermaster), the San Gabriel Basin Water Quality Authority (WQA), and the Upper San Gabriel Valley Municipal Water District (Upper District) are working with the LPVCWD to restore production at the LPVCWD well field, which is located near the southern edge of the BPOU. This project is consistent with the requirements of the United States Environmental Protection Agency (USEPA) contained in the Record of Decision (ROD) for the BPOU.

The current flow capacity of the Treatment Facility is 2,500 gallons per minute. The Treatment Facility was designed so either Well No. 2 or Well No. 3 could provide raw water for treatment. Well No. 5 was completed and equipped in 2008. Well No. 5 is now the primary source of water to the treatment facility with Wells 2 and 3 used as backup sources.

The Treatment Facility is designed to treat VOCs, perchlorate, NDMA and 1,4-dioxane. Although the Treatment Facility was designed to treat water pumped from LPVCWD's Well No. 2 and No. 3, Well No. 5 has similar perforations and water quality compared to those of Well No. 2 and No. 3. Under normal operation, LPVCWD's Well No. 5 supplies all the source water to the Treatment Facility. In the event Well No. 5 is out of service for any reason, the Treatment Facility can treat water pumped from Wells No. 2 and No. 3. All operation and maintenance and monitoring described for Well No. 5 herein shall also apply to Wells No. 2 and No. 3 when in operation.

The general process of the Treatment Facility is as follows: Groundwater pumped by Well No. 5 (Well No. 2 and/or No. 3 if used) is conveyed to the air strippers. The air strippers remove volatile organic compounds (VOCs) in excess of the Maximum Contaminant Levels (MCLs). LPVCWD constructed a 1,000 gpm air stripper to remove VOCs, including but not limited to trichloroethylene (TCE), perchloroethylene (PCE), carbon tetrachloride (CTC), 1,2-dichloroethane (1,2-DCA), 1,1-dichloroethylene (1,1-DCE), and cis-1,2-dichloroethylene, which began operating in September 1992. Due to a continuing rise in VOC concentrations, another 1,500 gpm air stripper was constructed and began operating in September 1995. Air strippers operate at atmospheric pressure, so water must be re-pressurized to pass through additional treatment.

Each air stripping tower has an off-gas control unit containing vapor-phase activated carbon which is operated under the oversight of the USEPA. Air Strippers No. 1 and No. 2 were designed to treat 1,000 gpm and 1,500 gpm of flow, respectively. As the groundwater flows over the packing in the towers, the VOCs are transferred from the water to air flowing in a countercurrent direction. The VOCs in the air are removed by the activated carbon, and the clean air is released to the atmosphere.

From the air strippers, the water flows by gravity to a wet well where it is pumped by two 100 hp VFD booster pumps. The water is pumped from the wet well into the filtration system prior to the Single Pass Ion Exchange (SPIX) treatment system.



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A pre-filtration system provides filtration to the inflow water of the SPIX treatment system. The filtration system consists of two filters, with one filter operating and the other filter on standby. Each filter unit is rated for at least 3,500 gpm of flow. A bag filter is used with a filtering size of 10 microns.

After passing through the pre-filtration system, the water is injected with sulfuric acid prior to entry into the SPIX treatment system. A pH probe located downstream of the sulfuric acid injection point sends an electronic signal to the acid pump to inject the correct amount of sulfuric acid to maintain the pH between 7.25 and 7.5.

After sulfuric acid injection, water flows through the SPIX system. The SPIX treatment system consists of two pairs of ion exchange vessels arranged in parallel. Each pair of ion exchange vessels is comprised of two vessels operating in series to form a lead-lag configuration, for a total of four vessels. The fixed bed SPIX treatment system is designed to reduce the concentration of perchlorate in the water to at least below the current DDW detection limit for purposes of reporting (DLR) of 4 µg/l.

Downstream of the SPIX system, hydrogen peroxide is injected into the flow stream. Hydrogen peroxide enhances NDMA destruction with UV radiation and is necessary for the destruction of 1,4 Dioxane in the UV reactors. The UV system also operates under atmospheric conditions. The treated water from the UV system flows to a wetwell. Two 40 hp VFD booster pumps pump the flow from the wetwell to the District's distribution system via the Hudson Reservoir. Just downstream of the UV wetwell pumps, the treated water is disinfected with sodium hypochlorite and the pH is adjusted with the addition of sodium hydroxide. After disinfection, the treated water flows via a 16-inch pipeline to the Hudson Reservoir.



CHAPTER SIX– COMPUTER MODEL

6.1 General Description

The computer modeling program used to model LPVCWD’s water system is the InfoWater software by Innovyze. InfoWater is a sophisticated and powerful software package that uses GIS as a visual interface. It operates under a Windows environment to perform steady state analyses of water distribution systems including pipes, pumps, reservoirs, tanks, and control valves.

6.2 Water Model Development Methodology

The water system was created by using elements and nodes to generate LPVCWD’s water system. An element represents a pipe within the water system and performs as a fluid conductor. Each element is connected to two nodes to represent the beginning and end of a pipe. There are five type of nodes utilized in the program:

- ◆ Reservoir – A reservoir represents a fixed head source with an infinite volume such as an aquifer or imported water connection.
- ◆ Tank – A tank represents a variable head source with a finite volume that may fill or empty.
- ◆ Pump – A pump adds head to the system in a predetermined direction according to a performance curve of head vs. flow.
- ◆ Valve – A valve subtracts head from the system in a predetermined direction. There are multiple types of valves including pressure reducing, pressure sustaining and flow control.
- ◆ Demand Node – System demands are estimated for an area and allocated to the nearest demand node as a fixed flow.

InfoWater generates and maintains an interactive database containing static and variable data. The static data represent physical elements of the water system that remain constant over time, such as pipes, reservoirs, pumps, valves, hydrants, and other appurtenances. The variable data represent the dynamic aspects of the water system that tend to change over time, such as demand, reservoir levels, pump, and valve operations. A scenario is a predetermined combination of static and variable elements that represents a set of boundary conditions of interest to the engineer. Through an iterative process, InfoWater applies a hydraulic gradient algorithm to the boundary conditions provided in the scenario to predict the hydraulic performance of the system.

InfoWater has the option of using one of three equations for head loss: Hazen-Williams Equation, Manning’s Equation and Darcy-Weisbach Equation. The Hazen-Williams equation, which is an empirical formula applicable to turbulent flow, is the most frequently used and therefore, was used in the Water Model.



6.2.1 Data Sources

LPVCWD provided the necessary information that was required for the development of the hydraulic water system model for their 2015 master plan. The following information was used:

- ◆ LPVCWD’s 2009 Master Plan
- ◆ LPVCWD Water Atlas maps
- ◆ GIS Files
- ◆ Digital Elevation Model (DEM) provided within InfoWater
- ◆ Historical water production data records
- ◆ Facility Drawings provided by LPVCWD of booster stations
- ◆ So Cal Edison (SCE) pump efficiency test results
- ◆ Facility Controls provided by LPVCWD, such as:
 - Tank water levels
 - Pump controls and settings of pressure regulating valves
 - Well and booster operational controls
- ◆ Fire Hydrant flow field testing results

Other additional data was obtained over the course of creating the master plan with the assistance of LPVCWD’s General Manager, Water Production Supervisor and staff by numerous meetings and coordination.

6.3 Water Model Construction

Model Construction consisted of database programming of all fixed data and variable data required to perform hydraulic calculations in the LPVCWD system.

6.3.1 Input Data and Simulation Conditions

Input data (aka boundary conditions) are broken down into fixed data and variable data.

Fixed Data

The bulk of Water Model construction revolves around programming fixed data into the databases. These fixed data were drawn largely from the GIS files and Water Atlas maps provided by LPVCWD as well as other publicly available documents and files.



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Fixed data does not change with time, and are generally described as infrastructure (i.e. the location, alignment, geometry and connectivity of pipes, pumps, valves, tanks, and aquifers). The Water Model stores fixed data as Element Databases, and the user selects precisely which elements to include in a simulation by defining a Facility Set (i.e. a collection of Element Databases).

When constructing the Water Model, the LPVCWD GIS files and Water Atlas maps contained information on:

- ◆ District boundaries
- ◆ Pipes – alignments, materials, diameters, years of installation, and connectivity
- ◆ Plants – layouts, components (tanks, wells, pumps, valves)
- ◆ Fire Hydrant locations
- ◆ PRVs – locations

Supplemental vertical control data for Water Model construction were acquired from a digital elevation model (DEM) complementary of InfoWater. InfoWater uses its “elevation extractor” tool to extract invert elevations of junctions from the DEM file to create the elevation data. The coordinate system used for the Water Model is *NAD 1983 State Plane California V FIPS 0405 (US FEET)*.

Variable Data

Variable data are subject to change with time, including pump or valves settings and controls, demands, etc. The Water Model stores variable data as Data Subsets, and the user selects precisely which variable data to include in a simulation by defining a Data Set (i.e. a collection of Data Subsets). Some of these data are within LPVCWD’s power to control, such as pump activity and valve settings.

Use of Pump Efficiency Test Data

To assure the Water Model corresponds as closely as possible to field conditions and operational preferences, all pumps were programmed per data provided by LPVCWD including the most recent SCE pump efficiency tests for all wells and booster pumps, and operational settings for pumping facilities and control valves.

The Water Model requires each pump to be programmed to respond to variation in intake and discharge pressure according to a performance curve. A performance curve describes the relationship between flow (Q) and total hydraulic head¹ (H) inherent in the physical properties of the pump mechanism.

¹ Head refers to the energy transferred from the pump to the water. It is typically given in units of feet, which may be thought of as the energy required to raise the water a certain number of feet above its current level.



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The performance curves used in this update are called design point curves. A design point curve uses a single point (i.e. head and flow) to generate a generic curve approximating the pump’s actual performance. These points were taken directly from the most recent pump efficiency tests. The Water Model calculates a parabola that passes through the following set of points to approximate the curve:

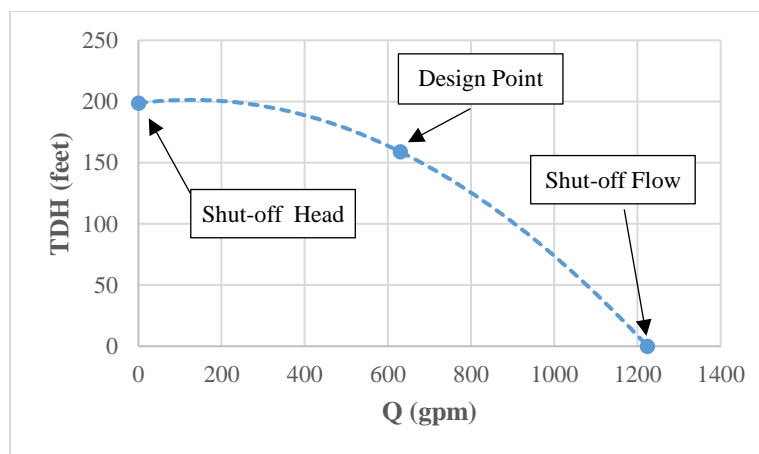
- design point (H, Q)
- shut-off head (1.3H, 0)
- shut-off flow (0, 2Q)

For example, the Main Street Booster Pump No. 1 was rated by SCE to have a flow of 630 gpm at a total dynamic head of 158.9 feet. The Water Model computed the second-degree polynomial curve for the Main Street Booster Pump No. 1 based on that design point as shown in **Table 6-1** and **Figure 6-1**.

Table 6-1 – Input Data for Main Street Booster Pump No. 1

Point	H (feet)	Q (gpm)
Shut-off Head	206.6	0
Design Point	158.9	630
Shut-off Flow	0	1,260

Figure 6-1 – Design Point Curve for Main Street Booster Pump No. 1



Similar curves were calculated for all other booster and well pumps in the distribution system. The Water Model uses these curves in its iterative steady state solution to determine the energy imparted to the water by the pump when the pump is active.



Simulation Conditions

Once all the input data is programmed, simulations can be programmed. Prior to initiating the simulation, the user defines the conditions of the simulation (i.e. the calculation to be performed). Conditions used in the preparation of this report include:

- ◆ Steady State Simulation (a single solution at a moment in time)
- ◆ Fire Flow Simulation (a series of steady state solutions assuming a fire flow demand is applied to designated hydrant locations in turn)
- ◆ Multi-Fire Flow Simulation (a steady solution describing the performance of multiple hydrants flowing simultaneously)

The power of the Water Model is to save and recall any combination of fixed data, variable data and simulation conditions. These are referred to as Scenarios in the Water Model.

6.3.2 Demand Allocation

Water demand was allocated to the Water Model on a pressure zone by pressure zone basis. With the help of previous master plans and guidance of LPVCWD's staff, the demand was distributed by pressure zone for each scenario with the help of the peaking factor calculated.

The existing water demands in the Water Model are allocated using actual water produced obtained from LPVCWD's production data for the study period of 5 years from 2010 through 2015. The future water demands are allocated using the year 2020 demand projections, determined based on land use and population growth as discussed in Chapter 2. The process of how the allocation of both existing and future water demands to model nodes is described below.

Existing Demands

The water demands for existing conditions are based on actual production data obtained from the wells provided by LPVCWD. The production data covers the water produced per day for each study period calendar years between January 2010 through December 2015.

After reviewing and analyzing data, a summary was created for each pressure zone within the LPVCWD's water system. Once the summary was completed, the demand for each pressure zone was distributed approximately per each node. These nodes represented meters to home, intersection of pipeline mains and cul-de-sac ends. **Table 6-2** below shows each pressure zone within LPVCWD's water system and their corresponding demand per each scenario.



Table 6-2 – Existing Demands within Water System

Pressure Zone	Nodes Programmed	ADD (gpm)	MDD (gpm)	PHD (gpm)
PZ 1	344	719	1,588	2,380
PZ 2	116	309	682	1,023
PZ 3	7	18	38	59
PZ 4	21	25	56	83
PZ 5	6	4	9	13
Total Demand (gpm) per Scenario	494	1,075	2,373	3,558

Future Demands

For the allocation of future demands, the projected water demand as described in Chapter 2 was programmed to reflect the projected average demand for the calendar year of 2020. The number of service connections increase at an average rate of approximately 1% per year. With this growth rate for LPVCWD, along with the existing average demands, the future demands were calculated and summarized.

Table 6-3 shows each pressure zone within LPVCWD’s water system and their corresponding demand per each scenario.

Table 6-3 – Future (YR 2020) Demands within Water System

Pressure Zone	Nodes Programmed	ADD (gpm)	MDD (gpm)	PHD (gpm)
PZ 1	353	755	1,666	2,499
PZ 2	119	329	726	1,088
PZ 3	8	19	41	62
PZ 4	22	26	59	88
PZ 5	10	4	9	13
Total Demand (gpm) per Scenario	512	1,133	2,501	3,750

Development of Modeling Scenarios

Modeling scenarios are used in the water model to provide means to store different facility sets, operation conditions and data sets. For the LPVCWD model, three different steady state scenarios were created for simulation. These scenarios were (1) Average Day Demand (ADD), (2) Maximum Day Demand (MDD) and (3) Peak Hour Demand (PHD).



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The ADD Scenario would serve as a benchmark and as a planning tool for long-term issues at the system level, such as supply acquisition and integrated resources management.

The MDD Scenario would serve as a planning tool at the pressure zone level. MDD is the peak loading for typical booster-reservoir pressure zones for analysis of supply requirements. MDD is intended to determine the system's capacity to meet fire flow requirements under a worst-case scenario while maintaining a minimum residual pressure of 20 psi throughout the system.

The PHD Scenario would serve as a planning tool at the pipe level. Pipes must function adequately under this loading. PHD is intended to examine the impact of the worst case normal operating scenario on both transmission and distribution pipe velocity and system pressures.

Output Data

Following a successful simulation, Water Model output data include (1) pressure at every point, (2) flow and energy losses through every pipe and (3) performance of every valve, pump and tank. Data output format may be tabular, graphic or both depending on the nature of the Scenario.

6.4 Model Calibration

Calibration was achieved by making incremental adjustments to elements in the Water Model associated with energy loss until modeled results and field data were comparable. Energy losses occur due to friction between flowing water and pipe walls, and due to changes in the momentum of flowing water. In general, friction losses are the primary sources of energy losses in any distribution system which is essentially comprised of relatively long and straight small diameter pipelines that carry water at low velocities.

