

**LAS VIRGENES - TRIUNFO
JOINT POWERS AUTHORITY
AGENDA**

4232 Las Virgenes Road, Calabasas, CA 91302

CLOSING TIME FOR AGENDA IS 8:30 A.M. ON THE TUESDAY PRECEDING THE MEETING. GOVERNMENT CODE SECTION 54954.2 PROHIBITS TAKING ACTION ON ITEMS NOT ON POSTED AGENDA UNLESS AN EMERGENCY, AS DEFINED IN GOVERNMENT CODE SECTION 54956.5 EXISTS OR UNLESS OTHER REQUIREMENTS OF GOVERNMENT CODE SECTION 54954.2(B) ARE MET.

5:00 PM

November 6, 2017

PLEDGE OF ALLEGIANCE

1 CALL TO ORDER AND ROLL CALL

2 APPROVAL OF AGENDA

3 PUBLIC COMMENTS

Members of the public may now address the Board of Directors **ON MATTERS NOT APPEARING ON THE AGENDA**, but within the jurisdiction of the Board. No action shall be taken on any matter not appearing on the agenda unless authorized by Subdivision (b) of Government Code Section 54954.2

4 CONSENT CALENDAR

A Minutes: Regular Meeting of October 2, 2017 (Pg. 4)

Approve.

B Financial Review: First Quarter of Fiscal Year 2017-18 (Pg. 10)

Receive and file the Financial Review for the First Quarter of Fiscal Year 2017-18.

C Water Information Management System Update: Authorize Purchase Order (Pg. 18)

Authorize the Administering Agent/General Manager to issue a purchase order to Hach Company, in the amount of \$68,450, for the update of its Water Information Management System (WIMS) software.

5 ILLUSTRATIVE AND/OR VERBAL PRESENTATION AGENDA ITEMS

A Pure Water Project Las Virgenes-Triunfo: Update

6 ACTION ITEMS

A 2018 JPA Board Meeting Calendar (Pg. 25)

Review the 2018 JPA Board Meeting Calendar and make any scheduling

adjustments.

- B Tapia Water Reclamation Facility Chloride Study: Award of Contract (Pg. 28)**
Budget and appropriate \$100,000; accept the proposal from Larry Walker Associates, Inc.; and authorize the Administering Agent/General Manager to execute a professional services agreement, in the amount of \$91,850, for the Tapia Water Reclamation Facility Chloride Study.
- C Tapia Water Reclamation Facility Summer Season Waste Load Allocation Compliance Study: Award of Contract (Pg. 99)**
Accept the proposal from Stantec Consulting Services, Inc.; and authorize the Administering Agent/General Manager to execute a professional services agreement, in the amount of \$149,515, for the Tapia Water Reclamation Facility Summer Season Waste Load Allocation Compliance Study.
- D Pure Water Project Las Virgenes-Triunfo: Award of Contract for Title XVI Feasibility Study Preparation (Pg. 150)**
Accept the proposal from Kennedy/Jenks Consultants and authorize the General Manager/Administering Agent to execute a professional services agreement, in the amount of \$140,370 for preparation of a Title XVI Feasibility Study for the Pure Water Project Las Virgenes-Triunfo.
- E State and Federal Legislative and Regulatory Advocacy: Contract Renewal (Pg. 195)**
Authorize the Administering Agent/General Manager to execute a one-year renewal of the professional services agreement with Best Best & Krieger LLP, in the amount of \$130,000, for state and federal legislative and regulatory advocacy services.

7 BOARD COMMENTS

8 ADMINISTERING AGENT/GENERAL MANAGER REPORT

9 FUTURE AGENDA ITEMS

10 PUBLIC COMMENTS

Members of the public may now address the Board of Directors **ON MATTERS NOT APPEARING ON THE AGENDA**, but within the jurisdiction of the Board. No action shall be taken on any matter not appearing on the agenda unless authorized by Subdivision (b) of Government Code Section 54954.2

11 CLOSED SESSION

A Conference with Legal Counsel - Potential Litigation (Government Code Section 54956.9): One Case

In the opinion of Legal Counsel, disclosure of the identity of the litigants would be prejudicial to the JPA.

12 ADJOURNMENT

Pursuant to Section 202 of the Americans with Disabilities Act of 1990 (42 U.S.C. Sec. 12132), and applicable federal rules and regulations, requests for a disability-related modification or accommodation, including auxiliary aids or services, in order to attend or participate in a meeting, should be made to the Executive Assistant/Clerk of the Board in

advance of the meeting to ensure availability of the requested service or accommodation. Notices, agendas, and public documents related to the Board meetings can be made available in appropriate alternative format upon request.

**LAS VIRGENES – TRIUNFO
JOINT POWERS AUTHORITY
MINUTES
REGULAR MEETING**

5:00 PM

October 2, 2017

PLEDGE OF ALLEGIANCE

The Pledge of Allegiance to the Flag was led by Chair Wall.

1. CALL TO ORDER AND ROLL CALL

The meeting was called to order at **5:00 p.m.** by Chair Wall in the Board Room at Las Virgenes Municipal Water District headquarters at 4232 Las Virgenes Road in Calabasas, California. Josie Guzman, Clerk of the Board, conducted the roll call.

Present: Directors Caspary, Lewitt, Orkney, Pan, Paule, Peterson, Polan, Renger, Tjulander, and Wall.

Absent: None

2. APPROVAL OF AGENDA

Director Renger moved to approve the agenda. Motion seconded by Director Paule. Motion carried unanimously.

3. PUBLIC COMMENTS

None.

4. CONSENT CALENDAR**A Minutes: Regular Meeting of September 5, 2017**

Director Peterson moved to approve the Consent Calendar. Motion seconded by Director Orkney. Motion carried by the following vote:

AYES: Caspary, Lewitt, Orkney, Pan, Peterson, Polan, Renger, Tjuander, Wall

NOES: None

ABSTAIN: Paule

ABSENT: None

5. ILLUSTRATIVE AND/OR VERBAL PRESENTATION AGENDA ITEMS

A Pure Water Project Las Virgenes-Triunfo: Update

Administering Agent/General Manager David Pedersen provided the following update:

Public Outreach: Staff has conducted 26 presentations reaching out to over 550 people. Presentations were recently made to the Westlake Sunrise Rotary Club; Mark Gold, UCLA Associate Vice Chancellor for Environment and Sustainability; and the Malibou Lake Homeowners' Association.

Demonstration Project: Proposals for the project delivery services related to the Demonstration Project are due on November 13th. Staff received a proposal from Linda MacPherson from New Water ReSources, a public outreach firm, for conceptual development of the visitor's experience at the Demonstration Project.

Technical and Siting Studies: The Reservoir Mixing and Dilution and the Advanced Water Treatment Plant Siting Studies are in progress.

Funding and Financing: The project has been entered into a database used for applying for Integrated Regional Water Management Planning (IRWMP) grant funding. Both the Pure Water Project Las Virgenes-Triunfo and the Demonstration Project are eligible for grant funding, which is scheduled for release in fall 2018.

Administering Agent/General Manager David Pedersen responded to a question regarding the status of the WaterReuse Foundation Study and noted that the majority of the study had been completed to support the regulations that were published by the State. He stated that staff would provide further information regarding the study at a future meeting. He also responded to a question regarding the status of the Advanced Water Treatment Facility Siting Study and stated that the study would narrow down potential sites and assure ratepayers that all potential sites had been explored. He noted that staff believed it was worthwhile to explore all potential sites. He stated that the final study would be presented to the Board to assist in making a decision regarding the option agreement for the Agoura Road site. Director Orkney requested information on the cost of the Siting Study to date.

6. ACTION ITEMS

A Tapia and Rancho Operations and Maintenance Project List Development: Accept Proposal

Budget and appropriate \$70,000; accept the proposal from KEH & Associates, Inc., in the amount of \$69,824; and authorize the Administering Agent/General Manager to execute a professional services agreement for development of a Tapia and Rancho operations and maintenance project list.

Brett Dingman, Water Reclamation Manager, presented the report.

A discussion ensued regarding ensuring that KEH & Associates' rate schedule would remain constant through completion of the project and seeking gender diversity for the engineering teams proposed to work on future projects.

Director Tjulander expressed an interest in reviewing maintenance records for Tapia and Rancho for the past year.

Director Peterson moved to approve Item 6A. Motion seconded by Director Caspary. Motion carried unanimously.

B Donation of 115kW Solar Carport System from the Conrad N. Hilton Foundation: Acceptance

Accept the donation of a 115 kW solar carport system and three electrical vehicle charging stations from the Conrad N. Hilton Foundation, and budget and appropriate \$300,000 for the Hilton Foundation Solar Carport System Relocation Project.

Administering Agent/General Manager David Pedersen presented the report.

A discussion ensued regarding annual maintenance costs and placing the solar carport panels in areas where they are visible to the public.

Director Tjulander noted that the Oak Park Unified School District recently undertook a solar system project at all of its campuses, and he suggested that staff follow-up with the Superintendent regarding information on the raw costs of new solar units and the cost/benefit over time.

Director Orkney moved to approve Item 6B. Motion seconded by Director Peterson. Motion carried unanimously.

C Tapia Water Reclamation Facility Switchgear and Transformer Maintenance Award

Accept the quotation from Hampton Tedder Technical Services, in the amount of \$61,711.60; and authorize the Administering Agent/General Manager to issue a purchase order, in the amount of \$67,882.76, which includes a 10% contingency, for routine maintenance of the switchgear and transformers at the Tapia Water Reclamation Facility.

Larry Miller, Water System/Facilities Manager, presented the report. He responded to questions related to the location of the transformers, increased efficiency and safety for employees, successful synchronization efforts for the generators, monthly testing of the generators, Edison's efforts to replace its wooden poles with metal poles, replacement of the transformers in accordance with Edison's standards, and the lifecycle of the switchgear.

Administering Agent/General Manager David Pedersen responded to a question regarding installing additional solar power at Tapia by stating that a study is currently underway to look into additional solar generation; however, there are no plans to install solar generation at Tapia due to space constraints. He noted that the study will look into additional solar generation installed at the farm and building a larger 5 to 6 megawatt facility. Additionally, staff is looking into the value of battery storage.

Director Peterson moved to approve Item 6C. Motion seconded by Director Orkney. Motion carried unanimously.

7. **BOARD COMMENTS**

Director Paule reported that he attended the California Special District Association's Conference, and he suggested that the JPA submit the Pure Water Project Las Virgenes-Triunfo for an outreach award. He congratulated Jeff Reinhardt, Public Affairs and Communications Manager, on his upcoming retirement and acknowledged him for his assistance to the JPA.

Director Lewitt acknowledged Jeff Reinhardt on his retirement and wished him well.

Director Renger reported that he attended the Las Virgenes Homeowners Federation Meeting where they discussed the construction of a wildlife crossing facility over Highway 101 in Agoura Hills. He suggested that the JPA consider planting native plants on JPA-owned property north of Mulholland Highway and west of Las Virgenes Road in the ravine to provide a pathway for wild animals.

Director Orkney acknowledged Jeff Reinhardt on his retirement. She noted that he was the first staff member she met when she was elected to the Triunfo Sanitation District Board of Directors, and she commended him on his service.

Director Pan spoke in support of submitting the Pure Water Project and outreach work by Jeff Reinhardt for CSDA Public Outreach Awards.

Director Caspary thanked Jeff Reinhardt for his service.

8. **ADMINISTERING AGENT/GENERAL MANAGER REPORT**

Administering Agent/General Manager David Pedersen reported that a hearing would be held on October 4, 2017, at 2:30 p.m., related to the Centrate Equalization Tank Project. He also reported that Sam Unger would be retiring from the Los Angeles Regional Water Quality Control Board at the end of the year.

9. FUTURE AGENDA ITEMS

None.

10. PUBLIC COMMENTS

Jeff Reinhardt, Public Affairs and Communications Manager, thanked the JPA Board and co-workers (Public Affairs Associates Deborah Peters and Tiffany Wright, Director of Resource Conservation and Public Outreach Carlos Reyes, and General Manager David Pedersen) for their support. He stated that he hoped to continue to monitor the work of the JPA and Las Virgenes Municipal Water District.

11. CLOSED SESSION

None.

12. ADJOURNMENT

Seeing no further business to come before the Board, the meeting was duly adjourned at **6:02 p.m.**

James Wall, Chair

ATTEST:

Glen Peterson, Vice Chair

November 6, 2017 JPA Board Meeting

TO: JPA Board of Directors

FROM: Finance & Administration

Subject : Financial Review: First Quarter of Fiscal Year 2017-18

SUMMARY:

The first quarter financial review presents data as of September 30, 2017. It is important to note that due to the timing of various projects and payments, the first quarter report should primarily be used to identify areas where an emerging trend may affect the JPA's position at fiscal year-end.

RECOMMENDATION(S):

Receive and file the Financial Review for the First Quarter of Fiscal Year 2017-18.

FISCAL IMPACT:

No

ITEM BUDGETED:

No

FINANCIAL IMPACT:

There is no financial impact associated with this action.

DISCUSSION:

The JPA's first quarter net uses of funds in Fiscal Year 2017-18 totaled \$3.2 million, compared to \$5.6 million for the same period in Fiscal Year 2016-17. There were year-over-year reductions in operating revenues (5%) and an increase in operating expenditures (9.6%). The reductions in revenues were primarily due to decreased recycled water sales. Capital project expenditures were approximately \$2.7 million lower than the prior year.

When comparing to FY 2017-18 budget estimates through the first quarter, actual operating expenditures were approximately \$653,000 (15.4%) below budget estimates, primarily due to lower than expected energy, chemical and sprayfield costs, as well as decreased maintenance labor hours. Capital project expenditures were approximately \$2.3 million below budget

estimates, primarily due to the timing of expenditures for planned projects.

GOALS:

Ensure Effective Utilization of the Public's Assets and Money

Prepared by: Angela Saccareccia, Finance Manager

ATTACHMENTS:

JPA First Quarter Financial Results

JPA CIP Status

Joint Powers Authority Operations

Quarterly Update - Comparison to Budget & Prior Year at September 30, 2017

	FY 16-17 Actual YTD	FY 17-18 Budget YTD	FY 17-18 Actual YTD
Total Operating Revenues	\$ 745,171	\$ 874,790	\$ 705,104
RW Pump Station	401,470	477,394	385,688
RW Tanks & Reservoirs	16,585	28,860	14,717
RW System Operations	11,193	9,200	8,483
RW Distribution	11,174	24,722	5,673
Sewer	23,160	58,475	23,093
Waste Water Treatment	1,499,004	1,965,991	1,831,436
Composting	1,019,613	1,262,426	1,027,480
Centrate Treatment	60,256	111,607	73,829
Adminstration	229,047	299,734	214,982
Total Operating Expenses	3,271,502	4,238,409	3,585,381
Net Operating (Expenses)	\$ (2,526,331)	\$ (3,363,619)	\$ (2,880,277)

Joint Powers Authority Operations
Quarterly Update - Comparison to Budget & Prior Year at September 30, 2017
FY 17-18 Year To Date

	<u>FY 16-17 Actual YTD</u>	<u>FY 17-18 Budget YTD</u>	<u>FY 17-18 Actual YTD</u>
<u>Las Virgenes Share:</u>			
<u>Total Revenues</u>			
Operating Revenues	\$ 523,039	\$ 614,954	\$ 496,655
Other Revenues	3,052	2,648	1,148
Total Revenues	<u>526,091</u>	<u>617,602</u>	<u>497,803</u>
<u>Total Expenses</u>			
Operating Expenses	\$ 2,254,065	\$ 2,838,939	\$ 2,470,328
Capital Project Expenses	2,146,088	1,834,328	208,278
Total Expenses	<u>4,400,152</u>	<u>4,673,266</u>	<u>2,678,606</u>
Net (Uses) of Funds - LV	<u><u>\$ (3,874,062)</u></u>	<u><u>\$ (4,055,665)</u></u>	<u><u>\$ (2,180,803)</u></u>
<u>Triunfo Share:</u>			
<u>Total Revenues</u>			
Operating Revenues	\$ 217,809	\$ 256,086	\$ 206,823
Other Revenues	1,271	1,103	478
Total Revenues	<u>219,080</u>	<u>257,188</u>	<u>207,301</u>
<u>Total Expenses</u>			
Operating Expenses	\$ 1,017,437	\$ 1,399,470	\$ 1,115,053
Capital Project Expenses	893,696	763,870	86,734
Total Expenses	<u>1,911,134</u>	<u>2,163,341</u>	<u>1,201,787</u>
Net (Uses) of Funds - TSD	<u><u>\$ (1,692,053)</u></u>	<u><u>\$ (1,906,152)</u></u>	<u><u>\$ (994,486)</u></u>
Total JPA Net (Uses) of Funds	<u><u>\$ (5,566,115)</u></u>	<u><u>\$ (5,961,817)</u></u>	<u><u>\$ (3,175,289)</u></u>

Joint Powers Authority Operations
Quarterly Update - Comparison to Budget & Prior Year at September 30, 2017
FY 17-18 Year To Date

	<u>FY 16-17 Actual YTD</u>	<u>FY 17-18 Budget YTD</u>	<u>FY 17-18 Actual YTD</u>
<u>Total Revenues</u>			
Operating Revenues	\$ 740,848	\$ 871,040	\$ 703,478
Other Revenues	4,323	3,750	1,626
Total Revenues	<u>745,171</u>	<u>874,790</u>	<u>705,104</u>
<u>Total Expenses</u>			
Operating Expenses	\$ 3,271,502	\$ 4,238,409	\$ 3,585,381
Capital Project Expenses	3,039,784	2,598,198	295,012
Total Expenses	<u>6,311,286</u>	<u>6,836,607</u>	<u>3,880,393</u>
Net (Uses) of Funds	<u>\$ (5,566,115)</u>	<u>\$ (5,961,817)</u>	<u>\$ (3,175,289)</u>
Las Virgenes Share	<u>(3,929,677)</u>	<u>(4,055,665)</u>	<u>(5,323,177)</u>
Triunfo Share	<u>(1,636,438)</u>	<u>(1,906,152)</u>	<u>2,147,888</u>

**Las Virgenes - Triunfo Joint Powers Authority
Capital Improvement Project Status
September 30, 2017**

Job # - Description	LV %	TSD %	Total Project Appropriations	Prior Year Expenditures	Current Year Expenditures	Total Project Expenditures	Project Balance	LV Balance	TSD Balance
Projects to complete by June 30, 2018									
10537 - Raw Sludge WetWell Mixing Impv Replace the existing raw sludge mixing pump at Tapia with a more suitable unit. Appropriate additional \$240,328. Agenda Item 6A, 7/10/2017.	70.6%	29.4%	\$584,942	\$104,801	\$30,610	\$135,411	\$449,531	\$317,369	\$132,162
10540 - Lost Hills Overpass RW Main Relocation of recycled water main due to demolition of Lost Hills overpass. In Progress / Construction	70.6%	29.4%	\$737,324	\$115,601	\$32,039	\$147,640	\$589,684	\$416,317	\$173,367
10564 - Centrate Equalization Tank Construct a centrate equalization tank at the centrate treatment facility at Rancho.	70.6%	29.4%	\$2,343,008	\$1,972,093	\$58,557	\$2,030,650	\$312,358	\$220,525	\$91,833
10589 - WIMS Software Implementation Purchase and installation of water information management solution (WIMS).	70.6%	29.4%	\$32,350	\$25,740	\$0	\$25,740	\$6,610	\$4,667	\$1,943
10617 - Flow Meter Replacement - JPA Replace end of life flow meters at two (2) locations. Includes the purchase of wireless flow meters and installation.	70.6%	29.4%	\$25,849	\$0	\$0	\$0	\$25,849	\$18,249	\$7,600
10641 - Tapia Lighting Efficiency Upgrd Replace internal and external lights at Tapia	70.6%	29.4%	\$469,920	\$0	\$0	\$0	\$469,920	\$331,764	\$138,156
10643 - Rancho Reliability Imprv 17-18 Miscellaneous repair or replacement of Rancho assets	70.6%	29.4%	\$132,000	\$0	\$343	\$343	\$131,657	\$92,950	\$38,707
10646 - Tapia WRF Relib Imprv FY17-18 Miscellaneous repair or replacement of Tapia assets	70.6%	29.4%	\$132,000	\$0	\$32,281	\$32,281	\$99,719	\$70,402	\$29,317
10653 - Tapia Rehab FY17-18 Combine projects 10647, 10648, 10649 for ease of administration of the projects. Concrete repair and installation of protective coatings Replace ten RAS gates Replace grit piping and grit valves as well as primary skimming pipe	70.6%	29.4%	\$1,549,100	\$0	\$25,546	\$25,546	\$1,523,554	\$1,075,629	\$447,925
Total Projects to complete by June 30, 2018			\$6,006,493	\$2,218,235	\$179,376	\$2,397,611	\$3,608,882	\$2,547,871	\$1,061,011

<i>Job # - Description</i>	<i>LV % TSD %</i>	<i>Total Project Appropriations</i>	<i>Prior Year Expenditures</i>	<i>Current Year Expenditures</i>	<i>Total Project Expenditures</i>	<i>Project Balance</i>	<i>LV Balance</i>	<i>TSD Balance</i>
Multi-Year Projects								
10565 - Rancho LV:Digester Cleang/Rpr Clean out and evaluate the condition of digesters that have been in service for more than 20 years. Appropriate additional \$709,788. Agenda Item 7A, 8/7/2017.	70.6%	\$1,789,494	\$271,561	\$13,923	\$285,484	\$1,504,010	\$1,061,831	\$442,179
10597 - Tapia E&I Upgrades Replace obsolete and malfunctioning mechanical protective relays for generators with new solid state controls. Planning/Design	70.6%	\$66,000	\$0	\$0	\$0	\$66,000	\$46,596	\$19,404
10608 - Rancho Amndmnt Bin&Convync Mod The project consists of installing a new smaller amendment bin and modification to the conveyor system to simplify the amendment conveyance process. Planning/Design	70.6%	\$428,650	\$53,090	\$5,918	\$59,008	\$369,642	\$260,967	\$108,675
10619 - Summer Season 2013 TMDL Compln Construction of a 1MGD "side stream" treatment facility at Tapia to treat stream flow augmentation discharges to the 2013 TMDL limits of 1 mg/L total nitrogen and 0.1 mg/L total phosphorous. The cost estimate is based on membrane technology.	70.6%	\$200,000	\$0	\$0	\$0	\$200,000	\$141,200	\$58,800
10621 - RW Tank Coating Eviuatn/Repair The project consists of evaluating the coatings of three (3) steel tanks (Indian Hills, Parkway, Cordillera), that have been identified as needing possible rehabilitation based upon the annual divers inspection report.	70.6%	\$30,000	\$0	\$6,210	\$6,210	\$23,790	\$16,796	\$6,994
10626 - Process Air Improvements The first phase is to replace the existing Roots blowers with new, high efficiency, single stage blowers. To replace the air diffusers in the aeration basins with new full floor mounted fine bubble diffusers.	70.6%	\$1,621,584	\$143,131	\$22,734	\$165,865	\$1,455,719	\$1,027,738	\$427,981
10629 - Cny Oaks Prk RW Main Extension This extension will serve the City of Westlake Village's Oak Canyon Park and eliminate a long private service line to Yerba Buena School. from Proj 10602 Funding from Prop 84 IRWM 2015	70.6%	\$399,780	\$1,937	\$2,967	\$4,904	\$394,876	\$278,782	\$116,094
10635 - PURE WATER PROJECT This project funds preliminary studies, outreach, CEQA analysis, preliminary design and final design.	70.6%	\$1,850,000	\$0	\$0	\$0	\$1,850,000	\$1,306,100	\$543,900
10636 - Mixing & Dilution Study sub project of 10635 Pure Water Project	70.6%	\$0	\$62,250	\$30,583	\$92,833	(\$92,833)	(\$65,540)	(\$27,293)
10637 - Facility Siting Study sub project of 10635 Pure Water Project	70.6%	\$0	\$176,526	\$24,140	\$200,666	(\$200,666)	(\$141,670)	(\$58,996)
10638 - Demonstration Project sub project of 10635 Pure Water Project	70.6%	\$0	\$80,607	\$6,945	\$87,552	(\$87,552)	(\$61,812)	(\$25,740)

Job # - Description **LV % TSD %** **Total Project Appropriations** **Prior Year Expenditures** **Current Year Expenditures** **Total Project Expenditures** **Project Balance** **LV Balance** **TSD Balance**

Multi-Year Projects
10650 - Land Acquisition-PureWtr Proj 70.6% 29.4% \$2,000,000 \$0 \$2,216 \$2,216 \$1,997,784 \$1,410,436 \$587,348
sub project of 10635 Pure Water Project

Total Multi-Year Projects **\$8,365,508** **\$789,102** **\$115,636** **\$904,738** **\$7,480,770** **\$5,281,424** **\$2,199,346**

Projects on Hold
10520 - SCADA System Communictn Upgrd 70.6% 29.4% \$93,100 \$32,447 \$0 \$32,447 \$60,653 \$42,821 \$17,832
Upgrade the JPA owned portion of the supervisory control and data acquisition system (SCADA) system to an Ethernet based radio network and provide additional data paths for system redundancy.
10567 - Progible Logic Contrlr Upgrd 70.6% 29.4% \$332,850 \$0 \$0 \$0 \$332,850 \$234,992 \$97,858
Replace obsolete programmable logic controllers and upgrade other electrical equipment at Tapia.
10611 - Tapia Duct Bank Infrstrc Upgrd 70.6% 29.4% \$66,000 \$0 \$0 \$0 \$66,000 \$46,596 \$19,404
Add new duct bank from the front gate to the chemical building with several intercept points along the way.

Total Projects on Hold **\$491,950** **\$32,447** **\$0** **\$32,447** **\$459,503** **\$324,409** **\$135,094**

Totals **\$14,883,951** **\$3,039,784** **\$295,012** **\$3,334,796** **11,549,155** **\$8,153,703** **\$3,395,452**

Totals: Las Virgenes MWD **\$10,508,069** **\$2,146,088** **\$208,278** **\$2,354,366** **\$8,153,703**

Totals: Triunfo Sanitation District **\$4,375,882** **\$893,696** **\$86,734** **\$980,430** **\$3,395,452**

November 6, 2017 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : Water Information Management System Update: Authorize Purchase Order

SUMMARY:

The JPA utilizes the Water Information Management System (WIMS) software developed by Hach Company for its electronic regulatory reporting to the Los Angeles Regional Water Quality Control Board and U.S. Environmental Protection Agency. The software needs to be updated to reflect the latest reporting requirements specified in the recently-renewed NPDES permit for the Tapia Water Reclamation Facility. Hach Company provided the attached proposal to create the reports and forms necessary to generate electronic files to satisfy the JPA's reporting requirements. The proposal also includes the design of a printable report that can be used for internal circulation and review. Staff recommends that the Board authorize the issuance of a purchase order to Hach Company, in the amount of \$68,450, for the work.

RECOMMENDATION(S):

Authorize the Administering Agent/General Manager to issue a purchase order to Hach Company, in the amount of \$68,450, for the update of its Water Information Management System (WIMS) software.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

Sufficient funds are available in the adopted Fiscal Year 2017-18 JPA Budget for this purpose.

DISCUSSION:

To complete the required regulatory reporting to the Los Angeles Regional Water Quality

Control Board and U.S. Environmental Protection Agency, JPA staff use a combination of purchased and self-developed software. Currently, the JPA's laboratory uses the Laboratory Information Management System (LIMS) software developed by LabWorks, LLC. LIMS provides a database with sample tracking, analytical results and quality control data. LIMS has been used by the JPA since 2000 and provides an excellent archivable database, allowing the data to be stored on servers that are backed up. Due to limitations in customizing reports directly from LIMS, the JPA's laboratory staff developed an interface to extract key data for results that are entered into LIMS.

Hach's WIMS software was purchased in 2014 to produce electronic files for the California Integrated Water Quality System (CIWQS) and Electronic Self-Monitoring and Reporting Program (eSMR). The WIMS software is capable of integrating multiple platforms by importing SCADA and LIMS data and automatically satisfying all of the JPA's NPDES reporting requirements.

The WIMS software needs to be updated to match the requirements of Tapia's new NPDES permit. Hach Company provided the attached proposal to update the software and develop the required reports to reflect the newest NPDES permit requirements.

Prepared by: Veronica Hurtado, Management Analyst II

ATTACHMENTS:

Hach Company Proposal



Quotation

Hach
PO Box 608
Loveland, CO 80539-0608
Phone: (800) 227-4224
Email: quotes@hach.com
Website: www.hach.com

Quote Number: 100283133v1
Use quote number at time of order to ensure that you receive prices quoted

Quote Date: 09/13/17

Quote Expiration: 11/12/17

LAS VIRGENES MUNICIPAL WATER
731 MALIBU CANYON ROAD
CALABASAS, CA 91302

Name: Veronica Hurtado
Phone: (818) 251-2332
Email: vhurtado@lvmwd.com

Customer Account Number : 103287
Customer Quote Reference: Las Virgenes WIMS CIWQS/ESMR Report/Review Service

Sales Contact: Brian Rhoades Email: brrhoad@hach.com Phone: 970-646-5643

PRICING QUOTATION

Line	Part Number	Description	Qty	Unit Price	Extended Price
1	DM_WIMS-SERVICES	WIMS Services	370	185.00	68,450.00
2	NOSHIPOOPENPROJ	KEEPS ORDER OPEN FOR WIMS PROJECT DO NOT SHIP ITEM	1	0.00	0.00
				Grand Total	\$ 68,450.00

NOTES

Implementation Services:

Typically includes (your Project Manager will finalize the scope of work based on your needs):

- Project Administration
- Consultation to gather information and determine specific needs to create a project plan.
- The Hach Project Manager will complete set up of the following regulatory reports and review forms for CIWQS/eSMR Reporting (Total of 1853 Unique Parameters):

1. Monthly & Quarterly & Semi-Annual Report for Outfall – Effluent Discharge to 001 and Influent 001

- 367 total unique parameters

1. Monthly Report for Outfall – Effluent Discharge to 005

- Includes 2 receiving water sites (LA River RL1,2)

• 114 total unique parameters

1. Quarterly and Semi-Annual Report for Outfall – Effluent Discharge to 005

- Includes 2 receiving water sites (LA River RL1,2)

- 128 total unique parameters

1. Monthly, Quarterly & Semi-Annual Report for Creek – Receiving Waters

- Includes 7 receiving water sites (R9,1,2,13,3,4,11) plus 3 floating stations (RF1,2,3).

- R9U, R1U, R2D, R3D, R4D, R11D, R13D – 174 unique parameters for each RW site.
- R1F, R2F, R3F, 13 unique parameters for each Floating site
- Total of 1244 unique parameters

- Additional scope/work, billed at our standard labor rate, can be requested and will require a change order.
- Implementation assumes internet access is available at installation site.
- Data Migration services are NOT included. Historical data may be imported from SCADA/LIMS systems with Purchased Interfaces.

TERMS OF SALE

Freight: Ground Prepay and Add

FCA: Hach's facility

All purchases of Hach Company products and/or services are expressly and without limitation subject to Hach Company's Terms & Conditions of Sale ("Hach TCS"), incorporated herein by reference and published on Hach Company's website at www.hach.com/terms. Hach TCS are incorporated by reference into each of Hach's offers or quotations, order acknowledgments, and invoice and shipping documents. The first of the following acts shall constitute an acceptance of Hach's offer and not a counter offer and shall create a contract of sale ("Contract") in accordance with the Hach TCS, subject to Hach's final credit approval: (i) Buyer's issuance of a purchase order document against Hach's offer or quotation; (ii) Hach's acknowledgement of Buyer's order; or (iii) commencement of any performance by Hach in response to Buyer's order. Provisions contained in Buyer's purchase documents that materially alter, add to or subtract from the provisions of these Terms and Conditions of Sale shall be null and void and not considered part of the Contract.

Due to International regulations, a U.S. Department of Commerce Export License may be required. Hach reserves the right to approve specific shipping agents. Wooden boxes suitable for ocean shipment are extra. Specify final destination to ensure proper documentation and packing suitable for International transport. In addition, Hach may require : 1). A statement of intended end-use; 2). Certification that the intended end-use does not relate to proliferation of weapons of mass destruction (prohibited nuclear end use, chemical / biological weapons, missile technology); and 3). Certification that the goods will not be diverted contrary to U.S. law.

ORDER TERMS:

Terms are Subject to Credit Review

Please reference the quotation number on your purchase order.

Sales tax is not included. Applicable sales tax will be added to the invoice based on the U.S. destination, if applicable provide a resale/exemption certificate.

Shipments will be prepaid and added to invoices unless otherwise specified.

Equipment quoted operates with standard U.S. supply voltage.

Hach standard terms and conditions apply to all sales.

Additional terms and conditions apply to orders for service partnerships.

Freight Charge Schedule and Collect Handling Fees attached.

Refrigerated and all weather Samplers do not qualify for simplified freight charges, and are considered heavy freight.

Dissolved Oxygen Sensors can be damaged if exposed to temps below freezing, causing sensor failure. Must be shipped over night or 2nd day air during the cold weather months.

Standard lead time is 30 days

Sales Contact:

Name: Brian Rhoades
Title: Regional Sales Manager
Phone: 970-646-5643
Email: brrhoade@hach.com

Prepared By:

Name: Peggy Scheck
Title: Field Sales Support Specialist
Phone: 800-227-4224 xt6193
Email: pscheck@hach.com

**HACH COMPANY'S LICENSE AND TERMS AND CONDITIONS OF SERVICES
FOR HACH'S WATER INFORMATION MANAGEMENT SOLUTION™ (WIMSTM)**

ACCEPTANCE: These Terms and Conditions are contained in Hach Company's (Hach) offer, order acknowledgment, and invoice documents. The first of the following acts shall constitute an acceptance of Hach's offer and not a counteroffer and shall create a binding license and service agreement ("Agreement") in accordance with these Terms and Conditions, subject to final credit approval by Hach: (i) Customer's issuance of a purchase order document against Hach's offer; (ii) acknowledgement of Customer's order by Hach; or (iii) commencement of any performance by Hach pursuant to Customer's order. Hach's commencement of work or signature on any purchase order or other form or document submitted by Customer shall constitute acknowledgment of receipt of Customer's order only, and shall not constitute Hach's assent to any terms and conditions submitted by Customer. Provisions contained in Customer's purchase documents that materially alter, add to or subtract from the provisions of these Terms and Conditions shall not be a part of the Agreement. Any objection to these Terms and Conditions must (1) be in writing, (2) list specifically each term or condition with which you disagree, and (3) indicate why you disagree with the term or condition. Customer must notify Hach in writing of objections before Customer's submission of a purchase order to Hach or Hach's commencement of work, whichever occurs first, so that Hach may have a reasonable time to address any such objections. These Terms and Conditions shall be deemed accepted in their entirety by issuance of Customer's purchase order.

COMPLETE AGREEMENT: All proposals, negotiations, representations, and quotations, if any, regarding this transaction and made prior to the date of this document are merged herein.

TERM: SUBSCRIPTION SERVICE ONLY:

INITIAL TERM: Two (2) years

RENEWAL TERM(S): If Customer wishes to terminate the Subscription Services at the end of the Initial Term or any subsequent Renewal Terms, the Customer should send Hach notice of intent to terminate either by (a) faxing the notice to 970-461-3919 or (b) by emailing the notice from the email contact account to support@hach.com. If Customer submits the notice of termination by email, Hach shall confirm the termination by sending a second e-mail or fax to the contact email address or fax number on file. If Customer fails to notify Hach of its intent not to renew, the Subscription Service will be deemed renewed by Customer under the terms of this Agreement on a month-to-month basis at Hach's then-current rates and charges for monthly Subscription Service.

PRICES: Hach's prices in effect at the time of delivery shall apply and any different pricing indicated from any other source shall be adjusted to Hach's current pricing, except for the price of Total Startup (one-time) Charges contained in Hach's quotation, which is firm for 60 days from the date of the quotation. If transportation charges from point of origin of the shipment to a designated point are included in these prices: (a) any changes in such transportation charges shall be the Customer's responsibility, and (b) except as otherwise stated in Hach's quotation, Hach shall not be responsible for switching, spotting, handling, storage, demurrage or any other transportation or accessorial service, nor for any charges incurred therefor, unless such charges are included in the applicable freight rate from shipping point to the designated point.