Production, treatment and booster facilities also experience energy losses caused by changes in momentum due to plant components that influence the flow stream such as control valves, tank inlets and outlets, bends, meters, manifolds, and treatment vessels.

6.4.1 Steady State Calibration

Steady state calibration focuses on verification of vertical control and energy losses due to friction in the system.

Vertical control was established by two means: verification of elevations from historical maps and comparison of historical fire flow records to model results.

The basemap includes elevation data at key intersections throughout the system. Water Model elements adjacent to these intersections were assigned the basemap elevation and elements between these intersections were assigned an interpolated value.

Each fire flow record contains a static pressure measurement at a specific point and time. A comparison was made between the historical records and model output, and adjustments were made to the Water Model elevations to bring model output into agreement with these field data.



CHAPTER SIX – COMPUTER MODEL

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Energy losses in the system are the result of friction between flowing water and the interior of the pipe walls. For purposes of the Water Model, the pipe roughness is described by a coefficient known as the Hazen-Williams roughness coefficient (aka C-factor). Flow tests were conducted to measure energy losses in a number of pipes in the LPVCWD system.



CHAPTER SEVEN – WATER CONSERVATION PROGRAMS

7.1 General Description

This chapter provides guidance for the implementation of a water conservation program in line with LPVCWD's goals.

By convention, a water conservation project is the implementation of a unique methodology for achieving water use reduction, and a water conservation program is a set of projects implemented collectively to achieve a water conservation goal.

7.2 Existing Water Conservation Projects

The LPVCWD's water conservation program is largely a coordinated effort involving the Upper District. The following activities are providing water conservation:

1. Ultra-High Efficiency Toilet [administered by LPVCWD]
2. Large landscape audits of LPVCWD customers [administered by Upper District]
3. Toilet giveaway [administered by Upper District]

7.3 Approach to Water Conservation

The general water conservation approach is to define a goal, then implement a cost-effective program to meet that goal. Since water conservation goals are typically long-term, it is important to monitor progress toward the goal and make adjustments as needed to remain on the path to goal achievement.

LPVCWD has no clear defined mandate or internal goal for water use reduction, and has requested an incremental approach that relates investment to water use reduction for further consideration. With this in mind, the following approach is recommended:

1. Create a list of candidate water use reduction projects.
2. For each project, develop an economic model that relates investment to volume of water saved.
3. Determine the combination and intensity of projects that correlate investment to volume of water saved.
4. Implement the program and monitor water use reduction.
5. Make period adjustment as needed based on program performance.

7.4 Cost and Accounting Conventions

Volumetric commodity rates will be converted to thousands of dollars per million gallons (\$K/MG).

Water conservation project performance is a combination of project implementation costs and the associated impact to revenue.



CHAPTER SEVEN – WATER CONSERVATION PROGRAMS

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Recommendations for project implementation can be given as a target range with limits corresponding to a percentage of the maximum water use reduction assigned to the project. This is equivalent to a range of costs. Included in the range of costs will be the level of intensity associated with the optimal cost solution.

The target cost ranges and optimal costs may be given for the 5-year period ending in 2020. This will provide a starting point for project funding and implementation. When documentation of water conservation projects is recorded, the data may be analyzed to determine the most optimal water conservation solution considering economics and water savings.

7.5 Water Conservation Program Scope and Goals

The scope of the water conservation is a planning horizon and a level of water use reduction. The planning horizon may be set at five years (i.e. 2020), which coincides with the guidance of the UWMP Act. However, LPVCWD is not obligated to comply with the provision of the UWMP Act as its number of service connections and retail water sold falls under the threshold for such requirement. The level of water use reduction can be presented as a curve relating investment to volume saved with proper data. This curve is intended to serve as guidance to LPVCWD in choosing a preferable level of water use reduction and programs that are most beneficial for implementation.

7.6 Candidate Water Conservation Programs

Ten potential water use reduction projects can be considered for future projects and accounting as follows:

- Recycled Water
- Audit, Leak Detection and Repair
- Smart Meters
- Turf Removal
- Residential ULF Toilets
- Residential Survey
- Irrigation Controllers
- Plumbing Retrofit
- HE Washing Machine

The subsections that follow provide descriptions of each project which may be utilized in future efforts in the development of economic models.

7.6.1 Recycled Water

Recycled water is a low-quality alternative to potable water and is suitable for irrigation and certain industrial uses. To meet health regulations, recycled water must be distributed via a dedicated system separate from the potable water system. LPVCWD has performed a recycled water study demonstrating the potential demand for recycled water and the level of dedicated infrastructure needed to implement a recycled water distribution system.



7.6.2 Audit, Leak Detection and Repair

Per CUWCC (2005), this activity consists of three components:

- System audits
- Leak detection
- Leak repair

Per AWWA (1999), system audits include quantifying all produced and sold water, and includes testing meters, verifying records and maps, and field checking distribution controls and operating procedures. The objective is to determine the amount of water that is lost and unaccounted for in the system. System audits may identify losses from:

- Accounting procedure errors
- Illegal connections and theft
- Malfunction distribution-system controls
- Reservoir seepage, leakage, and overflow
- Evaporation
- Detected and undetected leaks

Leak detection is the process of searching for and finding leaks in the system with sonic, visual, or other indicators. It should be noted that sonic and acoustic leak detection equipment have been found to be more accurate for smaller systems than for larger systems. Audits and detection programs incur costs whether or not repairs are made; thus, audits and detection alone do not save water. Conversely, leaks are sometimes discovered without organized audit and detection programs.

7.6.3 Smart Meters

Smart Meters work in tandem with leak detection and repair to reduce water loss (more specifically non-revenue water) by identifying defective meters for replacement and inaccurate meters for recalibration. The Smart Meters project would complement a meter replacement program by getting the most out of new assets through efficient application.

A Smart Meter is an electronic transmitter that collects real-time consumption data and sends it to a central processing unit for analysis. Needed infrastructure includes transmission towers for collection of radio transmissions, and a computer system for data processing. The computer system detects anomalies in meter data that may be due to meter inaccuracy or to leaks on the customer side of the meter.



7.6.4 Turf Removal

Turf removal means replacement of high water demand landscaping with more drought tolerant landscaping.

7.6.5 Residential ULF Toilets

This project seeks to replace standard residential toilets with ultra-low-flush toilets.

7.6.6 Residential Survey

Per CUWCC (2005), residential home surveys target both indoor and outdoor water use. In practice, home surveys usually include a site visit by trained staff that: (1) solicits information on current water use practices; and (2) makes recommendations for improvements in those practices. Sometimes, indoor plumbing retrofit devices are directly installed when appropriate. The outdoor portion of the survey can vary widely, ranging from an intensive outdoor water efficiency study (turf audit, catch can test, and written recommendations for irrigation scheduling or landscape changes) to simple provision of a brochure on outdoor watering practices.

7.6.7 Irrigation Controllers

Per CUWCC (2005), this project addresses technologies that automatically adjust irrigation controllers according to the needs of the landscaping. In particular, this project covers technologies that have been developed to adjust schedules according to real-time measures of evapotranspiration (ET_o)—or water needs more generally—including temperature, rainfall, soil moisture, and/or sunlight. Historical weather data may also be used in the controller programs. Some of these systems transmit information to the irrigation controller by satellite pager and some include two-way communication via telephone lines.

7.6.8 Plumbing Retrofit

Per CUWCC (2005), residential plumbing retrofit involves modifying the following fixtures with low flow devices: showerheads, toilets and faucets.

Low flow (LF) showerheads are designed to provide water at lower rates of water flow. Flow is typically measured in gallons per minute and low flow showerheads are rated at 2.5 gallons per minute (gpm) or less (at pressure levels up to 80 psi). California state law currently requires that all showerheads sold in the state meet the 2.5 gpm standard.

Toilet displacement devices come in a variety of designs that displace some water volume in the toilet tank. Since less water is needed to refill the tank, less water is used per flush. Toilet leak detection is typically performed with dye tablets. Faucet aerators reduce flow from faucets.

7.6.9 High Efficiency Washing Machines

This project seeks to replace standard residential washing machines with those designed to save energy and water.



CHAPTER EIGHT – EVALUATION CRITERIA

8.1 General Description

Design and planning criteria are used (1) as a benchmark for evaluating the capacity of the existing water distribution system and (2) as a guide for recommending improvements to meet future conditions. As a convention, each criterion or set of criteria is indicated in italics followed by a detailed description of its purpose and the driving factors behind its inclusion.

8.2 Study Period

Water demands for existing conditions are based on the production data collected by LPVCWD. The production data covers the study period between January 2009 through December 2015.

8.3 Design Criteria

Design Criteria are used to evaluate the hydraulic capacity of the distribution system. Such an evaluation is a quantitative analysis comparing field measurements or engineering calculations with a series of benchmarks that reflect customer expectations, the regulatory environment, sustainable design, redundancy, reliability, functionality, emergency preparedness, efficiency, economics, and other issues of importance to LPVCWD.

8.3.1 System Pressure

Goal for normal system pressure range: 40psi to 125 psi.

The level of service that is provided for domestic use is based on the available water pressure. A minimum pressure of 40 psi is consistent with the Water Code¹.

Per the City and LPVCWD 2009 Master Plans, 120 psi was the highest observed service pressure. Note that 150 psi is the typical pressure rating for distribution system components. Note that the Plumbing Code recommends individual pressure regulators for any service pressure over 80 psi².

It is recommended a goal for service pressure to range from 40 psi to 125 psi. This pressure range minimizes negative impacts to customers along with the water distribution system, and should be readily achievable based on historical system performance documentation.

Goal for minimum service pressure during fire: 20 psi.

Under fire flow conditions, residual pressures should not fall below 20 psi³ when delivering the required fire flow rate. The minimum residual pressure requirement is established by the DDW.

¹ Title 22, Chapter 16, §64602

² Individual pressure regulators should be installed on any services that could have pressure greater than 80 psi at the meter as recommended in Section 1007 (b) of the California Plumbing Code. It is typically the customer's responsibility to install and maintain these pressure regulators at their own expense.

³ Title 22, Chapter 16, §64602



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This threshold provides a buffer against the possibility of negative pressure in the distribution system which could result in contamination ingress. Guidance on fire flow requirements for (1) subdivision of land, (2) construction of buildings, and (3) alteration/installation of a fire protection water system is provided by Los Angeles County Fire Department Regulation #8 (V7-C1-S8, Fire Flow and Hydrant Requirements, see Appendix E). An exception to the 20-psi minimum is allowed for fire hydrants that are located so close to reservoirs as to not be able to achieve the requirement for pressure residual. These hydrants shall be designated as “draft hydrants” and piping shall be sized from the reservoir to the hydrant to provide the fire flow requirement as close to the local static pressure as possible. Note that individual jurisdictions may have varying fire flow requirements. It is recommended to provide a level of fire protection consistent with Regulation #8, and to examine requirements for new construction on an individual basis in cooperation with the local planning jurisdiction and the local Fire Marshal at the developer’s expense. The residual pressure requirement is driven by the regulatory environment.

Goal for maximum pressure during minimum hour: 150 psi or pipeline pressure class, whichever is less.

Maximum pressures typically occur (1) at production and transmission facilities such as wells, booster pumping stations and control valves or (2) at low elevations. Under no circumstances should the pressure in the system exceed the pressure class rating of the pipe. During minimum hour demands when booster and well pumps are operating to refill reservoirs, pressures should not exceed 150 psi as an ultimate goal, or the pressure rating of the pipe, whichever is lower.

During the normal operation of facilities, a surge of energy may affect the system when a pump is turned on or off or when a control valve is opened or closed. This energy surge creates a pressure wave that could potentially damage sensitive machinery or vulnerable pipelines already under high pressure. Various devices and operational techniques should be installed or implemented to mitigate the negative impacts of surge and to assure that pressures do not exceed 150 psi or the pressure class of the pipe, whichever is greater.

The goal for maximum system pressure is driven by sustainable design.

8.3.2 Supply

Pressure Zones with Gravity Storage

In pressurized systems, the hydraulic gradient is established artificially and maintained by a pressure regulating device. The sources of supply to pressurized systems must be capable of delivering all normal and emergency flows.

Combined production capacity of maximum day demand with largest single source out of service.

For each pressure zone with gravity storage, the sum of the sources of supply (with the largest single source of supply off-line) must be able to provide dependent MDD⁴. The concept of supply

⁴ Title 17, Chapter 16, §64554



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includes all normal methods by which water enters a pressure zone such as wells, booster pumping stations, pressure reducing stations, and interties. As such, the design engineer has a degree of flexibility in combining various sources to meet the supply requirement.

Note that dependent MDD takes into account the staging of produced water from pumping to higher pressure zones that are dependent on sources in lower pressure zones.

Combined production capacity sufficient to refill emergency and fire storage in two days (48 hours) under MDD conditions with all sources operating.

A depletion of emergency and fire storage creates a temporary vulnerability to immediate, ongoing or subsequent events that would otherwise be mitigated. This vulnerability can be minimized by rapid replenishment of storage. Therefore, normal supply capacity must be sufficient to refill emergency and fire storage in two days (48 hours) under MDD conditions with all sources operating.

Pressure Zones without Gravity Storage

If gravity storage is not available, supply capacity must satisfy two conditions with the largest single source out of service:

Combined production capacity of maximum day demand with fire flow at 20 psi.

PHD at a minimum system pressure of 40psi.

8.3.3 Storage Capacity

Sum of Operational, Fire and Emergency Storage in each pressure zone.

- ◆ Operational Storage: 30 percent of maximum day demand
- ◆ Fire Storage: per LA County Fire Dept. Regulation #8
- ◆ Emergency Storage: 24 hours at maximum day demand

The principal functions of storage are:

- ◆ To equalize fluctuations in hourly demand so that extreme and rapid variations in demand are not imposed on the source of supply
- ◆ To provide water for firefighting
- ◆ To meet demand during an emergency such as a disruption of the major source of supply, a power outage, a pipe break, or other unforeseen emergency or maintenance issue

Operational Storage: Operational storage describes the volume needed to equalize the difference between supply and demand over the course of a day. Maximum operational storage would



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typically occur under the maximum day demand conditions. The volume of operational storage, as an industry standard, averages between 20 to 30 percent of maximum day demand. As a result, the recommended operational storage should be equal to 30 percent of maximum day demand for all pressure zones with storage. The operational storage requirement is driven by system functionality.

Fire Storage: The water system should be capable of meeting maximum day demand and firefighting requirements simultaneously. Fire storage represents one maximum event in terms of fire flow and duration. The fire storage requirement is driven by emergency preparedness.

Emergency Storage: Emergency storage is required to meet demands during times of planned and unplanned equipment outages such as pump breakdown, power failure, pipeline rupture, etc. Emergency storage is estimated based on the water supply to a pressure zone being out of service for a period of 24 hours under maximum day demand conditions. The emergency storage requirement is driven by emergency preparedness.

8.3.4 Pressure Reducing Stations

Capacity equals MDD plus Fire Flow or PHD within the continuous rating of valves.

Maximum intermittent flow rating of valves for fire flows is acceptable at 20 psi and 40 psi respectively.

In general, pressure reducing stations should be provided when needed to supplement deliveries to lower pressure zones or pressure sub-zones. Pressure reducing stations should also be considered when distribution piping is operated at or above the maximum pressure rating of the pipe. Pressure reducing stations shall be sized to meet peak hour demand or maximum day demand plus fire flow, whichever is greater, within the continuous flow rating of the valves. It is recommended that three valves be installed within each pressure reducing station that is intended to feed a small closed pressure zone. Two smaller valves should be installed that combined, can provide MDD. One larger valve should be installed that can provide all flow required in the zone.

8.3.5 Pipeline Sizes

Standard pipe size

Use standard pipe sizes of 6, 8, 12, 16 and 24-inches for distribution. The diameter of a replacement pipeline should be a minimum of 8-inches, unless hydraulic analysis demonstrates that a 6-inch pipeline will suffice. Use of nominal pipe diameters is driven by economics and standardization.

8.3.6 Transmission Mains

Maximum pipe velocity under normal operating conditions: 5 feet per second.

Maximum energy loss under normal operating conditions: 10 feet of head loss per 1000 feet of pipe.



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Booster station intake and discharge pipelines sized for maximum pipe velocity of 5 feet per second.

Booster station intake and discharge pipelines sized for maximum energy loss of 10 feet of head loss per 1000 feet of pipe.

Transmission mains are intended to efficiently carry water at a high flow rate between facilities (i.e. production, treatment, booster stations, and storage). Energy losses along transmission corridors can be managed/reduced by controlling pipe velocity. The primary methods for controlling pipe velocity are (1) increasing pipe diameter, (2) providing multiple flow pathways and (3) reducing flow rate. Regardless of the method used, efficiency drops rapidly when pipe velocity exceeds 5 feet per second. Note that velocity and energy loss (i.e. feet of head loss per 1000 feet of pipe) are indirectly related measurements of transmission efficiency and should both be examined independently.

Dramatically over-sizing the transmission mains to reduce velocity can inadvertently increase detention time leading to certain water quality issues. As time increases between the points of production and delivery, complications due to stagnation and decay of disinfectant residual outweigh improvements in energy efficiency. Therefore, a balanced system will simultaneously keep energy loss and water quality degradation in check.

Transmission main capacity criteria are driven by efficiency and water quality management.

Pipe velocity range for reservoir inlet-outlet is 6 feet per second.

A reservoir is a passive system that should simultaneously complement transmission and provide emergency flow. Pipe velocity from a tank increases in response to emergency conditions, but velocities in excess of 6 feet per section represents a bottleneck that may constrict emergency deliveries.

8.3.7 Distribution Mains

Sized to satisfy three conditions:

- (1) Maximum day demand plus fire flow with residual pressure of 20 psi*
- (2) Peak hour demand with a minimum system pressure of 40 psi*
- (3) Maximum pipe velocity: 10 fps under Maximum day demand plus fire flow but 7 fps otherwise*

Distribution mains carry water to service connections and fire hydrants. Fire flow is typically the governing factor in sizing distribution mains, although normal operations under peak demand conditions should also be examined for efficiency. Distribution main design is driven by efficiency and emergency preparedness.



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8.3.8 Fire Flow and Fire Hydrant Spacing Requirement

Fire hydrant spacing and flow are specified per LA County Fire Department Regulation #8 or as determined by the Fire Marshall. Fire requirements are driven by the regulatory environment and emergency preparedness.

In general, Regulation #8 provides guidance for determining the fire flow requirements for new construction that consider the following conditions:

- ◆ Occupancy and use
- ◆ Building materials
- ◆ Proximity to adjacent structures
- ◆ Ground floor area
- ◆ Number of floors
- ◆ Access to hydrants
- ◆ Allowances for the installation of fire suppression systems

In addition, rules concerning meeting high fire flow requirements with multiple hydrants flowing simultaneously are made explicit.

For purposes of testing the adequacy of the existing system, the following fire flows⁵ are applied based on Land Use:

- ◆ 1,500 gpm (in min. duration 2 hours)⁶: Single Family Residential
- ◆ 3,000 gpm (in min. duration 3 hours)⁷: Multi-Family Residential, Mobile Homes/Trailer Parks, Retail/Commercial Services, Agriculture
- ◆ 4,000 gpm (in min. duration 4 hours): Public Facilities, Educational Institutions, Light Industrial, Heavy Industrial, Transportation, Utility Facilities

It is assumed that all fire hydrants met the Fire Marshal's requirements at the time of installation and that those requirements have been "grandfathered" in. Existing residential fire hydrants should have a capacity of 1,250 gpm while new residential fire hydrant require a capacity of 1,500 gpm.

⁵ Fire Flows taken from 2013 California Fire Code, Appendix B

⁶ Fire Flows may be reduced by up to 50 percent when the building is equipped with an approved automatic sprinkler system.

⁷ Fire Flows may be reduced by up to 75 percent when the building is equipped with an approved automatic sprinkler system.



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New fire flow requirements will be established following one of three actions: new construction, land subdivision or water system upgrade.

8.4 Planning Criteria

Planning Criteria deal with parameters related to cyclical infrastructure refurbishment or replacement due to age and condition. The primary concern of Planning Criteria is to establish the practical service life of each system component and a performance indicator to verify whether maintenance or replacement will result in an economic benefit. These performance indicators may include efficiency, reliability and maintenance history.

Planning criteria deal with cyclical infrastructure replacement due to age, condition and other non-hydraulic factors. It is possible for a pipeline or other piece of equipment to meet the hydraulic requirements established by design criteria, while at the same time exhibiting costly repairs or downtime due to fatigue, corrosion, normal wear, poor workmanship, incompatibility, or other issues associated with deterioration. Planning criteria provide a secondary methodology for identifying and mitigating vulnerabilities in the system by a combination of qualitative and quantitative analysis.

Planning criteria are not meant to be a rigid set of rules that narrowly define service life; rather, they provide guidance for determining those portions of the distribution system that would benefit most from replacement in advance of higher and unsustainable costs associated with maintenance and inefficiency.

8.4.1 Preferred Replacement Schedule

Well designed and maintained water systems will provide many years of superior performance, but at some point, replacement of individual components is necessary for sustainability.

Table 8-1 below provides general parameters for determining when a particular component should be considered for replacement. A combination of average service life and performance indication provides more solid justification for capital replacement.



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Table 8-1 - Infrastructure Replacement Criteria

Component	Interval (years)	Indication
Pipeline	AWWA ⁸	Frequent repair history, excessive energy losses
Pump/Motor Overhaul	15	Drop in efficiency below 65%
Pump/Motor Replacement	30	Frequent repair history, drop in efficiency
Control Valve Overhaul	25	Leaks, poor response, frequent repairs
Tank Recoating	20	Evidence of corrosion
Tank Replacement	80	Frequency/extent of repair history
Well Refurbishment/Replacement	50	Decline in effective capacity
Production meter calibration	5	Drop in accuracy
Production meter replacement	20	Drop in accuracy and reliability

⁸ AWWA outlines expected service life for pipes based on their materials. For systems in the west with fewer than 3,300 service connections, expected pipe service life ranges from 60 to 130 years, depending on materials.



CHAPTER NINE– ANALYSIS AND PROPOSED IMPROVEMENTS

9.1 General Description

The basis for system analysis is a comparison between capacity and requirements. Design and planning criteria provide the instruments for making this comparison.

Design criteria provide a quantitative description of a robust and redundant distribution system from a hydraulic point of view. Whenever existing capacity is found to be inadequate to meet design requirements, mitigation is proposed in the form of capital projects. Such projects should be considered as candidates for mitigation.

Planning criteria are collectively a quantitative and qualitative description of the anticipated service life of each system component. Whenever a system component is found to have simultaneously exceeded its service life and to have exhibited indications of poor condition, replacement is recommended. Such projects should be considered as candidates for replacement.

The conclusion of this chapter is a Capital Improvement Program (CIP) aimed at (1) resolving identified hydraulic issues and (2) cyclical replacement due to issues arising from age and condition. Candidates for mitigation and candidates for replacement have been prioritized by perceived urgency.

9.2 Supply Analysis

The adequacy of the combined sources of supply is subject to redundancy and emergency preparedness. Primary supply design criteria examine the adequacy of all sources to meet normal demands with a degree of redundancy. Secondary supply design criteria examine the system's ability to recover from an emergency event following depletion of emergency and fire storage.

9.2.1 Primary Supply Design Criteria

Primary design criteria related to supply state that there should be sufficient supply to meet MDD with the largest source out of service. **Table 9-1** provides supply capacity per the latest SCE pump efficiency tests and nominal interconnection capacity for imported sources.



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Table 9-1 – Supply Analysis

Source	Supply Capacity (gpm)	Existing Conditions (gpm)	Future Conditions (gpm)
Baldwin Park Operable Unit (BPOU)*	2,500	2,500	2,500
LPVCWD (Sum of Interconnection Capacity)	7,100		
Puente Valley Operable Unit (PVOU)°			1,750
Total Supply Capacity without Largest Source out of Service		2,500	4,250
Maximum Day Demand		2,373	2,492
Surplus (Deficit)		127	1,758
*Production from Well Nos. 2, 3 & 5 is limited to permitted capacity of the LPVCWD Treatment Facility.			
°PVOU production water is a planned source to be supplied to LPVCWD (See Appendix G)			

9.2.2 Secondary Supply Design Criteria

Secondary design criteria related to supply address refill capacity, which should be sufficiently adequate to refill emergency and fire storage within two days under MDD conditions. Emergency storage is equivalent to one day of MDD and fire storage represents the largest single fire flow requirement of 4,000 gpm for four hours. The total requirement is as follows:

$$Q = \frac{(MDD) * (24 \text{ hours}) + (4,000 \text{ gpm}) * (4 \text{ hours})}{48 \text{ hours}} + MDD$$

Table 9-2 provides a summary and calculation of the refill requirement.

Table 9-2 – Supply Emergency & Fire Refill Requirement

Period	Emergency Storage (MG)	Fire Storage (MG)	Total Refill Volume (MG)	Equivalent Refill Flow Rate (gpm)	MDD (gpm)	Total (gpm)
Existing	3.42	0.96	4.38	1,520	2,373	3,893
Future	3.59	0.96	4.55	1,579	2,492	4,071

Table 9-3 demonstrates the application of the secondary supply criteria.



Table 9-3– Supply Emergency & Fire Refill Analysis

Source/Demand	Supply Capacity (gpm)	Existing Conditions (gpm)	Future Conditions (gpm)
Baldwin Park Operable Unit (BPOU)	2,500	2,500	2,500
LPVCWD (Sum of Interconnection Capacity)	7,100	7,100	7,100
Puente Valley Operable Unit (PVOU)			1,750
Total Supply		9,600	11,350
Maximum Day Demand		3,893	4,071
Surplus (Deficit)		5,707	7,279

9.2.3 Potential Sources of Supply

Given that District has agreed to operate the Puente Valley Operable Unit Intermediate Zone (PVOU IZ) treatment facility, the District will receive fully treated water into its water system and will utilize this water as a back-up supply for the District and for neighboring water purveyors. Based on the current treatment facility design and project schedule, the District may be able to receive up to **1,750 gpm** as a source of back-up supply by 2020.

9.2.4 Supply Recommendation

Application of primary supply design criteria indicates a slight surplus under existing and future conditions. The secondary design criteria related to supply indicated the refill capacity during an emergency has an adequate amount of supply with a surplus of over 7,000 gpm. Given these conditions and by applying the potential PVOU IZ water as a source of back-up supply to the list of sources, the District will have greater primary and secondary supply reliability.

9.3 Analysis of Storage Facilities

Per storage design criteria, minimum capacity is equivalent to the sum of emergency, operational and fire storage.

Emergency storage is one day of MDD.

$$V_{Existing\ Emergency} = \left(\frac{2,373\text{gallons}}{\text{minute}} \right) * \left(\frac{60\text{ minutes}}{1\text{ hour}} \right) * (24\text{ hours}) = 3.42\text{ MG}$$

$$V_{Future\ Emergency} = \left(\frac{2,492\text{gallons}}{\text{minute}} \right) * \left(\frac{60\text{ minutes}}{1\text{ hour}} \right) * (24\text{ hours}) = 3.59\text{ MG}$$

Operational storage is 30% of one day of MDD.

$$V_{Existing\ Operational} = (0.3) * (3.42\text{ MG}) = 1.03\text{ MG}$$



CHAPTER NINE – ANALYSIS AND PROPOSED IMPROVEMENTS

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$$V_{Future\ Operational} = (0.3) * (3.59\ MG) = 1.08\ MG$$

Fire Storage is the requirement for one maximum event:

$$\left(\frac{4,000\text{gallons}}{\text{minute}}\right) * \left(\frac{60\ \text{minutes}}{1\ \text{hour}}\right) * (4\ \text{hours}) = 0.96\ MG$$

Both the LPVCWD and CIWS systems are considered to be widely interconnected and as a result may share storage. Storage in the Industry Hills Reservoirs is available to all Zones in both systems and water can automatically move to lower Zones as needed to supplement storage reserves in lower zones if the emergency and fire flow reserves were to be depleted from those zones. As a result, Industry Hills reservoirs are considered in this analysis. **Table 9-4** provides the storage capacity in the Zone served and volume.

Table 9-4 – Existing Storage Capacity

Reservoir Name	Zone Served	Nominal Volume (MG)
Hudson	Zone 1	0.1
Main Street No. 1	Zone 2	3.0
Main Street No. 2	Zone 2	1.8
Industry Hills No. 1	Industry Hills	1.4*
Industry Hills No. 2	Industry Hills	1.4*
Total		7.7

*Capacity is shared with CIWS. Only surplus storage can be allocated to LPVCWD.

Table 9-5 summarizes and compares the calculations for available and required storage.

Table 9-5 – Storage Analysis

Period	Storage Requirement Type (MG)			Total Requirement (MG)	Total Available (MG)	Surplus (MG)
	Emergency	Operational	Fire			
Existing	3.42	1.03	0.96	5.41	7.7	2.29
Future	3.59	1.08	0.96	5.63	7.7	2.07

9.3.1 Storage Recommendation

Based on the water supply agreement in place between LPVCWD and CIWS, the systems are considered to be widely interconnected, and as a result, have adequate storage supply.

9.4 Analysis of Booster Facilities

Per supply design criteria, there should be sufficient booster pumping capacity in each pressurized zone without gravity storage to meet (1) combined production capacity of maximum day demand



CHAPTER NINE – ANALYSIS AND PROPOSED IMPROVEMENTS

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with fire flow at 20 psi, and (2) PHD at a minimum system pressure of 40 psi. When gravity storage is present, the booster pump must have the capacity to supply maximum day demand when the largest pump is out of service.

Note that the system's capacity in Zone 1, 2, 3 and 4 is interdependent on booster pumping capacity and pipeline efficiency. With this mind, the following is a determination of whether booster capacity can meet minimum requirements.

9.4.1 Pressure Zone 1 Booster Capacity (Hudson Booster Station)

There are three booster pumps at the Hudson Booster Station which serve Zone 1 and also serve the entire dependent demands of Zone 2, 3 and 4. Water is pumped from the Hudson Reservoir through Zone 1 to the Main Street Reservoirs. For redundancy, the capacity of one of the pumps is calculated and the sum of the capacities of the remaining two pumps is utilized to determine the adequacy of the booster station. The production of two pumps at the Hudson Booster Station is 2,500 gpm. The dependent demand of the Station under near term conditions is 2,492 gpm. The Hudson Booster station can achieve the MDD requirement for the system.

The highest water surface elevation in the Main Street Reservoir is at 488 feet.

Assuming the water surface in Hudson Reservoir is 328 feet, the pump should add a minimum of 160 feet of head not considering frictional head losses:

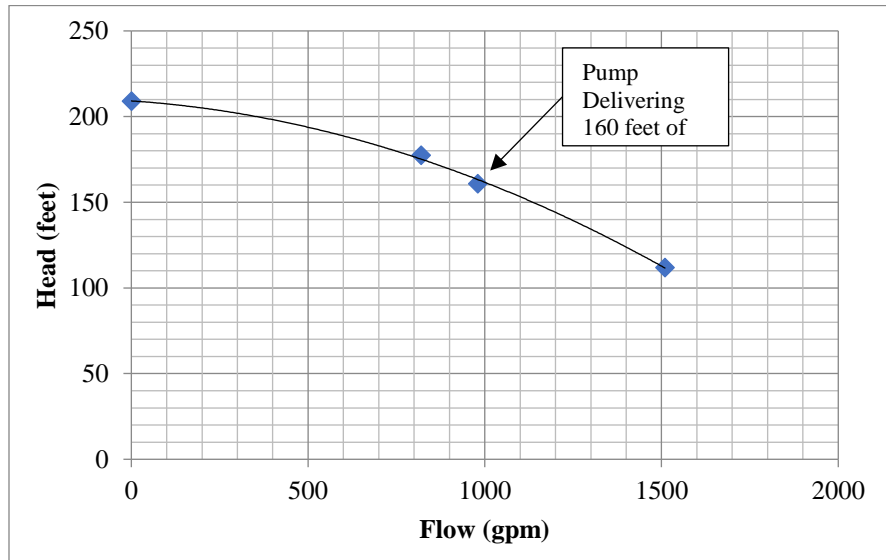
$$488 \text{ feet} - 328 \text{ feet} = 160 \text{ feet}$$

The dependent MDD to the Hudson Booster Station to supply the demand for the entire LPVCWD system is 2,492 gpm.