PAYMENT AND CREDIT:

SUBSCRIPTION PACKAGE:

PAYMENT AND PRICING: Customer shall pay for all monthly Subscription Service net 30 days from invoice. Pricing is based on a 2-year Agreement. An early termination fee set forth in Hach's offer, will apply if the Agreement is terminated before 2 years. Cancellations become effective on the last day of the month in which notice is given.

SETUP SERVICE: Customer shall be given the choice of paying for Setup Service rendered either net 30 or by installments payable in 24 consecutive installments plus 18% simple interest. If Customer terminates the Agreement without cause before the end of the Initial Term, Customer agrees to pay Hach the remainder of the unpaid balance for Services plus any outstanding interest.

EFFECT OF TERMINATION: Upon the effective date of termination of this Agreement: (a) Hach will immediately cease providing the Subscription Service(s); and (b) any and all payment obligations of Customer under this Agreement for Service(s) provided through the date of termination will immediately become due.

OTHER PACKAGES: Payment is due thirty (30) days from the date of invoice. Hach reserves the right to deny credit to Customer and to determine the suitability of the method of payment where payment is other than cash, certified check or money order. Hach reserves the right to revoke credit previously extended to Customer because of Customer's failure to pay for services when due or of any other reason deemed good and sufficient by Hach, and in such event all subsequent services shall be paid for in advance or on delivery. Past due balances shall be subject to interest charges at the maximum rate permitted by law. Customer shall pay all Fees specified in US dollars.

TAXES: Any taxes which Hach may be required to pay or collect, under any existing or future law, upon or with respect to the license, sale, purchase, delivery, storage, processing, use or consumption of any of the material covered hereby, including taxes upon or measured by the receipts from the sale thereof, shall be paid for by Customer. Hach will collect and pay taxes when required to do so unless Customer furnishes a valid resale/exemption certificate to Hach, no later than the time of payment, relieving Hach of the requirement to collect and pay such taxes. If the certificate furnished to Hach is held invalid Customer agrees to pay the taxes (plus interest) not collected as a result of relying on Customer's invalid certificate.

CANCELLATION: Customer may cancel orders within 30 days of purchase subject to fair charges for expenses incurred, handling, inspection, restocking, freight and invoicing charges as applicable. Cancelled orders must be returned to Hach within 30 days at Customer's expense.

DELAY: Hach shall be excused for any delay in performance or delivery due to acts of God, war, riot, embargoes, acts of civil or military authorities, fire, floods, accidents, quarantine restrictions, factory conditions, strikes, labor disputes, delays in transportation, shortage of transport vehicles, labor or materials, or any circumstance or cause beyond the control of Hach in the reasonable conduct of its business. Hach further reserves the right, in its full discretion, to allocate inventories and current production and to substitute suitable materials when, in its opinion, circumstances warrant such allocation or substitution.

INSPECTION: Customer shall promptly inspect all software and the results of services. All claims for alleged defects in software or services are waived unless Customer notifies Hach of the claim within 30 days after receipt of software or performance of services. No claim shall be effective if made after the software or services have been altered or used. Customer shall afford Hach prompt and reasonable opportunity to inspect all software and services to which any claim is made. No returns shall be made without Hach's express consent, a return authorization and return instructions.

SOFTWARE LICENSE, USE AND RESTRICTIONS:

LICENSE. Software is subject to the separate software license agreement(s) accompanying the software media, along with any product guides, operating manuals, or other documentation presented to Customer during the installation or use of the Software. In the absence of such terms, Hach hereby grants Customer a personal, non-exclusive license to access and use the software provided by Hach. Software provided or otherwise made available to Customer by Hach may be used only during the term of the subscription and/or services, as set forth in the duly authorized documentation setting forth the term for each, and as may be renewed in accordance with this Agreement.

RESTRICTIONS. Customer may not copy, modify, or create a derivative work, collective work, or compilation of the software, and may not reverse engineer, decompile or otherwise attempt to extract the code of the software or any part thereof. Customer may not license, sub-license, sell, assign, sublicense, or otherwise transfer or encumber the software; may not use the software in a managed-services arrangement; and may not use the software in excess of the authorized number of licensed facilities, servers and/or seats or other criteria specified in the duly authorized documentation specifying same. Customer is further prohibited from (1) attempting to use or gain unauthorized access to Hach or to any third party's networks or equipment; (2) permitting other individuals or entities to use the software or copy the software or services; (3) attempting to probe, scan, or test the vulnerability of software or a system, account, or network of Hach or any of its customers, suppliers or affiliates; (4) interfering or attempting to interfere with service to any user, host, or network; (5) engaging in fraudulent activity of any nature; (6) transmitting unsolicited bulk or commercial messages; (7) restricting, inhibiting, or otherwise interfering with the ability of any other person, regardless of intent, purpose, or knowledge, to use or enjoy the software (except for tools with safety and security functions); or (8) restricting, inhibiting, interfering with, or otherwise disrupting or causing a performance degradation to any Hach or Hach affiliate or supplier facilities used to deliver the services.

AUDIT. Solely for the purpose of verifying Customer's compliance with the terms of this Agreement, Customer hereby grants Hach, or an agent designated by Hach, the right to perform an audit of Customer's use of the software during normal business hours. Customer agrees to cooperate with Hach in such audit and to provide Hach with all records reasonably related to Customer's use of the Software.

OWNERSHIP AND PROPRIETARY RIGHTS: "Information" as used herein means all content and other items included with or as part of the services or software, such as text, graphics, graphs and other representations of data, user interfaces, images, data, photographs, videos, and software. All right, title, and interest in the intellectual property (including all copyrights, patents, trademarks, trade secrets, and trade dress) embodied in any services, software, and/or Information provided hereunder shall belong solely and exclusively to Hach and Customer shall have no rights whatsoever in any of the above, except as expressly granted in this Agreement. The software and Information are protected by copyright laws and international copyright treaties, as well as other intellectual property laws and treaties. Customer may not modify, remove, delete, augment, add to, publish, transmit, adapt, translate, participate in the transfer or sale of, create derivative works from, or in any way exploit any of the software or other Information, in whole or in part. Hach will retain exclusive ownership of all software and Information, and will own all intellectual property rights, title, and interest in any ideas, concepts, know-how, documentation, and techniques associated therewith. Subject to payment in full for the applicable services, Hach grants Customer a non-exclusive, non-transferable, royalty-free right to use the software and other Information solely for Customer's facilities, and solely as necessary for Customer to enjoy the benefit of the services.

INTERRUPTION OF SERVICES: Hach may on occasion need to perform scheduled or unscheduled repairs, maintenance or upgrades in connection with the software installed on its and Customer's computer system(s), which may temporarily degrade the quality of the services or result in a partial or complete outage of the software. Hach provides no assurance that you will receive advance notification of such activities or that the software or services will be uninterrupted or error-free. Unless otherwise agreed to in writing between Hach and Customer, any degradation or interruption in the services or software shall not give rise to any form of damages or to a refund or credit of any fees paid by Customer. **CUSTOMER AGREES THAT THE OPERATION AND AVAILABILITY OF THE SYSTEMS USED FOR ACCESSING AND INTERACTING WITH THE SOFTWARE AND ASSOCIATED DATA, INCLUDING COMMUNICATION VIA MEANS SUCH AS THE INTERNET AND THIRD PARTY SERVICE PROVIDERS' COMMUNICATIONS NETWORKS, CAN BE UNPREDICTABLE AND MAY, FROM TIME TO TIME, INTERFERE WITH OR PREVENT ACCESS TO OR USE OR OPERATION OF THE SOFTWARE AND ASSOCIATED DATA. HACH SHALL NOT BE LIABLE FOR ANY SUCH INTERFERENCE WITH OR PREVENTION OF CUSTOMER'S ACCESS TO OR USE OF THE SOFTWARE OR ASSOCIATED DATA.**

CUSTOMER DATA: In Hach's performance of services or in connection with Customer's use of the Software, it may be necessary for Hach to obtain, receive, or collect data or information, including system-specific data. In such cases, Customer grants Hach a non-exclusive, worldwide, royalty-free, perpetual, non-revocable license to use, compile, distribute, display, store, process, reproduce, or create derivative works of such data solely to facilitate the performance of services by Hach or Customer's use of the Software. In addition, Customer grants Hach a license to aggregate such data for use in an anonymous manner in support of Hach's marketing and sales activities. Customer also grant Hach the right to copy and maintain such data on Hach's servers (or the servers of its suppliers) during the term of this Agreement. Customer represents and warrants that it has obtained all rights, permissions, and consents necessary to use and transfer such data within and outside of the country in which Customer is located in conjunction with Hach's performance of the services or Customer's use of the software (including providing adequate disclosures and obtaining legally sufficient consent from Customer's employees, agents, and contractors).

CONFIDENTIALITY: In connection with this Agreement, each party may have access to or be exposed to information of the other party that is not generally known to the public, such as information pertaining to software, data, reporting, pricing, and marketing, know-how, and trade secrets, which may be designated as confidential or which, under the circumstances surrounding disclosure, ought to be treated as confidential (collectively, "Confidential Information"). Confidential Information may not be shared with third parties unless such disclosure is to the receiving party's personnel, including employees, affiliates, agents, and subcontractors, on a "need-to-know" basis in connection with this Agreement, so long as such personnel have agreed in writing to treat such Confidential Information under terms at least as restrictive as those herein. Each party agrees to take the necessary precautions to maintain the confidentiality of the other party's Confidential Information by using at least the same degree of care as such party employs with respect to its own Confidential Information of a similar nature, but in no case less than a commercially reasonable standard of care to maintain confidentiality. The foregoing shall not apply to information that the receiving party can show through written records (1) was known by it before its receipt from the disclosing party; (2) is or becomes public knowledge through no fault of the receiving party; or (3) is rightfully received by the receiving party from a third party without a duty of confidentiality. If the receiving party is required by a court or government agency to disclose Confidential Information, the receiving party shall, subject to any applicable lawful restrictions, provide advance notice to the disclosing party before making such a disclosure. The obligations with respect to Confidential Information shall continue for five (5) years from the date of disclosure.

REPRESENTATIONS, WARRANTIES AND DISCLAIMERS:

SERVICES: Hach warrants that the services will be performed in a professional and workmanlike manner and will be of a quality conforming to general standards of care. If Hach breaches this or any other service warranty provided to the Customer, and if the Customer notifies Hach of such breach within 30 days of performance of Service, customer's exclusive remedy and Hach's entire liability for any breach of service warranty shall be re-performance of the specific non-conforming service.

SOFTWARE: Hach warrants that it has the right to grant the licenses to the software licensed under this Agreement, and such software will substantially conform to the functional specifications and current documentation provided by Hach.

WARRANTY DISCLAIMERS: EXCEPT AS EXPRESSLY STATED IN THE PRECEDING SENTENCES, HACH, (INCLUDING ITS AFFILIATES AND EACH OF THEIR RESPECTIVE EMPLOYEES, DIRECTORS, AND OFFICERS), MAKES NO EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE SOFTWARE OR SERVICES, INCLUDING BUT NOT LIMITED TO ANY WARRANTY (1) OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, PERFORMANCE, SUITABILITY, OR NON-INFRINGEMENT; OR (2) REGARDING THE RESULTS TO BE OBTAINED FROM THE SOFTWARE, SERVICES, OR THE RESULTS OF ANY RECOMMENDATION BY HACH. WARRANTIES DO NOT COVER DAMAGE DUE TO EXTERNAL CAUSES, SUCH AS ACCIDENT, ABUSE, MISUSE, PROBLEMS WITH ELECTRICAL POWER, SERVICE NOT PERFORMED OR AUTHORIZED BY HACH (INCLUDING INSTALLATION OR DE-INSTALLATION), USAGE NOT IN ACCORDANCE WITH PRODUCT OR SOFTWARE INSTRUCTIONS, NORMAL WEAR AND TEAR, OR USE OF PARTS AND COMPONENTS NOT SUPPLIED OR INTENDED FOR USE WITH THE PRODUCTS, SOFTWARE, OR SERVICES. WITH RESPECT TO YOUR USE OF THE SOFTWARE (1) NEITHER HACH NOR ANY OF THE HACH PARTIES MAKES ANY EXPRESS OR IMPLIED WARRANTY THAT SOFTWARE PROVIDED TO YOU IN CONNECTION WITH THIS AGREEMENT IS OR WILL BE SECURE, ACCURATE, COMPLETE, UNINTERRUPTED, WITHOUT ERROR, OR FREE OF VIRUSES, WORMS, OTHER HARMFUL COMPONENTS, OR OTHER PROGRAM LIMITATIONS; OR THAT ANY ERRORS IN THE SOFTWARE WILL BE CORRECTED; AND (2) CUSTOMER ASSUMES THE ENTIRE COST OF ALL NECESSARY SERVICING, REPAIR, OR CORRECTION OF PROBLEMS CAUSED BY VIRUSES OR OTHER HARMFUL COMPONENTS, UNLESS SUCH ERRORS OR VIRUSES ARE THE DIRECT RESULT OF HACH'S GROSS NEGLIGENCE OR WILLFUL MISCONDUCT.

HIGH-RISK DISCLAIMER: THE SOFTWARE AND SERVICES ARE NOT FAULT-TOLERANT AND ARE NOT DESIGNED OR INTENDED FOR USE IN HAZARDOUS ENVIRONMENTS REQUIRING FAIL-SAFE PERFORMANCE, SUCH AS IN THE OPERATION OF NUCLEAR FACILITIES, HOSPITALS, OR ANY OTHER APPLICATION IN WHICH THE FAILURE OF THE SOFTWARE OR SERVICES COULD LEAD DIRECTLY TO DEATH, PERSONAL INJURY, OR SEVERE PHYSICAL OR PROPERTY DAMAGE (COLLECTIVELY, "HIGH-RISK ACTIVITIES"). HACH EXPRESSLY DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR HIGH-RISK ACTIVITIES.

OPEN SOURCE SOFTWARE. A portion of the software may contain or consist of open source software, which you may use under the terms and conditions of the specific license under which the open source software is distributed. THIS OPEN SOURCE SOFTWARE IS DISTRIBUTED IN THE HOPE THAT IT WILL BE USEFUL, BUT IS PROVIDED "AS IS" WITHOUT ANY WARRANTY, EXPRESS, IMPLIED, OR OTHERWISE, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ANY WARRANTY REGARDING TITLE OR AGAINST INFRINGEMENT. IN NO EVENT SHALL HACH, THE COPYRIGHT HOLDERS, OR THE CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS OPEN SOURCE SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

LIMITATION ON DAMAGES: IN NO EVENT SHALL HACH, ITS SUPPLIERS, LICENSORS OR SUBCONTRACTORS BE LIABLE TO CUSTOMER OR ANY THIRD PARTY FOR ANY INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, OR DAMAGES FOR LOSS OF PROFITS, REVENUE, CORRUPT DATA OR USE, LOSS OF CUSTOMER DATA, CORRUPT OR UNAVAILABLE CUSTOMER DATA, LOSS OF USE OF CUSTOMER DATA, LOST OPPORTUNITY, TRANSACTION LOSSES, OPPORTUNITY COSTS, INTERRUPTION OF BUSINESS OR COSTS OF PROCURING SUBSTITUTE GOODS OR SERVICES OR FOR INTERRUPTED COMMUNICATIONS ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT, THE SERVICES, OR CUSTOMER'S WEB PAGE AND INCURRED BY CUSTOMER OR ANY THIRD PARTY, WHETHER IN AN ACTION IN CONTRACT, WARRANTY, TORT OR STRICT LIABILITY. THE FOREGOING NOTWITHSTANDING, IN NO EVENT SHALL HACH COMPANY'S LIABILITY FOR DAMAGES HEREUNDER TO CUSTOMER EXCEED THE AMOUNT OF FEES ACTUALLY PAID BY CUSTOMER PURSUANT TO THE APPLICABLE AGREEMENT.

SURVIVAL: THE FOREGOING DISCLAIMERS AND LIMITATIONS OF LIABILITY SHALL BE ENFORCEABLE TO THE MAXIMUM EXTENT PERMITTED BY LAW AND SHALL SURVIVE TERMINATION OR EXPIRATION OF THIS AGREEMENT.

CUSTOMER REPRESENTATIONS: Customer for itself and on behalf of its Administrator and each Authorized Customer User represents and warrants to Hach that (a) it owns or has the right to permit Hach to access its Customer's Sites and surrounding areas for service, installation and maintenance; and (b) Customer shall and hereby does defend, indemnify and hold Hach and its affiliates harmless from and against any and all claims, losses, damages, liabilities, obligations, judgments, causes of action, costs, charges and expenses (including without limitation, reasonable attorneys' and consultants' fees and such fees and penalties as any third party licensors may impose) arising out of or in connection with: (i) any breach of this Agreement by Customer and/or its Authorized Customer Users; (ii) any civil and/or criminal suit alleging that Hach had no right or authority to access the Customer's Sites; (iii) any Customer and/or Authorized User negligence, recklessness or willful misconduct; or (iv) any violation of, or non-compliance with laws. Customer's obligations under this Section do not apply to the extent that claims are directly caused by the gross negligence of Hach.

PATENTS: Hach shall defend and indemnify the Customer from and against any legal action, judgment for damages awarded in such action, and/or reasonable attorneys fees and costs incurred on account of the alleged infringement of any United States patent by any services or software supplied by Hach hereunder, unless made in accordance with Customer's specifications or unless the alleged infringement results from Customer's use of the software or services in combination with products, software or services provided by third parties, in which case the Customer shall defend indemnify Hach from and against any legal action, judgment for damages awarded in such action, and/or reasonable attorneys fees and costs incurred on account of the alleged infringement. In order for either party to be entitled to indemnification under this provision, party seeking indemnification must, no later than fifteen (15) business days after its receipt or discovery of a claim, provide written notice to the party from whom indemnity is sought of the bringing of the suit and an opportunity shall be given such party to settle or defend it as that party may see fit and that every reasonable assistance in settling or defending shall be rendered to the indemnifying party by the party seeking indemnification. Neither Hach nor the Customer shall in any event be liable to the other for special, indirect, incidental or consequential damages arising out of or resulting from infringement of patents.

LIMITATIONS ON USAGE: The Customer shall not use any software or services provided hereunder for any purpose other than that identified in Hach's catalogs and literature as the intended use of such goods. Any warranty granted by Hach to the Customer shall be deemed void if any software or services covered by such warranty are used for any purpose not permitted hereunder. In addition, the Customer shall indemnify Hach and hold Hach harmless from and against any and all claims, damages, losses costs, expenses and other liability of whatever nature that Hach suffers or incurs by reason of any such unintended use.

INDEPENDENT RELATIONSHIP: As between themselves, the parties are independent contractors with no authority to contract for or in any way to bind or to commit the other to any agreement of any kind or to assume any liabilities of any nature in the name of or on behalf of the other.

ASSIGNMENT: Neither this Agreement nor any license granted hereunder may be assigned by either party without the prior written consent of the other, which may be withheld for any reason or no reasons, and any such assignment is void *ab initio*.

NOTICE: Any notice given pursuant to this Agreement must be in writing and will be given by overnight courier service, personal delivery, facsimile or by United States certified mail, return receipt requested, postage prepaid, to the address appearing in Customer's purchase order in the case of notice to Customer, and to the following address in the case of notice to Hach: Hach Company, c/o IIM BU Director with cc to VP/General Counsel, 5600 Lindberg Drive, Loveland, Colorado 80538. Notice will be deemed effective on the date delivered to the addressee as confirmed by the applicable delivery service. Either party may change its address for notice purposes by giving the other party notice of such change in accordance with this Section.

COMPLIANCE WITH LAWS: Hach and Customer agree to comply with all laws applicable to the software and services provided hereunder. Software and technical data supplied by Hach are subject to certain export laws and regulations. Customer agrees to obtain at its own expense any import license, foreign exchange permit, or other permit or approval it may need for the performance of its obligations under this Agreement and to comply at its own expense with all applicable laws, regulations and orders of the government(s) to which its activities are subject. Customer agrees that it will, at all times, be in compliance with the United States export laws and will comply with all applicable restrictions regarding exports, re-exports and transfers, including obtaining any required U.S. or other country licenses, authorizations, or approvals. Customer further represents and warrants to Hach that Customer shall comply with all local, national, and other laws of all jurisdictions globally relating to anti-corruption, bribery, extortion, kickbacks, or similar matters which are applicable to Customer's business activities in connection with this Agreement, and that Customer will take no action that will cause Customer or Hach to violate any such laws. Customer specifically represents and warrants to Hach that Customer is familiar with the U.S. Foreign Corrupt Practices Act of 1977, as amended (the "FCPA"), and that Customer shall comply with the FCPA and will take no action that will cause Customer or Hach to violate the FCPA. Hach may terminate said Agreement immediately, if it believes, in good faith, that Customer has breached the foregoing compliance-with-law provisions of the Agreement or caused Hach to violate the FCPA or other applicable laws. Hach shall not be liable to Customer for any claim, losses, or damages related to Hach's decision to exercise its rights under this provision.

APPLICABLE LAW AND DISPUTE RESOLUTION: The construction, interpretation and performance hereof and all transactions hereunder shall be governed by the laws of the State of Colorado, without regard to or application of its principles or laws regarding conflicts of laws or the United Nations Convention on Contracts for the International Sale of Goods, the application of which is expressly excluded. If any provision of this Agreement is in violation of any Federal, State or local statutes or regulations of any countries having jurisdiction of this transaction, or is illegal for any reason, said provision shall be self-deleting without affecting the validity of the remaining provisions. Unless otherwise specifically agreed upon in writing between Customer and Hach, any dispute relating to this Agreement which is not resolved by the parties shall be adjudicated in order of preference (i) by a court of competent jurisdiction in the State of Colorado, U.S.A. if Customer has minimum contacts with Colorado and the United States, (ii) by a court of competent jurisdiction elsewhere in the United States if Customer has minimum contacts with the United States but not Colorado, or (iii) by a court of competent jurisdiction in a neutral location (which may at Hach's discretion exclude Customer's state of residence) if Customer does not have minimum contacts with the United States.

November 6, 2017 JPA Board Meeting

TO: JPA Board of Directors

FROM: General Manager

Subject : 2018 JPA Board Meeting Calendar

SUMMARY:

The JPA Board regularly meets on the first Monday of each month. When the first Monday of a month falls on a holiday, the Board meeting is held the following day. As previously approved by the Board, the March and September JPA Board meetings are held at the Oak Park Library. Attached for reference is the 2018 JPA Board Meeting Calendar.

RECOMMENDATION(S):

Review the 2018 JPA Board Meeting Calendar and make any scheduling adjustments.

FISCAL IMPACT:

No

ITEM BUDGETED:

No

DISCUSSION:

Las Virgenes Municipal Water District, the JPA's Administering Agent, will observe January 1 and 2, 2018, as the New Year's Eve and New Year's Day holidays. Therefore, the JPA meeting in January 2018 is proposed to be held on Monday, January 8, 2018. The first Monday in September 2018 falls on the Labor Day holiday; therefore, the regular meeting will be held on Tuesday, September 4, 2018. The December 3, 2018 regular meeting falls on the second night of Chanukah, so the Board may wish to consider rescheduling this meeting.

Prepared by: Josie Guzman, Executive Assistant/Clerk of the Board

ATTACHMENTS:

JPA 2018 Meeting Calendar

2018

JANUARY						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8 JPA	9 LV	10	11	12	13
14	15	16	17	18	19	20
21	22	23 LV	24	25	26	27
28	29	30	31			

CASA Winter Conf. Palm Springs 01/24/18 – 01/26/18

FEBRUARY						
S	M	T	W	T	F	S
				1	2	3
4	5 JPA	6	7	8	9	10
11	12	13 LV	14	15	16	17
18	19	20	21	22	23	24
25	26	27 LV	28			

CASA Washington DC 02/26/18 – 02/28/18

ACWA Washington DC 02/27/18 – 03/01/18

MARCH						
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Passover 03/31 – 04/01 & 04/06 – 04/07 (begins sundown day before)

APRIL						
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ACWA Spring Conf. Sacramento 05/08/18 – 05/11/18

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	LV Meeting
	JPA Meeting
	District Holiday

2018

JULY						
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CASA Annual Conf. Monterey 08/08/18 – 08/10/18

SEPTEMBER						
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Rosh Hashana 09/10/18 – 09/11/18 Yom Kippur 09/19

NOVEMBER						
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DECEMBER						
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ACWA Fall Conf. San Diego 11/27/18 – 11/30/18

Chanukah 12/03/18 – 12/10/18

	LV Meeting
	JPA Meeting
	District Holiday

November 6, 2017 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : Tapia Water Reclamation Facility Chloride Study: Award of Contract

SUMMARY:

On August 7, 2017, the JPA Board approved the issuance of a Request for Proposals for the Tapia Water Reclamation Facility (Tapia WRF) Chloride Study. The study is required by a Time Schedule Order (TSO) issued with the 2017 NPDES Permit for the Tapia WRF. The purpose of the study is to evaluate the levels of chloride discharged from the Tapia WRF to the Los Angeles River. In the 2017 NPDES Permit, the chloride limit for discharges to the Los Angeles River was reduced from 190 mg/L to 150 mg/L.

The scope of the study consists of examining and evaluating historical chloride levels in the JPA's potable sources as well as Tapia's effluent over time. Options to reduce chloride discharge levels will be identified along with a recommended compliance approach. The desired result from the study will be the consideration and implementation of a discharge-specific variance, development of a site-specific water quality objective or adoption of a basin plan amendment by the Los Angeles Regional Water Quality Control Board (LARWQCB) to restore the 190 mg/L chloride limit.

Three proposals were received. Staff recommends acceptance of the proposal from Larry Walker Associates, Inc., in the amount of \$91,850, due to their experience performing similar work in collaboration with the LARWQCB.

RECOMMENDATION(S):

Budget and appropriate \$100,000; accept the proposal from Larry Walker Associates, Inc.; and authorize the Administering Agent/General Manager to execute a professional services agreement, in the amount of \$91,850, for the Tapia Water Reclamation Facility Chloride Study.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

No

FINANCIAL IMPACT:

The total cost of the work is \$91,850. The adopted Fiscal Year 2017-18 JPA Budget did not provide funding for the study, so a budget and appropriation, in the amount of \$100,000 is requested. The cost of the work will be allocated 70.6% to LVMWD and 29.4% to Triunfo Sanitation District.

DISCUSSION:

In 1999, the Tapia WRF began periodically discharging its treated effluent to the Los Angeles River to comply with a prohibition on discharges to Malibu Creek from April 15th to November 15th each year. The discharges to the Los Angeles River were originally permitted under NPDES Order No. 99-066, which prescribed a chloride limit of 190 mg/L rather than the 150 mg/L Basin Plan Water Quality Objective. The rationale for the higher chloride limit was LARWQCB Resolution No. 97-02 that revised the chloride limit from 150 mg/L to 190 mg/L for various surface waters, including certain reaches of the Los Angeles River, due to the impacts of drought on chloride levels in potable source waters. The 190 mg/L chloride limit has been maintained in all subsequent permits for Tapia based on the same rationale.

During the renewal of Tapia's NPDES permit, the LARWQCB staff discovered that the long-standing application of Resolution No. 97-02 was in error because it only covered the portions of the Los Angeles River downstream of the Sepulveda Flood Control Basin and Tapia's discharge occurs upstream. The reason that the 1997 Resolution did not include the portions of the Los Angeles River upstream of Sepulveda Flood Control Basin is because there were no discharges from publicly owned treatment works upstream of the Tillman Water Reclamation Plant, which is adjacent the Sepulveda Flood Control Basin, at that time. Tapia's permitted-discharges to the upstream reach of the Los Angeles River did not begin until two years later in 1999.

Tapia's discharge to the Los Angeles River is vital to the success of the Pure Water Project Las Virgenes-Triunfo. The new NPDES permit has stipulations that allow for discharge to Malibu Creek during heavy rain events when daily flows exceed 11 MGD. The rationale for the 11 MGD trigger point was that 6 MGD could be sent to the advanced water treatment facility and 5 MGD could be pumped to the Los Angeles River. If the option to discharge to the Los Angeles River is not available, then the capacity to dispose of excess effluent during rain events is reduced to 6 MGD. Additionally, discharge to the Los Angeles River may also be necessary to dispose of small amounts of effluent when there is not enough water available to start up and maintain operation of the advanced water treatment plant.

During the draft permit comment period, JPA staff requested that the LARWQCB issue a TSO, which would culminate in a proposed Basin Plan Amendment. At the June 1, 2017 permit hearing, the LARWQCB issued the TSO, requiring completion of a study to investigate and evaluate the sources of chloride in Tapia's effluent, along with providing recommendations to reduce chloride concentrations. The desired result from the study will be the consideration and implementation of a discharge-specific variance, development of a site-specific water quality objective or approval of a basin plan amendment to restore the 190 mg/L chloride limit.

Three proposals were received: Larry Walker Associates, Inc. (in partnership with Carollo Engineers); MV Engineering, LLC.; and Trussell Technologies, Inc. (in partnership with

AQUALity Engineering, Inc. and Woodard & Curran, Inc.). All three proposals were responsive to the requirements of the Request for Proposals. Staff recommends that the study be awarded to Larry Walker Associates, Inc. The JPA previously worked with Larry Walker Associates during the permit renewal process, and the firm has an on-going working relationship with LARWQCB staff.

Following is a summary of the fee proposals:

- Larry Walker Associates, Inc. \$91,850
- MV Engineering \$157,600
- Trussell Technologies, Inc. \$154,984

Prepared by: Brett Dingman, Water Reclamation Manager

ATTACHMENTS:

Larry Walker Associates Proposal

SEPTEMBER 7, 2017

LAS VIRGENES-TRIUNFO JOINT POWERS
AUTHORITY

Tapia Water Reclamation Facility Chloride Study

prepared by

LARRY
WALKER



ASSOCIATES





September 7, 2017

Las Virgenes Municipal Water District
ATTN: Brett Dingman, P.E.
4234 Las Virgenes Road
Calabasas, CA 91302

SUBJECT: Proposal for Tapia Water Reclamation Facility Chloride Study

Dear Mr. Dingman:

Larry Walker Associates, Inc. (LWA), is pleased to submit this Proposal in response to the Las Virgenes – Triunfo Joint Powers Authority (JPA) *Request for Proposals for the Tapia Water Reclamation Facility Chloride Study*. LWA, working with Carollo Engineers, (LWA Team) has assembled a team of highly experienced and qualified individuals to provide the Las Virgenes – Triunfo Joint Powers Authority (JPA) with the specialized expertise necessary to conduct the evaluation of chloride sources and control strategies specified in the WRF’s Time Schedule Order (Order No. R4-2017-0125).

Our recent work with the JPA, along with our history of collaborating with wastewater agencies in the region on issues pertaining to wastewater NPDES permits and salts source identification and controls, has given us a strong understanding of the work necessary to meet the project needs. The LWA Team has successfully supported clients throughout the Los Angeles Region in developing customized source control and regulatory strategies to support compliance with chloride effluent limitations. Our experience ranges from streamlined source identification studies to support compliance with Time Schedule Orders for the Camarillo Sanitary District to development of site-specific objectives for chloride in the Upper Santa Clara River for the Los Angeles County Sanitation Districts.

The LWA Team is uniquely qualified to support the JPA in this project based on our combination of technical and regulatory expertise in addressing chloride and other salts. Our proposed project manager, Betsy Elzufon, is a recognized expert in pollution prevention and source control in the wastewater industry. Ms. Elzufon has led the majority of LWA’s projects to evaluate chloride sources in wastewater effluent and develop programs to address identified significant sources. Ashli Desai, our proposed Strategic Advisor, has successfully facilitated the adoption of three of the four site-specific objectives in the Los Angeles Region, including one for chloride. Ms. Desai has extensive experience working with both the permitting and Basin Planning staff at the Los Angeles Regional Water Quality Control Board and can facilitate preparation of permit compliant documents that will also support Basin Planning efforts. Based on this unique experience, LWA will be able to provide a true assessment of the requirements, effort, and strategies necessary for successful adoption of regulatory solutions as compared to implementation of control measures. Additionally, LWA has a thorough knowledge of source control measures to address chloride and constraints associated with implementation of strategies to address residential Self-Regenerating Water Softeners (SRWS) based on our work for multiple agencies in the Los Angeles Region. The inclusion of Carollo on the team provides additional experience in evaluation of modifications to wastewater treatment facilities to address chloride to complete the range of options that require evaluation to complete the

project. The LWA team will use this experience to provide the JPA with a comprehensive and realistic assessment of available options to address compliance concerns with the chloride effluent limitations.

Our strength lies in our ability to craft innovative and pragmatic solutions for our clients. The LWA Project Manager, Betsy Elzufon, and Strategic Advisor, Ashli Desai, are readily accessible and are committed to working collaboratively with the JPA. Because LWA is a small firm, we are keenly cost-sensitive and have refined our work processes to perform tasks in the most efficient manner while remaining focused on quality and compliance.

As a Vice President of LWA, I am authorized to represent and execute a contract on behalf of the LWA Team. We look forward to the opportunity to support JPA with technical support services related to the Chloride Study. Please feel free to contact me at (310) 394-1036 or our Project Manager, Betsy Elzufon at (530) 753-6400 betsye@lwa.com with any questions concerning this proposal.

Sincerely,



Ashli Desai, Vice President
Larry Walker Associates, Inc.



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Appendix A. Key Personnel Resumes

Appendix B. Certificate of Insurance

Appendix C. Cost Proposal (provided in a separate package)



1.0 Introduction

In response to the Request for Proposals (RFP) for the Tapia Water Reclamation Facility (WRF) Chloride Study (Chloride Study), Larry Walker Associates, Inc. (LWA), working with Carollo Engineers, has assembled a team of highly experienced and qualified individuals to provide the Las Virgenes – Triunfo Joint Powers Authority (JPA) with the specialized expertise necessary to conduct the evaluation of chloride sources and control strategies specified in the WRF's Time Schedule Order (Order No. R4-2017-0125). Over the past 37 years, LWA has **assisted over 300 municipal or public clients** throughout California in developing solutions that meet their needs and comply with requirements of the Los Angeles Regional Water Quality Control Board (Regional Water Board), State Water Resources Control Board (State Water Board), and the U.S. Environmental Protection Agency (USEPA). **Our established relationships, relevant experience, and management structure ensure that our team will deliver high quality, responsive services.**

The LWA team excels at developing and delivering **innovative, strategic, pragmatic, and technically sound solutions** to address wastewater and recycled water quality issues in an efficient and cost-effective manner. LWA worked with the Los Angeles County Sanitation Districts to assess chloride sources and implement their very effective program to control discharges from SRWS. We have worked with over ten other municipalities to investigate salinity sources, develop effective control programs and evaluate regulatory options, including the adoption of a site-specific objective for chloride in the Upper Santa Clara River. In addition, LWA has long-term experience and expertise working with the Los Angeles Regional Water Quality Control Board, and we can leverage this expert knowledge to ensure the successful completion of the Chloride Study. Carollo Engineers brings extensive knowledge of alternatives to chloride disinfection and will provide the assessment of UV disinfection and other disinfection technologies.

With our **comprehensive understanding of wastewater quality issues and involvement in salinity source control efforts**, our strong record of collaboration with the regulatory agencies, and our local knowledge of the factors leading to the current chloride effluent limit, the LWA team is uniquely qualified to assist the JPA with this work. **Betsy Elzufon is our proposed Project Manager**, bringing over 30 years of experience in wastewater source control and regulatory assistance within the Los Angeles Region and throughout California. She is supported by **Ashli Desai** who will serve as a strategic advisor and a team of key staff who bring a wealth of expertise necessary to assist the JPA in the specific tasks identified in the RFP. Biographical sketches for members of the proposed project team are provided in **Section 7.0** and resumes are included in Appendix A.