Figure 9-1 shows the available flow of 975 gpm when Pump 1 is delivering 160 feet of head. Pump curves for Hudson have been adjusted based on recent Edison hydraulic efficiency test results.



Figure 9-1 – Hudson Pump vs. MDD Requirements



Two pumps alone producing 1,950 gpm cannot achieve the dependent MDD requirement of 2,492 gpm in Zone 1 and dependent Zones.

9.4.2 Pressure Zone 2 Booster Capacity

There are three booster pumps that serve Zone 2. Since the design flow and head of each pump are different, all three pump capacities are calculated to check that they are able to handle all demand conditions.

The highest service elevation in Zone 2 is at 541 feet.

MDD + FF

To achieve 20 psi fire flow residual pressure at this location, the hydraulic gradient should be at least 587 feet:

$$541 \text{ feet} + \left(\frac{20 \text{ lbs}}{\text{in}^2}\right) \left(\frac{12 \text{ in}}{\text{foot}}\right)^2 \left(\frac{\text{ft}^3}{62.4 \text{ lbs}}\right) \cong 587 \text{ feet}$$

Assuming the water surface in Main Street Reservoir is 469 feet, the Pumps should add 113 feet of head:

$$587 \text{ feet} - 469 \text{ feet} = 113 \text{ feet}$$

MDD plus fire flow in Zone 2 is 2,092 gpm including the dependent MDD of 117 gpm (see Section 9.4.3) for Zone 3. The fire flow requirement in Zone 2 is 1,250 gpm.



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Figure 9-2 shows the available flow of 1,050 gpm for Pump No. 1 when delivering 113 feet of head. **Figure 9-3** shows the available flow of 1,225 gpm when Pump No. 3 is delivering 113 feet of head. Pump curves have been adjusted based on SCE efficiency test.

Figure 9-2 – Pump 1 vs. MDD + FF Requirements for Zone 2

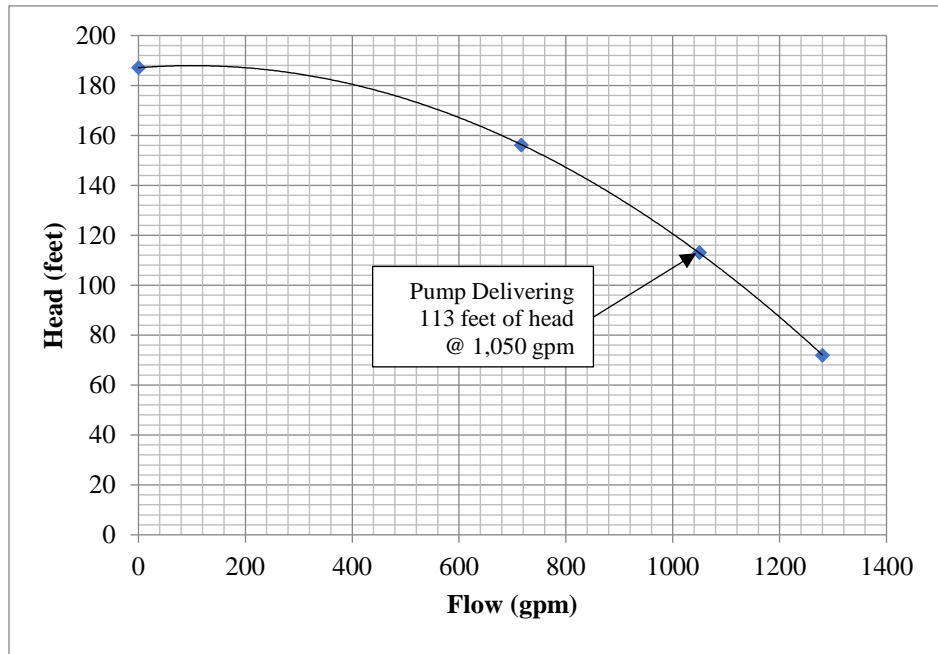
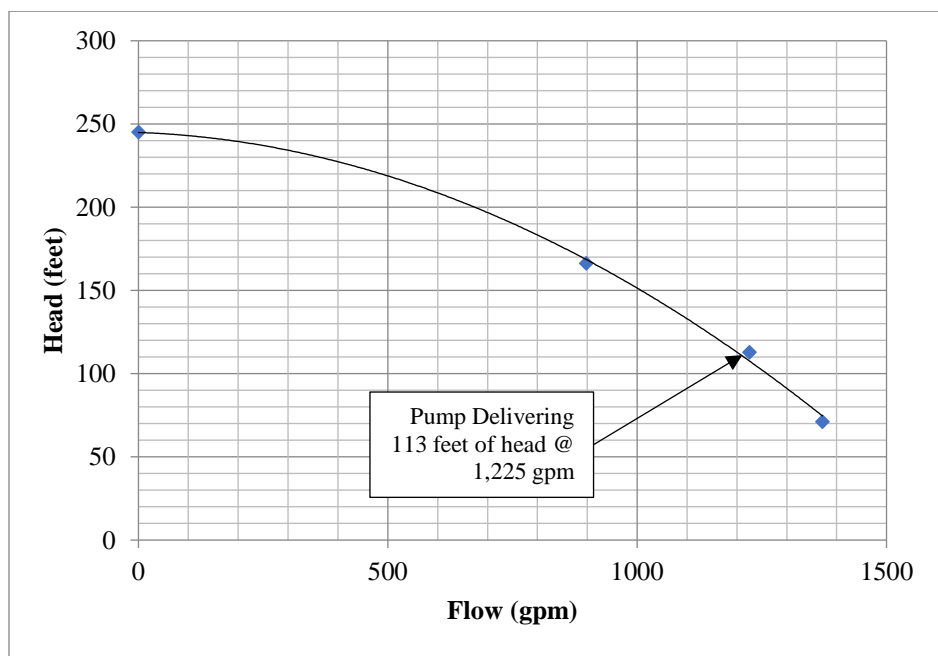


Figure 9-3 – Pump 3 vs. MDD + FF Requirements for Zone 2





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The two smaller pumps producing 2,275 gpm can achieve the MDD+FF requirements of 2,092 gpm in Zone 2 when considering the largest pump out of service.

PHD

To achieve 40 psi fire flow residual pressure at this location, the hydraulic gradient should be at least 633 feet:

$$541 \text{ feet} + \left(\frac{40 \text{ lbs}}{\text{in}^2}\right) \left(\frac{12 \text{ in}}{\text{foot}}\right)^2 \left(\frac{\text{ft}^3}{62.4 \text{ lbs}}\right) \cong 633 \text{ feet}$$

Assuming the water surface in Main Street Reservoir is 469 feet, Pump should add 164 feet of head:

$$633 \text{ feet} - 469 \text{ feet} = 164 \text{ feet}$$

PHD in Zone 2 is 1,023 gpm.

Figure 9-4 shows the available flow of 650 gpm for Pump No. 1 when delivering 164 feet of head. **Figure 9-5** shows the available flow of 925 gpm for Pump No. 3 when delivering 164 feet of head. Two pumps can achieve the PHD requirement in Zone 2.

Figure 9-4 – Pump 1 vs. PHD Requirements for Zone 2

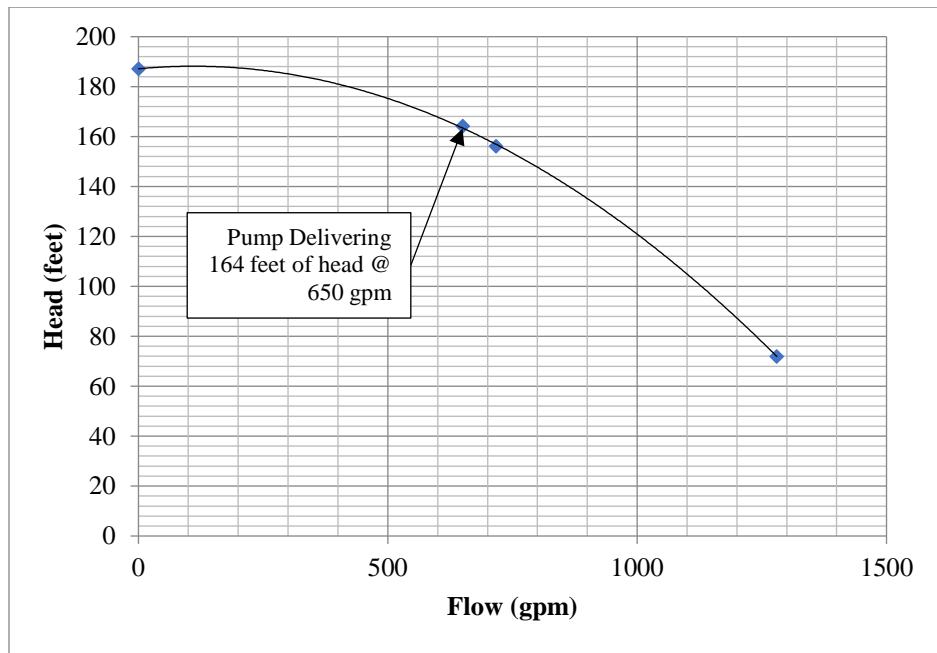
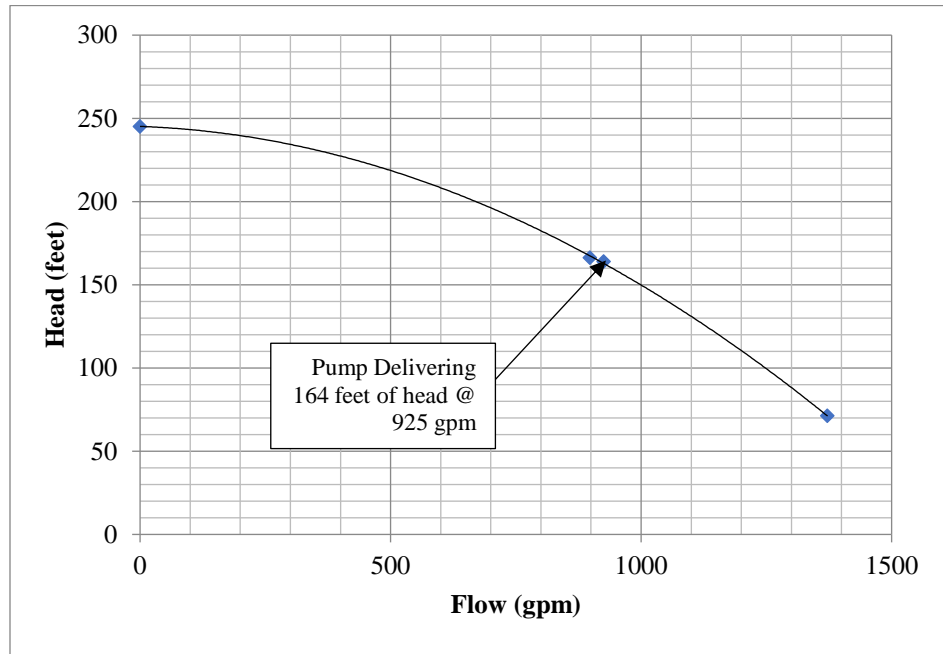




Figure 9-5 – Pump 3 vs. PHD Requirements for Zone 2



9.4.3 Pressure Zone 3 Booster Capacity

There are two booster pumps in Zone 3. Both pumps are normally operated to replenish the Industry Hills Reservoirs to replace the water used by LPVCWD in Zone 3. The capacity of each pump is calculated to check that it is able to handle the anticipated demand conditions.

The highest water surface elevation in the Industry Hills Reservoirs is at 777 feet.

MDD

Assuming the water surface in Zone 2 is 633 feet, the Pump should add 144 feet of head:

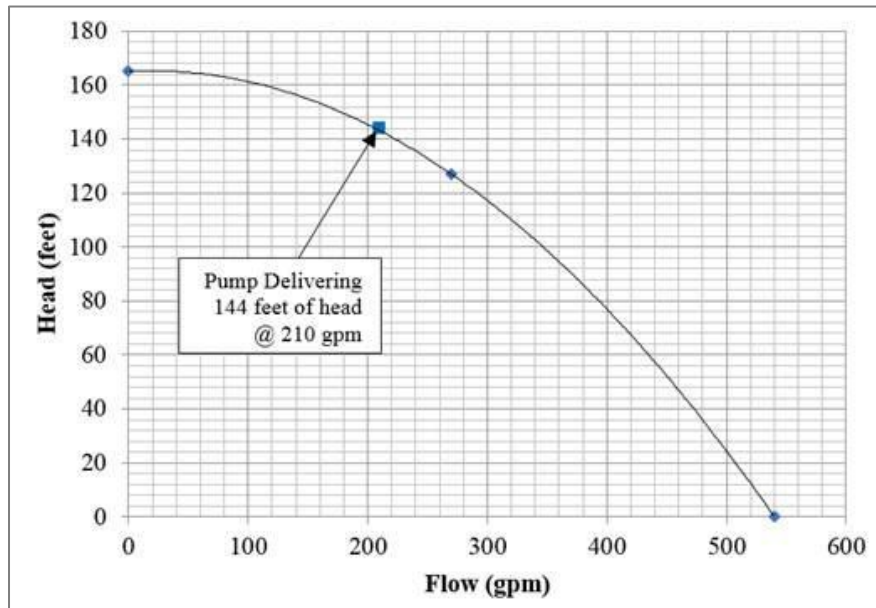
$$777 \text{ feet} - 633 \text{ feet} = 144 \text{ feet}$$

MDD in Zone 3 is 39 gpm.

Figure 9-6 shows the available flow of 210 gpm for Pump 1 when delivering 144 feet of head.



Figure 9-6 – Pump 1 vs. MDD Requirement for Zone 3



The small pump can achieve the MDD requirement in Zone 3. The Zone 3 booster pump station is operated manually to replenish water in the Industry Hills Reservoirs. Water is utilized in Zone 3 during the day with supply from the Industry Hills Reservoirs, water is subsequently replenished as needed by the Zone 3 booster pump station. As a result, Zone 3 is only required to replenish one day of 39 gpm in an 8-hour period. This equates to 117 gpm flow. In light of this the existing booster pump can achieve the requirements for Zone 3. Fire flow to Zone 3 is always served by gravity through the Industry Hills Reservoirs.

9.4.4 Pressure Zone 4 Booster Capacity

There are two booster pumps in Zone 4. For redundancy, the capacity of one of the pumps is calculated and the sum of the two capacities is utilized to check that they are able to handle all demand conditions. Zone 4 is also served by the largest pump of the Zone 2 booster station. If pressure loss is experienced in Zone 4, a control valve on the discharge of this Zone 2 pump is opened to initiate production to serve fire flows in Zone 4.

The highest service elevation in Zone 4 is at 630 feet.

MDD + FF

To achieve 20 psi fire flow residual pressure at this location, the hydraulic gradient should be at least 676 feet:

$$630 \text{ feet} + \left(\frac{20 \text{ lbs}}{\text{in}^2}\right) \left(\frac{12 \text{ in}}{\text{foot}}\right)^2 \left(\frac{\text{ft}^3}{62.4 \text{ lbs}}\right) \cong 676 \text{ feet}$$



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Assuming water surface in Main Street Reservoir is 469 feet, Pump should add 207 feet of head:

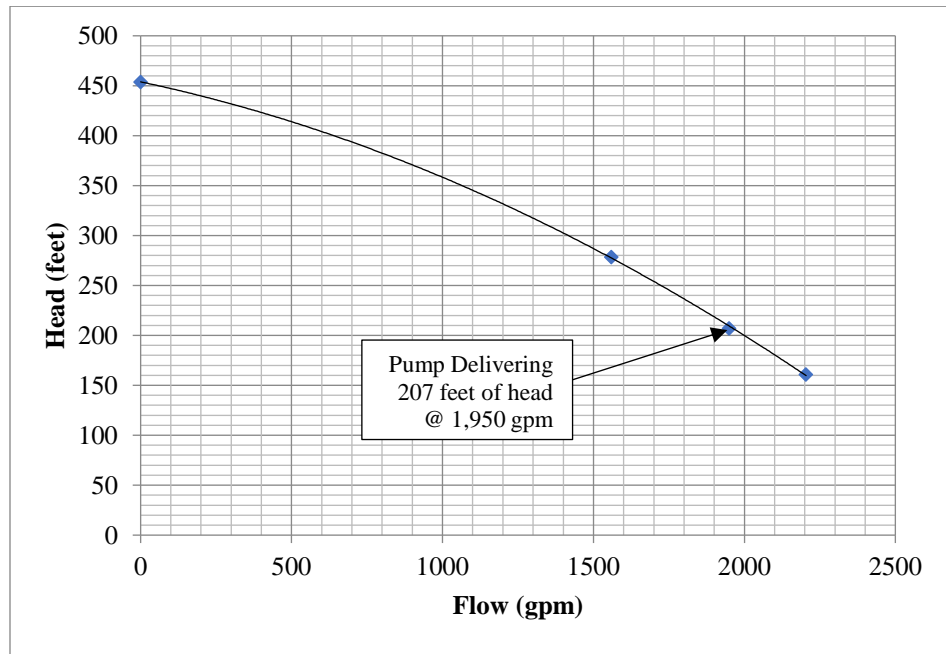
$$676 \text{ feet} - 469 \text{ feet} = 207 \text{ feet}$$

MDD plus fire flow in Zone 4 is 1,556gpm, (56 + 1,500) gpm.

Figure 9-7 shows the available flow of 1,950 gpm when the Zone 2 Pump No. 2 is delivering 207 feet of head.

The Zone 2 Pump No. 2 can achieve the FF+MDD requirement in Zone 4. Note that Zone 4 piping has been configured with an interconnect to allow a redundant supply of water from the Industry Hills Reservoirs by way of the Industry Hills Booster Station No. 3 and San Jose pressure regulating stations to ensure that if pressure falls below a certain set point in Zone 2 this redundant supply would provide fire flow to Zone 4.

Figure 9-7 – Pump No. 2 vs. MDD + FF Requirement for Zone 4



PHD

To achieve 40 psi fire flow residual pressure at this location, the hydraulic gradient should be at least 633 feet:

$$630 \text{ feet} + \left(\frac{40 \text{ lbs}}{\text{in}^2}\right) \left(\frac{12 \text{ in}}{\text{foot}}\right)^2 \left(\frac{\text{ft}^3}{62.4 \text{ lbs}}\right) \cong 723 \text{ feet}$$



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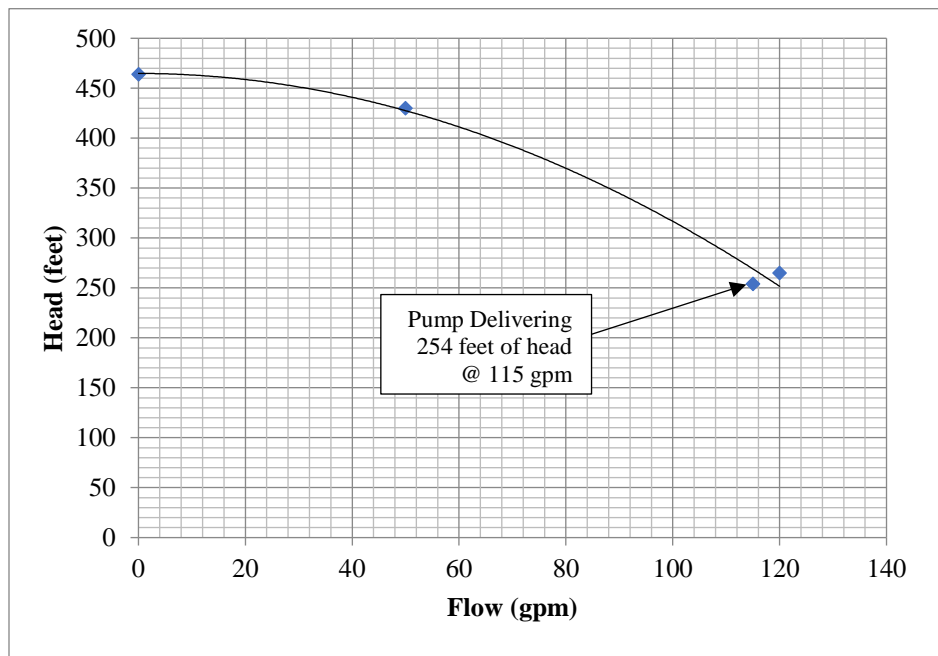
Assuming the water surface in the Main Street Reservoir is 469 feet, Pump should add 256 feet of head:

$$723 \text{ feet} - 469 \text{ feet} = 254 \text{ feet}$$

PHD in Zone 4 is 86 gpm.

Figure 9-8 shows the available flow of 115 gpm from one of the Zone 4 pumps while meeting 254 feet of head. One pump can achieve the PHD requirement in Zone 4.

Figure 9-8 – Zone 4 Booster Pump vs. PHD Requirement



9.5 Analysis of Existing Distribution System

The primary function of the distribution system is to carry supply to where it is needed. In most cases, fire flow demand is the governing factor in sizing pipelines. The results of a MDD plus Fire Flow analysis indicated a number of hydrants (or groups of hydrants) that could not meet the allocated fire flow capacity. These deficiencies have been categorized by the magnitude of the fire flow demand related to the following land uses:

Fire Flow Demand (gpm)	Land Use
1,250	Single Family Residential
3,000	Multi-family Residential, Commercial
4,000	Industrial and Institutional



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Note that fire flow demands listed above are typical for the land uses indicated under the current standards provided by the Fire Marshal for new construction, land subdivision or water system upgrade. Fire flow requirements for individual parcels may be higher or lower than the listed demands at the discretion of the Fire Marshal. Allowances for reduced fire flow requirements include onsite fire sprinklers, use of fire retardant construction materials and sufficient separation between structures. The need for increased fire flow requirements may include multiple stories, large floor areas, high occupancy and high density.

A fire flow analysis means that a fire flow event was simulated at every hydrant location in the Water Model under MDD steady state conditions. The Water Model returned static pressure, residual pressure and available flow for each hydrant. The significant result is the available flow at 20 psi residuals which generally represents the performance the hydrant is capable of as a worst-case scenario. Exhibits were created and will be provided in the appendix showing possible improvements so that the following fire flow deficiencies will be fixed in the future.

As permitted by regulation, fire flows in excess of 2,500 gpm may be met by up to two hydrants flowing simultaneously, and fire flows in excess of 3,500 gpm may be met by up to three hydrants flowing simultaneously. Any hydrant that could not individually meet the assigned fire flow requirement was retested using a multi-hydrant fire flow simulation.

9.5.1 Industrial Fire Flow Deficiency

Fire flow demand for industrial land use is set at 4,000 gpm.

Table 9-6 provides a list of hydrants grouped into areas that could not meet industrial fire flow requirements, prioritized by available flow at 20 psi residual pressure with up to three hydrants flowing simultaneously.

Table 9-6 – Industrial Fire Flow Deficiencies

Hydrant Location	Pressure Zone	Exhibit No.	Static Pressure (psi)	Available Flow @ 20psi (gpm)	Comments
5th Street, south of Workman Street	1	4	41	1,099	Existing Hydrant is off an existing 6-inch pipeline

The typical reason for these types of deficiencies is due to undersized and/or dead-end mains serving the area. For this specific case, the fire hydrant is connected to a 6-inch main located on 5th Street in front of the Workman Elementary School and currently does not meet industrial/institution fire flow requirements. In addition, there is no other fire hydrant in the area to group within 300 feet. It is recommended to either upsize the existing 6-inch pipeline on 5th Street or install a new fire hydrant off the existing 16-inch pipeline on Main Street south of the elementary school.



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9.5.2 Multi-Family Residential/Commercial Fire Flow Deficiencies

Fire flow demand for commercial land use is set at 3,000 gpm.

Table 9-7 provides a list of hydrants grouped into areas that could not meet multi-family residential or commercial fire flow requirements, prioritized by available flow at 20 psi residual pressure with up to two hydrants flowing simultaneously.

Table 9-7 – Commercial Fire Flow Deficiencies

Hydrant Location	Pressure Zone	Exhibit No.	Static Pressure (psi)	Available Flow @ 20psi (gpm)	Comments
923 N Hacienda Blvd	1	6	60	1,071	Recommend upsizing pipeline
892 N Hacienda Blvd	1	6	60	1,144	Recommend upsizing pipeline

The typical reason for these types of deficiencies is due to undersized and/or dead-end mains serving the area. Due to the location of these deficiencies and the cost to implement a pipeline replacement solution, the proposed improvement should include an administrative and capital solution that consist of constructing a Fire Hydrant service from the existing SWS 12” water main on the opposite side of Hacienda to be located in front of the subject commercial use. In this manner, sufficient fire flow will be provided through use of grouping one of LPVCWD’s existing fire hydrants with a new SWS hydrant to achieve the fire flow requirements. This improvement (CIP #13) will require coordination and approval from SWS.

9.5.3 Single Family Residential Fire Flow Deficiencies

Fire flow demand for single-family residential land use is set at 1,250 gpm.

Table 9-8 provides a list of hydrants that were unable to meet single family residential fire flow requirements, prioritized by available flow at 20 psi residual pressure.



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Table 9-8 – Single Family Residential Fire Flow Deficiencies

Hydrant Location	Pressure Zone	Exhibit No.	Static Pressure (psi)	Available Flow @ 20psi (gpm)	Comments
Rexham Ave	1	1	47	953	Recommend upsizing pipeline or creating a hydraulic loop
Inyo St, East of Rexham Ave	1	1	47	1,247	Recommend upsizing pipeline or creating a hydraulic loop
Banbridge Ave and Rorimer St	1	1	45	637	Recommend upsizing pipeline or creating a hydraulic loop
Rorimer St, east of Waringwood Rd	1	1	42	824	Recommend upsizing pipeline or creating a hydraulic loop
Wegman Dr, east of Waringwood Rd	1	1	35	641	Recommend upsizing pipeline or creating a hydraulic loop
S Baja Ave, south of Inyo St	1	2	45	1,148	Recommend upsizing pipeline or creating a hydraulic loop
S Dial Ave, south of Inyo St	1	2	47	796	Recommend upsizing pipeline or creating a hydraulic loop
S Dalesford Dr, north of Inyo St	1	3	34	760	Recommend upsizing pipeline or creating a hydraulic loop
Bamboo St, north of Inyo St	1	3	34	786	Recommend upsizing pipeline or creating a hydraulic loop
S Appleblossom, north of Inyo St	1	3	36	1,241	Recommend upsizing pipeline or creating a hydraulic loop
693 Santo Oro Ave	1	5	59	698	Recommend upsizing pipeline or creating a hydraulic loop
674 Gaylawn Ct	1	5	59	709	Recommend upsizing pipeline or creating a hydraulic loop
15602 Temple Ave	1	5	56	728	Recommend upsizing pipeline or creating a hydraulic loop
16266 Bamboo St	2	7	145	1,222	Recommend upsizing pipeline
16342 Bamboo St	2	7	148	1,117	Recommend upsizing pipeline



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The typical reason for these types of deficiencies is due to undersized and/or dead-end mains serving the area. Most of these can be improved by creating hydraulic loops, upsizing existing pipelines or the addition of a pressure sustaining valve. Possible improvements will be discussed in detail in the following section.

9.6 Proposed Improvements for Deficiencies

After discussing and receiving input from LPVCWD’s staff, the following proposed improvements were created and analyzed to alleviate the fire flow deficiencies within LPVCWD’s system.

9.6.1 5th Street and Workman Street (CIP#1)

Table 9-9 provides the updated findings of the industrial fire flow deficiency found in **Table 9-6** after incorporating a proposed improvement into the Water Model.

Table 9-9 – Industrial Fire Flow Deficiencies with Improvements

Hydrant Location	Pressure Zone	Exhibit No.	Static Pressure (psi)	Available Flow @ 20psi (gpm)	Comments
5 th Street and NE corner of 5 th Street and Main St	1	8	41 - 44	6,090	Fire Flow is sufficient by upsizing to an 8-inch main and installing 2 new fire hydrants

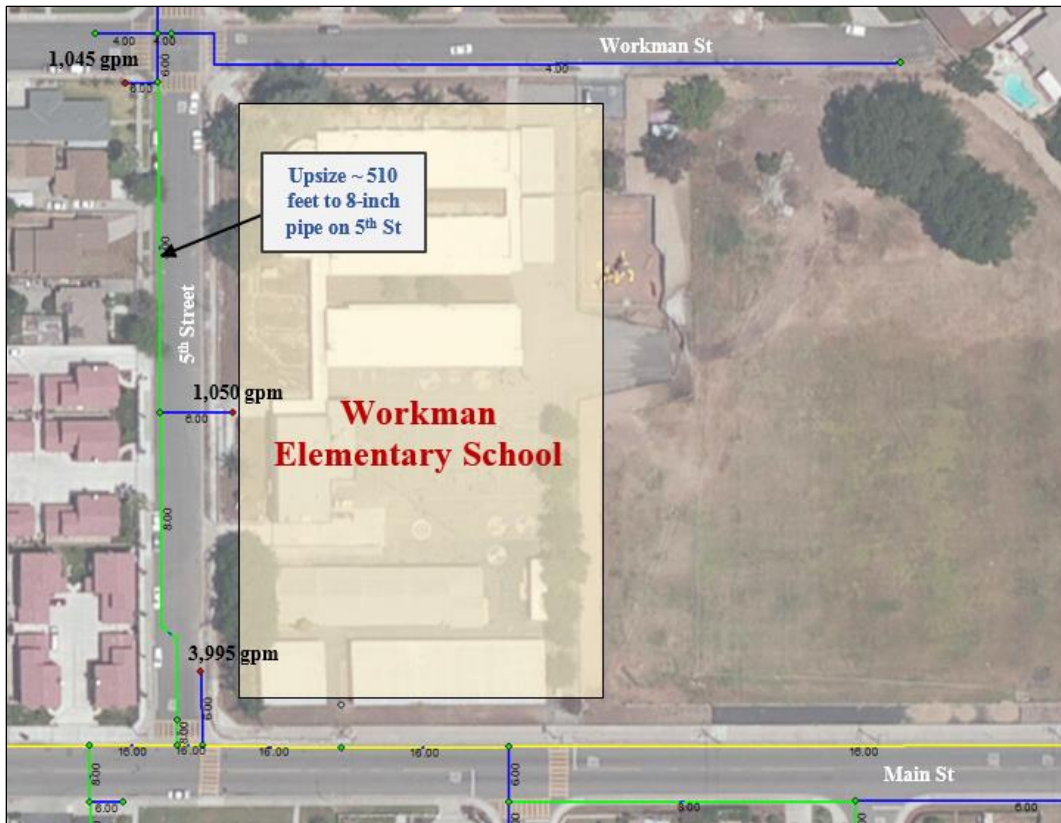
As shown in **Figure 9-9**, it is recommended to upsize the existing 6-inch main (~510 feet) in 5th Street to an 8-inch main and install two new fire hydrants. One hydrant would be off the new upsized 8-inch main in 5th Street and installed in front of Workman Elementary School. The second fire hydrant would be off the existing 16-inch main on Main Street and installed at the northeast corner of 5th Street and Main Street. By running the hydrants simultaneously, the available fire flow would exceed 4,000 gpm. **Figure 9-9** is also shown in Exhibit 8 in Appendix F.

Figure 9-9 – Improvements on 5th Street, between Workman St and Main St (CIP#1)



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9.6.2 Improvements on Ferrero Ln and Rorimer St (CIP#2)

Table 9-10 provides the updated findings of the single family residential fire flow deficiencies found in Table 9-8 after incorporating proposed improvements into the Water Model.