Expertise in Requested Services

LWA has provided wastewater regulatory assistance to municipal agencies throughout California for more than 30 years, including source control, assistance with permit renewals, development of site-specific effluent limitations and completion of special studies. We have conducted numerous Salinity Source Investigations throughout California, have assisted several municipalities in identifying and implementing effective Salinity Control Programs, and developed the only approved chloride site-specific objective in the Los Angeles Region.



Larry Walker Associates, Inc. is a privately owned, **small business** corporation providing environmental engineering and management services throughout California. Headquartered in the City of Davis, LWA has regional offices throughout California in Carlsbad, Berkeley, Santa Monica, San Jose, and Ventura, as well as an office in Seattle, Washington. Founded in 1979, LWA has been a partner, innovator, and industry leader assisting municipalities and private businesses in navigating and solving complex and important environmental and public policy challenges. We excel at developing and delivering innovative, strategic, pragmatic, and technically sound solutions to address **wastewater quality, source control, and regulatory issues** in an efficient and cost-effective manner.

Firm Contact Information

Larry Walker Associates, Inc.

Principal: Ashli Cooper Desai

Address:

**720 Wilshire Blvd. Ste. 204,
Santa Monica, CA 90401**

Phone: (310) 394-1036

Founded in 1933, **Carollo Engineers** has over 1,000 employees in 42 offices throughout the U.S. All of Carollo's work is in water, resulting in a level of understanding of key supply, treatment, and conveyance issues that few can match. Carollo applies sound, proven engineering principles to advance the application of water technologies and engineering excellence. Carollo remains responsive to the needs of its clients as the industry leader in planning, permitting, design, and construction of facilities that reliably convey and treat water and wastewater across the U.S.

2.0 Project Understanding and Approach

The LWA team understands the purpose of the project is to provide the JPA with a mechanism for either meeting or modifying the chloride effluent limitation for the Los Angeles River discharge point in the newly adopted NPDES permit. During the drought in the early 1990s, the Los Angeles Water Board 90-004 Effects of Drought- Induced Water Supply Changes and Water Conservation Measures on Compliance with Waste Discharge Requirements within the Los Angeles Region (Drought Policy) which allowed for wastewater treatment plants to discharge higher levels of chloride in response to the increased chloride levels in the water supply entering wastewater treatment plants. After the drought ended, the Los Angeles Water Board modified the water quality objectives in certain waterbodies downstream of wastewater treatment plants, except where salt sensitive agriculture was present (Calleguas Creek and Santa Clara River). At the time the revised Basin Plan objectives were adopted, through Resolution 97-02, the objectives in the reaches of the Los Angeles River and tributaries upstream of the Sepulveda Basin were not modified. Subsequent to Resolution 97-02, Tapia began discharging to tributaries upstream of the Sepulveda Basin. The provisions of Resolution 97-02 were used to provide an effluent limitation of 190 mg/L for Tapia, but the recent permit found that application of that resolution to the Tapia discharge was in error. The JPA is now in the position of either meeting the new effluent limitation of 150 mg/L or developing support for a regulatory modification to the Basin Plan, consistent with the modifications adopted for other reaches of the Los Angeles River in Resolution 97-02.

Our recent work with the JPA, along with our history of collaborating with wastewater agencies in the region on issues pertaining to wastewater NPDES permits and salts source identification and controls, has given us a strong understanding of the work necessary to meet the project needs. LWA regularly supports clients in evaluating the implementation of source control and structural control options as compared to implementation of regulatory strategies to address compliance concerns. During work to develop a comprehensive implementation strategy for multiple Total Maximum Daily Loads (TMDLs) in the Calleguas Creek Watershed, LWA compared the costs, benefits, and timeframes of a site-specific objective versus



control measures for the Salts TMDL. As the only consultant that has gotten multiple site-specific objectives adopted in the Los Angeles Region, LWA was able to provide a true assessment of the requirements, effort, and strategies necessary for successful adoption of regulatory solutions as compared to implementation of control measures. Additionally, LWA has a thorough knowledge of source control measures to address chloride and constraints associated with implementation of strategies to address residential Self-Regenerating Water Softeners (SRWS) based on our work for multiple agencies in the Los Angeles Region. The inclusion of Carollo on the team provides additional experience in evaluation of modifications to wastewater treatment facilities to address chloride to complete the range of options that require evaluation to complete the project. The LWA team will use this experience to provide the JPA with a comprehensive and realistic assessment of available options to address compliance concerns with the chloride effluent limitations.

LWA's overall approach to completing the project is to implement proven strategies for conducting the technical work and effectively and efficiently communicating with the JPA staff and Los Angeles Water Board staff. The approach consists of (1) using established analysis processes proven to be successful in other projects to complete the necessary technical work, (2) providing necessary communication mechanisms and check-in points with JPA staff to ensure projects meet expectations, (3) establishing regular and effective coordination with Los Angeles Water Board staff to ensure work meets regulatory requirements, (4) completing projects on or ahead of schedule, and (5) completing projects within budget. The basic components of LWA's approach for completing projects for the JPA include the following elements described below.

Develop Clear Scope of Work, Schedule, and Budget: A clear and comprehensive scope of work, project schedule, and budget based on the tasks outlined in the JPA's Time Schedule Order (TSO) will be developed to meet the requirements of the TSO. A proposed scope of work is included in this proposal and has been slightly modified from the tasks outlined in the RFP based on the LWA team's experience conducting similar work. The LWA team is providing the suggested modifications to improve the project work flow and usefulness of the work products based on our experience, but is willing and capable of conducting the work as outlined in the RFP if preferred by the JPA. The first step in our approach will be to gain agreement on the scope of work, schedule and budget with the JPA staff and implement internal approaches to ensure the work is completed in accordance with the agreed upon scope. As requested by the RFP, the LWA team can complete the tasks sooner than required by the TSO to provide the JPA the flexibility to work with Regional Board staff and to implement the most effective options identified. The scope of work lays the foundation for pragmatic schedules and budgets and assists in ensuring that effective communication occurs between the JPA and LWA. The project schedule allows the LWA team and the JPA to regularly monitor progress.

Understand the JPA's Goals and Objectives for Each Task and Ensure Compliance with TSO Requirements: Prior to initiating work on any task, the LWA Project Manager and appropriate LWA team staff will work closely with the JPA's Project Manager to discuss the proposed approach to the task to ensure full understanding of the specific goals, objectives, and critical issues for a particular task. The LWA team has extensive experience in similar projects and will use established procedures that have been effectively used in previous projects to complete the work. However, the LWA team recognizes that each project is unique and some of the characteristics of this project and the Malibu Creek Watershed (e.g. the Monterrey Formation) will result in the need for different analyses specific to the Tapia WRF. Additionally, it is important to discuss and gain a common understanding of the level of effort required to gather and analyze information as compared to the likely benefit, particularly if the source of chloride is likely to be minimal compared to other sources. Additionally, it is important that any key assumptions or approaches be



compared to the TSO requirements, and discussed with Los Angeles Water Board staff if needed, to ensure compliance with permit requirements.

Initiating and Maintaining the Project: Once the LWA team and the JPA have agreed upon a scope of work, schedule, and budget and discussed the proposed approach to a task, the LWA team will initiate and maintain project momentum in a manner that assures critical milestones and that overall schedules are met. This will be accomplished by adhering to the project schedule and ensuring there is adequate communication between the LWA team and the JPA. The LWA team will promptly notify the JPA's Project Manager of any changes in project progress. Project meetings and interim deliverables are scheduled on a regular basis and documented so that the project process can be easily tracked by the JPA.

Coordinating and Communicating: The LWA Project Manager will establish procedures to communicate with the JPA and the Los Angeles Water Board staff to keep tasks focused, on schedule, and on budget. The LWA Team will identify key lines of communication with the JPA, which will include JPA staff workshops, critical check-in points, and drafts of each project deliverable for the JPA to review before finalization and submittal to the Regional Board. The LWA Team will also develop a schedule and recommended strategy for engaging with Los Angeles Water Board staff at key points in the process to gain input on approaches and work products, particularly if regulatory strategies are to be developed. However, the LWA team will strive to minimize coordination costs in an effort to focus budget resources on tasks that directly support the specific project tasks.

Quality Assurance: The LWA team has an established approach for Quality Assurance (QA) to ensure work products are accurate and of the highest quality, which is described in **Section 9.0**.

3.0 Proposed Scope of Work

The LWA team proposes the following work tasks to execute the requirements of the RFP and Time Schedule Order (TSO) No. R4-2017-0125.

Task 1: Review Existing Information

As a first step, LWA will develop a list of needed information to complete the project, identify sources of the information, and gather available information. The LWA Team will then review available materials and perform a site visit if necessary to initiate the project (RFP Tasks 7 and 8). The LWA team will coordinate with JPA staff to obtain the data necessary to conduct the chloride source investigation and will review the data to identify any information gaps. LWA will also review the permit, TSO and other reports and documentation provided by the JPA. Based on the requested analyses provided in the RFP, LWA will at a minimum need to obtain water supply chloride and hardness levels; information on the relative contributions of the various sources of supply over time; influent, effluent, and receiving water chloride concentrations; flow rates and times of effluent discharge to the Los Angeles River; available studies on the Monterey formation; available information on SWRS in the Tapia service area; and land use information (existing and proposed if available) for the Los Angeles River near the point of discharge. Water supply chloride and hardness data are critical pieces of information and are typically key indicators of the most likely sources of chloride. LWA will also review commercial and industrial user information to determine if there are any potential non-residential source of chloride. Carollo will review the 2011 UV Disinfection Study provided with the RFP and related information to determine if there are other options that should be considered. A kick off meeting will be conducted with the LWA team and JPA staff to discuss information needs, project approach and ways to resolve data gaps including needed coordination with water supply agencies to obtain water quality data.

Deliverable: Kickoff Meeting Materials, including an agenda and list of information needs

Task 2: Investigate Chloride Sources in JPA Effluent

LWA will leverage our extensive experience in wastewater source investigations to conduct a thorough investigation of chloride sources in Tapia WRF effluent. This task will result in a summary of chloride inputs to the Tapia WRF based on a review of data pertaining to the sources listed in the TSO, which are reiterated in the RFP scope of work. This will include a summary of chloride levels from 1999 to the present, including the State Water Project, the Colorado River Aqueduct, the Los Angeles Department of Water and Power, and the Las Virgenes Reservoir (RFP task 1.a), chloride concentrations in the influent, effluent and receiving water chloride levels utilizing permit required monitoring results from 1999 to the present (RFP task 1.b), impacts from unique geological formations within the Malibu Creek Watershed (RFP task 1.d), such as the Monterey Formation, on chloride levels in water supplied from the Las Virgenes Reservoir, and the impacts of sodium hypochlorite at the Tapia WRF, Westlake Filtration Plant and in potable water distribution maintenance on Tapia WRF effluent chloride levels (RFP task 1.e). Water supply hardness will also be evaluated since this is often an indicator of whether water softeners will be a significant source. As required by the TSO, LWA will investigate the number of water softeners within the JPA's service area to evaluate the impact of water softener use on chloride levels (RFP task 1.f). Additionally, LWA is proposing to include the evaluation of data and contribution of the various sources to the effluent concentrations (RFP task 2a) in the Chloride Source Investigation Report. LWA will review data from potable water sources,



influent, effluent and receiving water data, and other source findings and will evaluate the impact of each identified source on effluent chloride levels (RFP task 2.a). A salt balance will serve to determine the impact of sources originating from the water supply, the service area, the treatment process, and natural sources on effluent chloride levels. This evaluation will also consider the impacts of drought, water conservation, and statewide water efficiency standards on final effluent chloride concentrations (RFP task 1.c). Including this task in the first deliverable will provide the JPA staff with an understanding of the largest sources contributing to effluent concentrations and allow for a better identification of potential options. Based on this evaluation, a list of possible source reduction activities for the identified sources will be included in the report (RFP task 1.g). Carollo Engineers will assist with the assessment of chlorine dose optimization and ultraviolet (UV) disinfection (RFP task 1.g).

The results of this task will be presented in the *Chloride Source Investigation Report* which is required by the TSO and is due to the Regional Board on April 1, 2018 (RFP task 1.h). In our experience, water supply quality (e.g., chloride and hardness levels) will strongly influence the largest chloride sources and corresponding control strategies that are most likely to result in meaningful reductions.

Deliverable: Draft Chloride Source Investigation Report

Deliverable: Final Chloride Source Investigation Report

Task 3: Evaluation of Chloride Sources and Reduction Options

Based on the *Chloride Source Investigation Report*, potential options to address the significant sources of chloride in the effluent will be identified along with potential regulatory strategies to address the effluent limitation. The evaluation will include an evaluation of receiving water beneficial uses based on a review of historic, current, and potential future land uses in the Los Angeles River and tributaries upstream of the Sepulveda Basin. LWA will evaluate beneficial uses of the receiving water downstream of Discharge Point 005, with a focus on determining if salt sensitive beneficial uses (agriculture) are present in the Los Angeles River and tributaries to which Tapia may discharge upstream of the Sepulveda Basin. Past, current, and potential future land use data will be reviewed to assess the potential for salt sensitive agriculture to be present. The frequency of discharge and a characterization of discharge location and flow path will be also evaluated to determine if any dilution credit can be claimed and assess any other potential impacts of the discharge on the receiving water that could impact other beneficial uses (e.g. aquatic life) (RFP task 2.b). The results of the beneficial use assessment will be summarized and used to support an evaluation of potential regulatory options that could be considered in Task 4. As part of the summary, any data gaps or additional investigations that would be required to support implementation of potential regulatory options, such as a site-specific objective, will be noted.

The consideration of regulatory options will also include an evaluation of the effect of drought on chloride levels in source and influent water and an assessment of whether or not the findings in Regional Board order 97-02 providing relief to publicly owned treatment works (POTWs) due to the impact of drought on chloride levels in supply waters are applicable to Tapia WRF's discharge (RFP task 2.d). The assessment will use historic data to characterize water quality before and during the drought and evaluate what changes may have resulted in response to 2017's rainfall. LWA has conducted similar analyses regarding the impacts of water conservation on effluent concentrations of both salts and nutrients for other municipalities include Sacramento Regional County Sanitation District and the City of Santa Paula. Increasing constituent



concentrations have been observed by these and other California POTWs while loads remain constant or, in some cases, have decreased.

The evaluation task will also identify potential source reduction activities that the JPA can feasibly implement to reduce chloride in the influent and effluent, including the timeframes needed to implement each activity (RFP task 2.c). Strategies targeting the most significant sources identified in Task 2 will be prioritized. For example, enhancements to outreach efforts educating the public regarding the prohibition of discharging brine from self-generating water softeners would be described and evaluated. Similarly, disinfection alternatives would be expanded on based on the evaluation in Task 2.

The results of Task 3 will be presented in the *Chloride Evaluation of Options Report* required by the TSO, due to the Regional Board on January 1, 2019 (RFP task 2.e).

Deliverable: Draft Chloride Evaluation of Options Report

Deliverable: Final Chloride Evaluation of Options Report

Task 4: Identification of Source Reduction Options

Task 4 will involve fleshing out possible source reduction activities identified in Task 2 and Task 3 that were determined to be technically and economically feasible and achievable within a reasonable time frame. The solutions considered will include but are not limited to, the source reduction activities described in the TSO: public outreach, chloride dose optimization, and installing a UV disinfection system (RFP task 3.a). Carollo Engineers will assist with the evaluation of chloride dose optimization and UV disinfection to meet the requirements of the TSO and will determine if other disinfection alternatives are promising. However, in our experience the chloride load due to disinfection and other treatment processes has been small compared to chloride from influent sources.

In addition, potential regulatory strategies will be identified based on the Task 3 report. Development of a site-specific objective, basin plan amendment and/or discharge-specific variance (RFP tasks 3.b and 3.c) will be considered as an alternative to source reductions or to be implemented in combination with source reductions. If water softeners are identified to be a significant source, the report will include an appendix with self-regenerating water softeners outreach materials using information previously compiled and/or developed by LWA for other municipalities. The identification of regulatory strategies will include a discussion of any additional information that would be needed to support the regulatory action and a qualitative comparison of the time frame and costs of the regulatory options to the source control options.

The LWA team will propose possible solutions to the Regional Board in the *Identification of Options Report*, due to the Regional Board on January 1, 2020 per the TSO.

Deliverable: Draft Identification of Options Report

Deliverable: Final Identification of Options Report



Task 5: Recommendation

The LWA team will present a recommendation for addressing the chloride in the Tapia WRF effluent and supporting data for the selected remedial actions including promising source reduction activities and site-specific or discharge-specific regulatory actions (RFP task 4.a). The LWA team will leverage our years of experience assessing and implementing source control actions and providing regulatory support for POTWs to select the most desirable option for Tapia WRF to address chloride based on cost efficiency, feasibility, time required for implementation, and potential of chloride control options to achieve additional benefits.

Should a regulatory option be recommended, additional information may need to be developed to support adoption of the regulatory option. While the information developed through the previous tasks should provide the Los Angeles Regional Water Board with sufficient information for the regulatory action, there are required analyses that must be conducted in order to adopt Basin Plan Amendments, site-specific objectives, and variances. Technically, the Los Angeles Regional Water Board should conduct these analyses, but in some cases the discharger has conducted the work to either expedite the process or ensure the regulatory action is adopted. For example, LWA helped the Los Angeles County Sanitation Districts conduct the required Use Attainability Analysis, site-specific objective report staff report, and Porter Cologne Section 13241 analysis for their chloride site-specific objective adoption. The proposed scope of work does not include development of these additional analyses, but LWA will develop the work products requested in the scope of work with the recognition of these requirements to support the Los Angeles Water Board in conducting any necessary analyses. Should the Los Angeles Water Board request any additional reports in response to a recommendation for a regulatory option, LWA can provide a separate scope and cost estimate to conduct the work.

The recommendation will be presented in the *Recommendation Report*, due to the Regional Board on January 1, 2020 per the TSO (RFP task 4.b).

Deliverable: Draft Recommendation Report

Deliverable: Final Recommendation Report

Task 6: Regional Board Meeting Attendance

LWA staff will prepare for and attend up to 4 meetings with the Regional Board and JPA staff (RFP Task 9) to discuss source reduction and regulatory options for chloride in the Tapia WRF effluent, and final recommendations. The budget is based on the project manager and strategic advisor participating in these meetings.

Deliverable: Regional Board Meeting Materials



Task 7: Project Management

As indicated in the project approach, LWA's project manager will coordinate all tasks to ensure that they are completed on schedule and on budget. The project management task will satisfy RFP tasks 5 and 6. Upon initiation of the project, the project manager will create a more detailed project schedule to ensure that the deadlines listed in Table 1 are met and that work products meet or exceed the expectations of the JPA. In addition to the project kickoff meeting listed in Task 1, LWA's project manager will initiate and attend a minimum of four (4) meetings or conference calls with JPA staff to review the results of the chloride source identification and evaluation and select source reduction and regulatory options to address chloride in the Tapia WRF's effluent and otherwise review each of the reports developed in Tasks 2-5.

Deliverable: Detailed Project Schedule

Deliverable: JPA Staff Workshop Materials

4.0 Proposed Schedule

A schedule to meet the compliance deadlines in the TSO is presented in Table 1. While the TSO schedule does not require completion of the full study including final recommendations until January 1, 2020, the RFP requests a schedule to allow completion of the study by January 1, 2019. The schedule provided below assumes a Notice to Proceed in November 2017 and timely responses to information requests and review of documents by the JPA. As noted above, a more detailed schedule will be developed at the beginning of the project to ensure that these deadlines are met.

Table 1. Deliverable Deadlines

Deliverable	Proposed Completion Date	TSO Compliance Milestones
Task 1: Investigate Chloride Sources in JPA Effluent		
<i>Draft Chloride Source Investigation Report</i>	March 5, 2018	
<i>Final Chloride Source Investigation Report</i>	March 23, 2018	April 1, 2018
Task 2: Evaluation of Chloride Sources and Reduction Options		
<i>Draft Chloride Evaluation of Options Report</i>	May 25, 2018	
<i>Final Chloride Evaluation of Options Report</i>	June 25, 2018	January 1, 2019
Task 3: Identification of Source Reduction Options		
<i>Draft Identification of Options Report</i>	August 24, 2018	
<i>Final Identification of Options Report</i>	September 28, 2018	January 1, 2020
Task 4: Recommendation		
<i>Draft Recommendation Report</i>	November 16, 2018	
<i>Final Recommendation Report</i>	December 14, 2018	January 1, 2020

5.0 Cost Estimate

LWA's cost proposal is provided in a separate package, Appendix C, as required by the RFP.

6.0 Assumptions and Recommended Services Not Part of Proposal

LWA assumes that the JPA will provide all data and materials necessary to complete the chloride source investigation, including the results of permit required influent, effluent and receiving water monitoring, water quality data from water supply agencies, and information on any existing or past efforts at public outreach on water softeners. The project will rely on existing information and assumes no additional monitoring will be conducted. It is assumed that no field investigations of land uses in the Los Angeles River or certifications ensuring no future use of land areas for salt sensitive agriculture will be needed and these services are not included in the proposal. Finally, as noted above, any regulatory analyses required by the Los Angeles Water Board to gain approval of the recommended regulatory options are not included in the proposal. If needed, any of these services could be provided for an additional fee.

7.0 LWA Project Team

LWA has the available staff and technical capabilities to complete the proposed scope of work for the Chloride Study. We have provided resumes for key personnel as an appendix to this proposal, **Appendix A, Key Personnel Resumes**, to detail their relevant education, training, special qualifications, experience, registrations, and licenses which make them highly-qualified to perform the requested services for the JPA.

LWA currently has a staff of **more than 40 employees** who provide a wide range of consulting services ranging from traditional water and wastewater engineering to highly specialized regulatory assistance; water resource management; groundwater modeling and studies of groundwater recharge; NPDES and WDR permit assistance; stormwater management and stormwater resource plans; total maximum daily load (TMDL) development; monitoring of surface water, stormwater, groundwater and agricultural runoff; and watershed management activities and integrated planning. LWA regulatory assistance includes extensive TMDL support, 303(d) listings and de-listings analyses, wastewater, recycled water and stormwater permit assistance, Reports of Waste Discharge (ROWDs), anti-degradation analyses, site-specific objective studies, use attainability analyses, Basin Plan amendments, and water quality policy review.

UNMATCHED VALUE

LWA has more than 37 years of experience in California and a proven record of success on similar projects in California. Our intimate understanding of the issues and technical and regulatory expertise will expedite project schedules, resolve regulatory issues, and deliver innovative and viable solutions that meet the JPA's needs.

LWA and Carollo have worked closely together on several projects in Ventura County dealing with salts and wastewater treatment and source control options. The LWA/Carollo team recently worked together on the development of two Salt and Nutrient Management Plans which included identification of management strategies and wastewater treatment control options for chloride and evaluation of regulatory strategies similar to the requested project.

7.1. Team Member Qualifications

Key LWA personnel were chosen based on their experience on similar projects and their ability to provide the JPA with the proposed services and support of the highest caliber. LWA's highly qualified team is structured to provide the JPA with the experience and expertise needed to navigate the complex



regulatory, technical, and administrative challenges involved in developing and implementing water quality programs. Betsy Elzufon will be the project manager and receive assistance from Ashli Desai as a strategic advisor. As demonstrated in the summary biographies below, and further reflected in the resumes included in **Appendix A**, the proposed personnel offer solid qualifications and experience applicable to this project and are available for immediate assignment.

**BETSY ELZUFON****Project Manager****Responsibilities:**

- Coordinate all project tasks
- Hold staff workshops with JPA
- Attend Regional Board meetings
- Primary point of contact with JPA

Ms. Betsy Elzufon has over 30 years experience in private industry in the areas of chemical engineering, industrial processes, regulatory assistance and pollution prevention. She coordinates wastewater permit renewal for discharges to surface water (NPDES) and discharges to land (WDRs) and permit implementation efforts for clients throughout California including the Los Angeles, Central Coast, Central Valley and Lahontan Regions. Betsy has provided regulatory assistance for power plants operated by DWR. She has also assisted municipalities with obtaining Water Recycling

Permits (WRRs, MRPs). She has conducted source identification studies and developed pollution prevention and outreach programs for several stormwater and wastewater programs in California. She has also assisted several municipalities in evaluating and updating various elements of their pretreatment programs. She has managed national studies on source control and program effectiveness measurement for the Water Environment Research Foundation and the National Association of Clean Water Agencies. Betsy has been the project manager on the majority of the chloride source investigation studies conducted by LWA in the Los Angeles Region. Betsy has a B.S. from Cornell University and M.S. from University of California, Berkeley, in chemical engineering.

ASHLI COOPER DESAI**Strategic Advisor****Responsibilities:**

- Review all project deliverables
- Provide insight and context on chloride regulatory issues

Ms. Ashli Cooper Desai is a Vice President with Larry Walker Associates. She has 21 years of experience in regulatory assistance, watershed management, and TMDL development and implementation. Ms. Desai is primarily responsible for overseeing LWA's TMDL and regulatory work in Southern California, including NPDES permit assistance; regulation and policy review and comment; TMDL review, development and implementation; agricultural conditional waiver assistance; and special study development and implementation. Ms. Desai specializes in facilitating coordination between municipal agencies, stakeholder groups, and regulatory

agencies to provide regulatory solutions that allow implementation of stakeholder developed strategies for solving water quality problems. Ms. Desai supports wastewater, stormwater and agricultural clients in all aspects of TMDL development and implementation and has reviewed or supported development of almost every TMDL adopted in the Los Angeles Region as well as multiple TMDLs developed in Orange and San Diego County. Additionally, Ms. Desai regularly supports stormwater and wastewater clients with review, comment and negotiation of NPDES permit conditions, special studies and regulatory analysis. This support includes the development of site-specific objectives, anti-degradation analyses, Porter Cologne 13241 analyses and other regulatory analyses necessary to support proposed regulatory changes. This work included the development and adoption of site-specific objectives for chloride in the Upper Santa Clara River. Most recently, Ms. Desai provide the Las Virgenes Municipal Water District with a review of the draft 2017 NPDES permit for Tapia WRF and provided consultation on context for the chloride effluent limitation issues. Ms. Desai has a B.S. in Earth Systems, Environmental Technology and an M.S. in Civil and Environmental Sciences and Engineering from Stanford University.



ALINA CONSTANTINESCU, P.E. Technical Support Staff

Responsibilities:

- Complete technical work required for the Chloride Study
- Draft project deliverable reports

Ms. Alina Constantinescu is a Project Engineer with LWAA and a Registered Professional Civil Engineer in the State of California with 14 years of experience in the environmental engineering field. She has provided assistance to various agencies with NPDES permit renewals, regulatory compliance, pollution prevention and pretreatment programs, and stormwater characterization. She has conducted chloride and salinity source investigations for the Cities of Santa Paula, Manteca and Morro Bay and the Piru Wastewater Treatment Plant in Ventura County. Prior to

joining LWA, she worked in the Industrial Pretreatment Program for the City of Los Angeles. Alina is actively involved in the CWEA Pretreatment, Pollution Prevention, and Stormwater (P3S) Committee serving as the 2016/17 Chair and has assisted in organizing several regional and state-wide conferences, local training events, and many other committee activities while interacting with water quality professionals from across the state. Alina is also a participant in the Bay Area Clean Water Agencies Collection Systems, Pretreatment, and Pollution Prevention Committees

SUZANNE BROWN, P.E. Technical Support Staff

Responsibilities:

- Complete technical work required for the Chloride Study
- Draft project deliverable reports

Ms. Suzanne Brown is a Project Engineer with LWA and a Registered Professional Civil Engineer in the State of California. She has a B.S. and M.S. in Civil and Environmental Engineering from the University of California, Los Angeles. Ms. Brown has experience working on numerous projects in the following service areas: wastewater permit assistance, Reports of Waste Discharge (ROWDs), development of site-specific objectives, toxicity investigations, special studies, and, recycled water program development and permit assistance. She has provided technical support by designing

and completing studies to develop site-specific Water Effects Ratios and translators for metals in wastewater treatment effluent, developing or amending effluent limits and TMDL wasteload allocations for wastewater treatment plants, conducting source identifications and recommending management practices for wastewater treatment plants subject to TMDL requirements, including wastewater treatment plants in the Calleguas Creek Watershed subject to the Calleguas Creek Watershed Salts TMDL. Ms. Brown has also assisted numerous clients with developing recycled water use programs and applying for recycled water permits, including assisting the City of Santa Paula in obtaining a permit to supply treated wastewater to local farms, therefore removing effluent discharge from receiving waters subject to the Santa Clara River Salts TMDL.

ANDREW SALVESON, P.E. Chief Technologist, Carollo Engineers

Responsibilities:

- Conduct Disinfection Alternative Evaluation
- Review project deliverables

Andrew Salvesson is Carollo's Chief Technologist for wastewater disinfection and a nationally recognized expert in UV, ozone, PAA, and pasteurization and has over 20 years of experience in the wastewater field. He has a B.S. in Civil Engineering from San Jose State University and M.S. in Water and Wastewater Engineering from University of California, Davis. He oversees all wastewater and reuse disinfection projects for Carollo, including more than 60 design projects.



He has conducted dozens of disinfection alternatives analyses, led more than 60 pilot and full-scale reactor tests, and been the lead validation engineer for third party research and analysis of UV systems, ozone, pasteurization, PAA, and other emerging disinfection technologies. Andy has also been an expert author on industry guidance manuals for both UV and PAA.

BILL SOTIRAKOS, P.E.
UV Disinfection Specialist, Carollo Engineers

Responsibilities:

- Assist with Disinfection Alternative Evaluation
- Provide other technical assistance as needed

Bill Sotirakos joined Carollo in 2014. He brings over 25 years of UV disinfection experience as an OEM to Carollo. He has worked on over 450 UV disinfection systems for wastewater and reuse applications around the world. He provides national technical support for UV design, start-up, and troubleshooting. Bill has designed and managed the development of nine different UV disinfection systems for three different UV equipment manufacturers. He has been involved in product development and all aspects of UV projects, including sales support, proposals, project management, testing, commissioning, start-up, and training. Since joining Carollo, Bill has been instrumental in 50 UV design jobs, several of which included alternatives analysis, preliminary and final design.



8.0 Representative Project Experience and References

LWA has proven capabilities and in-depth experience conducting source investigations for wastewater treatment plants for various pollutants including salts, and identifying effective control measures and regulatory strategies to address effluent water quality issues.

LWA has worked with municipalities all over California since 2002 to identify salinity and chloride sources and to develop and implement effective source control programs to achieve measurable reductions. In addition to the projects described below for the Los Angeles County Sanitation Districts, Ventura County Water Works District No. 16, the Central Valley Clean Water Agencies, and the City of Santa Paula, LWA has developed and assisted with implementation of Salinity and Chloride Source Investigations and Minimization Plans for Camarillo Sanitary District (2008) and the Cities of Davis (2008), Lompoc (2011), Manteca (2010), Morro Bay (2015), Roseville (2009), Tulare (2004), and Vacaville (2008).

In addition, LWA has worked with Las Virgenes and other municipalities to develop site specific objectives and achievable effluent limits for salts and other constituents.

Carollo has worked with several agencies to evaluate a range of alternatives to chlorine disinfection including UV disinfection and other technologies to determine the most cost effective option for each facility. Carollo has provided similar services to that described below for Santa Rosa to Chambers Creek WWTP in Pierce County (WA) and Kansas City WWTPs (MO) among others.

The projects below demonstrate the LWA team's experience in executing the tasks in each of the seven service areas identified in the RFP, as well as experience performing the specific tasks anticipated by the JPA. **Having successfully delivered similar projects to other public agencies**, we have provided points of contact who can attest to our expertise, professional commitment, and proven processes that deliver projects on time, on budget, and to our clients' complete satisfaction.



Project 1. Los Angeles County Sanitation District Chloride Reduction Project

Project Timeline:	2002- 2007
Client Contact:	Ann Heil, Division Engineer (562) 908-4288, Ext. 2801 / aheil@lacsds.org
Key Personnel:	Betsy Elzufon

Description:

LWA assisted the Sanitation Districts of Los Angeles County with several aspects of their chloride reduction programs including the development of BMPs for commercial dischargers and development of an incentive/rebate program for residential Self-regenerating Water Softeners. This was one of the first efforts in California investigating chloride sources and targeting water softener removal as an effective reduction strategy.

In 2002, LWA worked with CGvL Engineers on the LACSD Development of Best Management Practices (BMP) for Reducing Chlorides in Commercial Discharges project. LWA identified commercial sources of chloride in the Santa Clarita Valley and assessed strategies to address these sources. This effort involved inspecting and sampling approximately 130 commercial businesses and researching control strategies and associated costs. The goal was to determine if the reduction strategies were technologically and economically feasible. It was determined that technologically and economically feasible reduction strategies were available to address certain chloride containing swimming pool discharges but not available for other significant chloride sources.

From 2003 to 2007, LWA, Nellor Environmental Services and Lawrence Research assisted LACSD to identify options to maximize the removal of residential self-regenerating water softeners and evaluate the most effective incentives and disincentives including development of a water softener rebate program. Services provided by the LWA project team included identification of options to encourage residents to remove their water softeners, research and analysis of existing rebate programs for home appliances, focus group design, design of a residential survey, analysis of focus groups and survey results, development of cost-effectiveness projections, and preparation of draft and final study reports including presentations to district staff.



Project 2. City of Santa Paula Recycled Water Program Development & Groundwater Impact Assessment

Project Timeline:	2015- present
Client Contact:	Caesar Hernandez, Regulatory Compliance Specialist (805) 933-4212 x306 / chernandez@spcity.org
Key Personnel:	Betsy Elzufon, Suzanne Brown, Alina Constantinescu

Description:

LWA has been assisting the City of Santa Paula with renewal of Waste Discharge Requirements (WDRs) for discharges from its Wastewater Reclamation Facility (WRF) to groundwater and with development of a Recycled Water Program.

The renewal of Waste Discharge Requirements has focused on developing a strategy to comply with chloride effluent limits. This has involved implementation of a water softener buyback program and an evaluation of the discharge’s impact to chloride levels in groundwater. LWA has assisted with evaluating the buyback program and providing technical information to be used in development of outreach materials for the program. In addition, using a simple mixing calculation, LWA has evaluated localized impacts to groundwater resulting from reduced chloride concentrations due to reduced water softener use and reduced discharge flows resulting from recycling water rather than discharging it to the WRF’s percolation pond.

LWA has also assisted the City with the development of a Recycled Water Program including updating the City’s 2009 Title 22 Engineering Report and preparing and submitting a Notice of Intent for coverage under the Statewide General Order for Water Recycling Requirements (Order WQ 2016-0068-DDW). In addition, LWA has assisted the City in providing additional information requested by the Los Angeles Water Board regarding potential impacts to groundwater of recycled water applications.

Development of the Recycled Water Program has also included working with farmers and other potential users to understand their level of interest and identify concerns ranging from acceptability for food crop irrigation to levels of salts in the recycled water. LWA has helped facilitate stakeholder meetings and contacted individuals. As a result, several potential users have provided the City with letter of support for the Recycled Water Program.



Project 3. Central Valley Clean Water Association Salinity Management Practices for POTWs Report

Project Timeline:	2012
Client Contact:	Debbie Webster, Executive Officer (530)268-1338 / eofficer@cvcwa.org
Key Personnel:	Betsy Elzufon

Description:

LWA prepared a report for the Central Valley Clean Water Association presenting a toolkit for assessing sources of salinity in wastewater treatment plant discharges and management practices targeting salinity sources with the ultimate purpose of addressing potential compliance concerns for POTWs and addressing water quality concerns in Central Valley receiving waters. LWA leveraged its extensive experience conducting salinity source identification and control projects to develop a toolkit intended to assist municipalities to identify significant sources of salinity in their service areas using readily available data as an alternative to a full scale source identification study. In addition, information was provided describing the effectiveness and cost of management practices targeting most salinity sources.

Common management practices that target different source categories were assembled into “toolboxes” to assist municipalities in selecting practices that were applicable to each community’s circumstances. These “toolboxes” included guidance on treatment options to reduce salinity, changes to the water supply, outreach targeting self-generating water softeners and other residential sources of salinity, outreach targeting commercial and industrial sources of salinity and addressing inflow and infiltration.



Project 4. Santa Clara River Chloride Site Specific Objective

Project Timeline:	2007-2008, 2012-2013
Client Contact:	Brian Louie (562)908-4288 Ext. 3502 / Blouie@lacsdsd.org
Key Personnel:	Ashli Cooper Desai

Description:

As part of the Basin Plan Amendment for the Santa Clara River Chloride TMDL, the Sanitation Districts of Los Angeles County (Districts) were required to convene a stakeholder group and conduct a number of special studies to evaluate the appropriate water quality objectives and beneficial uses for chloride in the Santa Clara River Watershed. The project included technical evaluations of the amount of chloride that impacted agricultural beneficial uses, extensive groundwater and surface water modeling projects, and regulatory support to take the technical work and develop the necessary documents to support TMDL revisions and objective changes. LWA was hired for the regulatory support portion of the project. To conduct this work, LWA provided regulatory, technical and facilitation services to assist with the development of site-specific objectives and TMDL revisions.

Using information on historic and current land uses, water supply and water quality, and model results, LWA assisted the Districts with the development of regulatory analysis for consideration of revised beneficial uses in the Santa Clara River. The beneficial use analysis was used to identify areas where site-specific objectives could be applicable by determining where historic, current and potential future salt sensitive agriculture was located.

Additionally, LWA conducted technical analyses to develop site-specific objectives for chloride, TDS, and sulfate. The site-specific objective report included required 13241 regulatory analyses and a simple anti-degradation analysis to support the site-specific objective adoption. LWA worked with the other technical consultants to obtain the information necessary to support the regulatory analysis and reports being prepared by LWA. The reports were used by the Regional Board as the support for the Basin Plan Amendment to create site-specific objectives and TMDL revisions. LWA also assisted the District with review and comment on the Basin Plan Amendment documentation prepared by the Regional Board. The resulting Basin Plan Amendments were the only documents adopted by the Regional Board on this TMDL that received support from all stakeholders. All other aspects of the TMDL development and implementation have been very contentious.

LWA staff also participated in weekly meetings with Los Angeles RWQCB staff to negotiate elements of the technical and regulatory strategy for the objectives and TMDL. LWA staff facilitated monthly meetings with a stakeholder group to update them on the technical and regulatory work.



Project 5. Piru Chloride Source Identification and Program Assessment

Project Timeline:	2009, 2017
Client Contact:	Eric Keller, Deputy Director (805) 378-3015 / Eric.Keller@ventura.org
Key Personnel:	Betsy Elzufon, Alina Constantinescu

Description:
In 2009, LWA assisted the Ventura County Waterworks District #16 (District) by conducting a Chloride Source Identification Study for its Piru Wastewater Treatment Plant as require by the PWWTP NDPES permit. The Study included developing a workplan, identifying sources through a literature review and development and implementation of a monitoring plan, compiling an inventory of businesses in the Piru service area, and using the collected information and monitoring data to estimate source contributions. Base on the results a mitigation plan was developed with the goal of the PWWTP achieving compliance with its chloride effluent limit. It was determined that the primary sources were the water supply, residential uses and self-regenerating water softeners. The mitigation plan focused on a plan to reduce residential use of water softeners through an ordinance, an outreach program and an incentive program and to explore the feasibility of implementing a recycle water program to reduce discharges to surface water.

In 2017, LWA assisted the District in responding to a Notice of Violation by reviewing progress on chloride reductions, evaluating impacts of treatment plant discharge on local groundwater and developing a compliance strategy for meeting chloride effluent limits moving forward.

Project 6. Santa Rosa WRF Capacity Analysis, Disinfection Alternative Analysis, and Ozone Treatability Study

Project Timeline:	2009
Client Contact:	Joe Schwall, WWTP Superintendent (707) 543-3358 / JSchwall@srcity.org
Key Personnel:	Andy Salveson, Bill Sotirakos

Description:
Since 2011, Carollo has worked with the City of Santa Rosa to evaluate and upgrade their 67 mgd UV system (Trojan UV4000). The work started with a capacity analysis, which led to a firm conclusion that the installed system had a true capacity of 43 mgd, a 24 mgd shortfall. From that point, Carollo evaluated alternative and supplemental disinfection, including a full UV replacement, side stream UV, ozonation, pasteurization, and hypochlorite (free chlorination and chloramination). Currently, Carollo is working with the City on the final design of the disinfection upgrades.



9.0 Internal Quality Control

LWA’s comprehensive QA approach includes the following components: 1) QA organization, including roles and responsibilities; 2) QA/QC procedures; 3) Process for resolution of quality issues; and 4) Monitoring, reporting, and tracking procedures. Task Leads will review work products before submittal to the LWA Project Manager. The LWA Project Manager may also designate experts from LWA or the JPA as reviewers for specialized tasks. The LWA Project Manager will review the work products before providing them to the JPA.

Appendix A – Key Personnel Resumes

EDUCATION

M.S., Chemical Engineering,
1983, University of California,
Berkeley

B.S., Chemical Engineering,
1981, Cornell University, Ithaca

YEARS OF EXPERIENCE

With LWA: 24
With other Firms: 11

**PROFESSIONAL
AFFILIATIONS**

Past – Chair, California Water
Environment Assoc. Industrial
and Hazardous Waste
Committee (1998-99)

Chair, Annual West Coast Water
Pollution Prevention Symposium
(1995, 1996, 1997)

Board of Trustees, Explorit
Science Center (1997-2011,
Davis, California)

Ms. Elzufon has over 30 years experience in private industry in the areas of chemical engineering, industrial processes, regulatory assistance and pollution prevention. She coordinates wastewater permit renewal for discharges to surface water (NPDES) and discharges to land (WDRs) and permit implementation efforts for clients throughout California including the Los Angeles, Central Coast, Central Valley and Lahontan Regions. Central Valley clients include Davis and Sacramento Regional County Sanitation District. Betsy has provided regulatory assistance for power plants operated by DWR. She has also assisted municipalities with obtaining Water Recycling Permits (WRRs, MRPs). She has conducted source identification studies and developed pollution prevention and outreach programs for several stormwater and wastewater programs in California. She has also assisted several municipalities in evaluating and updating various elements of their pretreatment programs. She has managed national studies on source control and program effectiveness measurement for the Water Environment Research Foundation and the National Association of Clean Water Agencies.

Regulatory Assistance

Victor Valley Wastewater Reclamation Authority (VWVRA), Hesperia, CA (2008-present)

Project Manager for VWVRA regulatory assistance including issuance of WDRs/Water Recycling Requirements(WRRs) for its Subregional Facilities, implementation of its 2008 NPDES permit and technical and regulatory assistance associated with its December 2010 sewer line breach. LWA also assisted VWVRA with obtaining a WDR for additional percolation ponds at its main facility and renewing its NPDES permit. Betsy is currently assisting with implementation of VWVRA's NPDES permit and issuance of Water Recycling Requirements under the Statewide General Order to cover all its facilities. Successful permit negotiation has relied heavily on analysis of impacts to groundwater including an antidegradation analysis for groundwater. Betsy assisted VWVRA with preparing a non-waste determination to allow use of VWVRA biosolids as a fuel for nearby cement kilns.

City of Santa Paula, Santa Paula, CA (2015-present)

Project manager for WDR permit renewal and development of Recycled Water Program. WDR permit renewal has relied heavily on the development and implementation of a chloride compliance strategy. Betsy has assisted with developing the strategy, developing a recycled water program and applying for coverage under the Statewide General Order for Water Recycling Requirements. Betsy has also assisted with stakeholder outreach to educate potential users and gain their support for the program.

Sacramento Regional County Sanitation District (SRCSD) Sacramento, CA (2004-present)

Project manager for SRCSD Permit Renewal Project (2010 and 2015 permit renewal). Involves coordination of LWA staff and subconsultants efforts to address various aspects of permit renewal negotiations including meetings with Regional Water Board and other regulatory agencies, special studies (i.e., toxicity, pathogens, thermal impacts), dynamic model, antidegradation analysis, monthly

status meetings and tracking project status. In addition to permit renewal efforts, she has coordinated LWA's efforts supporting SRCSD's appeal to the State Board regarding the permit and implementation of permit studies. LWA also assists VVWRA with preparation and submittal of annual reports.

City of Morro Bay, Morro Bay, CA (2014-present)

Project Manager to assess regulatory implication of different discharge scenarios as part of the City of Morro Bay's planning process for its treatment plant upgrade. The scenarios evaluated included NPDES permitting of an ocean discharge or discharge to two different creeks, and Waste Discharge Requirements for discharge to percolation ponds. Applicable beneficial uses, TMDLs, projected effluent limits, monitoring requirements, and special studies were all considered. In addition, a review was conducted of upcoming regulatory requirements that could impact the City's permits. LWA is currently assisting the City with an update of a TMDL Wasteload Allocation Attainment Plan and development of a Salinity Source Control Program.

Department of Water Resources, Castaic, CA (2011-2016)

Project manager for NPDES permit support for the W.E Warne Power Plant. Support included requesting a Time Schedule Order to address compliance concerns with metals and trihalomethanes effluent limits, conducting a dilution study and gaining approval from the Los Angeles Regional Water Quality Control Board to apply dilution credits to the effluent limits, and negotiation of the NPDES permit renewal in 2016.

City of Victorville, Victorville, CA (2011-present)

Project Manager for City of Victorville WDR/WRR issuance for the Industrial Wastewater Treatment Plant. Includes preparation of ROWD, groundwater antidegradation analysis, Title 27 exemption analysis and revisions to Title 22 Engineering Report. LWA currently assists with submitting progress reports as needed. LWA is also assisting the City with negotiations with Regional Board staff regarding needed updates to the City's Sewer System Management Plan and LWA assists with submittal of annual reports required by the WDR.

City of Adelanto, Adelanto, CA (2011-2013)

Project Manager for assistance with City of Adelanto enforcement actions including preparation of a treatment plant capacity evaluation and revision of several reports prepared by the City and originally deemed deficient by the Lahontan Regional Board including a Spill Contingency Management Plan, a Percolation Pond Restoration Plan, and a Flow and Effluent Limits Compliance Plan. These reports were accepted by the Regional Board and Betsy assisted Adelanto with a revision to its Waste Discharge Requirements.

City of Davis, Davis, CA (2006-present)

Project Manager for City of Davis NDPEs permit renewal and permit implementation. As part of the 2013 permit renewal process, LWA assessed beneficial use designations for the City's two discharge points and determined that MUN is not applicable to either discharge point. In addition, she has worked with the City to address permit requirements and obtain Time Schedule Orders to allow for extra time to comply with effluent limits. LWA is currently assisting the City with evaluating implications of its plant upgrade on future regulatory requirements.

NPDES Permit Renewals, CA (2007-present)

Project manager for Cities of Rio Vista and Roseville's NPDES permit renewal. Involved coordination of LWA staff to prepare ROWD, compilation of data sets, preparation of comments on draft permits and working with Regional Board staff (2007-2011). Betsy has also provided assistance on permit renewals for Cities of Burbank (2012, 2017), San Luis Obispo (2012, 2017), Cities of Thousand Oaks and Simi Valley and Camarillo Sanitary District (2014), City of Burbank (2012, 2017), City of Lompoc (2011).

California Toxics Rule comments and analysis, Statewide, CA (1997-1999)

Development of attainability analyses for wastewater effluent with respect to proposed California Toxics Rules water quality criteria for the Bay Area Dischargers Association. Also conducted reasonable potential analyses in support of NPDES permit assistance for several LWA clients.

Wastewater

Central Valley Clean Water Association (CVCWA), Sacramento, CA (2012-2013)

Preparation of a Salinity Management Toolbox for POTWs for the CVCWA in support of the CV-SALTS program.

P2 Menus, Oakland, CA (2004-2005)

Development of pollution prevention guidance and menus to assist Bay Area POTWs in development and enhancement of their P2 Programs. Project conducted as a collaborative effort between BACWA and the Regional Board.

Project manager to assist the City of Petaluma with operation of its Pollution Prevention Program including restaurant inspection and vehicle service facility inspection programs, public outreach programs, and development of a dental inspection program.

Mercury Source Control Assessment, USA (2000-2002)

Determination of the effectiveness of mercury source control and pollution prevention programs with respect to achieving NPDES permit effluent limits for the Association of Metropolitan Sewerage Agencies (now National Association of Clean Water Agencies).

Source Control Program Development, Statewide, CA (1993-2004)

Development of pollutant source identification and pollution prevention programs for Novato Sanitary District, the Cities of Davis, Thousand Oaks and Simi Valley, Napa Sanitation District Sonoma Valley County Sanitation District, and Sacramento Regional County Sanitation District.

Watershed Management/TMDLs

Integrated Plan Development, Santa Maria, CA (2015-2016)

Assistant Project Manager for the City of Santa Maria Integrated Plan development. Managing a team of consultants to assist the City in development of the first California Integrated Plan based on the EPA Framework. The Integrated Plan will address the City's regulatory requirements associated with the Phase II Stormwater Permit; Nutrient, Bacteria and Pesticide TMDLs; Trash Policy; Central Coast Post-Construction Requirements; Wastewater Waste Discharge

Requirements; Safe Drinking Water Act; and other regulatory programs. Projects under consideration range from structural (retention and infiltration basins, expansion of secondary water system for irrigation) to non-structural (nutrient trading).

Municipal Agricultural Collaboration, USA (2014)

Project Manager for the preparation of a Municipal-Agriculture Collaboration White Paper for the National Association of Clean Water Agencies (NACWA). Researched and described examples of Municipal Agricultural collaborations throughout the United States. Eight case studies were prepared and a white paper was prepared describing the collaborative efforts and common themes that emerged.

Water Environment Research Foundation, Washington, DC (1996-2001)

Principal investigator for a study to develop tools to measure source control program effectiveness and a nationwide literature assessment regarding commercial and residential sources of wastewater and stormwater pollution for the Water Environment Research Foundation.

Relevant Experience Prior To Larry Walker Associates

Regulatory Assistance, Alexandria, VA 1992-1993

Assisted New Jersey Department of Environmental Protection and Energy (NJDEPE) in drafting the rules and regulations for New Jersey Pollution Prevention Act.

Team member in preparation of EPA report on industrial toxics and pollution prevention for the Office of Pollution Prevention and Toxics.

Research and Development, Columbia, MD 1983-1992

Research Engineer working in research and development for Fortune 100 specialty chemicals company. Five years experience evaluating photopolymers and coating processes used in printed circuit board fabrication which includes experience in metal finishing. Three years experience in fermentation and amino acid production at the pilot plant scale.

Worked in process design, engineering research and development, and chemicals research groups gaining exposure to several aspects of the hydroprocessing industry.

Papers & Presentations

Proceedings of the Water Environment Federation 66th Annual Conference and Exposition. October, 1993.

Residential Source Controls for Trace Metals in the San Francisco Bay Area.
Principal Author

Presented at the California Water Pollution Control Association Annual Conference. April, 1994.

Sources of Trace Metals in the San Francisco Bay Area.
Principal Author

Presented at the American Water Works Association, Water Quality Technology Conference. November, 1994.

Interaction Between Drinking Water Copper Levels and Wastewater.
Principal Author

Presented at the 22nd Annual CWPCA Industrial and Hazardous Waste Conference. February, 1995.

Laundry Graywater - A Controllable Source?

Principal Author

Presented at the 24th Annual CWEA Industrial and Hazardous Waste Conference. February, 1997.

Stormwater Commercial Business Outreach.

Principal Author

Published by the Water Environment Research Foundation. January, 1998.

Residential and Commercial Source Control Programs to Meet Water Quality Goals.

Principal Author

Published by the Water Environment Research Foundation. 2000.

Tools to Measure Source Control Program Effectiveness.

Principal Author

Published by the Water Environment Research Foundation. 2001.

Controlling Pollution at its Source: Wastewater and Stormwater Demonstration Projects.

Principal Author

Presented at CWEA Annual Conference. April 2002.

Is Pollution Prevention the Answer to Meeting Shrinking Discharge Limit?

Principal Author

Presented at BAPPG Workshop - What Gets Measured, Gets Done. June 2002.

How Much Pollution is My Program Preventing?

Principal Author

Presented at CASQA Meeting. November, 2003.

Effectiveness Measures for Source Control BMPs.

Principal Author

Presented at CWEA P3S Conference. February 2004.

PPPs/PMPs - Sorting Out Pollution Prevention Planning Requirements in Your NPDES Permits.

Principal Author

Presented at CWEA P3S Conference, CASQA Workshop, March 1, 2006.

Effectiveness Assessment - Municipal Permit Requirements and Implementation

Presented at Urban Pesticide Committee. June 27, 2006.

Using Effectiveness Measurement – Case Study.

Principal Author

Presented at Central Valley Clean Water Association Conference. May 15, 2008.

How to Address Challenging Salinity Limitations Without Going Broke: Source Control and other Options.

Principal Author

Presented at CWEA P3S Conference. March 3, 2009.

Surveys and Beyond: Measuring the Effectiveness of Your Public Outreach Programs

Principal Author

Presented at CWEA P3S Conference. March 4, 2009.

Back to Basics. An Introduction to Pollution Prevention.

Principal Author

Presented at CWEA P3S Conference. February 28, 2012.

CEC Requirements in NPDES Permits.

Principal Author

Presented at CWEA San Francisco Bay Section Wastewater Regulations 101. May 21, 2013, and CWEA Annual Conference, April 29, 2014.

Water Quality Based Effluent Limits.

Principal Author

Presented at CWEA Annual Conference, April 30, 2014.

Practical Approaches to Working with Commercial & Small Industrial Dischargers.

Principal Author



Ashli Desai, E.I.T.

Vice President

EDUCATION

M.S., Civil Engineering-
Environmental Engineering and
Science, 1996, Stanford
University, Stanford

B.S., Earth Systems-
Environmental Technology,
1995, Stanford University,
Stanford

REGISTRATIONS

CA E.I.T. XE100093

YEARS OF EXPERIENCE

With LWA: 21
With other Firms: 1

PROFESSIONAL AFFILIATIONS

Member, California Stormwater
Quality Association

Member, Water Environment
Federation

Stormwater Representative,
Stakeholder Advisory Group for
Statewide Nutrient Policy
Development

Ms. Desai provides regulatory assistance, watershed management, and TMDL development and implementation support to clients throughout California. Ms. Desai is primarily responsible for overseeing LWA's TMDL and regulatory assistance work in Southern California, including NPDES permit assistance; regulation and policy review and comment; TMDL review, development and implementation; stormwater permit development and implementation; agricultural order assistance; and watershed management. Ms. Desai specializes in facilitating coordination between municipal agencies, stakeholder groups, and regulatory agencies to provide regulatory solutions that allow implementation of stakeholder developed strategies for solving water quality problems.

Watershed Management/TMDLs

Calleguas Creek Watershed Management Plan TMDL Development for Stakeholders Implementing TMDLs in the Calleguas Creek Watershed

Project manager responsible for implementing all aspects of the effective TMDLs for toxicity, organochlorine pesticides and PCBs, sediment, metals and selenium, and salts in the Calleguas Creek watershed. Responsibilities include development and conduct of special studies, identification of implementation actions, coordination with stakeholders and Regional Board, incorporation of TMDL requirements into NPDES permits, and management of monitoring and reporting requirements. As part of this effort, Ms. Desai is responsible for managing a watershed-wide implementation effort to meet implementation requirements for watershed TMDLs, MS4 permit, wastewater permit and agricultural order requirements. This effort considers local Salt and Nutrient Management Plan, Groundwater Sustainability Plan, and Stormwater Resource Plan efforts to maximize multiple benefits for the projects identified in the plan, minimize duplicative efforts, and maximize funding opportunities.

Calleguas Creek Watershed TMDL Implementation

Project manager responsible for implementing all aspects of the effective TMDLs for toxicity, organochlorine pesticides and PCBs, sediment, metals and selenium, and salts in the Calleguas Creek watershed. Responsibilities include development and conduct of special studies, identification of implementation actions, coordination with stakeholders and Regional Board, incorporation of TMDL requirements into NPDES permits, and management of monitoring and reporting requirements.

Santa Margarita River Watershed Biostimulatory Substances Support

Project manager responsible for assisting the Santa Margarita River Nutrient Initiative Group with the development of a process for interacting with regulatory agencies to address impairments due to biostimulatory substances in the Santa Margarita River and Estuary. As a member of the technical advisory committee, prepared a draft process plan for the development of technical information necessary to identify and address any identified impairments. The process plan defines the tasks to be completed by the workgroup, key decisions and paths forward based on the decisions, and a discussion of how the technical work will be used by the San Diego Regional Water Quality Control Board to develop the Basin Plan Amendments, if needed.

San Diego County Bacteria TMDL Implementation Assistance

Project manager responsible for supporting the City and County of San Diego with strategic planning for implementation of the Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region (Bacteria TMDL). Work includes the development of a process plan to that outlines the process for working with the San Diego Regional Water Quality Control Board to successfully incorporate the results of special studies into revised TMDL provisions. The process plan will also include the key aspects of the TMDL to be addressed through the reopener, a process for working with the Regional Board staff to review and consider the technical work, a process for using the technical work to develop a Basin Plan Amendment for the Bacteria TMDL, and approaches to coordinate other related TMDL, permit and other applicable regulatory requirements. Additionally, providing on-call support to the County, including reviewing 303(d) listings and preparing delisting letters.

Lower Santa Clara River Salt and Nutrient Management Plan

Project manager responsible for the development of a Salt and Nutrient Management Plan (SNMP) for the Lower Santa Clara River. Responsible for facilitating the stakeholder process, outlining the SNMP approach, developing the monitoring plan, preparing the antidegradation analysis, compiling technical work from multiple subcontractors into the final SNMP, and coordinating with the Los Angeles Regional Water Quality Control Board to ensure approval of the SNMP.

Ventura County Trash TMDLs

Managed project to review and comment on Trash TMDLs developed for the Calleguas Creek and Ventura River watersheds. As part of this project, LWA substantially rewrote the draft TMDL documents and negotiated alternative methods of complying with the TMDL targets and allocations. Managed subsequent development of required Trash Management and Reporting Program plans. Currently serving as senior advisor, assisting with coordinating stakeholder implementation of the TMDLs in both watersheds between cities, county and state agencies, and agriculture. Work on this project includes oversight of monitoring program, review and analysis of data, defining and assessing baselines, tracking BMP implementation and coordination with Regional Board staff.

Ventura County Agricultural Irrigated Lands Group (VCAILG)

Senior Advisor responsible for the TMDL tracking and implementation requirements related to agriculture in Ventura County. Other responsibilities include overseeing monitoring and reporting and BMP implementation requirements for the Conditional Waiver for Irrigated Agriculture in Ventura County and providing coordination with Regional Board staff.

Malibu Creek Benthic Macroinvertebrate TMDL Review

Project manager responsible for the development of comments for the City of Thousand Oaks, Ventura County and Ventura County Watershed Protection District on a draft TMDL developed by USEPA for benthic macroinvertebrates. Led the development of comments on the benthic macroinvertebrate targets and causal assessment, including evaluation of the nutrient wasteload allocations and implementation recommendations. Integrated comments from other consultants on sediment targets and allocations to develop final comment letters. Providing coordination and discussion with USEPA on suggested revisions to the TMDL.

Malibu Creek Bacteria TMDL Implementation

Project manager providing support for the City of Thousand Oaks to implement the requirements of the Malibu Creek Bacteria TMDL. Completed an implementation strategy document that identified possible regulatory, source identification, and best management practice options for the City to evaluate for implementation. Based on the implementation strategy document, identified next steps, including assistance with evaluating the TMDL reopener, conducting initial source identification monitoring, and BMP pilot studies. LWA will be assisting with the TMDL reopener in the near term.

San Diego County TMDL Development Evaluation

Project manager and primary staff for developing an evaluation of options for TMDL development. Work included conducting workshops for MS4 permittees on TMDL development strategies, and preparing a report comparing traditionally developed TMDLs and stakeholder developed TMDLs. The evaluation included a discussion of pros and cons of the two approaches, keys to success, cost estimates, and examples of TMDLs developed through the different approaches in California.

Agua Hedionda Lagoon Bacteria and Sediment TMDL Development Support

Project manager responsible for assisting the Agua Hedionda Lagoon dischargers with development of TMDLs for bacteria and sediment in the Lagoon. Responsibilities included attending meetings with RWQCB staff and providing feedback and information at the meetings and providing strategies for developing the TMDLs in coordination with RWQCB staff. Supervised the preparation of information that led to the delisting of bacteria and sediment for the lagoon.

Calleguas Creek Watershed Salt and Nutrient Management Plan

Project Manager responsible for the development of a Salt and Nutrient Management Plan (SNMP) Framework for the Calleguas Creek Watershed. Assisted the stakeholders with evaluating the regulatory requirements of the SNMP, identifying existing management plans that can be used to meet the SNMP requirements, and reviewing and compiling recycled water projects and goals.

Ventura Harbor Bacteria TMDL.

Provided review and comment on the Harbor Cove Beach Bacteria TMDL for the Ventura Port District and City of Ventura. Currently providing assistance with preparing information for a finding of non-impairment for the Ventura Harbor Bacteria TMDL. Activities included review of existing data and developing recommendations for strategies to address TMDL development based on the data review.

Ventura River Nutrient TMDL

Managed the development of technical studies and regulatory support during RWQCB development of the Ventura River Nutrient TMDL for the Ojai Valley Sanitation District. Tasks include review of existing and ongoing technical studies, assistance with developing numeric targets, source analysis and implementation planning. Prepared comments on the draft TMDL and successfully negotiated revised TMDL conditions for stormwater, wastewater and agricultural dischargers.

Upper Santa Clara River Chloride TMDL

Provided facilitation and coordination services to the Los Angeles County Sanitation Districts to develop reasonable and cost effective solutions to implementing the Upper Santa Clara River Chloride TMDL. Assisted with

negotiations between the RWQCB and the Districts on proposed implementation solutions, and developed regulatory support documents to allow implementation of solutions proposed by the Districts. Assisted with communication and coordination with adversarial stakeholders. Currently working with the Districts to update a site-specific objective and anti-degradation analysis report to reflect modifications to the implementation strategy.

Newport Bay Selenium TMDL

Senior advisor for the development of the Selenium TMDL for the Newport Bay watershed. Identified compliance strategies for the TMDL and oversaw allocation development.

Malibu Creek Trash TMDL TMRP

Senior advisor on project to develop required Trash Management and Reporting Program for the Malibu Creek Trash TMDL. Assisted with initial stakeholder coordination and development of monitoring approach.

Calleguas Creek Pollutant Load Investigation

Coordinated monitoring during dry and wet weather events in the Calleguas Creek watershed under a 205(j) non-point source grant. Responsible for reviewing monitoring data, identifying sources and loads of constituents monitored, developing draft Total Maximum Daily Loads (TMDLs) for nitrogen compounds and algae in the watershed, and preparing an implementation

Ventura River Algae TMDL Implementation Plan for County of Ventura, City of Ojai

Senior advisor for the development of the Ventura River Algae TMDL Implementation Plan. Development of the implementation plan includes assessment of necessary load reductions, identification of best management practices to achieve the load reductions, and demonstration that the identified best management practices will achieve the needed load reductions.

Santa Maria Integrated Plan for City of Santa Maria

Senior advisor for the development of the City of Santa Maria's Integrated Plan. Evaluated regulatory requirements and constraints for the City's stormwater and wastewater programs. In conjunction with other members of the consultant team, developed a multi-benefit assessment tool to rank projects and assessments of the potential load reduction benefits of the projects. Developed recommended projects and methods for assessing projects and making decisions on future projects. Included information to facilitate the use of the plan as a functionally equivalent Stormwater Resource Plan and as the planning document to meet requirements for all TMDLs and the Phase II MS4 permit.

Stormwater

Santa Margarita River Water Quality Improvement Plan (WQIP) for Riverside County Flood Control and Water Conservation District and Co-permittees and County of San Diego

Project manager responsible the development of Water Quality Improvement Plan (WQIP) for the Santa Margarita River Watershed. The WQIP is required for compliance with the 2015 San Diego Regional MS4 Permit. The multi-year project includes the identification of priority conditions for the planning area, identification and evaluation of strategies to address the identified priorities, goals and a

schedule for meeting the priorities. Responsible for facilitating the stakeholder process, coordinating with the San Diego Regional Water Quality Control Board and Consultation Committee, and managing technical work to develop an approvable WQIP.

Upper Santa Clara River Enhanced Watershed Management Plan (EWMP) for City of Santa Clarita, Los Angeles County, and Los Angeles County Flood Control District

Project manager responsible the development of an Enhanced Watershed Management Plan (EWMP) and Coordinated Integrated Monitoring Plan (CIMP) for the Upper Santa Clara River Watershed. The EWMP and CIMP are required for compliance with the 2012 Los Angeles County MS4 Permit. The multi-year project includes the identification of water quality priorities for the planning area, evaluation of control measures to address the identified priorities and demonstrate implementation of the control measures will meet permit requirements, and preparation of a coordinated monitoring plan to characterize stormwater and non-stormwater discharges and the receiving water. Responsible for facilitating the stakeholder process, coordinating with the Los Angeles Regional Water Quality Control Board, and managing all of the technical work to develop an approvable EWMP Work Plan, EWMP and CIMP.

Ventura MS4 Permit Support for Ventura County Stormwater Quality Management Program

Currently project management responsible for supporting the upcoming 2017 MS4 permit renewal. Responsibilities include developing proposed permit language, meeting with the Los Angeles Regional Water Quality Control Board to negotiate permit language, reviewing and commenting on proposed permit language, and assisting with development of presentations for Regional Water Board meetings. Prior work includes, development of elements for the Reports of Waste Discharge for the upcoming permit and previous permit renewal, assistance with review and comment on the incorporation of TMDL provisions into the 2010 NPDES permit performing annual review of monitoring program data, and preparation of monitoring program summary for annual report. Supporting development of alternative watershed management plan permit language to facilitate use of existing planning documents to meet the permit requirements.

Ventura Stormwater Resource Plan Ventura County Watershed Protection District

Senior advisor for LWA's role in the Ventura County Stormwater Resource Plan Development. Supported coordination of the plan with the Calleguas Creek Implementation Plan development and assisted with development of the multi-benefit assessment process for projects.

Upper Santa Clara River Enhanced Watershed Management Plan (EWMP)

Project manager responsible the development of an Enhanced Watershed Management Plan (EWMP) and Coordinated Integrated Monitoring Plan (CIMP) for the Upper Santa Clara River Watershed. The EWMP and CIMP are required for compliance with the 2012 Los Angeles County MS4 Permit. The multi-year project includes the identification of water quality priorities for the planning area, evaluation of control measures to address the identified priorities and demonstrate implementation of the control measures will meet permit requirements, and preparation of a coordinated monitoring plan to characterize stormwater and non-stormwater discharges and the receiving water. Responsible for facilitating the stakeholder process, coordinating with the Los Angeles Regional Water Quality

Control Board, and managing all of the technical work to develop an approvable EWMP Work Plan, EWMP and CIMP.

Los Angeles County MS4 Permit

Assisted the Los Angeles Permit Group with the incorporation of TMDL requirements into the upcoming Los Angeles County MS4 permit renewal. Supported the group through development of position papers, example permit language, and regulatory strategy. Responsible for participating in meetings and negotiating with Los Angeles Regional Water Quality Control Board staff on permit provisions and identifying and incorporating multiple stakeholder needs and positions into defensible regulatory positions for consideration by the Regional Board. Provided testimony at Regional Board hearing on incorporation of TMDLs into NPDES permits.

Ventura County Stormwater Quality Management Program

Assisted with review and comment on the incorporation of TMDL provisions into the 2010 NPDES permit for the Ventura County Stormwater Permittees. Prior responsibilities included performing annual review of monitoring program data, and preparation of monitoring program summary for annual report. Prepared monitoring program summary and developed proposed monitoring program for the program's Report of Waste Discharge.

Caltrans Stormwater Program

Conducted an assessment of Caltrans stormwater discharges to determine compliance of these discharges with Water Quality Control Plans (Basin Plans) in California. Conducted a water quality assessment of waterbodies to which Caltrans discharges in District 11 to assess potential impacts from Caltrans stormwater discharges.

Sacramento NPDES Stormwater Permit Monitoring Program

Task leader for a special study on the effectiveness of BMPs for new development. Responsible for study design, monitoring plan development, conducting storm water monitoring of BMPs, analyzing monitoring results and assessing the effectiveness of the BMPs. Investigated Best Management Practices (BMPs) to control sources of lead in Sacramento.

Los Angeles County Municipal Stormwater Program

Created a stormwater pollution prevention training manual for use in training all County and Permittee employees. Developed stormwater BMP fact sheets for fifteen types of industrial and commercial facilities in the LA County area.

Fresno-Clovis Stormwater Quality Monitoring Program

Performed quality assurance and quality control analysis of stormwater monitoring data. Prepared sections of the Permittees' NPDES permit application for their second permit. Responsible for reviewing and preparing BMPs for the structural controls and commercial and industrial programs.

City of Davis Pollution Load Reduction Program

Conducted a statistical comparison and a quality assurance/quality control analysis of the City's stormwater monitoring data. Investigated existing programs within the City of Davis and developed a stormwater management plan for the City.

Wastewater

Calleguas Creek Wastewater Treatment Plant Permit Assistance

Senior advisor assisting the five wastewater treatment plants in the Calleguas Creek Watershed with renewal of their NPDES permits. Primarily responsible for reviewing and commenting on the incorporation of TMDL requirements and adopted site-specific objectives into NPDES permit provisions. Additionally provided support for time schedule orders, enforcement orders, and other regulatory requests from the Los Angeles Regional Water Quality Control Board.

Pleasant Valley County Water District

Project Manager responsible for technical analysis to support the transport of highly treated water from the City of Oxnard's Advanced Water Purification Facility through the Calleguas Municipal Water District's Salinity Management Pipeline for use as an irrigation supply on the Oxnard Plain. Supported coordination with the Los Angeles Regional Water Quality Control Board staff to identify regulatory options for allowing the project to be permitted on a temporary basis until a permanent pipeline can be constructed.

County Sanitation Districts of Los Angeles County

Managed an on-call contract to assist the Monitoring Section in numerous areas including: 303(d) listing and TMDL review, streamlining and providing support for the NPDES reporting process, grant applications, POTW surveys, policy review, and technical support for monitoring, regulatory compliance, and other technical analysis projects.

City of Fillmore Permit Assistance

Assisted the City of Fillmore with the renewal of the NPDES permit for the Fillmore Waste Water Treatment Plant. Participated in permit negotiations with the Los Angeles Regional Water Quality Control Board, reviewed tentative permits, and conducted reasonable potential analyses in support of the permit renewal. Provided comments on the tentative permits and associated ACL.

City of Los Angeles, County Sanitation Districts of Los Angeles County, and City of Burbank Ammonia Site-Specific Objective

Using information identified in a feasibility assessment conducted for the City of Burbank, conducted initial studies on *Hyalella azteca* to determine the potential magnitude of a Water Effects Ratio (WER) for the Los Angeles River and the San Gabriel River. Based on promising results from these studies, developed a site-specific objective workplan for the Los Angeles, San Gabriel, and Santa Clara Rivers watersheds. Coordinated the development of a Technical Advisory Committee of independent peer reviewers and a Coordinating Committee of regulatory agencies, environmental groups, and dischargers. Responsible for conducting the monitoring identified in the workplan, providing analysis of the resulting data, and assisting with the approval of the calculated WER and associated site-specific objective.

Regulatory Assistance

California Association of Sanitation Agencies (CASA) and California Stormwater Quality Association (CASQA) Nutrient Policy Support

Responsible for providing support to CASA in working with the State Water Resources Control Board (SWRCB) to develop an alternative approach to regulating nutrients in California. Activities include developing strategies and documents to share with the SWRCB to further discussions about the alternative approach, attending meetings with SWRCB staff when needed, and coordinating

activities with stakeholders working on nutrient issues in Southern California. Appointed as stormwater representative to the Statewide Nutrient Policy Development Stakeholder Advisory Group.