Table 9-10 – Single Family Residential Fire Flow Deficiencies with Improvements on Ferrero Ln and Rorimer St

Hydrant Location	Pressure Zone	Exhibit No.	Static Pressure (psi)	Available Flow @ 20psi (gpm)	Comments
Rexham Ave	1	9	56	1,316	Fire Flow Available is sufficient
Inyo St, East of Rexham Ave	1	9	56	2,037	Fire Flow Available is sufficient
Banbridge Ave and Rorimer St	1	9	57	1,374	Fire Flow Available is sufficient
Rorimer St, east of Waringwood Rd	1	9	54	1,820	Fire Flow Available is sufficient
Wegman Dr, east of Waringwood Rd	1	9	57	1,620	Fire Flow Available is sufficient



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By upsizing the existing 4-inch pipeline to 6-inch along Rorimer St (~605 feet) east of Waringwood Road and installing a pressure sustaining valve on S Ferrero Lane, the hydraulic loop capacities increase within the area. All 4-inch wharf heads would be replaced by 6-inch fire hydrants. With these improvements, the fire hydrants within the area will be able to exceed the available fire flow requirement of 1,250 gpm as shown in

Figure 9-10 (also shown as Exhibit 9 in Appendix F).

Figure 9-10 – Improvements on Ferrero Ln and Rorimer St (CIP#2)



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9.6.3 Improvements North of Inyo St (CIP#3)

Table 9-11 provides the updated findings of the single family residential fire flow deficiencies found in Table 9-8 after incorporating proposed improvements into the Water Model.

Table 9-11 – Single Family Residential Fire Flow Deficiencies North of Inyo St



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Hydrant Location	Pressure Zone	Exhibit No.	Static Pressure (psi)	Available Flow @ 20psi (gpm)	Comments
S Dalesford Dr, north of Inyo St	1	10	36	1,504	Fire Flow Available is sufficient
Bamboo St, north of Inyo St	1	10	45	1,815	Fire Flow Available is sufficient

By upsizing the existing 6-inch pipeline to 8-inch along Dalesford Drive (~335 feet) north of Inyo Street and installing a pressure sustaining valve on Bamboo Street, the hydraulic loop capacities increase within the area. All 4-inch wharf heads would be replaced by 6-inch fire hydrants. With these improvements, the fire hydrants within the area will be able to exceed the available fire flow requirement of 1,250 gpm as shown in **Figure 9-11** (also shown as Exhibit 10 in Appendix F).

Figure 9-11 – Improvements on North of Inyo St (CIP#3)



9.6.4 Improvements on Inyo St and Common Ave (CIP#4)



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Table 9-12 provides the updated findings of the single family residential fire flow deficiencies found in **Table 9-8** after incorporating proposed improvements into the Water Model.

Table 9-12 – Single Family Residential Fire Flow Deficiencies Improvements on Inyo St and Common Ave

Hydrant Location	Pressure Zone	Exhibit No.	Static Pressure (psi)	Available Flow @ 20psi (gpm)	Comments
S Baja Ave, south of Inyo St	1	11	46	1,573	Fire Flow Available is sufficient
S Dial Ave, south of Inyo St	1	11	48	1,415	Fire Flow Available is sufficient
S Appleblossom, north of Inyo St	1	11	37	1,321	Fire Flow Available is sufficient

By upsizing the existing 4-inch pipelines to 8-inch along Common Avenue (~835 feet) between Appleblossom Street & Central Avenue and in Inyo Street (~735 feet) from Common Ave going eastward to tie into the existing 8-inch, the hydraulic loop capacities increase within the area. All 4-inch wharf heads would also be replaced by 6-inch fire hydrants. With these improvements, the fire hydrants within the area will be able to exceed the available fire flow requirement of 1,250 gpm as shown in **Figure 9-12** (also shown as Exhibit 11 in Appendix F).



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Figure 9-12 – Improvements on Inyo St and Common Ave (CIP#4)



9.6.5 Improvements on N Hacienda Blvd, north of Temple Ave (CIP#5)

provides the updated findings of the single family residential fire flow deficiencies found in **Table 9-8** after incorporating proposed improvements into the Water Model.



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Table 9-13 provides the updated findings of the single family residential fire flow deficiencies found in **Table 9-8** after incorporating proposed improvements into the Water Model.

Table 9-13 – Single Family Residential Fire Flow Deficiencies Improvements on N Hacienda Blvd, north of Temple Ave

Hydrant Location	Pressure Zone	Exhibit No.	Static Pressure (psi)	Available Flow @ 20psi (gpm)	Comments
693 Santo Oro Ave	1	12	60	2,253	Fire Flow Available is sufficient
674 Gaylawn Ct	1	12	60	2,040	Fire Flow Available is sufficient
15602 Temple Ave	1	12	57	1,878	Fire Flow Available is sufficient

By adding an estimate of 550 feet of 8-inch pipeline in N Hacienda Blvd from Santa Oro Ave up towards Sierra Vista Ct, a hydraulic loop is formed. This hydraulic loop would increase the available fire flow within the streets of Santo Oro Ave, Temple Ave, and Gaylawn Rd thus exceeding the available fire flow requirement of 1,250 gpm per single hydrant as shown in **Figure 9-13** (also shown as Exhibit 12 in Appendix F).

Figure 9-13 – Improvements on N Hacienda Blvd, north of Temple Ave (CIP#5)



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9.6.6 Improvements on Bamboo St (CIP#6)

provides the updated findings of the single family residential fire flow deficiencies found in **Table 9-8** after incorporating proposed improvements into the Water Model.

Table 9-14 provides the updated findings of the single family residential fire flow deficiencies found in **Table 9-8** after incorporating proposed improvements into the Water Model.

Table 9-14 – Single Family Residential Fire Flow Deficiencies Improvements on Bamboo St

Hydrant Location	Pressure Zone	Exhibit No.	Static Pressure (psi)	Available Flow @ 20psi (gpm)	Comments
16266 Bamboo St	2	13	98	1,821	Fire Flow Available is sufficient
16342 Bamboo St	2	13	101	1,340	Fire Flow Available is sufficient

By upsizing the existing 6-inch pipeline along Bamboo Street (~ 1,555 feet) and Main Street (~160 feet) to 8-inch pipeline, the deficient fire hydrants will be able to reach the available fire flow requirement of 1,250 gpm as shown in **Figure 9-14** (also shown as Exhibit 13 in Appendix F).

Figure 9-14 – Improvements on Bamboo St (CIP#6)



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9.7 Evaluation Based on Condition and Age

All components of the distribution system have a finite service life. Individual components may wear out prematurely or outlive their recommended life cycle; however, for planning purposes average life cycles should be considered when budgeting replacement costs. Care should be taken to replace inefficient, worn or damaged infrastructure in a timely manner to avoid excessive repair costs and other vulnerabilities.

Table 9-15 provides a methodology for identifying and corroborating cyclical replacement. Prior to replacement (or maintenance as indicated), both criteria should be met. The interval criterion represents the age and the indication criterion represents condition. Any component exceeding its recommended age that also exhibits poor condition should be considered a string candidate for replacement.

Table 9-15 – Infrastructure Replacement Criteria



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Component	Interval (years)	Indication
Pipeline	AWWA	Frequent repair history, excessive energy losses
Pump/Motor Overhaul	15	Drop in efficiency below 65%
Pump/Motor Replacement	30	Frequent repair history, drop in efficiency
Control Valve Overhaul	25	Leaks, poor response, frequent repairs
Tank Recoating	20	Evidence of corrosion
Tank Replacement	80	Frequency/extent of repair history
Well Refurbishment/Replacement	50	Decline in effective capacity

9.7.1 Watermain Pipeline Evaluation based on Conditions

As stated above, all components of the distribution system have a finite service life and care should be taken to replace inefficient, worn or damaged infrastructure in a timely manner to avoid excessive repair costs and other vulnerabilities. Currently, the District has a procedure in place to document all leaks in a database for purposes of keeping adequate records and for the benefit of data analysis. Analyzing a 5-year data sample, **Figure 9-15** provides an overview assessment of current conditions of watermains in the distribution system.



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Table 9-16 – Service Line Leak Repairs and Replacements (2012-2016)

<i>SERVICE LINE REPAIRS</i>						
Type	2012	2013	2014	2015	2016	5 Yr Total
Copper	1	4	7	1	4	17
Galvanized	1	0	0	0	0	1
PEP	0	2	1	2	1	6
Totals	2	6	8	3	5	24
<i>SERVICE LINE REPLACEMENTS</i>						
Type	2012	2013	2014	2015	2016	5 Yr Total
Copper	0	0	2	2	6	10
Galvanized	9	6	5	2	0	22
PEP	10	15	20	17	15	77
Totals	19	21	27	21	21	109

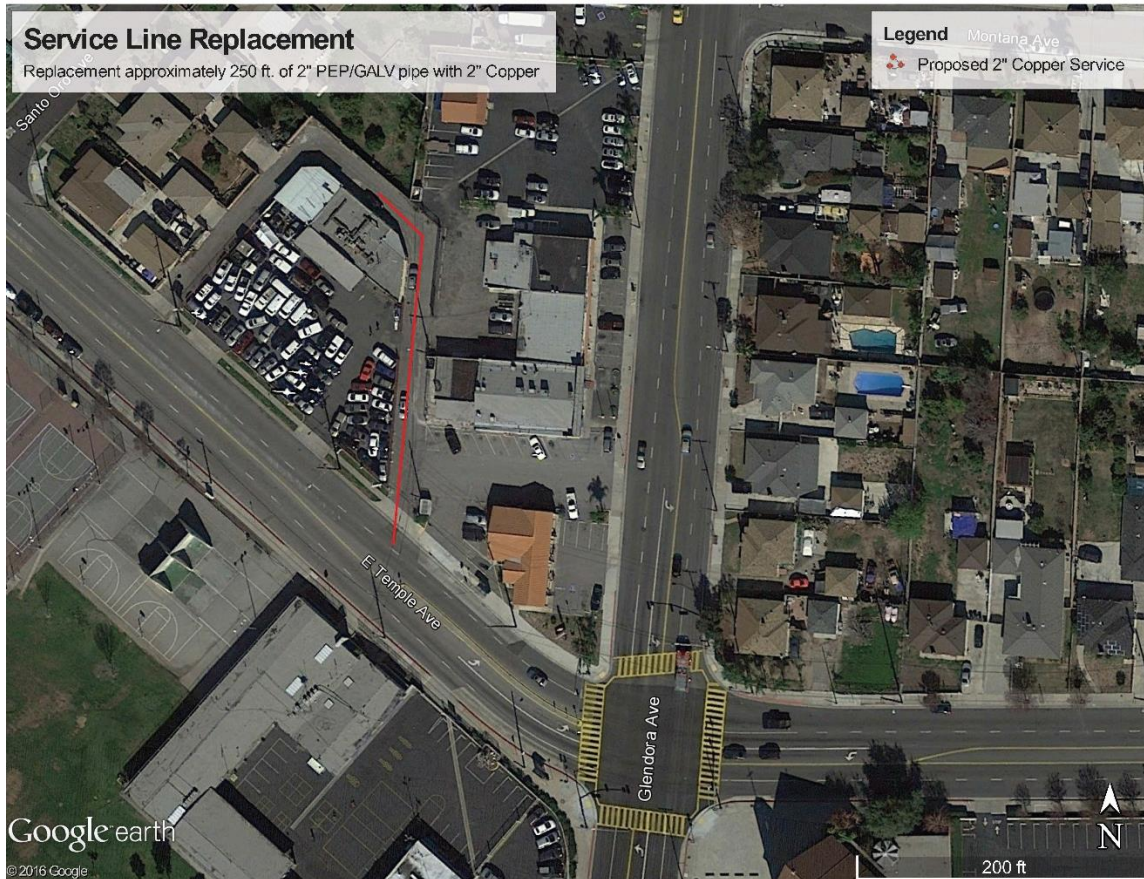
9.7.2.1 Service Line Condition Recommendations (CIP#7)

Based on the data observed on **Table 9-16**, the data listed identifies that galvanized and PEP service lines fail more commonly and need replacement. In addition, analysis of this data also identified two hot spot leak areas in the District. The first area of concern is a single 2” service that is approximately 250 ft. in length and composed of a combination of PEP and Galvanized pipe. The service has had repeated leaks on different areas of the service. In addition, senior personnel have also commented on additional leak repairs on this service line prior to 2012. As a result, it is recommended that the 2” service line located west of the intersection of Glendora Ave. and Temple Ave. be replaced with a 2” Copper service line as shown in **Figure 9-16**.

The second area of concern is a group of leaks located on Main Street. However, after reviewing service line replacement records and gathering input from senior personnel, it was previously identified that a group of service lines feeding a tract of condos in this area posed repeated leaks. As a result, the District initiated a service replacement program to replace all the PEP services feeding these condos with copper services.



Figure 9-16 – Proposed 2” Copper Service Line on Temple Ave. and Glendora Ave



9.7.3 Watermain Pipeline Replacement Based on Age

In 2012, the American Water Works Association (AWWA) published a report on water pipeline replacement called *Buried No Longer: Confronting America’s Water Infrastructure Challenge*. The report suggests that Asbestos-Cement (AC) and Ductile Iron (DI) pipe in the western United States has average service life of 75 and 110 years. Statistically speaking, this means half of all ACP and DIP last longer than 75 and 110 years and half are replaced before those ages. The largest portion of pipe materials used in the LPVCWD system is ACP (66.3%) and DIP (7.2%).

This implies that once the LPVCWD distribution system is mature, an average of 6,800 feet of ACP and 1,300 feet of DIP replacement should be scheduled per year (or 68,000 feet and 13,000 feet over a 10-year period):

However, the LPVCWD distribution system is a comparatively young system and no pipelines are more than 75 and 110-years.

It is estimated LPVCWD’s distribution system will reach maturity in 18 years for ACP and 42 years for DIP, at which time a regular and vigorous replacement program should be implemented.



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LA PUENTE VALLEY COUNTY WATER DISTRICT

Until then, a more moderate pipeline replacement program is recommended. Consider the following:

- No plan to replace DIP
- No pipe age and condition issues in 2016
- Distribution system maturity will occur in 18 years (i.e. 2034), at which time a replacement schedule of 6,800 feet per year is required indefinitely.
- Using a straight-line projection, LPVCWD should consider a pipe replacement that starts at zero in 2016 and increases by 380 feet per year until 2034:

$$\frac{6,800 \text{ feet per year}}{2034 - 2016} \cong 380 \text{ feet per year}$$

Over the next ten years, this approach implies replacement of 17,100 feet of pipe, as shown in **Table 9-17**.

Table 9-17 – Near Term Pipeline Replacement Schedule

Year	Feet of Pipe per Year
2016	0
2017	380
2018	760
2019	1,140
2020	1,520
2021	1,900
2022	2,280
2023	2,660
2024	3,040
2025	3,420
Total for Ten years	17,100

According to records, LPVCWD distribution system’s oldest pipe age is 1948. At the estimated year of 2034 when the system would reach maturity, the age of pipelines younger than 1959 would reach its service life and need to be replaced.

By creating queries within the computer model and running simulations, it was determined that approximately over 13,000 feet of pipeline of the age of 1959 or earlier exist in the system. These pipelines are located in LPVCWD’s Pressure Zone 1 and Pressure Zone 2. **Figure 9-17** shows the pipelines of the age 1948 located in Pressure Zone 2.



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Figure 9-17 - Pipelines of the Age of 1948 (CIP#8)



There is approximately 1,140 feet in Pressure Zone 2 of 6-inch pipelines of the age of 1948 that would need to be replaced by the year 2034. The majority of the pipelines to be replaced are located on San Jose Avenue, west of N. Del Valle Avenue. There is a small portion of pipe installed in 1948 east of Holguin Place that would also need to be replaced.

Figure 9-18 shows the pipelines of age 1959 located in Pressure Zone 1.



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Figure 9-18 – Pipelines of the Age of 1959 (CIP#9)



There is approximately 11,950 feet in Pressure Zone 1 of pipelines of the age of 1959 ranging from 4-inch to 12-inch that would need to be replaced by the year 2034. As shown, the pipelines that would need replacement are enclosed by Old Valley Blvd on the south, Central Ave on the north, 1st Street on the west and Abbey Street on the east.

9.7.4 Pump Maintenance based on Age

There are 3 existing Well pumps and 14 existing booster pumps for a total of 17 pumps. In a 30-year cycle, a pump should be overhauled once and replaced once.

Therefore, over a typical 10-year period, there should be an allocation for 6 pump overhauls and 6 pump replacement.

$$\left(\frac{17 \text{ pumps}}{30 \text{ year cycle}} \right) (10 \text{ years}) \cong 6 \text{ pumps per 10 year period}$$



9.7.5 Pump Maintenance based on Condition

Based on SCE pump efficiency testing, all pumps below the 65% efficiency rating threshold should be considered for overhaul or replacement. **Table 9-18** lists the current ratings of the pumps which are candidates for repair or replacement.

Table 9-18 – Pumps According to Efficiency Rating

Pump Name	Eff. (%)
LP Treatment Plant No. 1	43.1
LP Treatment Plant No. 2	45.6
Well No. 3	53.1
Pressure Zone 2 No. 1	55.5
Hudson No. 2	59.3
Well No. 5	60.4

There are no SCE pump efficiency testing results for 6 out of 17 pumps in the LPVCWD system. According to the table above, there are 6 pumps that require an overhaul. Well No. 5 replacement is considered as a capital improvement per CIP #10. The Hudson booster pump No. 2 is proposed to be replaced per CIP#11 as described in Section 9.8. The remaining 4 pumps listed above require efficiency overhauls and 5 existing pumps currently exhibit efficiencies meeting the design criteria. The remaining 6 pumps that have not been tested are new pumps having been installed within the last 5 years. It is not anticipated that these new pumps will require replacement or refurbishment in the next 10 years. In light of this, it is expected that 4 pumps will require replacement and 5 pumps will require refurbishment over the next 10-year cycle.

9.7.6 Control Valve Overhaul Based on Age

Control Valves should be scheduled for overhaul on a 25-year cycle. There are 4 existing control valves, as shown in **Table 9-19**.

$$\left(\frac{4 \text{ control valves}}{25 \text{ year cycle}} \right) (10 \text{ years}) \cong 2 \text{ control valves per 10 year period}$$

Table 9-19 – Active Control Valves

No.	Location	Size (inches)
1	Zone 4	6
2	Zone 2	8
3	Zone 5	4
4	Zone 2	10



9.7.7 Tank Recoating's Based on Age

When exposed to the environment, steel oxidizes and deteriorates. For steel water tanks, paints and other protective coatings are used on both the interior and exterior to prevent such deterioration. LPVCWD has a 20-year interval period for tank recoating(s), however if there is an indication of severe corrosion or an immediate recommendation for re-coating on a wet inspection report, the tank will be re-coated as needed. Both the interior and exterior coatings must be carefully selected to provide the best protection based on coating life and effectiveness of protection.

LPVCWD considers the following factors when selecting an exterior coating:

- ◆ The type of atmosphere in which the tank is located
- ◆ The area surrounding the tank
- ◆ The expected ambient temperatures and prevailing winds during the time of year when the coating project is scheduled to be performed
- ◆ Appearance of the coating
- ◆ AWWA Standard D-102 Coating Steel Water Storage Tanks
- ◆ ANSI/NSF Standard 61

Interior tank coatings must be able to withstand the following:

- ◆ Constant immersion in water
- ◆ Varying water temperatures
- ◆ Alternate wetting and drying periods
- ◆ High humidity and heat in the zones above the high-water level
- ◆ Chlorine and mineral content of the water

In addition, the interior coatings must not impose a health risk on the general public and must be approved for potable water storage by the CA SWRCB.

$$\left(\frac{3 \text{ tanks}}{20 \text{ year cycle}}\right) (10 \text{ years}) \cong 2 \text{ tank recoatings per 10 year period}$$

9.7.8 Tank Replacement Based on Age

On an 80-year replacement cycle, none of the three LPVCWD tanks is scheduled for replacement within the next ten years.

9.7.9 Well Refurbishment or Replacement Based on Age

On a 50-year refurbishment/replacement cycle, two LPVCWD wells (Well No. 3 and 5) exceed or will exceed their recommended life cycle during the next ten years in terms of age. Well No. 2 will be 50 years in 2027 and will need to be refurbished or replaced at that time.



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9.8 Capital Improvement Program

The Capital Improvement Program (CIP) is a set of projects recommended to be implemented within the next ten years. Individual projects are given relative priority based on perceived urgency. Projects have been separated as Capital Projects and Maintenance Projects to be consistent with LPVCWD’s budgeting allocations.

9.8.1 Cost Assumptions

Estimates for capital project are based on the cost assumptions provided in **Table 9-20**.

Table 9-20 – Unit Cost Assumptions

Category	Item	Unit Cost	Unit
Storage	New Storage	2	\$/gallon
	Recoating	15	\$/sf
Pumps	New Pump	150,000	\$/pump
	Pump Replacement	75,000	\$/pump
	Pump Refurbishment	15,000	\$/pump
Control Valves	New Valve	50,000	\$/valve
	Valve Overhaul	15,000	\$/valve
Distribution	New Pipes	17.5	\$/in/ft

The total cost of a capital project is the summation of the unit costs plus costs associated with design and administration. These costs are 25% of construction costs for engineering and administration and 10% of construction costs for contingencies.

9.8.2 Capital Projects

The capital projects listed in **this section** consider a 10-year planning horizon. Relative priority for individual projects or groups of projects is provided. Prioritization is not meant to be rigid, rather to assist with scheduling and implementation. It is recommended to corroborate conditions in the field with operations prior to implementation.

9.8.2.1 Phase 1 Recycled Water System (CIP#10)

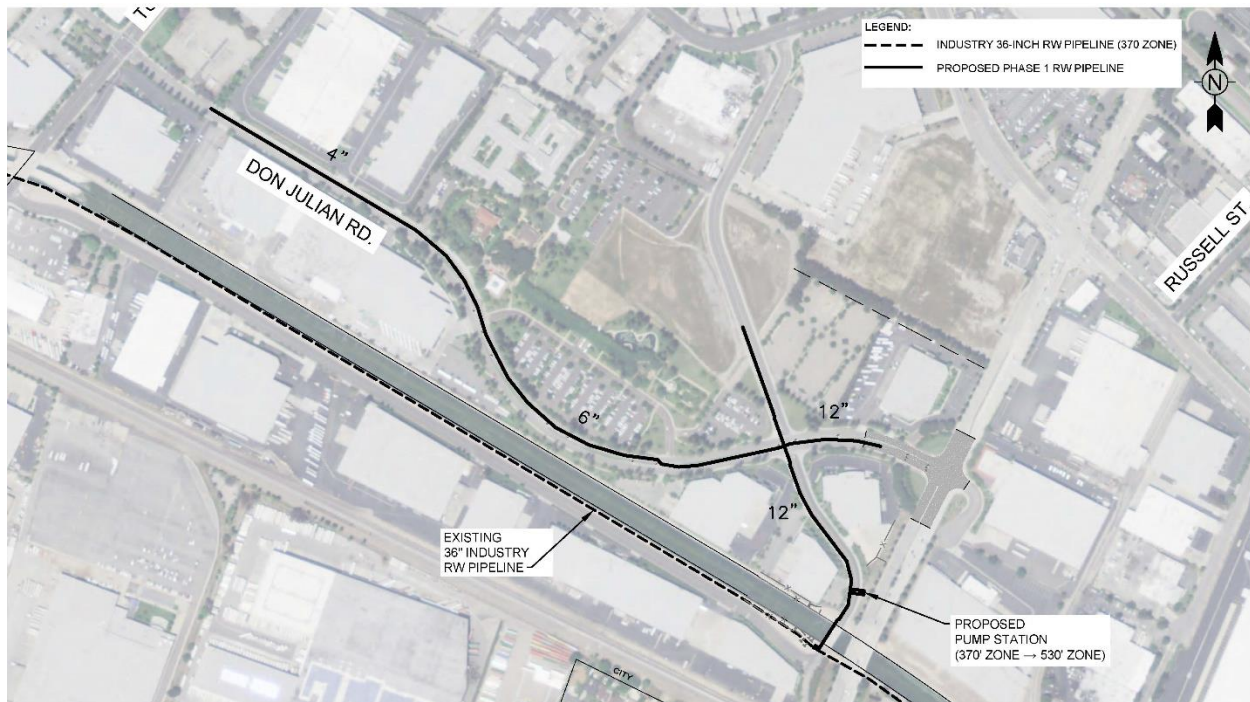
As previously mentioned, the Districts Recycled Water Project design utilizes the City of Industry’s 36-inch recycled water transmission line as the source of supply for the system. The District has partnered with Upper San Gabriel Valley Municipal Water District to secure a \$428,000 grant from the State Department of Water Resources for Phase 1 of the Recycled Water System Project. This grant will cover approximately 25 percent of the estimated cost of Phase 1, which is expected to serve 50 acre feet of recycled water per year to irrigation customers on Don Julian Avenue as shown in **Figure 9-19**.



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Figure 9-19 – Phase 1 Recycled Water Project (CIP#10)



9.8.2.2 Well 5 Rehab and Sound Structure Improvement (CIP#11)

The District has identified that Well 5's efficiency is nearly at 60% and will require rehab. During these activities, it would be much more feasible and cost effective to install a sound attenuating structure to properly address noise complaints.

9.8.2.3 Hudson Avenue Pumping Improvements (CIP#12)

Given the current layout of the Hudson Booster Station, the District plans to Replace/Rehab pumps, install VFDs and upgrade discharge piping for increased efficiency purposes. The improvement would consist of maintaining 2 pumps with each having a maximum pumping rate of 1,500 gpm, but with Best Efficiency Pumping rates at 1,000 gpm. The envisioned range of pumping would be 700 to 1,500 for these two pumps.

The third pump is envisioned to range from 600 to 1,000 gpm. In addition, the installation of a mag meter at the plant effluent and testing taps would also be included in the improvement to ensure proper efficiency testing of each pump.

9.8.2.4 Estimated Capital Project Cost's

Based on the Capital Project's identified in this section, **Table 9-21** summarized the estimated cost for each project.



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Table 9-21 – Capital Projects (\$1,000s)

CIP #	Category	Project	Priority	Justification	Size (in)	Length (ft)	Constr.	Engr. & Admin. (25%)	Cont. (10%)	Total
1	Fire Flow	Pipeline Improvements in 5th Street and Fire Hydrants	High	Fire flow deficiency (School)	8	510	87	22	9	118
2	Fire Flow	Valve and Pipeline Improvements in Rorimer	Medium	Fire flow deficiency (Residential)	6	605	150	37	15	202
3	Fire Flow	Bamboo St Pressure Sustaining Valve and Pipeline Improvements in Inyo	Medium	Fire flow deficiency (Residential)	8	335	182	46	19	247
4	Fire Flow	Pipeline Improvements in Inyo and Common and Fire Hydrants	Medium	Fire flow deficiency (Residential)	8	1,570	243	61	25	329
5	Fire Flow	Pipeline Improvements in Hacienda	Medium	Fire flow deficiency (Residential)	8	550	88	22	9	119
6	Fire Flow	Pipeline Improvements in Main	Medium	Fire flow deficiency (Residential)	8	1,000	140	35	14	189
7	Condition	Service Line Replacement	Medium	Recurring Leaks			8	-	1	9
8	Condition	San Jose Waterline Replacement	Low	Replace aging waterline	6	1,140	120	30	12	162
9	Condition	Old Valley Blvd General Waterline Replacements	Low	Replace aging waterline	8	10,450	1,463	366	147	1,976
10	Improvement	Phase 1 Recycled Water System	High	Reduce dependence of imported water supply			1600	400	200	2200



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CIP #	Category	Project	Priority	Justification	Size (in)	Length (ft)	Constr.	Engr. & Admin. (25%)	Cont. (10%)	Total
11	Supply	Well 5 Rehab and Sound Structure Improvement	Medium	Sound and Efficiency Issues			100	25	10	135
12	Booster Station	Hudson Avenue Pumping Improvements	Medium	Efficiency and Layout Improvements			600	150	60	810
13	Fire Flow	Collaborate with SWS for installation of a Fire Hydrant on Hacienda	Medium	Fire flow deficiency (Commercial)			10	3	1	14
Total										6,510

9.8.3 Maintenance Projects

The projects identified in this section consider field observations noted during field operations along with cyclical maintenance projects on a 10-year planning horizon. Relative priority for individual projects or groups of projects is provided. Prioritization is not meant to be rigid, rather to assist with scheduling and implementation. It is recommended to corroborate conditions in the field with operations prior to implementation.

9.8.3.1 Aging Galvanized Pipe and Polyethylene Pipe (PEP) Service Line Replacements

The District identified that aging galvanized and polyethylene pipe service lines pose problems with service leaks. As a result, the District created an ongoing program to replaced galvanized and polyethylene service lines with copper service lines. The District’ program consist of replacing the service lines that meet this criterion when leaks are discovered on any part of the service line. In review of the District’s 5-year leak repair history, almost all service line leaks are from 1” PEP or galvanized pipe with very few from copper pipe. In some cases, it was also identified that the service saddle was of cast iron material that showed heavy signs of corrosion. As a result, these identified saddles were also replaced when the service lines were replaced. Over the last 5 years the District Field Crews have replaced 109 service lines. This program shall continue over the next five-year period at a pace of approximately 20 service line replacements a year.

9.8.3.2 Aging Cast Iron Service Saddle Replacements

The District has experienced a few leaks on Leverett Avenue and Dora Guzman Avenue that caused substantial damage to the public street and required emergency shut-downs that resulted in customers being without water for several hours. Based on the data gathered during service line leak repairs on these streets, staff identified that all services were installed using cast-iron saddles



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on Leverett Avenue and Dora Guzman Avenue. Given the high probability of leaks on these types of saddles due to corrosion, the District plans to replace the remaining cast iron service saddles on Leverett Avenue and Dora Guzman Avenue with bronze double strapped saddles. It is estimated that there are approximately 20 cast iron service saddles that will require replacement.

9.8.3.3 Valve Replacements

During valve maintenance activities, District staff takes note of valves that pose difficulty in operating or of being non-operative at all. The average rate of replacement should be roughly 10 valves per year, primarily in areas where pipeline replacements are at least five years or more into the future.

9.8.3.4 Tank Recoating's

As stated in section 9.6.4, paints and other protective coatings are used on both the interior and exterior of steel tanks to prevent such deterioration. Based on the District's tank cyclical maintenance, the 3.0 MG and 1.8 MG tanks on Main St. will need to be recoated.

9.8.3.5 Estimated Maintenance Project Cost

Based on the Maintenance Projects identified in this section, **Table 9-22** summarized the estimated cost for each project over the upcoming 10-year period.

Table 9-22 – 10 Year Maintenance Projects (\$1,000s)

Category	Project	Priority	Justification	Constr.	Engr.	Cont. (10%)	Total
Boosters	4 Pump Overhauls	Medium	Booster Cyclical Maintenance	60	0	6	66
	5 Pump Replacements	Medium	Booster Cyclical Maintenance	375	0	38	413
Control Valves	2 Control Valve Overhauls	Medium	Valve Cyclical Maintenance	30	0	3	33
System Valves	100 System Valve Replacements	Medium	Valve Cyclical Replacment	1000	0	100	1100
Service Laterals and Saddles	101 Service Lateral Replacements	Medium	Valve Cyclical Replacment	250		25	275
Storage	Main Street Tank Recoating's	Medium	Tank Cyclical Maintenance	720	180	72	972
Total							2859



APPENDIX A

Water Master Judgement

(Not included due to file size)



APPENDIX B

Title 22 Code of Regulations

(Not included due to file size)



APPENDIX C

LPVCWD 2015 Consumer Confidence Report

(Not included due to file size)



APPENDIX D

Raw Fire Flow Data

(Not included due to file size)



APPENDIX E

Fire Code, Regulation 8

(Not included due to file size)



APPENDIX F

Deficiency Improvements

(Not included due to file size)



APPENDIX G

PVOU Water Supply

(Not included due to file size)

Memo



To: Honorable Board of Directors
From: Greg B. Galindo, General Manager
Date: April 10, 2017
Re: Recycled Water Ad hoc Committee Report

On March 30, 2017, the Ad Hoc Committee, Vice President Rojas, Director Hernandez along with District Staff, Greg Galindo and Roy Frausto convened to discuss the Recycled Water Project.