Calleguas Creek Watershed Regulatory Support

Responsible for tracking, reviewing and commenting on regional, statewide, and national regulations and policies potentially impacting stakeholders in the Calleguas Creek Watershed. Activities include preparation of comment letters, meetings and coordination with the Los Angeles Regional Water Quality Control Board (RWQCB), State Water Resources Control Board (SWRCB), and United States Environmental Protection Agency (USEPA). Regulations and policies reviewed include the SWRCB's Recycled Water Policy and Ocean Plan updates, USEPA's 2012 Recreational Water Quality Criteria and Water Quality Standards updates, and RWQCB's SNMP guidance and Basin Plan amendments. Actively working with the SWRCB to impact the upcoming updates to California's Inland Surface Water Plan to include Toxicity and Nutrient Provisions.

California Stormwater Quality Association (CASQA) Regulatory Support

Responsible for providing on-call regulatory support as needed. Work included development of draft presentations for the SWRCB's Receiving Water Limitations Workshop, comments on EPA's Water Quality Standards updates, and comments and negotiations on the Statewide Trash Amendments.

San Diego County On-Call Regulatory Assistance

Providing on-call regulatory support to San Diego County. Support includes reviewing 303(d) listings, preparing delisting letters, reviewing and preparing comments on regional and state policies, and providing strategic assistance for compliance with permit and TMDL requirements. Supporting development of a white paper on strategies to better coordinate regulatory requirements and the IRWM process. Under this contract, LWA provided support for negotiations on the Statewide Trash Amendment adoption and development of strategies for implementation of the amendments.

Statewide Trash Amendments

Assisted with the preparation of comment letters on the statewide trash amendments for multiple clients. Provided review of the requirements, assessment of potential strategies for compliance, and comparison of the amendments to trash TMDL requirements for the Los Angeles Region. Participated in meetings with State Water Board staff to negotiate changes to the Amendments prior to the adoption hearing. Providing assistance to multiple clients on strategies for implementing the amendments.

Ambient Water Quality Monitoring

Calleguas Creek Characterization Study

Responsible for monitoring data assessment, review of quality assurance/quality control data for the coordinated watershed monitoring program, identification of pollutants of concern and sources of the pollutants, calculation of loads for each of the sources, identification of BMPs for the sources, and an assessment of the loading reduction achievable through implementation of the BMPs. Additional responsibilities include coordination with participants in the Characterization Study and regular presentations and updates on the results and progress of the Characterization Study.

City of Los Angeles Copper Translator Study

Responsible for coordinating and conducting monitoring at seven Los Angeles River locations at the Los Angeles-Glendale and Donald C. Tillman Water Reclamation Plants for the development of a copper translator for the Los Angeles River.

Relevant Experience Prior To Larry Walker Associates

Stormwater

Woodward Clyde/Alameda County Department of Public Works, Hayward, CA.

Researched uses and sales of commonly used pesticides in Alameda County. Analyzed stormwater monitoring data to help estimate annual pesticide loads in stormwater in a watershed. Prepared surveys on residential pesticide use. Created final report on use and sales in Alameda County. Continued participation in the Urban Pesticide Committee.

Wastewater

Palo Alto Regional Water Quality Treatment Facility, Palo Alto, CA.

Researched the causes of, implications of, and possible solutions to the recent discovery of potentially toxic levels of the pesticide diazinon in local creek water. Presented findings to and participated in the Urban Pesticide Toxicity Control Strategy Bay Area/Central Valley Coordinating Committee. Created a final report on the findings. Developed recommendations for control strategies and future research.

Regulatory Assistance

Environmental Protection Agency and the Colorado Department of Health and the Environment, Denver, CO.

Researched and began implementing the 1994 revisions of the Lead and Copper Rule. Created water quality parameter standards for the eleven large water districts in Colorado. Developed monitoring waivers for two pesticides and cyanide. Began revising the Colorado water treatment facility handbook.

Papers & Presentations

Association of Water Agencies Ventura County, Oxnard, CA 02/13

Salt and Nutrient Management Plans and TMDLs in Ventura County

Update on the status and approaches to developing SNMPs in Ventura County

California Stormwater Quality Association Annual Conference, Garden Grove, CA 09/14

Building a Better TMDL Reopener

Tools and strategies for modifying TMDLs effectively

Work History

Larry Walker Associates, Inc., 1996-Present

Woodward Clyde/Alameda County Department of Public Works, 1996

Palo Alto Regional Water Quality Treatment Facility, 1995-1996

Environmental Protection Agency and the Colorado Department of Health and the Environment, 1994



Alina Constantinescu, P.E., QSD

Project Engineer

EDUCATION

M.S., Environmental Engineering, 2007, and

B.S., Environmental Engineering, 2002, University of Southern California, Los Angeles

REGISTRATIONS

Civil Engineer, State of California, No. C-72181

Qualified SWPPP Developer (QSD)

YEARS OF EXPERIENCE

With LWA: 10
With other Firms: 4

PROFESSIONAL AFFILIATIONS

Member, California Water Environment Association

Ms. Constantinescu is a Project Engineer with 14 years of experience in the environmental engineering field. Through her projects, she has provided assistance to various agencies with NPDES permit renewals, regulatory compliance, pollution prevention and pretreatment programs, and stormwater characterization. Prior to joining LWA, she worked in the Industrial Pretreatment Program for the City of Los Angeles. Alina is actively involved in the CWEA Pretreatment, Pollution Prevention, and Stormwater (P3S) Committee and has assisted in organizing several regional and state-wide conferences, local training events, and many other committee activities while interacting with water quality professionals from across the state. Alina is also a participant in the Bay Area Clean Water Agencies Collection Systems, Pretreatment, and Pollution Prevention Committees.

Wastewater

Chloride Source Identification Study, City of Morro Bay, CA. 2015

Conducted a chloride and salinity source assessment for the City's Water Reclamation Facility. Developed monitoring plan, source loads (water supply, residential, commercial, and industrial uses, and self-regenerating water softeners) and prepared a source assessment report.

Pollution Prevention Plan Update, Camarillo Sanitary District, CA. 2015

Updated the District's Pollution Prevention Plan (PPP) for salinity. The District had previously prepared a PPP for TDS and sulfate in January 2008 and updated it in April 2012. The 2015 update complies with the District's Time Schedule Order requirements for TDS and sulfate while also addressing chloride, a new pollutant of concern.

Contaminant Source Identification and Reduction Strategies Report, Capital Regional District in Victoria, British Columbia. 2010-2011

Prepared source identification and reduction strategies report for the pretreatment program. Recommended modifications to the program's priority and emerging contaminant list, identified appropriate reduction strategies, and estimated contaminant reductions over a five-year implementation schedule.

Salinity Source Identification Study, Ventura Regional Sanitation District, CA. 2010

Conducted a chloride and salinity source assessment for the Piru Wastewater Treatment Plant. Developed study workplan and monitoring plan and prepared the final source assessment report for submittal to the Los Angeles Regional Water Board.

Technical Reports for Sanitary Sewer Overflows, City of San Mateo and City of Richmond, CA. 2014 – 2017

Assisted in CIWQS reporting, performed post-spill assessments, and prepared technical reports related to sanitary sewer overflows (SSOs). Conducted SSO response training workshops.

Sewer System Management Plans, City of San Mateo, City of St. Helena, City of Calistoga, Town of Yountville CA. 2009 – 2016

Updated the cities' respective Sewer System Management Plans (SSMP), and emergency response procedures for compliance with Regional and State

collection system requirements. Performed bi-annual SSMP Audit and SSMP Revisions as needed.

NPDES Permit Renewal and Permit Compliance Support, City of Manteca, CA. 2007 – 2017

Prepared NPDES permit renewal applications (2009 and 2015) and associated antidegradation analysis, reasonable potential and infeasibility analyses. Reviewed draft permits and negotiated permit conditions. Prepared comment letters and presentations for the Central Valley Regional Water Board. Prepared compliance schedule documents. Prepared annual Nutrient Management Report for crop irrigation and land discharges. Prepared Pollution Prevention Plans for salinity and mercury. Prepared work plans and monitoring plans for special studies such as site-specific salinity objectives, groundwater compliance progress reports, and evaluation of best practical treatment alternatives.

Assistance to the SSO Program, City of Grass Valley, CA. 2012

Updated the City's Sewer System Management Plans (SSMP), SSO reporting forms, and internal emergency response procedures for compliance with Regional and State collection system requirements. Assisted the City in responses to regulatory enforcement orders/ directives issued by the Regional Water Board and negotiations for penalties and Supplemental Environmental Projects (SEPs).

SSO Emergency Response, Victor Valley Wastewater Reclamation Authority, CA. 2010 – 2011

Assisted in emergency response to a significant SSO. Prepared compliance documents and permitting of emergency work with several agencies (Army Corps of Engineers, Department of Fish and Game, State and Regional Water Boards), conducted water quality investigations and follow-up studies for the Mojave River and local groundwater basins, and assisted in community outreach.

Response to Enforcement Actions, City of Victorville, CA. 2016 – 2017

Assisted the City in its negotiations and response to several Regional Water Board enforcement actions related to sanitary sewer overflows (SSOs) and other collection system management issues.

Response to Enforcement Actions, Adelanto Public Utilities Authority, CA. 2011

Assisted APUA in their response to several Regional Water Board enforcement actions. Prepared Percolation Pond Restoration Plan and Wastewater Disposal Facilities Work Plan.

NPDES Compliance and Regulatory Assistance, Sonoma County Water Agency, CA. 2008 – 2014

Assisted in preparation of several regulatory documents: Toxicity Reduction Evaluation (TRE) Workplan for the Occidental Wastewater Treatment Facility (WWTF) (2008); Request for Cease and Desist Order for the Russian River WWTF (2009); Summary of NPDES compliance deadlines and monitoring requirements for the Russian River WWTF (2009 and 2015); Infeasibility Analysis for the Occidental WWTF (2009); Monitoring Study Work Plan to assess the effects of the Occidental WWTF discharge from Graham's Pond on Dutch Bill Creek (2013); Assimilative Capacity Analysis for the Russian River WWTF (2014 and 2015).

NPDES Permit Renewal, Sewerage Agency of Southern Marin, CA. 2017

Prepared NPDES permit renewal application and associated technical reports for

the No Feasible Alternative Analysis (required for approval of wet-weather blending events), and for reasonable potential and infeasibility analyses. The project also entails reviewing tentative permits and preparing comment letters and presentations for the San Francisco Bay Regional Water Board. The tentative order is expected January 2018.

NPDES Permit Renewal, City of Pacifica, CA. 2016 – 2017

Prepared NPDES permit renewal application and associated technical reports for the reasonable potential and infeasibility analyses. Reviewed tentative permits and prepared comment letters and presentations for the San Francisco Bay Regional Water Board. Prepared compliance schedule documents.

NPDES Permit Renewal, Calleguas Municipal Water District, CA. 2012 – 2014

Prepared NPDES permit renewal application for the Regional Salinity Management Pipeline (SMP) Outfall. Reviewed and compiled effluent water quality data from potential SMP dischargers. Reviewed tentative permits and prepared comment letter. Prepared summary of discharge requirements for dischargers to the SMP.

NPDES Permit Renewal, Sanitary District No. 5 of Marin County, CA. 2012 – 2013

Prepared NPDES permit renewal application and associated technical reports for the No Feasible Alternative Analysis (required for approval of wet-weather blending events), and for reasonable potential and infeasibility analyses. Reviewed tentative permits and prepared comment letters and presentations for the San Francisco Bay Regional Water Board. Prepared compliance schedule documents.

NPDES Permit Renewal and Permit Compliance Support, City of Modesto, CA. 2011 – 2012

Prepared the 2011 annual progress report on compliance schedules for constituents with interim effluent limitations. Assisted in the 2010 Antidegradation Analysis and prepared the reasonable potential and infeasibility analyses associated with the City's 2012 NPDES permit renewal. Reviewed tentative orders and prepared comment letters. Prepared compliance schedule documents.

Antidegradation Analysis, Sacramento Regional County Sanitation District, CA. 2009 – 2010

Assisted in the preparation of antidegradation analysis associated with NPDES permit renewals for plant expansion and treatment process modifications.

Infeasibility Analysis and Regulatory Assistance, Town of Yountville, CA. 2009 – 2010

Assisted in the preparation of the Infeasibility Analysis associated with the 2010 NPDES permit renewal. Reviewed permit and compiled list of monitoring requirements and compliance deadlines.

Reasonable Potential and Infeasibility Analysis, City of Stockton, CA. 2008

Prepared the Reasonable Potential Analysis and the Infeasibility Analysis associated with the City's 2008 NPDES permit renewal.

Infeasibility Analysis, Sacramento Area Sewer District, CA. 2008

Conducted the Infeasibility Analyses for 13 constituents of concern for the District's Walnut Grove Wastewater Treatment Plant.

Technical and Progress Reports on Compliance with Effluent Limits, City of Calistoga, CA. 2016 – 2017

Prepared Source Identification Study, Process Control Study, and Disinfection Alternatives Plan (in progress) for compliance with trihalomethane effluent limits at the City's wastewater treatment plant.

Self-Monitoring Reports, City of Calistoga and City of St. Helena, CA. 2014 – 2017

Reviewed treatment plant monitoring data and acted as data submitter for uploading self-monitoring reports to the Regional Water Board via CIWQS (on-going).

Water Reclamation Annual Reports, Veolia Water representing the City of Hollister, CA. 2013 – 2017

Prepared the City's Water Reclamation annual reports per monitoring and reporting requirements in the City's Waste Discharge Requirements permits. The reports present information on water application volumes and quality, nutrient management at the application sites, annual salt loadings for the disposal and application areas, and groundwater quality with respect to nitrogen and salts. In addition, the report discusses recycled water aspects related to long-term salinity management in the City service area.

Workplan for Attenuation of Bis(2-ethylhexyl)phthalate and n-Nitrosodimethylamine in Treatment Plant Effluent, City of Los Angeles, CA. 2008

Developed a workplan for the attenuation of bis(2-ethylhexyl)phthalate and n-nitrosodimethylamine in wastewater effluent from the Los Angeles-Glendale Water Reclamation Plant.

Technical Memorandum on Effluent Chlorine Residual, Sacramento Regional County Sanitation District, CA. 2008

Prepared Technical Memorandum on historical concentrations of chlorine residual in effluent from the District's main wastewater treatment facility. Analyzed causes and trends and discussed incidents of exceedance of water quality criteria.

Pretreatment Program Assistance, City of San Mateo, CA. 2012 – 2014

Revised pretreatment program elements for compliance with EPA pretreatment regulations: revised the Enforcement Response Plan, the Sewer Use Ordinance, and the Industrial User permit template. Prepared annual pretreatment reports and annual prevention pollution reports. Assisted at the time of EPA PCA/PCI audits and prepared City's response to audit findings.

Pretreatment Program Assistance, City of Grass Valley, CA. 2009 – 2015

Assisted in revising pretreatment program elements for compliance with EPA pretreatment regulations: revised the Enforcement Response Plan, the Sewer Use Ordinance, and the Industrial User (IU) permit template. Reviewed IU Self-Monitoring Reports. Prepared annual pretreatment reports. Assisted at the time of EPA PCA/PCI audits and prepared City's response to audit findings.

Pretreatment Program Assistance, Victor Valley Wastewater Reclamation Authority, CA. 2007 - 2008; 2015 - 2016

Revised pretreatment program elements for compliance with EPA pretreatment regulations: revised the Enforcement Response Plan, the Sewer Use Ordinance, and the Industrial User (IU) permit template (in progress). Assisted in response to EPA PCA/PCI audit findings.

Pretreatment Program Assistance, Encina Wastewater Authority, CA. 2015 – 2016

Prepared a review of the EWA and its member agencies' Sewer Use Ordinances

(in progress).

Pretreatment Program Assistance, City of Richmond, CA. 2013 – 2015

Assisted in development of annual pretreatment reports. Prepared City's response to EPA PCA/ PCI audit findings.

Pretreatment Program Assistance, City of San Jose, CA. 2009

Participated in independent third-party team auditing of the Pretreatment Program for compliance with federal pretreatment regulations. The 'mock audit' included on-site review of industrial user files, facility inspections alongside City staff, and evaluation of City's response to findings from previous audits.

Watershed Management / TMDLS

Monitoring Plan and Quality Assurance Project Plan (QAPP) for the Diazinon and Pesticide-Related Toxicity TMDL, Marin County Stormwater Pollution Prevention Program (MCSTOPPP) and the City of Petaluma, CA. 2015

Developed the Monitoring Plan and QAPP for the Urban Creeks Monitoring Program in four watersheds. Developed list of monitoring constituents, schedule and sampling locations, as well as the data quality objectives and project acceptance criteria. Outlined the sampling process, collection methods, analytical methods, and quality control steps.

TMDL Annual Reports, Calleguas Creek Watershed Partnership, Thousand Oaks, CA. 2012 – 2013

Prepared Annual Reports for the Monitoring and Reporting Program covering six TMDLs currently effective in the watershed: Nitrogen compounds, OC Pesticides, PCBs and Siltation, Toxicity, Salts, Trash, and Metals.

Regulatory Assistance

Tracking Amendments to the California Ocean Plan, Calleguas Municipal Water District and California Department of Transportation (Caltrans), CA. 2011 – 2015

Tracked ongoing State Water Board efforts to revise the California Ocean Plan to add a model monitoring plan and regulate brine discharges. Advised agencies on potential implications of proposed revisions and assisted in preparation of comment letters.

Comment Letter of Sanitary Sewer Systems WDR, City of Richmond and West County Wastewater District, CA. 2011

Tracked State Water Board efforts to revise the Monitoring and Reporting Requirements for the SSS WDR. Advised agencies on potential implications of proposed revisions and prepared comment letters.

NPDES Renewal Comment Letter, Central Valley Clean Water Agencies, Sacramento, CA. 2010

Assisted CVCWA in responding to Central Valley Regional Water Board's request for public comment and/or data regarding Drinking Water Supply and Public Health Issues associated with the NPDES Permit Renewal for the Sacramento Regional County Sanitation District.

Review of Central Valley Regional Water Board 303(d) List of Impaired Water Bodies, Central Valley Clean Water Agencies, Sacramento, CA. 2009

Prepared Technical Memorandum reviewing the May 2009 Final Draft Update to the Central Valley Regional Water Board 303(d) list of impaired water bodies.

Summarized the Regional Water Board's response to comments pertinent to CVCWA issues of interest.

Research on Dioxin Bioaccumulation Equivalency Factors, Bay Area Clean Water Agencies, Oakland, CA. 2009

Reviewed the Final Water Quality Guidance for the Great Lakes Basin (known as Great Lakes Initiative, or GLI) and prepared Technical Memorandum advising BACWA on the applicability of bioaccumulation equivalency factors (BEFs) for deriving and assessing permit compliance with dioxin effluent limits. The TM summarized the GLI methodology for calculating BEFs, discussed the BEF applicability to WQBELs and reasonable potential, and summarized presented case studies from implementation of the GLI approach in NPDES permits and TMDLs in the Great Lakes states.

Regulatory Assistance, Los Angeles County Sanitation Districts, CA. 2008

Prepared Technical Memorandum deriving appropriate effluent limits for n-nitrosodimethylamine at three Districts water reclamation plants.

Research on Performance of UV Disinfection Systems, Central Valley Clean Water Agencies, Sacramento, CA. 2007 - 2008

Conducted research and prepared Technical Memorandum analyzing the ability of existing UV disinfection treatment systems to comply with requirements of California Toxics Rule (CTR) Human Health Water and Organism criteria and Aquatic Life criteria for constituents which are usually problematic for chlorine-based disinfection processes.

Regulatory Assistance, Los Angeles County Sanitation Districts, CA. 2007

Prepared Technical Memorandum discussing potential compliance issues with NPDES effluent temperature limits based on historical plant performance and recommended possible compliance strategies. Assisted the Districts in addressing this issue in comment letters and permit negotiations.

Salinity Compliance Evaluation, City of Roseville, CA. 2007

Prepared technical memorandum analyzing potential compliance issues for the City's wastewater treatment plants in light of Regional Water Board recommendations for salinity reductions in the Central Valley Region.

Stormwater

UC Davis Pedrick Road Landfill SWPPP Updates, Davis, CA. 2017

Reviewed SWPPP documents and provided recommendations for updates and revisions in accordance with the California Industrial General Permit (in progress).

Construction SWPPPs, Calleguas Municipal Water District, Thousand Oaks, CA. 2014 – 2017

Reviewed contractor-prepared Stormwater Pollution Prevention Plans (SWPPP) and reports for the Phase 2D construction of the Calleguas Salinity Management Pipeline and for Phase 2 construction improvements at the District's Grandsen Pump Station.

Updates to the Municipal Corp Yard SWPPP, Elk Grove, CA. 2016 – 2017

Conducted a site evaluation and developed the Monitoring Implementation Plan for the municipal corporation yard. Updated the SWPPP and also assisted with submittal of the annual report in the online system SMARTS.

Corp Yard Stormwater Management, Lincoln, CA. 2016

Conducted a site evaluation and developed recommendations for updated the

SWPPP and the Monitoring Implementation Plan for the City's Corporation Yard.

Construction Site Inspections, City of St. Helena, CA. 2016

Assisted the City of St Helena in inspecting several active construction sites for compliance with City-mandated and Construction General Permit requirements.

Corp Yard Stormwater Management, Novato, CA. 2015

Conducted a site evaluation and developed recommendations for improving stormwater best management practices at the City's Corporation Yard.

Program Reviews for the Napa Countywide Stormwater Pollution Prevention Program, Napa, CA. 2016

Conducted program reviews (mock audits) for NCSPPP agencies under the 2013 Phase II Municipal Stormwater Permit. Reviewed program documents (ordinance, enforcement plans, permits, reports, etc.), developed questionnaire, conducted staff interviews, and presented review findings (in progress) to assist permittees in implementing successful programs.

Post-Construction Stormwater Design Manual, Port of Oakland, CA. 2015

Developed the Port's Post-Construction Stormwater Design Manual per requirements in the Phase II Small MS4 General Permit. The Manual provides guidance for planning, implementing, and maintaining effective stormwater control measures at Port developments.

Low Impact Development Manual, County of Los Angeles, CA. 2013

Assisted in the development of the new LID Standards Manual that incorporates the requirements of the 2012 MS4 permit and the existing stormwater design manuals for use on development and redevelopment projects.

Trash Amendment Comment Letter, California Stormwater Quality Association, Sacramento, CA. 2014

Drafted CASQA's comment letter on the 2014 proposed Trash Amendments proposed by the State Water Board to the California Ocean Plan and the Inland Surface Waters, Enclosed Bays, and Estuaries Plan.

Stormwater Diversion Study, Alameda Countywide Clean Water Program, CA. 2011

Conducted a review and analysis of data from the Ettie Street Pump station to assess the site's feasibility as a potential flow diversion site. Analysis involved comparison of the site's dry weather, wet weather, and first flush data as well as calculation of loadings for key constituents of interest.

PBDE Sub-Report, Alameda Countywide Clean Water Program and the Bay Area Stormwater Management Agencies Association, Oakland, CA. 2013

Developed the PBDE Sub-Report, an element to the Final Draft Phase 2 Report, per requirements in the 2009 Bay Area Stormwater NPDES Municipal Regional Permit. The report summarized urban runoff characterization from studies conducted in the Bay Area, identified potential sources, and recommended control measures and/or management practices to eliminate or reduce PBDE discharges from urban runoff conveyance systems.

Stormwater Characterization, California Department of Transportation (Caltrans), Sacramento, CA. 2008 – 2013

Prepared reports and technical memoranda characterizing the roadway runoff discharged to several Areas of Special Biological Significance along the California coastline. Developed trend analyses and performed evaluation against California

Ocean Plan water quality objectives. Prepared memorandum with recommendations for improvements of future monitoring and data reporting procedures.

Stormwater Runoff Characterization Analysis, County of Ventura, City of Modesto, City of Fresno, Sacramento Stormwater Quality Partnership, Sacramento River Watershed Program, CA. 2008 – 2014

Prepared stormwater quality characterization reports and conducted statistical trend analyses for monitoring data.

Relevant Experience Prior To Larry Walker Associates

Pretreatment Program, City of Los Angeles, CA. 2003 – 2007

Prior to joining LWA in July 2007, Ms. Constantinescu was an Associate Engineer for the City of Los Angeles Industrial Waste Pretreatment Program. Her initial assignment involved permitting and enforcement activities overseeing facilities under the Fats, Oils, and Grease Control Program. She was then responsible for the technical review and development of the City's industrial local limits which regulate over 14,000 industrial and commercial facilities. She coordinated activities of the project team, including city-wide collections systems sampling programs, database management, and regulatory compliance. Ms. Constantinescu also served as an instructor in the Sewer Science Program, an outreach educational program on water resources and pollution prevention.

Papers & Presentations

CWEA Annual Pretreatment, Pollution Prevention, and Stormwater (P3S) Conference. Santa Rosa, CA. February 2017

Updates on EPA Dental Amalgam Rule

Along with staff from the California Dental Association, co-presented on the latest updates of the EPA Dental Amalgam Rule.

CWEA Annual Pretreatment, Pollution Prevention, and Stormwater (P3S) Conference. Burbank, CA. February 2006

City of Los Angeles Local Limits Development

Presented on the technical review and development of the City's industrial local limits which regulate over 14,000 industrial and commercial facilities.

Work History

Larry Walker Associates, Inc. 2007-Present

City of Los Angeles, 2003-2007



Suzanne Brown, P.E.

Project Engineer

EDUCATION

M.S., Civil and Environmental Engineering, 2014, University of California, Los Angeles

B.S., Civil and Environmental Engineering, 2013, University of California, Los Angeles

Ms. Suzanne Brown is a Project Engineer with Larry Walker Associates (LWA). Ms. Brown joined LWA after completing her Master's degree in Civil and Environmental Engineering at the University of California, Los Angeles. Ms. Brown has experience in several water quality service areas, including recycled water program development, wastewater permitting and special studies, stormwater management and stormwater resource planning, and Total Maximum Daily Load (TMDL) implementation and development.

LICENSES

Professional Civil Engineer, CA
No. C87448

Recycled Water

YEARS OF EXPERIENCE

With LWA: 3

City of St. Helena WRR assistance and ROWD, St. Helena, CA. 2016-2017

Developed a nutrient balance evaluating the impact to groundwater and surface water quality with respect to nutrients resulting from land application of recycled water.

City of Helendale Title 22 Engineering Report, St. Helena, CA. 2016

Revised a Title 22 Engineering Report for the City of St. Helena Wastewater Treatment Plant describing expanded operations to irrigate a nearby field with recycled water produced at the Plant.

PROFESSIONAL AFFILIATIONS

Member, American Society of Civil Engineers

Member: American Water Works Association

City of Healdsburg Recycled Water Program, Healdsburg, CA. 2015

Developed program materials for the City's residential recycled water fill station and completed a Notice of Intent for the City to operate its recycled water program under the Statewide General Waste Discharge Requirements for Recycled Water Use.

SPECIALIZED TOOLS

ArcGIS
AutoCAD

City of Santa Paula Recycled Water Program, Santa Paula, CA. 2015

Developed program materials for the City's recycled water trucking program and completed a Notice of Intent for the City to operate its recycled water program under the Statewide General Waste Discharge Requirements for Recycled Water Use

Russian River Wastewater Treatment Facility Treatment and Disposal Capacity Analysis Study, and Nuisance Abatement Report, Sonoma County, CA. 2015-2017.

Reviewed facility plans, monitoring data, reports, and permits for the Russian River Wastewater Treatment Facility. Drafted a Treatment and Disposal Capacity Analysis to identify limitations of the treatment and disposal systems, including recycled water use at a nearby golf course and land disposal capacity. Prepared annual reports documenting nuisance conditions, such as ponding, occurring due to land disposal of treated wastewater and strategies to address nuisance conditions.

City of Los Angeles-Title 22 Engineering Reports, Los Angeles, CA. 2014-2015.

Drafted sections of the Donald C. Tillman Water Reclamation Plant Title 22 Engineering Report to demonstrate compliance with CCR Title 22 requirements for recycled water. The report is currently in progress, and will detail the treatment processes for the Donald C. Tillman Water Reclamation Plant, the Advanced Water Purification Facility expansion, and surface application of recycled water.

Reviewed and compiled sections and appendices for the Amended Title 22 Engineering Report for the Terminal Island Water Reclamation Plant to complete

the final document. The report detailed the treatment processes for the Terminal Island Water Reclamation Plant and Advanced Water Purification Facility, and the injection of recycled water into the Dominguez Gap Barrier.

Wastewater

City of Clovis Water Effects Ratio Study Plan, Clovis, CA. 2017

Wrote a work plan to develop a Water Effects Ratio for copper, lead and zinc in the City of Clovis Sewage Treatment and Water Reclamation Facility effluent, including sampling locations and protocols.

Sonoma Valley County Sanitation District Toxicity Progress Report, Sonoma County, CA. 2015-2016

Conducted data analysis to assess effluent chronic toxicity to red abalone due to zinc and other metals. Wrote annual progress reports describing actions taken to reduce zinc concentrations, and to identify and abate other compounds causing effluent toxicity.

City of Rio Vista-ROWD, Rio Vista, CA. 2015.

Reviewed facility plans, effluent and biosolids data from the City of Rio Vista Northwest Wastewater Treatment Plant. Drafted the 2015 Report of Waste Discharge (ROWD) and National Pollutant Elimination System (NPDES) permit applications for NPDES permit renewal.

Terminal Island Water Reclamation Plant NPDES Permit Renewal, Los Angeles, CA. 2015.

Reviewed proposed WDR and NPDES permit language and assisted in preparing a comment letter on the proposed permit.

Stormwater

Upper Santa Clara Enhanced Watershed Management Plan, Santa Clarita, CA. 2015.

Conducted a source assessment for water quality priorities identified through the Enhanced Watershed Management Plan (EWMP) process, through a review of findings from programs implemented through the City of Santa Clarita MS4 program, TMDL source investigations, monitoring data, and other studies and reports.

Stormwater Program Annual Reporting, CA, 2014-2016.

Compiled stormwater program activities, information and data to complete the Annual Report for the City of Stockton and various Watershed Management Groups (WMGs) in the Los Angeles Region, including the Upper Los Angeles River WMG, the Ballona Creek WMG, the Malibu Creek Watershed WMG, the Dominguez Channel WMG, and the Santa Monica Bay Jurisdictional Groups 2 and 3 and Jurisdictional Group 7 WMGs.

Ventura County Storm Water Resource Plan, Ventura County, CA. 2016.

Conducted a review of existing plans to identify projects for inclusion in a Storm Water Resource Plan (SWRP) requirements, for Ventura County to position the County to apply for Proposition 1 Storm Water Grant Program funding. Conducted parcel screening to identify locations for SWRP project concepts and created a framework to assess multiple benefits of projects included in the SWRP.

Contra Costa County Proposition 1 Planning Grant, Contra Costa County, CA. 2016.

Wrote a work plan as part of a Proposition 1 Storm Water Grant Program planning grant totaling approximately \$500,000 for Contra Costa County to develop a SWRP.

Ballona Creek CIMP Non-stormwater Outfall Program, City of Los Angeles, CA. 2015

Conducted dry weather screening of outfalls and sampling of all flowing outfalls discharging into Ballona Creek, Sepulveda Channel, and Centinela Creek for *E. coli* to identify priority storm drains under the Coordinated Integrated Monitoring Plan. Conducted data analysis and wrote memo identifying outfall with significant non-stormwater discharges.

Los Angeles River and Rio Hondo Load Reduction Strategy, City of Los Angeles, CA. 2015

Conducted dry weather sampling of flowing outfalls discharging into the Los Angeles River Segment A and Rio Hondo, and Rio Hondo Tributaries for *E. coli* as part of a Load Reduction Strategy project to address the Los Angeles River Bacteria TMDL.

Dominguez Channel CIMP Non-stormwater Outfall Program, City of Los Angeles, CA. 2015

Conducted data analysis and wrote memo identifying outfall with significant non-stormwater discharges, and conducted field source identifications for outfalls with significant non-stormwater discharges.

Santa Monica Bay Jurisdictions 2 and 3 CIMP Stormwater Outfall Program, City of Los Angeles, CA. 2015

Led field efforts to conduct stormwater outfall sampling of outfalls discharging to Santa Monica Bay within the Santa Monica Bay Jurisdictions 2 and 3 Enhanced Watershed Management Plan Group boundaries.

Watershed Management/TMDLs

Project I - TMDL for Indicator Bacteria for Twenty Beaches and Creeks in the San Diego Region (including Tecolote Creek) Reopener, San Diego and Orange Counties, CA. 2017

Wrote a an implementation plan for the Technical Report providing technical justification for the impending Basin Plan Amendment for the TMDL reopener, which included a monitoring plan incorporating a risk-based approach to source identification monitoring for human indicators, and implementation actions to address human sources of fecal bacteria.

Santa Margarita River Watershed Potential Best Management Practices (BMP) Summary, San Diego County, CA. 2016

Conducted a review of case studies, BMP manuals, and TMDL implementation efforts to compile a suite of structural and non-structural BMPs addressing sediments and nutrients, including cost estimates, which could be potentially implemented in the Santa Margarita River Watershed to comply with nutrient TMDLs.

Santa Margarita Estuary Nutrients/Bio stimulatory Substances TMDL Development, San Diego County, CA. 2016

Proposed implementation scenarios and analyzed costs of BMPs to comply with modeled nutrient load reductions corresponding to TMDL targets based on alternative indicators of eutrophication.

Calleguas Creek Metals TMDL Reopener, Ventura County, CA. 2015 - 2017

Conducted data analysis to assess compliance with TMDL targets and allocations to justify reopening the TMDL to revise allocations and evaluated options for revised allocations.

Calleguas Creek Watershed TMDL Implementation Plan, Ventura County, CA. 2014-2016

Identified and summarized existing and planned control measures for MS4, POTW and Agricultural dischargers, to address nutrients, salts, toxicity, organochlorine pesticides, trash and metals in Calleguas Creek watershed. Created preliminary designs of structural best management practices (BMPs) to support efforts to model pollutant load reductions.

Los Angeles River and Rio Hondo Load Reduction Strategy, City of Los Angeles, CA. 2015

Conducted dry weather sampling of flowing outfalls discharging into the Los Angeles River Segment A and Rio Hondo, and Rio Hondo Tributaries for *E. coli* as part of a Load Reduction Strategy project to address the Los Angeles River Bacteria TMDL.

Ballona Creek Low Flow Treatment Facility CEQA Initial Study, Los Angeles, CA. 2015

Wrote a project description as part of a CEQA initial study describing a planned low flow diversion project designed to divert and treat dry weather flow from Ballona Creek to comply with final Bacteria TMDL targets.

Regulatory Assistance

Lower Santa Clara Nitrogen Compounds Delisting, Ventura County, CA. 2015

Reviewed available monitoring data to assess the possibility of delisting Santa Clara River Reach 3 for ammonia and demonstrate compliance with receiving water target concentrations and waste-load allocations (WLAs) in the Santa Clara River Nitrogen Compounds TMDL. Prepared a memorandum demonstrating compliance with the 2004 Listing Policy and the TMDL, and requesting removal of TMDL WLAs from the Ventura County MS4 permit.

County of Riverside Delisting, Riverside County, CA. 2014.

Reviewed available monitoring data to assess the possibility of delisting currently 303(d) Listed waterbodies in the County of Riverside. Prepared data analysis and memorandum demonstrating compliance with 2004 Listing Policy.

San Diego Beaches Bacteria Delisting, Orange and San Diego Counties, CA. 2014.

Reviewed available monitoring data to assess the possibility of delisting currently 303(d) Listed waterbodies included in the Twenty Beaches and Creeks in the San Diego Region Bacteria TMDL, based on EPA 2012 Recreational Water Quality Criteria. Prepared data analysis and memorandum demonstrating compliance with 2004 Listing Policy.



Suzanne Brown, P.E.
Project Engineer

Work History

Larry Walker Associates, Inc., 2014-Present

City of Los Angeles, Dept. of Water and Power, 2012-2013

City of San Jose, Dept. of Public Works, 2010

Andrew Salvesson, P.E.

Alternative Disinfection Specialist

Andrew is Carollo's Chief Technologist for wastewater disinfection and a nationally recognized expert in UV, ozone, PAA, and pasteurization. He oversees all wastewater and reuse disinfection projects for Carollo, including more than 60 design projects.

He has conducted dozens of disinfection alternatives analyses, led more than 60 pilot and full-scale reactor tests, and been the lead validation engineer for third party research and analysis of UV systems, ozone, pasteurization, PAA, and other emerging disinfection technologies. Andy has also been an expert author on industry guidance manuals for both UV and PAA.

As a process specialist, Andy will make certain that our technologies are proven, reliable, and ideally suited to your specific needs. He will also work closely with the project team to make certain our work embraces innovation, efficiency, and is the right solution for the life of the project.

EXPERIENCE BY THE NUMBERS

25+

Disinfection designs
overseen in the last 8
years

400+

Capacity of disinfection
systems designed and
constructed

Experience: Total: 23 Carollo: 15

Education:

MS Water and Wastewater Engineering,
University of California, Davis

BS Civil Engineering, San Jose State
University, San Jose, California

Registration/Licenses:

Professional Engineer: CA, NM, TX

RELEVANT PROJECT EXPERIENCE

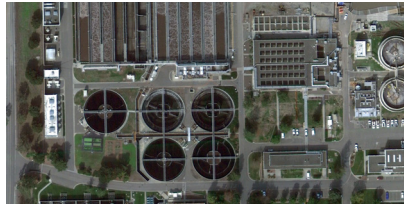
1



Kellogg Creek WPCP Disinfection Alternatives Study, Clackamas County WES, OR

Process specialist for the Disinfection Alternatives Study. Existing UV disinfection equipment at Kellogg Creek WPCP was outdated and costly to repair and operate. Carollo provided a technology overview to the District to present their options. During technology selection, a comprehensive analysis including social, financial, environmental, and technical impacts was performed for the disinfection processes (ozone, UV, hypochlorite, PAA, pasteurization). This analysis resulted in the recommendation to upgrade and utilize the existing disinfection systems on site for the near-term instead of pursuing replacement of the existing UV system.

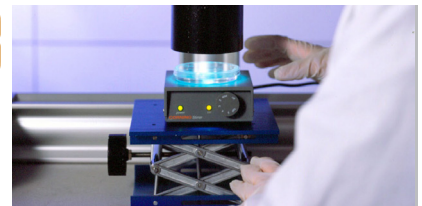
2



Disinfection Improvements, City of Santa Rosa, CA

Project manager and process lead for a series of disinfection projects with the City for the last 5 years, including UV4000 capacity analysis, UVT studies, alternative disinfection studies, with ozone, pasteurization, hypochlorite, UV and hypochlorite predesign, and now in the middle of a 67-mgd UV design and 17-mgd hypochlorite design, all for the City of Santa Rosa's Laguna Treatment Plant.

3



Disinfection Study, City of Kansas City, MO

Project manager for the evaluation of conventional and emerging disinfection technologies (UV, hypochlorite, PAA, pasteurization, ozone) to determine the most cost-effective option for each of the City's six operating wastewater treatment facilities, including nutrient removal plants, moderate-sized activated sludge plants, and a large trickling filter plant.

Andy's team examined existing water quality data, design flow conditions, and future permit conditions to determine optimal sizing of their various disinfection systems. The results indicated no one technology was optimum for all six facilities.

Bill Sotirakos, P.E.

UV Disinfection System Specialist

Bill Sotirakos joined Carollo in 2014. He brings over 25 years of UV disinfection experience as an OEM to Carollo. He has worked on over 450 UV disinfection systems for wastewater and reuse applications around the world. He provides national technical support for UV design, start-up, and troubleshooting. Bill has designed and managed the development of nine different UV disinfection systems for three different UV equipment manufacturers. He has been involved in product development and all aspects of UV projects, including sales support, proposals, project management, testing, commissioning, start-up, and training. Since joining Carollo, Bill has been instrumental in 50 UV design jobs, several of which included alternatives analysis, preliminary and final design.

Bill's wastewater disinfection experience will provide the County with disinfection solutions that are innovative, effective, and implementable. He understands the challenges you face and will deliver a facility tailored to your needs.

EXPERIENCE BY THE NUMBERS

9 UV Systems designed for three separate UV Companies	450+ Number of UV Systems Installed
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Experience: Total: 25 Carollo: 3
Education:
 BAsc Electrical Engineering, University of Toronto, Toronto, Canada
Registration/Licenses:
 Professional Engineer: Ontario, Canada

RELEVANT PROJECT EXPERIENCE



Chambers Creek WWTP UV Disinfection System, Pierce County, WA

Process engineer for the design of a new UV disinfection system with a capacity of 67-mgd with provisions for expansion to 80-mgd. The UV disinfection system was a priority to alleviate O&M issues with the County's existing UV system. The project included replacing the existing system with a new low-pressure, high-output (LPHO) system installed within a portion of the existing chlorine contact/emergency storage basin. The existing UV disinfection system was removed and the remaining basin was re-configured for emergency storage.

The UV system was procured in parallel with final design to facilitate design and reduce the overall project schedule.



Hillsboro WWTP UV Disinfection System, Clean Water Services, OR

Provided technical oversight and site support throughout the project for this 24-mgd facility with 96 UV lamps. This project upgraded the UV disinfection process, replaced aged bar screens, and increased hydraulic capacity from 14 to 24 mgd.

Based on site tours to various UV installations, performance requirements, and operation and maintenance requirements, the District chose the the Calgon C³ 500™D system, with one duty and one redundant channel. The project reduced the disinfection energy usage at the WWTF by over 600,000 kWh/year. Carollo assisted the District in obtaining grant funding of over \$200,000 from the Energy Trust of Oregon due to enhanced efficiency of the system.



Drake WRF, City of Fort Collins, CO

Process specialist technical analysis, engineering pre-design and design, equipment procurement and pre-construction support for the implementation of the UV disinfection system.

The LPHO system will be capable of disinfection of secondary effluent flow of 23 mgd and will be installed within the existing chlorine contact basin (CCB). A building facility will be constructed over the CCB to protect the UV system from weather and to house the associated electrical equipment. The plant electrical system and drainage system will be extended to support the new UV facility. A hypochlorite feed system will be installed for disinfection of the non-potable plant water and chlorination of the RAS. The project is currently under construction.

Appendix B – Certificate of Insurance



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
3/30/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Dealey, Renton & Associates P. O. Box 12675 Oakland, CA 94604-2675 510 465-3090 - Julie L. Nelson	CONTACT NAME: Doris A. Chambers	
	PHONE (A/C, No, Ext): 510 465-3090 FAX (A/C, No): 510 452-2193 E-MAIL ADDRESS: dchambers@dealeyrenton.com	
INSURED Larry Walker Associates, Inc. 707 Fourth Street, Suite 200 Davis, CA 95616-4124	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A : Travelers Indemnity Co. of Conn	25682
	INSURER B : Travelers Property Casualty Co	25674
	INSURER C : American Automobile Ins. Co.	21849
	INSURER D : Greenwich Insurance Company	22322
	INSURER E :	
	INSURER F :	

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:	X		6809H382758	04/01/2017	04/01/2018	EACH OCCURRENCE \$2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$1,000,000 MED EXP (Any one person) \$5,000 PERSONAL & ADV INJURY \$2,000,000 GENERAL AGGREGATE \$4,000,000 PRODUCTS - COMP/OP AGG \$4,000,000 \$
A	<input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS	X	X	BA3C999002	04/01/2017	04/01/2018	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
B	<input checked="" type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> EXCESS LIAB DED RETENTION \$	X	X	CUP3C999260	04/01/2017	04/01/2018	EACH OCCURRENCE \$1,000,000 AGGREGATE \$1,000,000 \$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE/OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		X	WZP81038775	04/01/2017	04/01/2018	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000
D	Professional Liability		X	PEC003092707	04/01/2017	04/01/2018	\$2,000,000 per Claim \$4,000,000 Annl Aggr.

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
GENERAL LIABILITY POLICY EXCLUDES CLAIMS ARISING OUT OF THE PERFORMANCE OF PROFESSIONAL SERVICES.
REF: All operations of the Named Insured. LWA Project Name/Number: NPDES Assistance and Pilot Watershed Program, PN 532.01. Las Virgenes Municipal Water District and its board members, officers, employees, agents and volunteers are named as Additional Insured to General and Auto Liability per policy form wording. Insurance is Primary and Non-contributory with Severability of Interest clause. Waiver of Subrogation (See Attached Descriptions)

CERTIFICATE HOLDER Las Virgenes MWD Attn: David Lippman 4232 Las Virgenes Road Calabasas, CA 91302-0000	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE
--	---

DESCRIPTIONS (Continued from Page 1)

applies to Workers Compensation coverages per policy form wording. Cancellation provisions are solely as shown on this certificate.

Policy Number: 6809H382758

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BLANKET ADDITIONAL INSURED (ARCHITECTS, ENGINEERS AND SURVEYORS)

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

1. The following is added to SECTION II - WHO IS AN INSURED:

Any person or organization that you agree in a "written contract requiring insurance" to include as an additional insured on this Coverage Part, but:

- a. Only with respect to liability for "bodily injury", "property damage" or "personal injury"; and
- b. If, and only to the extent that, the injury or damage is caused by acts or omissions of you or your subcontractor in the performance of "your work" to which the "written contract requiring insurance" applies, or in connection with premises owned by or rented to you.

The person or organization does not qualify as an additional insured:

- c. With respect to the independent acts or omissions of such person or organization; or
- d. For "bodily injury", "property damage" or "personal injury" for which such person or organization has assumed liability in a contract or agreement.

The insurance provided to such additional insured is limited as follows:

- e. This insurance does not apply on any basis to any person or organization for which coverage as an additional insured specifically is added by another endorsement to this Coverage Part.
- f. This insurance does not apply to the rendering of or failure to render any "professional services".
- g. In the event that the Limits of Insurance of the Coverage Part shown in the Declarations exceed the limits of liability required by the "written contract requiring insurance", the insurance provided to the additional insured shall be limited to the limits of liability required by that "written contract requiring insurance". This endorsement does not increase the lim-

its of insurance described in Section III - Limits Of Insurance.

- h. This insurance does not apply to "bodily injury" or "property damage" caused by "your work" and included in the "products-completed operations hazard" unless the "written contract requiring insurance" specifically requires you to provide such coverage for that additional insured, and then the insurance provided to the additional insured applies only to such "bodily injury" or "property damage" that occurs before the end of the period of time for which the "written contract requiring insurance" requires you to provide such coverage or the end of the policy period, whichever is earlier.

2. The following is added to Paragraph 4.a. of SECTION IV - COMMERCIAL GENERAL LIABILITY CONDITIONS:

The insurance provided to the additional insured is excess over any valid and collectible other insurance, whether primary, excess, contingent or on any other basis, that is available to the additional insured for a loss we cover. However, if you specifically agree in the "written contract requiring insurance" that this insurance provided to the additional insured under this Coverage Part must apply on a primary basis or a primary and non-contributory basis, this insurance is primary to other insurance available to the additional insured which covers that person or organizations as a named insured for such loss, and we will not share with the other insurance, provided that:

- (1) The "bodily injury" or "property damage" for which coverage is sought occurs; and
- (2) The "personal injury" for which coverage is sought arises out of an offense committed;

after you have signed that "written contract requiring insurance". But this insurance provided to the additional insured still is excess over valid and

COMMERCIAL GENERAL LIABILITY

collectible other insurance, whether primary, excess, contingent or on any other basis, that is available to the additional insured when that person or organization is an additional insured under any other insurance.

3. The following is added to Paragraph 8., **Transfer Of Rights Of Recovery Against Others To Us**, of **SECTION IV - COMMERCIAL GENERAL LIABILITY CONDITIONS**:

We waive any right of recovery we may have against any person or organization because of payments we make for "bodily injury", "property damage" or "personal injury" arising out of "your work" performed by you, or on your behalf, done under a "written contract requiring insurance" with that person or organization. We waive this right only where you have agreed to do so as part of the "written contract requiring insurance" with

such person or organization signed by you before, and in effect when, the "bodily injury" or "property damage" occurs, or the "personal injury" offense is committed.

4. The following definition is added to the **DEFINITIONS** Section:

"Written contract requiring insurance" means that part of any written contract under which you are required to include a person or organization as an additional insured on this Coverage Part, provided that the "bodily injury" and "property damage" occurs and the "personal injury" is caused by an offense committed:

- a. After you have signed that written contract;
- b. While that part of the written contract is in effect; and
- c. Before the end of the policy period.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED INSURED FOR COVERED AUTOS LIABILITY COVERAGE

This endorsement modifies insurance provided under the following:

- AUTO DEALERS COVERAGE FORM
- BUSINESS AUTO COVERAGE FORM
- MOTOR CARRIER COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by this endorsement.

This endorsement identifies person(s) or organization(s) who are "insureds" for Covered Autos Liability Coverage under the Who Is An Insured provision of the Coverage Form. This endorsement does not alter coverage provided in the Coverage Form.

This endorsement changes the policy effective on the inception date of the policy unless another date is indicated below.

<p>Named Insured: Larry Walker Associates, Inc.</p> <p>Endorsement Effective Date: 04/01/2017</p>

SCHEDULE

<p>Name Of Person(s) Or Organization(s): NAME OF PERSON OR ORGANIZATION CONTINUATION: Las Virgenes Municipal Water District and its board members, officers, employees, agents and volunteers</p>
<p>Information required to complete this Schedule, if not shown above, will be shown in the Declarations.</p>

Each person or organization shown in the Schedule is an "insured" for Covered Autos Liability Coverage, but only to the extent that person or organization qualifies as an "insured" under the Who Is An Insured provision contained in Paragraph **A.1.** of Section **II** – Covered Autos Liability Coverage in the Business Auto and Motor Carrier Coverage Forms and Paragraph **D.2.** of Section **I** – Covered Autos Coverages of the Auto Dealers Coverage Form.

Insured: Larry Walker Associates, Inc.

Policy Number: WZP81038775

Effective Date: 04/01/2017

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**WAIVER OF OUR RIGHT TO RECOVER FROM
OTHERS ENDORSEMENT - CALIFORNIA**

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. (This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.)

You must maintain payroll records accurately segregating the remuneration of your employees while engaged in the work described in the Schedule.

The additional premium for this endorsement shall be _____ % of the California workers' compensation premium otherwise due on such remuneration.

SCHEDULE

Person or Organization

Job Description

Las Virgenes MWD
Attn: David Lippman
4232 Las Virgenes Road
Calabasas, CA 91302-0000

SCHEDULE CONTINUATION:Las Virgenes Municipal Water District and its board members, officers, employees, agents and volunteers

Countersigned by 
Authorized Representative

Appendix C – Cost Proposal

The LWA team will conduct the tasks described in the Proposal for the Tapia Water Reclamation Facility Chloride Study on a time and materials basis for a cost not to exceed \$91,850 in accordance with our standard billing rates which are attached. The estimated cost is shown in the table below and a more detailed breakdown of the estimated costs for each task is attached.

Task	Cost
Task 1 - Review Existing Information	\$18,650
Task 2 - Investigate Chloride Sources in JPA Effluent	\$14,530
Task 3 - Evaluation of Chloride Sources and Reduction Options	\$11,730
Task 4 - Identification of Source Reduction Options	\$10,800
Task 5 - Recommendation	\$7,590
Task 6- Regional Board Meeting Attendance	\$16,780
Task 7 - Project Management	\$11,770
Total Cost	\$91,850

Larry Walker Associates Cost Proposal for Tapia Water Reclamation Facility Chloride Study

Task/ Subtask	LWA Hours					Labor Costs	Direct Costs	LWA Total	Carollo Engineers	Total
	Vice President	Associate	Project Engineer/ Scientist 2	Project Engineer/ Scientist 1						
Task 1 - Review Existing Information	\$285	\$250	\$195	\$165		\$15,690	\$560	\$16,250	\$2,400	\$18,650
Review available materials	2	8	16	16		\$8,330		\$8,330	\$2,000	\$10,330
Kickoff meeting	4	8				\$3,140	\$260	\$3,400	\$400	\$3,800
Site visit		8	8	4		\$4,220	\$300	\$4,520		\$4,520
Task 2 - Investigate Chloride Sources in JPA Effluent	2	8	24	32		\$12,530		\$12,530	\$2,000	\$14,530
Task 3 - Evaluation of Chloride Sources and Reduction Options	2	8	8	40		\$10,730		\$10,730	\$1,000	\$11,730
Task 4 - Identification of Source Reduction Options	8	8	8	24		\$9,800		\$9,800	\$1,000	\$10,800
Task 5 - Recommendation	2	8	4	16		\$5,990		\$5,990	\$1,600	\$7,590
Task 6- Regional Board Meeting Attendance ²	24	24	12			\$15,180	\$1,100	\$16,280	\$500	\$16,780
Task 7 - Project Management ³	8	24	12			\$10,620	\$550	\$11,170	\$600	\$11,770
Totals	52	104	92	132		\$80,540	\$2,210	\$82,750	\$9,100	\$91,850

1. Direct costs include travel costs for meetings with the Regional Board and JPA Staff and a site visit.

2. Assumes 4 meetings with the Regional Board

3. Assumes 4 in person meetings with JPA staff

LARRY WALKER ASSOCIATES

Rate Schedule Effective July 1, 2017 – June 30, 2018

PERSONNEL	Rate \$/Hour	REIMBURSABLE COSTS
Project Staff		
Melanie Andreacchi	\$ 85	
Mary Huizar	\$ 85	
Tina Van Carpels	\$ 85	
Denise Walton	\$ 85	
Adriana Stovall	\$110	
Michelle Benson	\$150	
Kathryn Walker	\$150	
Katrina Arredondo	\$165	
Jenny Bayley	\$165	
Suzanne Brown	\$165	
Nima Jabbari	\$165	
Adriel Leon	\$165	
Amir Mani	\$165	
Danielle Moss	\$165	
Steve Maricle	\$175	
Jeff Walker	\$175	
Elizabeth Yin	\$175	
Bryant Alvarado	\$195	
Alina Constantinescu	\$195	
Reni Keane-Dengel	\$195	
Airy Krich-Brinton	\$195	
Mike Marson	\$195	
Danielle Potocek	\$195	
Hope M. Taylor	\$195	
Senior Staff		
Kristine Corneillie	\$225	
Diana Engle	\$225	
Laura Foglia	\$225	
Gorman Lau	\$225	
Will Lewis	\$225	
Shelli St. Clair	\$225	
Amy Storm	\$225	
Mike Troughon	\$225	
Rachel Warren	\$225	
Associate		
Denise Conners	\$250	
Betsy Elzufon	\$250	
Sandy Mathews	\$250	
Mitch Mysliwec	\$250	
Paul Hartman	\$250	
Claus Suverkropp	\$250	
Principal		
Karen Ashby	\$275	
Brian Laurenson	\$275	
Chris Minton	\$275	
Mack Walker	\$275	
Ashli Cooper Desai	\$285	
Tom Grovhoug	\$300	
		Travel:
		Local mileage
		Transportation
		Auto rental
		Fares
		Room
		Subsistence ⁽¹⁾
		The rate for each meal as follows: ⁽¹⁾
		Breakfast
		Lunch
		Dinner
		Incidentals
		Report Reproduction and Copying:
		Actual outside expense
		Per black and white copy, in-house
		Per color copy, in-house
		Per binding, in-house
		Special Postage and Express Mail:
		Actual expense
		Other Direct Costs:
		Actual expense
		Daily Equipment Rental Rates:
		All single parameter field meters
		(pH, EC, D.O., Turbidity)
		Multi-parameter field meters
		Peristaltic Sampling Pump
		Professional grade GPS unit
		Digital Flow Meter
		Digital Fluorometer
		Multi-parameter Data Sonde
		(with telemetry)
		- first day
		- each additional day
		Subcontractors:
		Actual expense plus 10% fee
		Note: ⁽¹⁾ Charged when overnight lodging is required.

November 6, 2017 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : Tapia Water Reclamation Facility Summer Season Waste Load Allocation Compliance Study: Award of Contract

SUMMARY:

On August 10, 2017, a Request for Proposals was issued for the Tapia Water Reclamation Facility (Tapia WRF) Summer Season Waste Load Allocation Compliance Study. The study is a requirement of the 2017 NPDES Permit for the Tapia WRF. The objective of the study is to evaluate options to comply with future summer season permit limits (1.0 mg/L total nitrogen and 0.1 mg/L total phosphorous) for Malibu Creek and to recommend a compliance approach based on the evaluation. Using the study as a basis, a preliminary design report will be prepared and a CEQA determination will be recommended.

Proposals were received from Stantec Consulting Services, Inc., and AECOM Technical Services, Inc. Staff recommends accepting the proposal from Stantec (formerly MWH) due to the quality of their proposal and previous work on a summertime compliance evaluation.

RECOMMENDATION(S):

Accept the proposal from Stantec Consulting Services, Inc.; and authorize the Administering Agent/General Manager to execute a professional services agreement, in the amount of \$149,515, for the Tapia Water Reclamation Facility Summer Season Waste Load Allocation Compliance Study.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

The cost of the work is expected to be \$149,515. The adopted Fiscal Year 2017-18 JPA Budget provides funding, in the amount of \$200,000, for the project. The project costs are allocated 70.6% to LVMWD and 29.4% to Triunfo Sanitation District.

DISCUSSION:

On June 1, 2017, the Los Angeles Regional Water Quality Control Board approved a new NPDES Permit for the Tapia WRF. The discharge limits for total nitrogen (TN) and total phosphorous (TP) discharged to Malibu Creek are seasonal. In the winter season (November 16th through April 14th), the TN limit is 4.0 mg/L, and the TP limit is 0.20 mg/L. In the summer season (April 15th through November 15th), the TN limit is 1.0 mg/L, and the TP limit is 0.10 mg/L. The JPA's overall plan for compliance with the TMDL nutrient limits will be achieved through recycled water use and the Pure Water Project Las Virgenes-Triunfo, essentially eliminating the need to discharge.

Tapia WRF is currently prohibited from discharging to Malibu Creek from April 15th through November 15th each year. However, there are three specific exceptions to the discharge prohibition. One exception involves a requirement to augment flow in Malibu Creek such that 2.5 cubic feet per second (cfs) of maximum total flow is measured downstream at Los Angeles County Gauging Station F-130-R. The requirement is intended to sustain endangered Southern Steelhead Trout habitat during dry periods. To comply with this requirement, staff regularly monitors the flow at the gauging station and, when the flow drops below 2.5 cfs, Tapia's effluent is introduced to the creek in increasing increments until the desired flow at the gauging station is reached.

The new summer season discharge limits of 1.0 TN and 0.10 TP to Malibu Creek are scheduled to go into effect on May 16, 2022, and Tapia's discharge for flow augmentation will be required to meet these new limits. In February 2016, MWH was engaged to prepare a Technical Memorandum that evaluated three treatment options that could be implemented to meet the new summer season limits. Following is a summary of the options:

1. Treat secondary effluent with a membrane bioreactor (MBR) process and reverse osmosis (RO).
2. Treat secondary effluent with micro/ultrafiltration (MF/UF), RO and ion exchange (IX) processes.
3. Supply imported potable water to Malibu Creek through the LVMWD distribution system.

The scope of work for this project requires preparation of a study evaluating options to achieve compliance with the future summer season permit limits for Malibu Creek flow augmentation using the 2016 MWH report as a basis. Once a recommend compliance method is identified, a preliminary design report will be prepared and a CEQA determination will be recommended.

On September 21, 2017, proposals for the work were received from Stantec Consulting Services, Inc. (formerly MWH) and AECOM Technical Services, Inc. Both proposals outlined a good approach to the project and a strong understanding of the requirements. However, the AECOM proposal did not include preparation of the requested CEQA documentation. Staff recommends that the study be awarded to Stantec Consulting Services, Inc. The JPA previously worked with Stantec staff on summer season compliance. Following is a summary of the fee proposals:

Stantec Consulting Services, Inc. \$149,515
AECOM Technical Services, Inc. \$167,127

Prepared by: Brett Dingman, Water Reclamation Manager

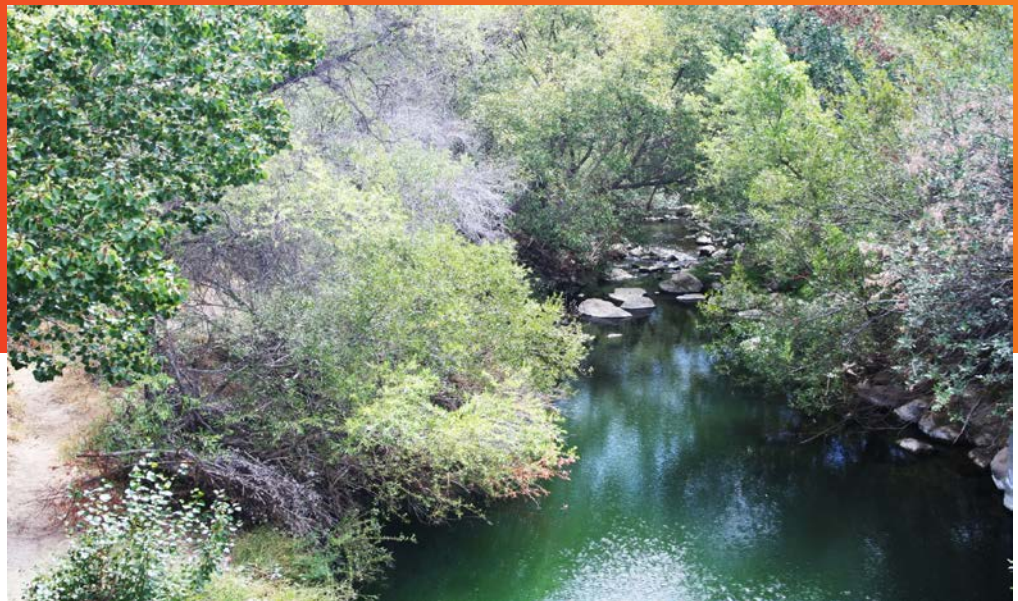
ATTACHMENTS:

Stantec Proposal

Prepared for
Las Virgenes – Triunfo
Joint Powers Authority

Tapia Water Reclamation Facility Summer Season Waste Load Allocation Compliance Study

September 2017



Proposal

September 21, 2017

Mr. Brett Dingman, P.E.
Las Virgenes Municipal Water District
4232 Las Virgenes Road
Calabasas, CA 91302

Subject: **Proposal for Tapia Water Reclamation Facility Summer Season Waste Load Allocation Compliance Study**

MWH, now part of Stantec Consulting Services, Inc. (Stantec), values our longstanding partnership with the Las Virgenes - Triunfo Joint Powers Authority (JPA). We have worked together effectively in developing multiple studies and reports to support the JPA's goal to achieve lower nutrient levels for discharge to the Malibu Creek. We are confident of continuing this success in providing a Summer Season Compliance Method Study (Study), CEQA analysis and Preliminary Design Report to support the JPA in achieving compliance with the future summer season permit limits for Malibu Creek augmentation.

Stantec will provide the following key benefits to the JPA in the completion of the Study, CEQA analysis and Preliminary Design Report:

- » **Project Knowledge:** Our team has been involved in multiple studies leading up to this effort, most recently with the *Treatment and Operations Scenarios for Meeting Lower Nutrient Discharge Limits for the Augmentation Flow to the Malibu Creek* Technical Memorandum. We know the history of this project better than anyone else and will leverage that past experience to provide the JPA with the most effective option for achieving compliance for augmentation.
- » **Technical Credibility:** Our team members have the technical expertise to evaluate all alternatives thoroughly and efficiently, being involved in many recent alternative evaluations for nutrient management and design of recycled water treatment facilities for the City of San Diego, Los Angeles Sanitation, Metropolitan Water District and Los Angeles County Sanitation District.
- » **Proven Project Team:** We are proposing a team of experts in water reuse and environmental compliance that have successfully and efficiently worked together for years. Our project team will be led by Jim Borchardt, PE, who brings over 38 years of experience in project management and engineering design to this team. Jim will be supported by Zakir Hirani, PE, who completed the previous treatment evaluation TM for the JPA and is leading similar nitrogen management evaluations for other similar projects and can leverage his technical expertise in this field to lead the technical approach of this effort.

The Stantec Team is eager and prepared to support the JPA's Summer Season Compliance Method Study, CEQA analysis and Preliminary Design Report. Thank you for your time and consideration. Should you have any questions, please contact James Borchardt at (626) 568 6283.

Sincerely,
Stantec Consulting Services, Inc.



James H. Borchardt, PE
Vice President
Project Manager

Tapia Water Reclamation Facility Summer Season Waste Load Allocation Compliance Study



Prepared for:
Las Virgenes – Triunfo Joint Powers Authority

Attn: Brett Dingman, P.E.
Las Virgenes Municipal Water District

Submitted by:
MWH, now part of Stantec
300 North Lake Avenue, Suite 400
Pasadena, CA 91101

September 21, 2017

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3	Scope of Work	10
4	Assumptions/Recommended Services	14
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6	Schedule	19
7	Certificate of Professional Liability Insurance	20
	Appendix A - Resumes	



1 Project Understanding and Approach

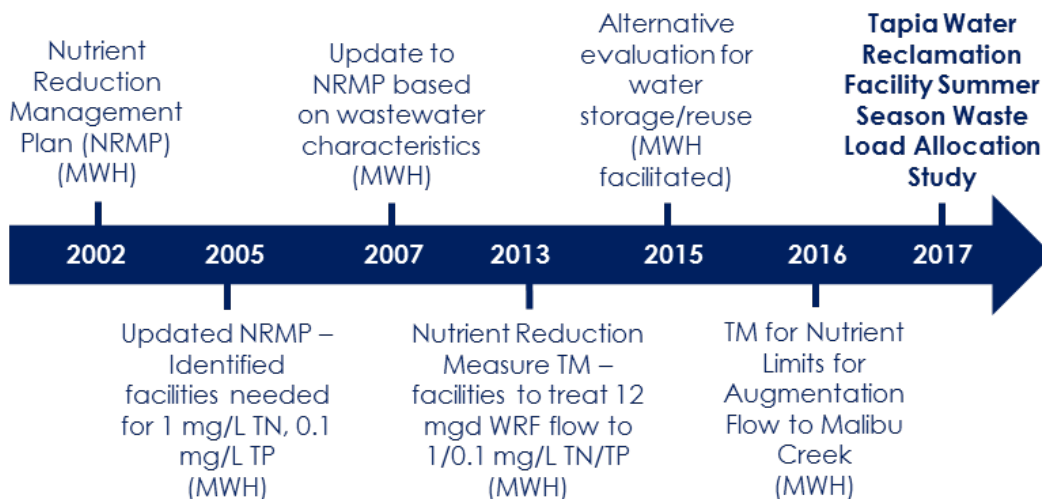
The following section defines our understanding and history of the project, outlines our approach to the work plan, and describes our method of project management.

1.1 Project Understanding

Through a Joint Powers Authority (JPA), the Las Virgenes Municipal Water District (LVMWD) and the Triunfo Sanitation Districts (TSD) jointly own and operate the Tapia Water Reclamation Facility (WRF), which currently produces roughly 6.5 MGD of Title 22 recycled water. The majority of Tapia WRF’s tertiary effluent is beneficially reused by recycled water customers in the surrounding communities. A portion of the effluent is also used to augment flow to Malibu Creek during certain summertime, low-flow periods for the protection of endangered species.

The JPA Board is now moving forward with the “Pure Water Project Las Virgenes – Triunfo” in order to maximize beneficial reuse of the WRF’s effluent. This will decrease discharge to Malibu Creek during the wintertime and shoulder periods of the year. However, Tapia WRF will still be required to augment flows to Malibu Creek such that 2.5 cubic feet per second (CFS) of flow is maintained at gauging station F-130-R. During the summer season, Tapia WRF will have to meet very stringent discharge limits of 1.0 mg/L total nitrogen (TN) and 0.10 mg/L total phosphorous (TP) when discharging to Malibu Creek.

Negotiation with the Los Angeles Regional Water Quality Control Board (LARWQCB) over the summer discharge requirements have been on-going for many years now, and our team has been involved in all the studies evaluating alternatives for compliance as shown below. MWH, now part of Stantec (Stantec), knows the detailed history of this project better than anyone outside the JPA. The figure below shows our previous work for the last 15 years.



The *Treatment and Operations Scenarios for Meeting Lower Nutrient Discharge Limits for the Augmentation Flow to Malibu Creek* Technical Memorandum (TM) we completed in 2016 for the JPA evaluated three treatment alternatives designed to meet the new TN and TP requirements for Malibu Creek augmentation:

- Alternative 1 – Treat secondary effluent with a Membrane Bio Reactor (MBR) process and Reverse Osmosis (RO) for nitrogen and phosphorous removal
- Alternative 2 – Treat secondary effluent with Micro/Ultrafiltration (MF/UF), RO and Ion Exchange (IX) for nitrogen and phosphorous removal
- Alternative 3 –Supply imported potable water to Malibu Creek through the Las Virgenes MWD distribution system supplied by the Metropolitan Water Districts of Southern California (Metropolitan) and utilize breakpoint chlorination for nitrogen removal.

Our proposed approach to the current project will build upon our previous work, consider additional alternatives to achieve compliance, and ensure the best value project is selected and developed.

1.2 Approach

We believe that (1) leveraging technical expertise and institutional knowledge, (2) having a clearly defined work plan, (3) and closely collaborating with JPA staff are key elements to the success of this project and to our approach. We will incorporate these elements throughout our work as we perform the alternatives analysis (Summer Season Compliance Method Study), CEQA analysis and Preliminary Design Report. The following figure outlines our work plan for the project:



DATA COLLECTION

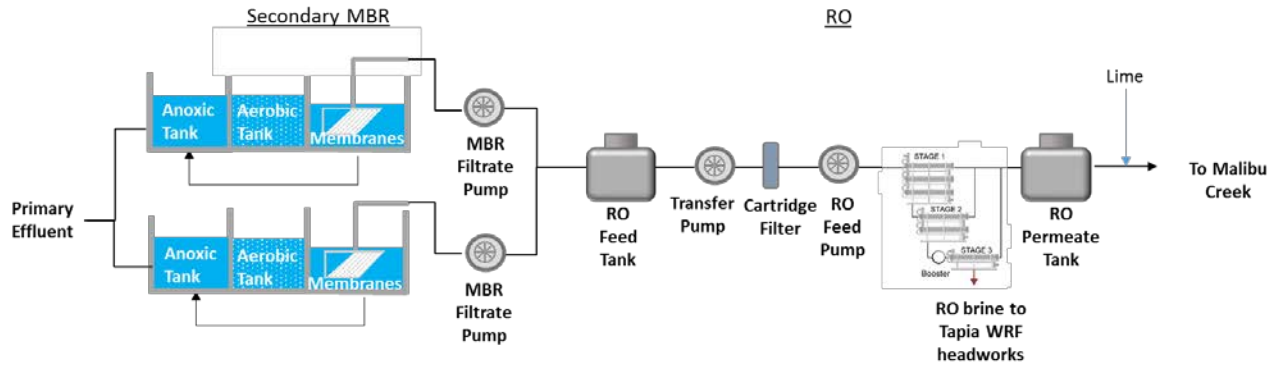
Our work will begin quickly with collecting data as required for the evaluation, including water quality data and information on the Tapia WRF that would affect any alternative evaluated at the plant. We will also begin gathering more information for Metropolitan’s most updated water quality data, potable pipeline locations, and connection fees for the breakpoint chlorination alternative. Fortunately, our team is very familiar with Tapia WRF, has an in depth understanding of Metropolitan’s system and water quality, and has collected much of the available information.