Mr. Galindo began the meeting by reviewing the latest correspondence letter from Mrs. Martha Tremblay, Assistant Departmental Engineer for the Sanitation Districts of Los Angeles County (Sanitation Districts). Mr. Galindo summarized the following key points of the letter:

1. Phase 1 – Given that the project’s status is nearly “construction ready” and has approval to receive prop 84 funding, the project could receive 55 AFY of recycled water from the San Jose Creek Reclamation Plant through the City of Industry’s recycled water system.
2. 1211 Permit – The Sanitation Districts have initiated efforts to complete and file a Water Code Section 1211 wastewater change petition with the State Water Resources Control Board (SWRCB) for approval of the 55 AFY diversion for our Phase 1 project.
3. Approval of 1211 Permit - Sanitation Districts will also need to file an engineering report and obtain approval of the report from the Los Angeles Regional Water Quality Control Board and the SWRCB Division of Drinking Water. It is anticipated that the permit may be issued during Fall 2017.
4. Future Availability of Recycled Water – The Sanitation Districts will make every effort to accommodate projects that have received funding and are underway, however if flows at the San Jose Creek Water Reclamation Plant continue to drop and the overall supply becomes insufficient to meet actual recycled water demands, the Sanitation Districts would implement equitable reductions in accordance to existing contract provisions.

Subsequently, Mr. Galindo discussed the proposed alternatives for Phase 1. The first alternative consisted of moving forward with the Phase 1 project provided that the District has 90% design plans completed and an awarded Prop 84 grant of \$428,000.00 available towards the cost of construction. Mr. Frausto added that the Phase 1 project plans are nearly construction ready with the exception of final approval from City of Industry. In addition, Mr. Frausto added that specifications have been drafted, but still need to be reviewed and finalized. Mr. Galindo then briefly discussed that the second alternative for Phase 1 would be to put the project on hold.

After discussion, consensus was reached by the committee to move forward with Phase 1. Mr. Galindo began to discuss the alternatives for Phase 2. Mr. Galindo began by reviewing the proposed alignment for the Phase 2 pipeline along with each usage site. After acknowledging that the San Jose Creek Water Reclamation Plant will more than likely not be able to supply any future recycled

water projects, Mr. Galindo advised that the design and construction of Phase 2 should be placed on hold given the risk of not having a secure source of water to feed the system.

Mr. Galindo then moved to discuss a conceptual alternative of using water from the Puente Basin as a source of supply for Phase 2. Mr. Galindo advised that District staff met with Rowland Water District (RWD) on April 10, 2017 to discuss this alternative and to conceptually discuss points of connection. Mr. Galindo then discussed the different connection point alternatives of how we could bring Puente Basin water into La Puente along with the proposed infrastructure required. Mr. Galindo advised that this alternative of source water would require authorization from the Puente Basin, however it would not require permits or authorizations from the Sanitation Districts.

After reaching a consensus that the original Phase 2 scope of work would come with the risk of not having a source of water to feed the system, the committee agreed to pause all efforts. However, after the discussion of the proposed alternative of using Puente Basin water as a source of water to feed the identified customers of Phase 2, the committee agreed to explore this option by only allocating staff time to develop a technical memo. In addition, after identifying that the Phase 2 original scope of work would be paused and the alternative of using Puente Basin water would be explored, Mr. Galindo discussed the current pump station design included in Phase 1. Mr. Galindo advised that the current pump station is designed to pump the demand of Phase 1 and Phase 2. To ensure the highest level of efficiency, Mr. Galindo advised that a new pump design would be explored by staff to incorporate a design that efficiently meets the demands for Phase 1. However, Mr. Galindo advised that the designed Edison feed would still be in place to support any potential future expansion.

To conclude the meeting, Mr. Galindo asked to briefly review the direction of each action item listed below:

1. Phase 1 – Move forward with the procurement of all required permits, analyze new pump design, and finalize plans and specifications. The anticipated schedule for the project would be as follows:
 - a. Final Plans and Specs: Fall of 2017
 - b. Start of Construction: March 2018
 - c. Completion of Phase 1 (not including retrofits): June 2018
2. Phase 2 – Pause all efforts for the original Phase 2 scope of work
3. Puente Basin Source Water Alternative – Move forward with exploring this option by only allocating staff time to develop a technical memo. Technical Memo would be expected to be presented to the Ad hoc committee within 6 - 9 months.

After agreement of each action item, Mr. Galindo advised that he would present the action items to the LPVCWD Board of Directors for consideration and direction.

Memo



To: Honorable Board of Directors
From: Greg B. Galindo, General Manager
Date: April 7, 2017
Re: General Manager's Report – March 2017

ADMINISTRATIVE

1. BPOU Agreement – Negotiations are finished between the Water Entities and the Cooperating Respondents on a new BPOU Agreement that extends groundwater treatment cost reimbursement beyond May 2017. A final agreement is on the agenda consideration at the April 10, 2017 Board meeting.
2. PVOU IZ Agreements – Negotiations continue with Northrop and PBWA on the definitive agreements to operate the proposed PVOU IZ treatment facility and deliver treated water.
3. Emergency Response Plan – Staff is still in the process of updating this plan and will conduct a table top exercise with Staff when completed and will provide the Board information on the plan at an upcoming Board meeting. Anticipate completing this task by the end of April.
4. CIWS FY 2017-18 Proposed Budget – Staff submitted the proposed FY2017-18 CIWS Budget to the City for consideration on April 7, 2017.
5. Del Valle Project Waterline Extension Agreement – Staff is working with District Counsel to draft a development agreement for the proposed development at 747 Del Valle. This should be completed by the end of April.
6. Water Rate Study RFP – Staff has begun to draft a request for proposal for a water rate study. This RFP should be ready to be sent out in May.
7. Spring/Summer 2017 Newsletter – Staff has initiated work on the Spring/Summer 2017 Newsletter. CV Strategies will be assisting staff with this effort.
8. 2016 Consumer Confidence Report – Staff has begun work on the 2016 CCR, which is required to be published before July of this year. CV Strategies will be assisting staff in this effort.
9. 2016 Audit – The auditors Fedak & Brown LLP began the formal audit on March 20, 2017, of the District's Financials and are in the final stages of the audit.

CUSTOMER SERVICE

1. District's UHET Program – One application has been received to date for the UHET Program in March 2017, and 3 toilets have been distributed. Since the program's inception, there have been a total of 302 UHET distributed to District Customers.

2. Conservation Regulations – For March 2017, two (2) violation notices were issued to District Customers for violating water conservation regulation and none were issued to CIWS Customers.

SUPPLY, TREATMENT & COMPLIANCE

1. In the month of March, the District’s Well Field produced a total of 304.72 AF and delivered 199.71 AF to Suburban Water Systems, 7.60 AF to CIWS and received 2.48 AF from CIWS. The District’s total system demand for the month of March was 99.89 AF. The Production Report for calendar year 2017 for both LPVCWD and CIWS is enclosed.
2. MSGB Groundwater Levels – On March 31, 2017, the Baldwin Park key well level was 183.1 feet asl.
3. 2017 Water Conservation – A summary water system usage for the month of February 2017 as compared to the same time period in 2013 is shown below. The reduction in use for this time period is 30.3%.

Month	2013	2017	Difference 2017-2013 (%)	Accumulative Difference (%)
January	115.58	85.55	-26.0%	-26.0%
February	112.08	67.48	-39.8%	-32.8%
March	135.08	99.89	-26.0%	-30.3%

HUMAN RESOURCES

1. Four field tailgate safety meetings and one office staff safety training were completed in the month of March.
2. In March, three employees, one Office Staff and two Field Staff received their performance evaluations. Based on the results of their evaluations, employees who have not reached the top of their respective salary range received the appropriate merit increases. Lead Water Service Worker, 3.5% and Water Service Worker II, 1%.
3. Meetings/Events Attended in March 2017
 - March 1st – Watermaster Board meeting.
 - March 8th – Watermaster Basin Management Committee meeting.
 - March 9th – BPOU Committee meeting
 - March 13th – BPOU Agreement mediation session.
 - March 15th – Watermaster’s Administrative Committee Meeting.
 - March 16th – IPUC meeting
 - March 20th – SGVWA Legislative and Communication Committee meetings.
 - March 23rd – SCWUA meeting
 - March 24th – Meeting and tour at Weck Labs.
 - March 28th – Meeting with EPA and Watermaster on Section 28 Application.
 - March 28th – PVOU Stakeholders meeting.

- March 29th – SGVWA Legislative Day in Sacramento.
- March 30th – Producer’s Meeting.
- March 30th – District’s Recycled Water Ad hoc Committee meeting.

ITEMS IN PROGRESS

1. Update of all safety policies.
2. Draft of policy regarding membership to associations
3. Update District Website on Transparency
4. Update of Record Retention Policy
5. Update of Return to Work Policy

Enclosures

1. 2017 LPVCWD/CIWS Production Report

La Puente Valley County Water District

PRODUCTION REPORT - MARCH 2017

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2017 YTD	2016
LPVCWD PRODUCTION														
Well No. 2	5.04	5.20	4.63										14.86	83.48
Well No. 3	6.02	6.39	5.75										18.16	97.68
Well No. 5	292.09	249.87	294.34										836.30	3311.35
Interconnections to LPVCWD	12.33	2.12	2.48										16.93	92.57
Subtotal	315.48	263.58	307.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	886.26	3585.07
Interconnections to SWS	228.61	192.37	199.71										620.69	2121.26
Interconnections to COI	1.31	3.73	7.60										12.64	59.20
Interconnections to Others	0.00	0.00	0.00										0.00	0.00
Subtotal	229.92	196.10	207.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	633.33	2180.46
Total Production for LPVCWD	85.55	67.48	99.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	252.93	1404.61
CIWS PRODUCTION														
COI Well No. 5 To SGVCW B5	141.77	140.36	148.65										430.78	1647.30
Interconnections to CIWS														
SGVWC Salt Lake Ave	0.62	0.53	0.69										1.84	8.66
SGVWC Lomas Ave	84.10	66.19	83.11										233.40	1295.72
SGVWC Workman Mill Rd	0.19	0.15	0.13										0.47	3.71
Interconnections from LPVCWD	1.31	3.73	7.60										12.64	59.20
Subtotal	86.22	70.60	91.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	248.35	1367.29
Interconnections to LPVCWD	12.33	2.12	2.48										16.93	88.58
Total Production for CIWS	73.89	68.48	89.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	231.42	1278.71

Upcoming Events



To: Honorable Board of Directors
From: Rosa Ruehlman, Office Administrator RR
Date: 04/10/17
Re: Upcoming Board Approved Events for 2017

Day/Date	Event	<u>Aguirre</u>	<u>Escalera</u>	<u>Hastings</u>	<u>Hernandez</u>	<u>Rojas</u>
Monday– Thursday, April 10- 13, 2017	AWWA CA/NV 2017 Spring Conference at Disneyland Hotel in Anaheim, CA Deadline to Cancel is March 10, 2017		X			
Thursday, April 27, 2017*	SCWUA Luncheon at the Pomona Fairplex					
Tuesday – Thursday, May 9- 12, 2017	ACWA 2017 Spring Conference in Monterey Marriott/Portola Hotels in Monterey, CA Deadline to Cancel is April 14, 2017			X	X	X
Wednesday, May 10, 2017	San Gabriel Valley Water Association Luncheon at the Swiss Park in Whittier. (Tentative)					
Thursday, May 25, 2017*	SCWUA Luncheon at the Pomona Fairplex					
Thursday, June 22, 2017*	SCWUA Field Trip (TBD)					
Thursday, July 27, 2017*	SCWUA Luncheon at the Pomona Fairplex					
Wednesday, August 9, 2017*	San Gabriel Valley Water Association Luncheon at the Swiss Park in Whittier. (Tentative)					
Monday-Thursday, September 25-28, 2017	CSDA 2017 Annual Conference in Monterey Marriott/Portola Hotels in Monterey, CA					
Thursday, September 28, 2017*	SCWUA Luncheon at the Pomona Fairplex					

Wednesday-Friday, October 4-6, 2017	SmartWater Innovations Conference at South Point Hotel in Las Vegas, NV					
Monday– Thursday, October 23-26, 2017	AWWA CA/NV 2017 Spring Conference at Atlantis Casino Resort in Reno, NV					
Thursday, October 26, 2017*	SCWUA Luncheon at the Pomona Fairplex					
Wednesday, November 8, 2017*	San Gabriel Valley Water Association Luncheon at the Swiss Park in Whittier. (Tentative)					
Thursday, November 16, 2017*	SCWUA Luncheon at the Pomona Fairplex (3rd Thursday due to Thanksgiving)					
Tuesday – Thursday, November 28- December 1, 2017	ACWA 2017 Fall Conference in Anaheim Marriott Hotel in Anaheim, CA					
Thursday, December 7, 2017*	ACWA 2017 Fall Conference in Anaheim Marriott Hotel in Anaheim, CA (Will be held on 1st Thursday)					

* SGVWA and SCWUA scheduled program and location TBA at a later date.

SGVWA – San Gabriel Valley Water Association Quarterly Luncheons, are held on the Second Wednesday of February, May, August and November at 11:30 am at the Swiss Park in Whittier CA, (Dates are subject to change)

SCWUA – Southern California Water Utilities Association Luncheons are typically held on the fourth Thursday of each month with the exception of December due to the Christmas holiday and are held at the Pomona Fairplex in Pomona, CA. (Dates are subject to change)

Upcoming Meeting:

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| <ul style="list-style-type: none"> • No other meetings at this time. |
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Board Member Training and Reporting Requirements:

NEXT DUE DATE

Schedule of Future Training and Reporting for 2016	<u>Aguirre</u>	<u>Escalera</u>	<u>Hastings</u>	<u>Hernandez</u>	<u>Rojas</u>
Ethics 1234 2 year Requirement	11/22/18	12/01/18	12/01/18	10/11/18	12/04/16
Sexual Harassment 2 Year Requirement	12/01/17	12/01/17	05/05/17	10/10/18	05/05/17
Form 700 Annual Requirement	Complete	Complete	Complete	Complete	Complete
Form 470 Short Form Semi Annual Requirement	07/31/17	07/31/17	07/31/17	07/31/17	07/31/17

If you have any questions on the information provided or would like additional information, please contact me at your earliest convenience.

City of La Puente 2017 Events

	Date	Event	Sponsored by
1	1st Tuesday each month	Planning Commission Meeting	LP
2	2nd & 4th Tuesday each month	City Council Meetings	LP
4	04/15/2017 (Saturday before Easter)	Spring Egg Hunt	LP
5	June 3-4, 2017 (Sat. & Sun)	Relay for Life	American Cancer Society
6	July - August 2017 (Mondays)	Movies in the Park	LP
7	July - August 2017 (Wednesday)	Concerts in the Park	LP
8	07/03/2017 (Monday)	4th of July Celebration	LP
9	08/01/2017 (Tuesday)	National Night Out	L.A Co. Sheriffs
10	August 19, 2017 (Tentative Date)	Jr. All American Football	LP
11	10/29/2017 (Sunday)	Main St. Run	LP
12	11/11/2017 (Saturday)	Veteran's Day	LP
13	12/01/2017 (Friday)	Holiday Parade and Tree Lighting Ceremony	LP & Old Towne Puente



Southern California Water Utilities Association

Established in 1932

Next Event: Thursday, April 27, 11:30 a.m.

The Annual Administrative Professionals Program "True Colors"

This interactive, information-packed personal success seminar helps participants explore their own distinctive personality strengths and stressors, respect and appreciate differences in the ways people function and lays the foundation for relationship building, effective communication and team effort.

Presented by: Ms. Letitia Fox



Letitia Fox is the Director of the Live Show Division for True Colors International as well as a Consultant and certified facilitator. She is also an entrepreneur, speaker, actress, host and award winning producer.
Fox uses her theatrical talent to ensure the quality and creativity of each custom designed True Colors event.

Date:	Thursday, April 27, 2017
Where:	Pomona Fairplex Sheraton 601 W McKinley Ave, Pomona

Time:	11:30 a.m. to 1:30 p.m.
Cost:	\$30.00 – payable at the door

Three Ways to Register

RSVP: By Monday, April 24

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| 1 | Online:
www.scwua.org | 2 | Email:
www.facebook.com/scwua | 3 | Phone:
(909) 293-7040 |
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