ALTERNATIVES ANALYSIS

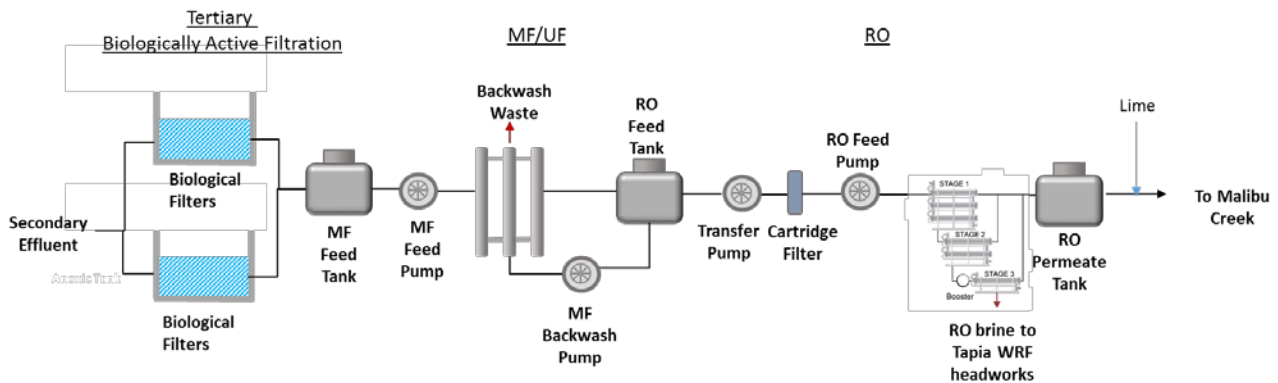
Our technical memorandum (TM) from last year identified three alternatives for achieving compliance, and we will evaluate up to two additional alternatives during the alternatives analysis. We already have a list of alternatives that may be worth investigation, and will present these at our kickoff meeting to receive JPA input. Receiving early input will allow us to narrow the list of alternatives and streamline our investigation. Two additional alternatives that we believe may be worth investigation are secondary MBR and biologically active filtration (BAF), though others may be considered as well. The various advantages and disadvantages for each alternative will be discussed during the kickoff meeting and will be documented in detail in the Summer Season Compliance Method Study.

Possible Treatment Alternatives:

1. Tertiary MBR/RO
2. MF/RO/IX
3. Breakpoint Chlorination
4. Secondary MBR/RO
5. Biologically Active Filters/MF/RO
6. Aerobic Granular Sludge/MF/RO
7. Others



Alternative 4 - Utilizing a secondary MBR versus tertiary MBR allows use of wastewater carbon for denitrification while augmenting the treatment capacity.



Alternative 5 - Biologically active filtration is a relatively simple process compared to MBR. The effluent turbidity is not as low or as consistent as with MBR effluent, requiring MF prior to RO.

We have the technical expertise to evaluate these alternatives and others thoroughly and efficiently, and we will reevaluate the alternatives presented in our previous TM to provide the JPA with the most current information. All alternatives determined feasible from the kickoff meeting initial assessment will be developed in full as we work with the JPA staff to collaboratively select the optimal approach. This analysis will also take into consideration the JPA’s ongoing work associated with the “Pure Water Project Las Virgenes – Triunfo” to determine any impacts to that project.

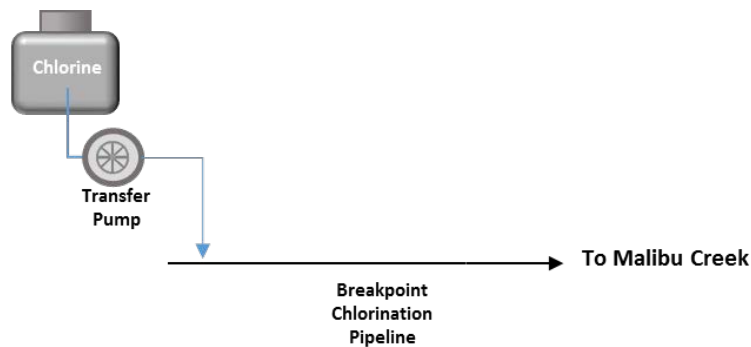
There are a variety of factors that could be considered as criteria to evaluate alternatives and arrive at a final recommendation. We will work with JPA staff to finalize this list of criteria for evaluation, which can then be assigned weights and used to score and rank the alternatives. Some examples of criteria to be considered are:

- Ability to operate seasonally
- Performance reliability for nutrient compliance
- Staff and training requirements
- Ease of operation
- Maintenance requirements
- Capital and operating costs
- Environmental and community impacts
- Construction schedule

Initial Assessment:

Given our current understanding of the alternatives **we believe that breakpoint chlorination of a potable water supply (Alternative 3) is the most attractive approach from an engineering perspective.** It eliminates the burden of new process operation, which includes the challenges of intermittent operation of biological systems (cultivation/preservation of biology) or membrane systems (cleaning and preserving membranes in chemical solutions). This alternative does have some complications requiring evaluation and discussion, including environmental impacts, pipeline routing, traffic control, and timeline for construction. We will assess the breakpoint chlorination alternative early on to determine any fatal flaws and work closely with JPA staff for their input.

Breakpoint chlorination is inexpensive, simple and effective



Alternative 3 - The simplicity of breakpoint chlorination is clear from the schematic. The pipeline routing for the supply and designing to accommodate the breakpoint chlorination reaction time are the main design items that require investigation.

ALTERNATIVES WORKSHOP

Upon development of the alternatives, we will hold a workshop with JPA staff and the JPA Board to collaboratively select a single preferred approach. We've proven our effectiveness in working together with the JPA through alternative development and selection during previous projects. We understand that effective collaboration happens through continuous communication and well prepared workshops.

ALTERNATIVES REPORT

Throughout the process of developing the alternatives, we will document all findings and evaluation in the Summer Season Compliance Method Study. This report will summarize the data collection, comprehensive analysis of the alternatives and incorporate all comments and suggestions from the alternatives workshop. We will also summarize and document all criteria and ranking used to evaluate the alternatives, as developed between Stantec and the JPA. The report will provide a recommendation for a preferred alternative train as the basis for the CEQA process and Preliminary Design.

PRELIMINARY DESIGN

Once an alternative has been selected in conjunction with the JPA, we will prepare a Preliminary Design Report to expand on the evaluation of the selected alternative from the Summer Season Compliance Method Study. Our team of process experts, led by **Zakir Hirani, PE**, has experience in designing the various treatment processes that may be considered for this project, as shown in the table. We will leverage our past experience in process design to prepare a comprehensive Preliminary Design Report on the selected process. For whichever alternative is selected, we will identify key design criteria, develop design solutions for key issues related to the implementation of the specific alternative, and document initial site plans and process schematics.

Stantec Project	Relevant Treatment Processes
MWD Potential Regional Recycled Water Supply Project at JWPCP	secondary & tertiary MBR, MF, BAF, RO
San Diego Pure Water North City Purification Facility	BAF, MF, RO
LASAN Water Reuse at Hyperion WRP	secondary MBR, RO
Camrosa WD Round Mountain WTP	RO
Camrosa WRF Disinfection Study	breakpoint chlorination
South Pasadena Graves Reservoir Groundwater Treatment	IX, chlorination
Groundwater treatment for environmental remediation (confidential client)	IX

An example of identifying and dealing with key implementation issues is provided below for Alternative 3, breakpoint chlorination of a potable water supply.

Pipeline routing: We have already developed a preliminary routing for the potable water pipeline from Metropolitan’s line to Tapia WRF and Malibu Creek discharge in our previous TM. We will build on this as we develop the preliminary design, with a particular consideration for minimizing environmental impacts and traffic interruptions.



Proposed potable water connection from Metropolitan to the Malibu Creek discharge

Breakpoint chlorination reaction time: The chemical reactions involved in break chlorination are dynamic and unique to each water quality due to the presence of dissolved organic matter, organic nitrogen, and constituents in a reduced state that will interact with chlorine. Bench scale tests should be performed in order to develop the site-specific breakpoint chlorination curve and determine the reaction time required, which can be significant (on the order of 10 to 20 minutes). The design will need to accommodate this reaction time before discharging to Malibu Creek. This reaction may be simplest if kept within the piping, but could also be accomplished in a reaction tank. The size and

routing of piping would be investigated for the most efficient design that allows for the reaction time to occur.

Chemical feed design: Chlorine and bisulfite are already onsite at Tapia WRF, but the most effective storage and injection system for the chemical additions should be investigated. The water supply piping and any new chemical feed equipment and piping should be designed to minimize the length of double-contained chemical piping at Tapia WRF.

CEQA

The California Environmental Quality Act (CEQA) process is a critical element of the preliminary design process. Based on our understanding of the alternatives, we believe the proposed alternatives will qualify for negative declaration. Stantec will assist the JPA with preparation and processing of a CEQA document for the construction and operation of new facilities required to meet summer effluent limits by 2022. Environmental impacts will be considered from the start of the project and during review of potential project alternatives. We will assist the JPA in preparing an Initial Study under CEQA for the selected project alternative. It is assumed that the project description will include some, or all, of the following elements: new treatment systems at the Tapia WRF or at a new site, new chemical storage and feed facilities, and pipeline installation.

1.3 Project Management

Completing the work requested in the JPA's RFP requires a well-managed project with continuous communications between the JPA and the Stantec team. Our approach to project management is presented below.

Committed Project Manager

Our proposed Project Manager, **Jim Borchardt, PE**, is committed to delivering a comprehensive study to the JPA. Mr. Borchardt's experience with the development of the Pure Water Project, as well as decades of experience delivering reuse, treatment and design projects, lends a deep understanding of both the project needs and the importance of constant engagement with the JPA throughout the project life cycle.

Meetings and Coordination

Mr. Borchardt will direct and lead the technical work associated with the project and will be involved in all key communications and critical decision points during the course of the project. Stantec's Assistant Project Manager and Project Engineer, **Oliver Slosser, PE**, will be the day-to-day contact for communications between the JPA and the Stantec team. Stantec will hold monthly meetings to appraise the JPA on the status of the project, obtain input from JPA staff, and reach consensus on solutions.

Project Kickoff Meeting and Monthly Updates

The Stantec team will conduct a kick-off meeting at the start of the project in order to introduce project participants, establish lines of communication, review scope of work and approach, develop a list of data collection needs and review treatment alternatives to analyze. The Stantec team will organize and attend monthly progress calls with the JPA's staff to review project status and discuss project issues. Stantec will prepare monthly invoices and project updates. The Stantec team values the importance of sustained and effective communication protocols and will work to ensure all aspects of the project are being discussed between the Stantec team, and with JPA staff.

QUALITY ASSURANCE AND CONTROL

The high quality of our team’s work depends on the competence and capabilities of individual employees and on the blending of their talents to meet specific project requirements. Stantec has proposed a talented team to deliver this Summer Season Compliance Method Study for the JPA, and values the necessity for a sound technical approach to delivering a final Preliminary Design Report and CEQA recommendation.

Quality always begins with the project team. However, Stantec strongly believes in highly qualified, independent reviewers to provide quality management of the final deliverable. Stantec has established and implemented specific procedures that are well tested to maximize the quality of services provided. The Stantec team utilizes subject matter experts to review and evaluate project work to ensure that the most effective decisions are made. The benefit of this approach is that the subject matter experts provide an experienced third-party review on every technical aspect of the project. Our QA/QC team will be led by **Roger Stephenson, PhD** and **Donal Bassett, PE**, who will bring their vast experience with wastewater treatment and dechlorination to the project.



Quality planning performed early in the project cycle has a tremendous positive impact on overall cost control through the project life cycle. It is an important step that must be made at the onset of a project to be effective. For these reasons, we begin our discussion of cost control with a discussion of quality planning. As shown in the figure, QA/QC is at the center of Stantec’s project management strategies.

There are three components to quality management:

- Quality Planning – Identification of appropriate quality standards relevant to each proposed project, formal acceptance and determination of means to satisfy them.
- Quality Assurance – Evaluation of overall project performance on a regular basis to provide confidence that the project will satisfy the relevant quality standards.
- Quality Control – Monitoring specific project results to determine if they comply with relevant quality standards and identifying ways to eliminate causes of unsatisfactory performance.

Stantec has made a significant investment in its overall quality management process to achieve our goals for client service. Adherence to Stantec’s quality management procedures is an integral and inseparable part of our basic project management activities. Our practice places great emphasis on prevention (quality assurance), while maintaining checks and balances for inspection (quality control).



Stantec believes that quality service is recognized by our clients and measured by how well we exceed their expectations and add value to their business

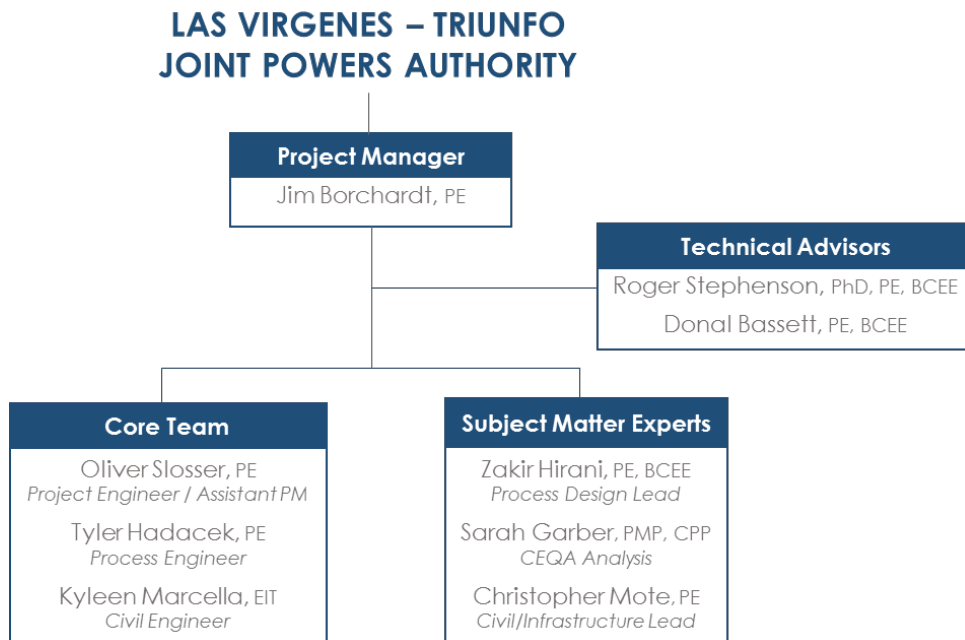
2 Project Team

Stantec, is a global leader in wet infrastructure planning, design, and construction services. We were ranked by ENR as the #1 firm in both water and sewer/waste in 2017. Our global strength in engineering provides us the ability to leverage our experience with many similar projects. However, it is our local staff with technical expertise and extensive regional and institutional knowledge that is specific to the Tapia WRF and this Study. We performed the initial investigation that led to this Study, and we are best suited to take this evaluation forward and into preliminary design.

Our team will be led by our Project Manager, **Jim Borchardt**, who brings over 38 years of experience in project management and engineering design for treatment and conveyance facilities. His experience of working on over 250 treatment facilities, including many recent projects in recycled water and nitrogen management, will be invaluable in the evaluation of alternatives for this project. **Zakir Hirani** will be the Process Design Lead for our team. His existing knowledge of Tapia WRF and his technical expertise in membrane technology, biological treatment, and nitrogen management will ensure this study and preliminary design is performed effectively and efficiently. He is leading the nitrogen management evaluation for many similar projects and is the right person with the right expertise to lead this study. **Sarah Garber** will perform the CEQA analysis and provide a determination report for the proposed project. Sarah brings 27 years of experience in environmental impact assessment for water treatment, storage and conveyance facilities, as well as previous experience with source testing and air quality assessment at the Tapia WRF. **Christopher Mote** will provide the technical expertise for civil and infrastructure components of the alternatives – a key component especially given the favorable alternative of routing a Metropolitan connection to Tapia for breakpoint chlorination.

The team will be supported by **Roger Stephenson** and **Don Bassett** as technical advisors for the treatment process evaluation and preliminary design. Roger is a recognized expert in wastewater treatment, having taught at the University of Southern California. He performed the previous evaluations for nutrient reduction at the Tapia WRF. Don is one of our most experienced wastewater project managers and is currently involved with pilot and full-scale water reuse facilities.

Our proposed project team is shown in the following organization chart. Resumes are included in Appendix A.



2.1 Firm Qualifications & Information

Effective May 6, 2016, MWH joined together with Stantec to create a community of approximately 22,000 people working in over 400 locations. We share a commitment to advance the quality of life in our communities around the world. Our clients will continue to see the same people, doing business with the same goal: to deliver great engineering solutions with the highest level of service.

The Stantec organization is driving wet infrastructure globally, leading the world in results-oriented management, technical engineering, and construction services to build a better world. Our work encompasses a variety of water-related projects and programs ranging from water supply, treatment, and storage to water resources management and coastal restoration, and from design and construction of hydropower and renewable energy facilities to full environmental services.

With a rich legacy dating back to 1820, we are driven to meet today's challenges, dedicated to innovation, and committed to mastering and applying emerging technologies for our client base of more than 4,000 municipalities, governments, multi-national corporations, and industries.

MWH/Stantec Background Information	
Legal Name	Stantec Consulting Services, Inc. (formerly MWH Americas)
National Headquarters	10160 112 Street Edmonton, AB T5K 2L6 P: (780) 917-7000 F: (780) 917-7069
Local Office	300 N. Lake Ave., Suite 400 Pasadena, CA 91101 P: (626) 796-9141
Contact Name, Title, Address, Email, Telephone, and Fax	James Borchardt, PE, Vice President 300 N. Lake Ave., Suite 400, Pasadena, CA 91101 P: (626) 568-6283 Email: James.Borchardt@stantec.com



3 Scope of Work

1. Project Management, Coordination, Meetings

Project management activities consist of preparation of a project schedule; progress reporting and invoicing; budget and schedule tracking; document management; and filing. The proposed budget to manage this project is based on a project duration of 6 months.

1.1 PROJECT KICK-OFF MEETING

The Stantec Team will conduct a kick-off meeting at the start of the project. The purpose of the kick-off meeting is to introduce project participants, establish lines of communication, review scope of work and approach, and develop a list of data collection needs. Stantec will send three staff members to the kickoff meeting. Stantec will provide a meeting agenda stating the goals of the meeting, and submit an initial data request list. Stantec will prepare meeting minutes within three days following the meeting for distribution to the JPA. It is assumed that a site visit at the Tapia WRF will occur as part of the kickoff meeting.

Deliverable: Kickoff meeting agenda, project schedule, data request list, and meeting minutes.

1.2 JPA WORKSHOP

The Stantec Team will conduct one workshop with JPA Board Members and staff. Participants from the JPA Board and staff will be identified by the JPA. The purpose of the workshop will be for Stantec to present findings, to discuss project alternatives, and select a preferred alternative. Stantec will send four staff members to the JPA Staff Workshop.

Deliverable: Electronic copies of workshop agenda, presentations and meeting minutes with action items.

1.3 JPA BOARD MEETING

The Stantec team assumes attendance at one JPA board meeting to present findings after delivery of the final Preliminary Design Report for the preferred alternative.

Deliverable: Electronic copies (Microsoft Word, Excel, or PowerPoint, and PDF) of presentations and meeting minutes.

1.4 MONTHLY STATUS UPDATES

The Stantec Team will organize and attend monthly progress meetings with the JPA's staff to review project status and discuss project issues. In addition to the kick-off meeting, JPA workshop, and JPA Board Meeting, Stantec has budgeted for a total of four progress meetings/conference calls for the duration of the project. Stantec assumes two staff members will attend each meeting. Issues that require discussion and resolution will determine whether the meeting will be face-to-face or by phone, and will be identified in the agenda to be distributed by email two business (2) days prior to each meeting.

2. Compliance Method Study

Using the *Treatment and Operations Scenarios for Meeting Lower Nutrient Discharge Limits for the Augmentation Flow to the Malibu Creek* Technical Memorandum as a reference, Stantec will develop

a study consisting of an evaluation of alternative approaches that will achieve compliance with summer season discharge limits for flow augmentation.

2.1 IDENTIFICATION OF ALTERNATIVES

Stantec will review the three project alternatives identified in *Treatment and Operations Scenarios for Meeting Lower Nutrient Discharge Limits for the Augmentation Flow to the Malibu Creek*, produced by Stantec in 2016. In addition, Stantec will identify up to two (2) additional alternatives for meeting future regulatory requirements for Malibu Creek. Additional alternatives for meeting water quality requirements will be presented at the kick-off meeting between the JPA and Stantec.

2.2 ALTERNATIVES ANALYSIS

Analysis of the alternatives will include identification of required infrastructure and equipment for implementation, operational requirements, planning level costs, environmental considerations, constructability review, and planning level schedule estimates. Of particular importance is the evaluation of the ability to operate the alternative on a seasonal basis. Since summer season discharge only occurs at certain times of the year and for short durations, the treatment method needs to be able to be taken off-line and stored for long periods of time without compromising the system or its effectiveness, or be shut down when not being used. The treated flow release to Malibu Creek will be variable and therefore the treatment must be flexible to respond to this requirement.

Bench-scale testing will be performed for the proposed breakpoint chlorination alternative of potable water. The test results will be used to estimate the breakpoint chlorination curve for the proposed imported water source and the time required for the breakpoint reaction to be complete in order to develop and analyze this alternative. It is assumed the testing plan for breakpoint chlorination would be developed by Stantec, the water quality testing would be performed by the JPA at the laboratory at Tapia WRF with assistance by Stantec personnel.

2.3 REPORT PREPARATION

Stantec will document all findings and evaluation in the Summer Season Compliance Method Study. This report will summarize the data collection, comprehensive analysis of the alternatives and incorporate all comments and suggestions from the meetings and workshop with the JPA. The report will provide a recommendation for an alternative technology as the basis for the Preliminary Design and CEQA process.

Deliverable: Summer Season Compliance Method Study Report, summarizing findings and recommendations to be submitted to the JPA prior to the JPA Workshop

3. CEQA

Stantec will review Categorical Exemptions to the California Environmental Quality Act (CEQA) potentially applicable to the selected project. If applicable, Stantec will assist the JPA with filing of a Notice of Exemption.

Stantec's estimated level of effort for this task assumes that a Negative Declaration or Mitigated Negative Declaration will be the appropriate CEQA document for the project. To support environmental compliance for the project, Stantec will prepare a draft Initial Study (IS) based upon the CEQA Checklist (CEQA Guidelines Appendix G). The IS will include explanations for the checklist impact categories, with identification of potentially significant effects requiring mitigation. Stantec will draft a

project description for use in the IS identifying the need for the project, project location, and construction and operation characteristics.

Specific evaluations will be completed as follows:

Topic	Initial Study Evaluation
Air Quality	Stantec will estimate construction-related air pollutant and greenhouse gas emissions. Emission estimates will be compared to South Coast Air Quality District CEQA thresholds of significance as well as Local Significance Thresholds.
Biological Resources	Stantec will document existing habitat values present at project areas, and the potential for sensitive species to be impacted by project construction or operation. The potential for root damage during pipeline installation will be reviewed, as applicable. Relevant tree preservation ordinances will be reviewed.
Cultural Resources	Since new project facilities are assumed to be installed at existing disturbed sites or in existing streets, surface cultural or historic resources are not anticipated to be present. However, the potential for subsurface resources will be assessed by an archaeologist. As lead agency, the JPA will be required to outreach to relevant Native American tribal representatives in compliance with Assembly Bill (AB) 52. Stantec will provide a project description for the JPA's use during Native American consultation, and will incorporate comments received from the tribes, if any, into the IS.
Geology and Soils	Geologic and soil impacts will be summarized based on existing geotechnical information.
Noise	Stantec will estimate construction-related noise on adjacent receptors based on construction equipment necessary for installation of the project. On-site noise measurements and modeling are not anticipated to be necessary.
Water Resources	Stantec will describe anticipated construction-related impacts on surface water quality, and anticipated best management practices to be incorporated during project construction. It is assumed that impact assessments related to flow reduction from effluent diversion will not be included in the IS.
Traffic	Stantec will describe construction-related traffic impacts on area roadways. Detailed traffic modeling is not anticipated to be necessary. Traffic control measures to be developed during project design will be incorporated into the IS.
Cortese List	Hazardous materials sites on the Cortese List (Section 65962.5 of the California Government Code) and in the vicinity of the proposed project areas will be documented in the IS.

An electronic copy in MS Word of the administrative draft IS will be prepared for JPA review. After incorporation of one round of JPA comments, Stantec will finalize the document and print up to 30 copies for distribution to interested parties and to the State Clearinghouse, along with a Notice of Completion (NOC). Stantec will assist with preparation of the NOC and with the project mailing list. A Notice of Availability/Notice of Intent will be prepared and distributed to additional parties as requested by the JPA. After public review, Stantec will assist with review of comments received and will prepare a Mitigation Monitoring and Reporting Program (MMRP). Additionally, Stantec will assist with written responses to comments if requested by JPA staff.

Stantec will attend up to one meeting with JPA staff regarding environmental documentation for the project, and up to one public meeting if one is scheduled by the JPA for the project.

Deliverable: Draft and Final Initial Study, Mitigation Monitoring and Reporting Program

4. Preliminary Design

Stantec will prepare a Preliminary Design Report (PDR) incorporating the results of the Summer Season Compliance Method Study and CEQA, along with the development of additional details of the selected alternative.

4.1 PROJECT DEVELOPMENT

Stantec will develop design criteria, schematic drawings, site plans, sample sections and/or profiles for the selected project. It is assumed that up to eight (8) preliminary design drawings will be developed. Alternatives for siting, routing, chemical feed design, electrical service, and equipment selection will be evaluated and presented with recommendations. Stantec will conduct a preliminary design that includes a Class 4 opinion of probable construction cost (OPCC) and preliminary construction schedule for the selected alternative.

4.2 DRAFT PRELIMINARY DESIGN REPORT

Stantec will produce a Draft Preliminary Design Report of the selected alternative. The report will address comments received during the JPA workshop and through conversation with JPA staff. Stantec assumes approximately three weeks for JPA review and comments will be delivered in a compiled comment log.

Deliverable: Draft Preliminary Design Report (3 hard copies and one electronic copy).

4.3 FINAL PRELIMINARY DESIGN REPORT

Stantec will incorporate comments from the Draft Preliminary Design Report and produce a Final Preliminary Design Report.

Deliverable: Final Preliminary Design Report (5 hard copies and one electronic copy).

4 Assumptions/Recommended Services

- It is assumed the testing plan for breakpoint chlorination would be developed by Stantec and the water quality testing would be performed by the JPA at the laboratory at Tapia WRF with assistance by Stantec personnel.
- It is assumed that surveying and geotechnical investigations will not be completed as part of this work. However, these and other services may be incorporated as optional work, if desired.
- It is assumed that an IS/MND will be the appropriate CEQA document for the project.
- If additional documentation in compliance with the National Environmental Policy Act (NEPA) is required, this could be conducted under a separate or amended scope of work.
- Detailed traffic or noise modeling are not anticipated to be required and are not included in the scope of work.
- The JPA will pay applicable fees, including fees payable to the California Department of Fish and Wildlife and CEQA notice posting fees, as applicable.

5 Relevant Experience

Stantec has a deep wealth of experience in water treatment that we will bring with the completion of a thorough and useful alternatives analysis, CEQA evaluation and preliminary design for the JPA.

5.1 Advanced Water Treatment Demonstration Facility – Metropolitan Water District of Southern California

PROJECT DURATION AND STATUS

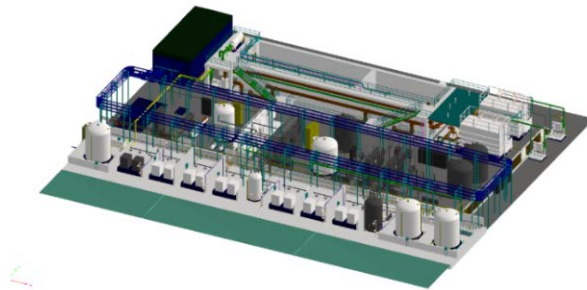
- 2016-ongoing (in construction)

PROJECT REFERENCE

- Gloria Lai-Blüml, Project Manager
(213) 217-7538

KEY PERSONNEL ON PROJECT

- Jim Borchardt, Zakir Hirani, Tyler Hadacek, Kyleen Marcella, Christopher Mote, Donal Basset, Sarah Garber



Metropolitan Water District (Metropolitan) and Los Angeles County Sanitation Districts (LACSD) are examining the potential for developing a Regional Recycled Water Supply Program (Program) to provide high-quality, drought-resistant new water source to Metropolitan’s member agencies. As part of this Program, Stantec was awarded a contract to design and operate a 0.5-MGD Advanced Water Treatment (AWT) Demonstration Facility and seek necessary regulatory approvals for a process train for groundwater recharge. The total project cost is estimated at \$15M with Stantec Team fees at \$2.5M.

Non-nitrified secondary effluent from LACSD’s Joint Water Pollution Control Plant (JWPCP) will be the source water for the demonstration facility. The project will evaluate Full Advanced Treatment (FAT) train – Micro/Ultrafiltration – Reverse Osmosis – Advanced Oxidation with MBR upstream for biological

Our team’s key project lead, Jim Borchardt, is leading this groundbreaking advanced treatment potable reuse project.

Alternatives evaluation for addressing nitrogen management is a key challenge for this project. Our team’s process design lead, Zakir Hirani, is leading this evaluation which includes analysis of MBR, BAF, MF, RO, and IX processes. We have designed the facility to test a range of biological nitrification and denitrification treatment using either secondary or tertiary MBR, to evaluate the full range of nitrogen management strategies.

nitrogen removal. One of the objectives for the project is to collect sufficient data to seek approval for an alternative FAT train (MBR – RO – AOP) for groundwater recharge. The Facility is also designed to evaluate biological active filtration (BAF) as an alternative biological process for nitrogen removal.

Nitrogen management is a key aspect of the project. The Demonstration Facility is designed to receive either primary or secondary effluent. The Facility will be tested in different configurations to achieve varying degrees of nitrification and denitrification, and removal of nitrate by RO membranes.

5.2 Recycled Water Seasonal Storage Basis of Design Report – Las Virgenes Municipal Water District

PROJECT DURATION AND STATUS

- 2015 – 2016

PROJECT REFERENCE

- David Lippman, P.E., Director
(818) 251-2221

KEY PERSONNEL ON PROJECT

- Jim Borchardt, Oliver Slosser, Zakir Hirani, Kyleen Marcella, Tyler Hadacek, Roger Stephenson, Christopher Mote, Sarah Garber



Potable and non-potable reuse are emerging as important elements of water management for water suppliers in populous arid regions. Given the wide availability of domestic wastewater, water reuse is often an efficient solution from the perspective of water resources planning. However, stakeholder communication remains a critical step in any water reuse scheme to build public support for the project. For this water reuse planning project, novel stakeholder engagement techniques were used to overcome obstacles and achieve consensus on project alternatives.

Las Virgenes Municipal Water District (LVMWD) and the Triunfo Sanitation Districts (TSD) jointly own and operate, through a Joint Powers Authority (JPA), the Tapia Water Reclamation Facility (TWRP), which currently produces roughly 6.5 MGD of Title 22 recycled water (RW). However, only 60% of that RW is beneficially reused due to seasonal fluctuations in the demand, while the rest is discharged to Malibu Creek and eventually to the Pacific Ocean. Increasing regulatory requirements and NGO advocacy have made discharging to Malibu Creek untenable, as the required upgrades to the TWRP to comply with nutrient limits would be excessively costly. The JPA has considered options to address the seasonal imbalance between RW supply and demand since as early as 1973, though until recently all efforts were focused on building a new reservoir within the JPA’s service area. Because of the sensitive ecological conditions surrounding Malibu Creek, stakeholder and NGO activism, and a multitude of other factors, efforts to realize seasonal storage have thus far been unsuccessful.

In order to forge a path forward and find consensus among the varied factions that contribute to project success, a facilitation process was initiated amongst the agency staff and key stakeholders in the area, including NGOs. This facilitation process began with three public workshops; activities structured to solicit input from the stakeholders; and presentations from technical experts. During this first phase, six conceptual project alternatives were defined with stakeholder input. The JPA Board selected two scenarios for further investigation: (1) indirect potable reuse with surface water augmentation using LVMWD’s water supply reservoir, and (2) seasonal recycled water storage at the nearby Los Angeles Department of Water and Power’s existing Encino Reservoir. Through another process of stakeholder engagement, four public workshops, and technical analysis, these conceptual scenarios were further refined into two project alternatives with strong stakeholder support. Both alternatives more efficiently address the JPA’s seasonal water management issues to make full use of their recycled water resource, and show promise thanks to the JPA’s proactive stakeholder engagement process. On August 3, 2016, the JPA Board of Directors voted to explore Indirect Potable Reuse as an option to address seasonal storage and are in the process of conducting further studies and preliminary design to achieve that goal.

Water reuse strategic planning was employed for this project to address seasonal demand imbalance using public workshops and stakeholder engagement.

5.3 Camrosa Water Reclamation Facility Disinfection Study & Round Mountain Water Treatment Plant – Camrosa Water District

PROJECT DURATION AND STATUS

- 2010 – 2015

PROJECT REFERENCE

- Michael Phelps, Water Quality Manager
(805) 482-8563

KEY PERSONNEL ON PROJECT

- Jim Borchardt, Zakir Hirani, Tyler Hadacek, Christopher Mote, Sarah Garber



Stantec has completed two relevant projects for the Camrosa Water District (Camrosa). One project is a disinfection study for the Camrosa Water Reclamation Facility (WRF). This facility performs breakpoint chlorination and utilizes free chlorine as the primary disinfectant. Our team performed full scale chlorine disinfection testing for California Title 22 recycled water standards to re-rate the chlorine contactors for higher capacity. This unlocked the capacity of the entire treatment plant which was previously limited by the contactors.

The Camrosa WRF Disinfection Study increased the rated capacity for this treatment plant that utilizes breakpoint chlorination and free chlorine disinfection.

Round Mountain WTP RO facility furthers the client’s goal of achieving water resources independence and watershed management. The performance of this facility has been tested and proven in operation.

Secondly, the Stantec Team’s technical excellence and successful project delivery in RO treatment plant design is evidenced by the recent Round Mountain Water Treatment Plant (RMWTP) — a brackish groundwater treatment facility that plays a key role in watershed salt management and whose performance has been tested and proven in start-up. This project provides an extremely relevant and similar sized facility.

The RMWTP is a brackish water RO facility owned by Camrosa. The Stantec team has provided preliminary and final design services, bid phase assistance, and support services during construction and start-up for this new 1 MGD plant.

The plant treats well water with high levels of alkalinity, hardness, sodium, sulfate, and chloride, along with iron and manganese concentrations exceeding secondary MCLs. Stantec designed a pre-treatment step using hypochlorite to oxidize iron and manganese in the raw water, followed by media filtration. The water is desalinated by two parallel two-stage 8:4 RO membrane arrays with upstream antiscalant addition and cartridge filtration. A filtered water bypass stream is utilized to produce a blend matching imported water quality. Post-RO treatment includes pH adjustment for corrosivity control and chloramination to provide an appropriate disinfectant residual.

This project furthers key client goals of water resources independence and watershed-scale salt management. Developing a local water supply reduces Camrosa’s dependence on costly imported water, whose supplies face increasing uncertainty. RO concentrate from this plant is discharged through the regional Salinity Management Pipeline, making the RMWTP the first membrane treatment plant to utilize this brine line. This plant is the first of several similar facilities that will operate in the watershed to augment potable water supplies and reduce overall salinity, and it serves as a model for future projects in arid coastal regions. This recent success at the RMWTP has furthered Stantec’s already extensive experience with RO facilities.

5.4 Pure Water San Diego Program – City of San Diego Public Utilities Commission

PROJECT DURATION AND STATUS

- 1993 - 2020

PROJECT REFERENCE

- Amer Barhoumi, Lead Project Manager
(858) 292-6364

KEY PERSONNEL ON PROJECT

- Jim Borchart, Zakir Hirani, Tyler Hadacek, Kyleen Marcella, Christopher Mote, Sarah Garber



Due to limited local water sources, 85% of the City of San Diego’s water is imported from the Colorado River and California State Water Project (SWP)—the cost of imported water is rising, having almost tripled in the last 10 years. This lack of control makes San Diego more vulnerable to drought, seismic events and climate change and threatens San Diego’s water reliability. In 2015, the City retained the Stantec Team to provide program management services for the \$2.7B Pure Water Program. The Pure Water Program will help the City overcome its water challenges by transforming the City’s water system into a complete water cycle that maximizes use and reuse of the City’s water supply.

A large part of startup was the validation of the Pure Water Program. Through the validation effort, Stantec helped the City establish the baseline budget, schedule, and list of projects that comprise the Pure Water Program. Stantec also took a leading role in the preliminary design of several key facilities of the Pure Water program. In particular the North City Pure Water Facility (NCPWF) preliminary design effort consisted of alternative development and evaluation, and 10% and 30% preliminary design for two potable reuse concepts. Our Team led workshops to assist the City in determining the best available alternative, and have been collaboratively working with all departments (operations, engineering, planning, permitting) to ensure that the facility design works for all.

The selected design will augment the Miramar Reservoir and includes ozone, biological activated filters (BAF), membrane filtration (MF), reverse osmosis (RO), UV advanced oxidation (UV/AOP), post stabilization including lime and carbon dioxide injection, and chemical storage and injection systems. As part of the 30% Design, the Stantec Team also compiled the bidding documents for the pre-procurement of both the MF and UV/AOP systems and assisted in bid evaluation and selection. Bid evaluation included equipment life cycle evaluation and are based on initial capital cost, and anticipated chemical and power costs.

Our team’s technical expertise in advanced treatment of reclaimed water is demonstrated in the 30% design of the North City Pure Water Facility. The treatment process includes BAF, MF, RO, UV-AOP, and various chemical systems. An evaluation of nitrate removal was involved due to strict nitrogen discharge limits into the surface water reservoir.

Additional project elements included investigation of supplemental nitrate removal using ion exchange, closed-loop third stage RO treatment for improved product water recovery and alternative product water stabilization options including specialty equipment and system suppliers and alternatives such as quicklime, hydrated lime, calcium chloride approaches, and decarbonators. For each alternative evaluation, our team prepared cost estimates and provided recommendation to the City.

Stantec is currently performing bench scale testing and desktop evaluations of the impacts of purified water on the Miramar Reservoir and treatability and corrosion potential at the Miramar Water Treatment Plant.

6 Schedule

For the project schedule we have estimated a duration of six months as seen in the schedule below. Our proposed schedule includes all tasks required from Notice-To-Proceed to completion of the Preliminary Design Report. The following is a brief summary of our proposed schedule milestones:

Notice to Proceed: November 6, 2017

JPA Workshop to present Alternatives Analysis: February 6, 2018

Summer Season Compliance Method Study: February 20, 2018

Present Final Preliminary Design Report to JPA Board: May 1, 2018

We are confident this schedule can be achieved if all coordination work is performed on a timely manner. Stantec will revise and update the schedule during the project execution to reflect any changes that may occur. It is our intent to work closely with JPA staff to successfully complete the work in a manner that is within budget and on schedule.

	Months						
	Nov	Dec	Jan	Feb	Mar	April	May
Project Management		◆	◆		◆	◆	
Kick-Off Meeting	◆						
QA/QC							
Compliance Method Study							
JPA Workshop				◆			
CEQA							
Preliminary Design							
JPA Board Meeting							◆

◆ = Monthly Progress Meeting

7 Certificate of Professional Liability Insurance



CERTIFICATE OF LIABILITY INSURANCE

5/1/2018

DATE (MM/DD/YYYY)
9/7/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Lockton Companies 444 W. 47th Street, Suite 900 Kansas City MO 64112-1906 (816) 960-9000	CONTACT NAME:	
	PHONE (A/C, No, Ext):	FAX (A/C, No):
INSURED 1415077 MWH CONSTRUCTORS, INC. SLAYDEN CONSTRUCTORS, INC. STANTEC CONSULTING SERVICES, INC. 8211 SOUTH 48TH STREET PHOENIX AZ 85044	INSURER(S) AFFORDING COVERAGE	
	INSURER A: Zurich American Insurance Company	NAIC # 16535
	INSURER B: Travelers Property Casualty Co of America	25674
	INSURER C: American Guarantee and Liab. Ins. Co.	26247
	INSURER D:	
	INSURER E:	

COVERAGES CERTIFICATE NUMBER: 14937069 REVISION NUMBER: XXXXXXXX

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> CONTRACTUAL/CROSS <input checked="" type="checkbox"/> XCU COVERED GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input checked="" type="checkbox"/> LOC <input type="checkbox"/> OTHER:	Y	Y	GLO5415704	5/1/2017	5/1/2018	EACH OCCURRENCE \$ 2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 25,000 PERSONAL & ADV INJURY \$ 2,000,000 GENERAL AGGREGATE \$ 4,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 \$
B B	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY <input type="checkbox"/> OTHER:	Y	Y	TC2J-CAP-8E086819 TJ-BAP-8E086820 TC2J-CAP-8E087017	5/1/2017 5/1/2017 5/1/2017	5/1/2018 5/1/2018 5/1/2018	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ XXXXXXXX BODILY INJURY (Per accident) \$ XXXXXXXX PROPERTY DAMAGE (Per accident) \$ XXXXXXXX \$
C	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$ 10,000	N	Y	AUC9184637	5/1/2017	5/1/2018	EACH OCCURRENCE \$ 5,000,000 AGGREGATE \$ 5,000,000 \$ XXXXXXXX
B B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	N/A	TC2J-UB-8E08592 (AOS) TRJ-UB-8E08593 (MA, WI) EXCEPT FOR OH ND WA WY	5/1/2017 5/1/2017	5/1/2018 5/1/2018	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000

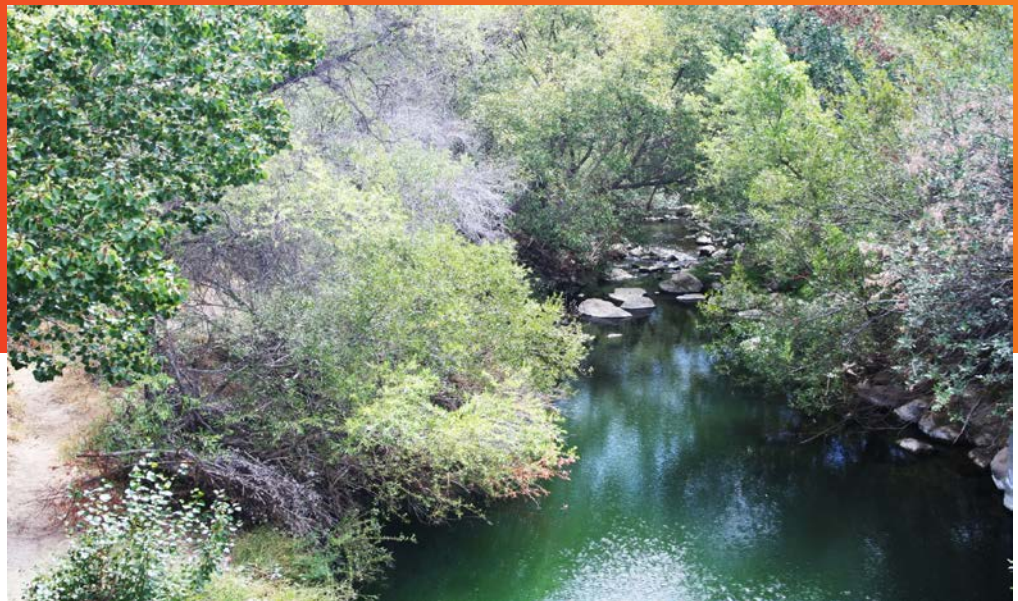
DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
 RE: PROJECT NAME REQUEST FOR PROPOSALS TITLE XVI FEASIBILITY STUDY. SEE ATTACHED.

CERTIFICATE HOLDER 14937069 LAS VIRGENES TRIUNFO JOINT POWERS AUTHORITY (JPA) ATTN: YVONNE LUCAS 4232 LAS VIRGENES ROAD CALABASAS CA 91302	CANCELLATION See Attachments SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE
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Prepared for
Las Virgenes – Triunfo
Joint Powers Authority

Tapia Water Reclamation Facility Summer Season Waste Load Allocation Compliance Study

September 2017



Fee Proposal





September 21, 2017

Mr. Brett Dingman, P.E.
Las Virgenes Municipal Water District
4232 Las Virgenes Road
Calabasas, CA 91302

Subject: Fee Proposal for Tapia Water Reclamation Facility Summer Season Waste Load Allocation Compliance Study

MWH, now part of Stantec Consulting Services, Inc. (Stantec), has prepared the cost to perform engineering services for our proposal. The level of effort and estimated fee are presented in the following table. Costs are itemized by subtask in accordance with the Scope of Work, and include indirect costs. A Schedule of Hourly Rates is also provided summarizing rates based on staff classification. Stantec proposes to conduct this work on an hourly rate basis.

If you have any questions, please contact James Borchardt at (626) 568 6283.

Sincerely,
Stantec Consulting Services, Inc.

James H. Borchardt, PE
Vice President
Project Manager

Fee Estimate

Tapia WRF Summer Season Waste Load Allocation Compliance Study

Task	ACTIVITY DESCRIPTION										LABOR FEE	Other Direct Costs (ODCs) with Markups	Total Fee
	Project Manager	Principal Professional I	Supervising Professional	Senior Professional	Professional	Associate Professional	Supervising Admin Assistant	Administrative Assistant	TOTAL LABOR HOURS				
	\$300/hr	\$260/hr	\$200/hr	\$160/hr	\$140/hr	\$120/hr	\$120/hr	\$120/hr	\$115/hr				
1.0	16	12	28	0	4	0	16	16	16	92	\$17,840	\$1,000	\$18,990
1.1	4	4	4							12	\$3,040	\$500	\$3,615
1.2	4	4	4		4					16	\$3,600	\$500	\$4,175
1.3	4	4	4							12	\$3,040		\$3,040
1.5	4		16				16		16	52	\$8,160		\$8,160
2.0	8	22	18	4	76	72	0	0	0	200	\$31,640	\$0	\$31,640
2.1	2	2	2		8	8				22	\$3,600		\$3,600
2.2	2	16	10	2	48	40				118	\$18,600		\$18,600
2.3	4	4	6	2	20	24				60	\$9,440		\$9,440
3.0	6	40	0	40	40	100	0	0	0	226	\$36,200	\$1,000	\$37,350
3.1	6	40		40	40	100				226	\$36,200	\$1,000	\$37,350
4.0	18	30	36	28	100	184	0	0	0	396	\$60,960	\$500	\$61,535
4.1	8	20	24	16	60	124				252	\$38,240		\$38,240
4.2	8	6	8	8	20	40				90	\$14,440		\$14,440
4.3	2	4	4	4	20	20				54	\$8,280	\$500	\$8,855
TOTALS	48	104	82	72	220	356	16	16	16	914	\$146,640	\$2,500	\$149,515

STANTEC SCHEDULE OF HOURLY RATES

Tapia Water Reclamation Facility Summer Season Waste Load Allocation Compliance Study

The project is proposed to use hourly rates as the basis of the fee estimate. The following table represents a typical value of personnel classification.

SCHEDULE OF HOURLY RATES BILLING CLASSIFICATIONS	HOURLY RATES
Project Manager	\$300.00
Principal Professional II	\$290.00
Principal Professional I	\$260.00
Supervising Professional	\$200.00
Senior Professional (Project Engineer)	\$160.00
Professional	\$140.00
Associate Professional	\$120.00
Supervising Admin Assistant	\$120.00
Admin Assistant	\$115.00

Compensation is based on a single not-to-exceed fee based on the following contract terms:

1. Payment of the invoiced amount for the professional engineering services shall be based on monthly invoices describing the work performed and expenses incurred during the preceding month.
2. Non-salary expenses and outside services attributable to the Project shall include:
 - Traveling expenses including mileage of employees when away from the home office on business connected with the services;
 - The identifiable costs of reproduction, printing and binding applicable to the project;
 - The actual cost of outside and subcontracted services, and other direct costs identifiable to the project, will be charged at the above-stated cost plus 15 percent mark-up to cover overhead, administration, other indirect costs and profit.
3. Payment shall be due within 30 days after date of monthly invoice describing the work performed and expenses incurred during the preceding month.
4. Stantec rates for 2017 may be escalated by 3% if the project goes beyond July 30, 2018.

APPENDIX A

Resumes

Jim Borchardt, PE

Project Manager

Jim Borchardt has 38 years of experience in project management and engineering for water treatment, conveyance, and storage facilities. He is an award winning water treatment expert and is one of the lead authors of the MWH Water Treatment Principles and Design Text Book (3rd Edition) that is used to teach water treatment in universities across the country. Jim has completed water quality studies, bench and pilot scale testing, facility planning and design, process evaluation, site development, hydraulic analysis, treatment plant design, construction management, and startup and operation of treatment projects with a total value of more than \$2B. Jim has served as project manager for over 200 treatment projects and technical advisor on more than 300 additional facilities.

EDUCATION

MS, Environmental Engineering, University of North Carolina

BS, Civil Engineering, Colorado State University

REGISTRATIONS

Professional Engineer – CA, CO, NV

PROJECT EXPERIENCE

Technical Coordinator, Basis of Design Report for Recycled Water Reuse Alternatives, Las Virgenes Municipal Water District (LVMWD), Calabasas, CA

Jim led the delivery of the Basis of Design Report for LVMWD as a continuation of the Recycled Water Seasonal Storage Plan of Action Study. The project involves evaluating two alternatives for future use of LVMWD's recycled water; one alternative involves leasing a reservoir from LADWP for use as seasonal storage while the other is looking at utilizing LVMWD's existing potable reservoir for use in an Indirect Potable Reuse scheme.

Project Manager, Recycled Water Seasonal Storage Plan of Action, Las Virgenes Municipal Water District (LVMWD), Calabasas, CA

Las Virgenes Municipal Water District seeks to offset imbalance between seasonal recycled water supply and demand through the construction of a recycled water storage facility, or other means that would allow them to use more of their recycled water throughout the year. Jim was project manager for this project, which called for three public workshops and interviews with the Joint Powers Authority (JPA) Board of Directors in order to create a roadmap and public consensus for a storage and/or IPR reuse project.

Project Manager, Weymouth Water Treatment Plant Filter Rehabilitation Demonstration Study, Metropolitan Water District of Southern California, La Verne, CA

The Weymouth WTP is a 520-mgd plant with 48 dual-media gravity filters. The original filters have been in operation for more than 70 years, but suffer from high rates of media loss, air entrainment, and capacity limitations. To determine the best approach to rehabilitate all of the plant filters, a demonstration study involving the rehabilitation of four "demonstration filters" was undertaken. The operation of the four filters was studied for 16 months to determine the design that will provide the best long-term performance, while minimizing media loss and overall construction cost. Based on the optimum design, the design of all 48 plant filters was completed to fully rehabilitate the plant for biological filter operations.

Technical Director, Water Treatment Plant Expansion and Disinfection-By-Product Control Project, Antelope Valley East Kern Water Agency, CA

Jim led the planning and pilot studies, through detailed design services, construction support, and start-up for the expansion and upgrade of four WTPs. These plants ranged in size from 4 to 90 mgd. The four treatment plants (Quartz Hill, Eastside, Acton, and Rosamond) were upgraded to include intermediate ozonation, deep-bed GAC filtration, and chloramines. Standby disinfection was also provided with the addition of chlorine contact basins. The largest treatment plant was expanded to 90 mgd by the addition of plate settler modules and new sludge removal mechanisms to the existing sedimentation basins. The work required coordination of three main contractors and more than a dozen equipment suppliers, and included final start-up and commissioning services.

Project Manager, Surface Water Treatment Facility, City of Fresno, CA

As project manager, Jim led a team whose responsibilities included site development and master planning, water supply planning, pipeline routing, predesign studies, bench-scale testing program, preparation of a watershed sanitary survey, detailed design, construction support, and start-up engineering services for this surface water treatment facility. Other key issues included satisfying regulatory requirements for the raw water supply, permitting, maintaining distribution system water quality during introduction of a surface water supply into a groundwater system, and staffing and start-up of the City's first surface water treatment facility. This project was located adjacent to neighborhood schools, and Jim spent significant time leading public meetings to address both aesthetic and safety concerns, and to develop an acceptable architectural concept.

Process-Mechanical Design Lead, Pure Water Advanced Water Purification Facility IPR/DPR, City of San Diego, CA

As part of the overall \$3B Pure Water Program, Jim serves as the process-mechanical design lead engineer for the Advanced Water Purification Facility (AWPF). The work includes completion of two concurrent predesign efforts for 30 mgd of Indirect Potable Reuse (IPR) and Direct Potable Reuse (DPR), using Title 22 effluent from the City's North City Water Reclamation Facility. Processes include ozonation, biologically activated carbon filtration, MF/UF membrane filtration, 3-stage reverse osmosis, advanced oxidation with UV/H₂O₂, chemical stabilization with lime, and final disinfection with chlorine. The City will make a decision between IPR and DPR following detailed comparison of the predesigned alternatives.

Technical Director, Otay WTP Upgrade, City of San Diego, San Diego, CA

Jim served as technical director on this \$25M upgrade of the Otay Water Treatment Plant. The project involved extensive evaluation of process technologies with bench-scale testing, prior to developing an implementation plan. The resulting design and construction consisted of a new flocculation and sedimentation basin, upgrades to the 16 existing filters, new PAC and chlorine dioxide facilities, and a new Process Control System. The new basin includes three stage flocculation, plate settlers, and SuperScraper sludge collection system. Filter upgrades included a pumped backwash system, filter-to-waste, surface wash and new underdrains and media. The plant produces up to 31 MGD of potable water and serves a large portion of the San Diego area. The design and construction was carefully sequenced to allow continued operation of the water treatment plant while providing reliable treatment and process control throughout all

interim construction phases.

Technical Director, Corona Del Mar Water Treatment Plant Upgrades and Modifications, Goleta Water District, CA

Jim served as technical director under a Design-Build contract for upgrades and modifications to an existing 30-year-old, 36 mgd conventional surface water treatment plant. In addition to water treatment process modifications, a key component to this design-build project was the requirement for LEED® certification of the new laboratory, administration, and control building. The project team was responsible for improvements and upgrades to the sedimentation basins, chemical storage and feed, filter buildings, filter gallery, pre-treatment system, backwash basin, and sludge drying beds. Jim was nominated by the District and received the Engineer of the Year Award in Santa Barbara County for this work.

Project Manager, Perris Filtration Plant Reject Recovery Facility, Eastern Municipal Water District, Perris, CA

Jim served as Project Manager for the predesign, design, and engineering services during construction for the 1.2 mgd reject recovery facility (RRF) at the Perris WFP. Prior to this project, the reject from the 24 mgd membrane plant was discharged directly to sewer. This project provided for the recovery of up to 90% of this water by installation of second stage membrane treatment. The facilities include two high efficiency membrane tanks equipped for three cassettes each of GE 500d membranes. Separate CIP and Neutralization tanks are provided to ensure complete separation of processed water. Treated reject water will initially be returned to the head of the plant, with the intention of seeking a CDPH permit waiver to discharge directly to the plant clearwell. Provision is included for the future addition of UV disinfection on the process stream, based on negotiations with CDPH on the permit.

Technical Director, Jensen Solids Handling Facilities Project, Metropolitan Water District of Southern California, CA

Jim serves as technical director for the solids handling facilities project at the 750-mgd Jensen WTP. In this role, he is responsible for managing all technical aspects of the project, including concept development, discipline engineering, and presentation of results to Metropolitan Water District. Preliminary design was completed for equalization, thickening, four pump stations, temporary and permanent lagoons, belt presses, and elevated storage hoppers and conveyors for processing up to 40 tons of dry weight solids per day. Final design of thickeners and lagoons is complete.

Roger Stephenson, PhD, PE, BCEE

Technical Advisor

Dr. Stephenson has over 30 years of experience in environmental engineering with an emphasis on wastewater treatment. He has served as project manager or engineer for the evaluation, design, and construction of numerous facilities for industrial and municipal wastewater treatment and sludge treatment and disposal. Dr. Stephenson's technical expertise includes biological nutrient removal, UV disinfection, and other water reclamation processes.

EDUCATION

PhD, Sanitary Engineering, Iowa State University

MS, Sanitary Engineering, Iowa State University

BS, Civil Engineering, Iowa State University

REGISTRATIONS

Professional Engineer (Civil) – CA, NV, IA

Board Certified Environmental Engineer – American Academy of Environmental Engineers and Scientists

PROJECT EXPERIENCE

Technical Advisor, Valley Sanitary District Wastewater Treatment Plant Master Plan, Valley Sanitary District, Indio, CA

Dr. Stephenson served as the technical advisor for the Valley Sanitary District wastewater master plan. The Valley Sanitary District Wastewater Treatment Plant treats an average of 6 mgd from the Indio sewershed. The liquid treatment process includes headworks, grit removal, and primary sedimentation, aeration basins with returned activated sludge, secondary sedimentation, and disinfection. On the solids side, primary sludge is anaerobically digested, and waste activated sludge is digested in aerated ponds. Dr. Stephenson assisted the team in the evaluation of various existing wastewater treatment processes capacities, flow projection over a 50 year planning horizon, and recommendations for upgrades and treatment unit additions to the treatment plant. Part of this Master Plan evaluated potable reuse options and recommended treatment processes for non-potable reuse.

Project Manager, Tapia WRF Disinfection Facilities Upgrades, Las Virgenes Municipal Water District

Dr. Stephenson was the project manager for the

evaluation and preliminary design of upgrades to the Tapia Water Reclamation Facility's disinfection process to reduce total and specific trihalomethane compound concentrations in the effluent. Disinfection modifications include ammonia addition for chloramination and ultimate conversion for base flow disinfection by UV with chloramination of excess flows.

Technical Advisor, Wastewater Treatment Plant Evaluation Alternatives Evaluation, Elsinore Valley Municipal District, CA

Dr. Stephenson provided the technical assistance to the team on the Elsinore Valley Municipal District (EVMWD) Regional wastewater treatment plan evaluation project. The main goal of the study was to determine whether it is economical to centralize wastewater treatment at EVMWD Regional Plant, or to send part of the remote flows to a smaller plant at Alberhill and to a neighboring district, the Rancho California Water District (RCWD). Dr. Stephenson performed detailed QA/QC on the alternative evaluation and provided assistance and direction to the team. He was responsible for the review of all deliverables. MWH evaluated several treatment alternatives for expansion of Regional plant and for building a new satellite plant. For each alternative, for both plants, MWH sized the processes, developed layout and prepared the cost estimate. A net present value was calculated over a 25-years horizon for the different alternatives, which required evaluation of O&M costs and R&R costs associated with treatment and conveyance. The alternatives were ranked based on the criteria developed in conjunction with the District staff.

Task Lead and Design Review, Solids Handling, Orange County Sanitation District, Fountain Valley, CA

Dr. Stephenson assessed truck loading alternatives for current and future needs for the Plant 2 Solids Handling Upgrades. Based on the alternatives identified and analyses that project and its cost to be deferred. Facilities designed include DAFT improvements, digester modifications and rehabilitation, and odor control. For an

associated project at Plant 2, he was task leader for the evaluation of the 90-mgd pure-oxygen activated sludge system. That resulted in an operational recommendation that substantially improved the settleability of the mixed liquid solids at no additional cost and avoided expensive process modifications previously recommended.

City of Las Vegas, Water Pollution Control Facility Expansion and Upgrade/Water Pollution Control Facility (WPCF) Odor Control and Other Projects, NV

Dr. Stephenson led the evaluation and development of requirements for the expansion of the WPCF. This nutrient removal facility has separate and different treatment processes, and requires odor control and process modifications, and system replacement to continue to meet stringent phosphorus and ammonia limitations into the future. He also provided process engineering oversight and review for the design of the odor control, thickened sludge blending, and ancillary process upgrades at the WPCF. The projects include the evaluation and detailed design of odor control and other improvements at the WPCF. Dr. Stephenson was also the task leader for assessment of existing unit processes and operations, and electrical area classifications. He is currently technical advisor and reviewer for a digester condition assessment and rehabilitation design of upgrades estimated at \$20M.

Project Manager, Hyperion Solids Handling and Truck Loading Facility, City of Los Angeles, Bureau of Sanitation, CA

Dr. Stephenson was the project manager for the development and evaluation of alternatives for proposed new solids handling and truck-loading facilities for the City of Los Angeles' 450-mgd Hyperion Treatment Plant. This project identified alternatives for high-solids centrifuge dewatering and automated truck-loading facilities for projected future biosolids quantities as great as 500 dry tons per day. Key criteria for the new facilities included odor containment and control, dewatered cake storage, and maintaining dewatered cake temperature at 1350 F to preserve the Exceptional Class A and rating of the biosolids produced by the facility's thermophilic anaerobic digestion process.

Task Lead, Groundwater Reliability Improvement Program (GRIP), Water Replenishment District, CA

Dr. Stephenson was Task Leader the treatment facilities evaluations for the GRIP Recycled Water Project feasibility study for the Water Replenishment District of Southern California (Lakewood, CA) and Los Angeles County Sanitation Districts (Whittier, CA). The project's goal is to offset the current use of imported water by providing up to 21,000 AFY of recharge using recycled

water as a reliable source of basin replenishment. This work was done in conjunction with another major consulting firm. The supply source, level of treatment required, source water from existing water reclamation facilities were assessed. The recharge source water availability was evaluated relative to historic recharge capabilities of the system.

Project Manager, Lancaster Water Reclamation Plant Expansion (LWRP), Los Angeles County Sanitation Districts, Lancaster, CA

Dr. Stephenson was Project Manager for the preliminary and detailed design of an expansion and upgrade of the 16 mgd LWRP. The existing facility provided primary and secondary (oxidation pond) treatment with solids digestion and air-drying. New facilities were required to increase plant capacity and upgrade treatment for nitrogen removal and to produce recycled water for unrestricted reuse. The preliminary design considered staged implementation to a capacity of 26 mgd and developed the site for a future capacity of 52 mgd. Detailed design of the first stage provided a full-capacity activated sludge system with step-anoxic nitrogen removal and the addition of tertiary filtration and disinfection systems. Support facilities for this major upgrade included expanded anaerobic digestion and the addition of centrifuge solids dewatering.

Technical Specialist, New York City Department of Environmental Protection (NYCDEP) Rockaway WPCP Recovery, City of New York, NY

On October 29, 2012, Hurricane Sandy hit the Eastern US, producing a storm surge in New York City of more than 13 feet, leaving millions without power and inundating the City's Rockaway Water Pollution Control Plant (WPCP). Dr. Stephenson was one of three technical experts called upon for emergency assessment, design and planning response to restore operation of the 45-mgd (90-mgd wet weather) wastewater treatment facility. As a member of the team of 14 MWH staff supporting NYCDEP Incident Command, a comprehensive, up-to-date asset inventory was generated to prioritize and track all plant repairs. Over 300 work orders were generated to aid in the recovery that successfully brought the plant back on-line. Overall 99% of the City's wastewater was treated within five days of the storm, and 100% within two weeks.

1995-Present, Instructor, University of Southern California

Dr. Stephenson is an instructor in the Civil Engineering Department of the University of Southern California for water quality engineering and wastewater treatment plant design courses at both the undergraduate and graduate levels.

Donal Bassett PE, BCEE

Technical Advisor

Mr. Bassett has over 35 years of experience in civil and environmental engineering, and is a senior vice president, principal engineer, and senior project manager for the firm. Mr. Bassett has directed numerous municipal planning efforts, including facility and master plans that involved project reports, pilot testing, environmental assessments, alternatives assessments, and coordination with revenue plans. Each planning effort incorporated the development of alternative process systems coupled with a detailed cost-effectiveness analysis. He has managed designs of treatment and reuse systems with values in excess of \$1 billion. Designs have included conventional treatment systems as well as advanced processes for liquid and solid streams. For a number of these designs, alternative delivery approaches have been employed. He has extensive experience in program management effort for both water and wastewater improvement. Mr. Bassett has also served in a special technical advisory capacity for a number of municipalities.

EDUCATION

MS/MSc, Civil Engineering, Stanford University

BS/BSc, Civil Engineering, University of Loyola (Los Angeles)

REGISTRATIONS

Professional Engineer (Civil) - CA, AZ, NV, LA, FL

Board Certified Environmental Engineer,
American Academy of Environmental
Engineers

PROJECT EXPERIENCE

Project Manager, Hyperion Advanced Water Purification Facility, Los Angeles, CA

Mr. Bassett is serving as the Project Manager for the implementation of the Hyperion Advanced Water Purification Facility (HAWPF). The facility is being implemented using a progressive design-build delivery approach. The processes employed include fine screens, membrane bioreactors, reverse osmosis and ultra-violet disinfection with advanced oxidation. Also included are product water pumping, conveyance and storage facilities. This 1.5 mgd (expandable to 5 mgd) facility provides high quality water to the Los Angeles World Airport and the Scattergood Power Plant, as well as internal Hyperion Plant uses. The firm, along with another major consultant, is serving as the owner's agent for project delivery. Challenges included the siting and configuration of a new set of treatment facilities within the confines of a very constrained area. Connections to plant systems including influent feed, waste disposal and support utilities were defined for the design-builder. Guidance and minimum design standards were provided as well. Control

narratives were supplied to provide Operations staff an understanding of the different components, their operations and the controls required to integrate these components into an integrated system. Third party operations is under consideration for the initial period. As this represent a "first" for project delivery of this type, standard procurement documents are being revised to reflect progressive design-build delivery. Prequalification of key equipment was undertaken to ensure provision of quality components.

Project Manager, Wastewater Treatment Plants Design, Miami Dade Water and Sewer Department, Miami, FL

Mr. Bassett served as the project manager for wastewater treatment plants design associated with the Miami Dade Water and Sewer Department's (MDWASD) consent decree program. The consent decree outlines the activities to be undertaken to reduce exceedances of treated effluent limitations and includes rehabilitation and improvements at each of the three treatment plants owned by MDWASD. The combined permitted capacity of these plants exceeds 375 mgd. All improvement projects to these plants must be completed on or before 15-years from the date of lodging of the consent decree. There are 52 discreet wastewater treatment plant improvements outlined within this consent decree with a total estimated capital value of \$1 billion. These plants serve a population of over 2.3 million people. Facilities include all liquid treatment and solids management systems at these plants. Implementation approaches included conventional design-bid-build as well as alternative delivery methods including pre-purchase, design-build and vendor furnish/install. The rehabilitation of the three plants is complex in nature due to many equipment systems and structures in excess of 30 years old. Extensive

use of laser reality capture is being used to efficiently produce accurate “as-built” representations of existing systems. For design, major facilities will employ 3D Building Information Modeling (BIM) with model development to Level 350 as defined by the BIM Forum Level of Development specifications.

Project Director, Central Plant Membranes Phase 2, Clark County Water Reclamation District (CCWRD), Las Vegas, NV

Mr. Bassett directed the design of the \$110M worth of membranes and ozone facilities expansion for CCWRD. The expanded facilities included fine screens, membranes, ozone for disinfection, and support systems providing chemical storage/feed and waste wash water management. The pre-qualifications and pricing negotiations were conducted with two key process equipment suppliers – membranes and ozonators. MWH is serving as the Owner’s representative for an alternative delivery (design/build) implementation. Design/build provides the District several significant benefits and represents the largest design/build project undertaken by the District. Advanced visualization techniques were employed to provide District staff a basis for project review and design input.

Project Manager, Santa Clarita Valley Facilities Plan, County Sanitation Districts of Los Angeles County (CSDLAC), Los Angeles, CA

In collaboration with CSDLAC and another major consulting firm, Mr. Bassett served as the project manager for the CSDLAC’s Santa Clarita Valley Facilities Plan. The objective of this study was to assess means for chloride reduction within the corresponding watershed tributary to the Santa Clara River. The recommended approach includes 3.5 mgd of microfiltration (MF)/reverse osmosis (RO)/advanced oxidation process (AOP) treatment, procurement of supplemental water supplies, 12 miles of permeate pipeline, 10 extraction wells, and brine disposal by deep well injection. A wide range of alternatives were developed, assessed, and screened in arriving at this recommended plan. The facilities planning effort was done in conjunction with the preparation of a supporting Environment Impact Report (EIR) document.

Project Manager, Aeration System Evaluation, Hyperion Treatment Plant, City of Los Angeles, Los Angeles, CA

Mr. Bassett served as the Project Manager for the study and design associated with aeration improvements at the City of Los Angeles’ Hyperion Treatment Plant. Mr. Bassett recommended modifications from coarse bubbles to fine bubbles aeration permitted an increased secondary treatment capacity from 100 mgd to 200 mgd with a net power cost savings and no major structural changes. This

effort involved the pre-qualification of a single vendor for supply of the equipment, the negotiated sole-source purchase of the equipment system, and the onsite inspection of materials prior to shipment.

Program Director, Hyperion Solids Handling Program, City of Los Angeles, Los Angeles, CA

Mr. Bassett served as Program Director of the Hyperion Solids Handling Capital Improvement Program at the City’s 400-mgd wastewater treatment facility. This \$400M effort involved sludge dewatering, drying and combustion as well as cogeneration. Innovative technologies include high cake solid centrifuges, indirect rotary steam dryers, alternative fuels to the fluidized bed combustor and combined cycle cogeneration. He oversaw the planning, design, construction management and start-up—managing a total project staff that exceeded 100 personnel with 50 separate project efforts. City and consultant staffs were co-located for this assignment, functioning as an integrated team. In connection with this effort, a customized Program Management Control System (PMCS) was developed. This system was designed to track expenditures, progress, staffing and schedule.

Panel Lead, Biological Nutrient Removal Program Expert Panel, City of New York, NY

Mr. Bassett is served as the lead for New York City’s Expert Review Panel to assess the current status of the City’s biological nutrient removal program. This panel consists of consultants from four separate firms and interacts directly with the City’s design and construction management consultants. The biological nutrient removal program includes five separate treatment plants with multiple projects. The nutrient removal program has a challenging consent order schedule associated with it, and a capital value of approximately \$1B.

Technical Advisor, AMP3 Program, United Utilities Warrington, UK.

Mr. Bassett has served as a Technical Advisor on a number of the wastewater projects undertaken in connection with the United Utilities Asset Management Program (AMP) 3 Program. United Utilities provides water and wastewater services to 7 million domestic users and 200 thousand commercial interests. Mr. Bassett reviewed design concepts for improvements to the 40-mgd Liverpool Wastewater Treatment Works. Like WASD’s plants, this facility will be facing more stringent discharge requirements in the future, and is currently challenged in meeting existing permit standards. A wide variety of technologies and approaches were evaluated to achieve long-term compliance in a cost-effective manner.

Zakir Hirani, PE, BCEE

Process Design Lead

Zakir Hirani is a licensed Process Engineer with expertise in physiochemical and biological treatment of water and wastewater. Experienced in several aspects of water and wastewater treatment including pilot studies, conceptual process design, modeling, detailed design, engineering services during construction, start-up/commissioning and process troubleshooting. Process design experience with microfiltration and ultrafiltration (MF/UF), membrane bioreactors (MBR), reverse osmosis (RO), ozone, ultra-violet disinfection (UV), advanced oxidation processes (AOP including UV/H₂O₂ and Ozone/H₂O₂). Mr. Hirani has worked on numerous advanced water treatment (AWT) projects including MWD's AWT Demonstration Facility, City of LA's Hyperion Advanced Water Purification Facility and City of San Diego's Pure Water Program.

EDUCATION

MS, Environmental Engineering, University of Southern California

BE, Civil Engineering, Maharaja Sayajirao University of Baroda, India

REGISTRATIONS

Professional Engineer – CA

Board Certified Environmental Engineer

PROJECT EXPERIENCE

Lead Process Engineer, Advanced Water Treatment (AWT) Demonstration Facility, Metropolitan Water District of Southern California, CA

Zakir led the process design of the AWT Demonstration facility, consisting of MBR, RO and AOP (UV/H₂O₂) process train that will be utilized to collect sufficient operational and water quality data for design of a 150-MGD AWT facility at the Joint Water Pollution Control Plant in Carson, CA. While using MBR as a pretreatment to RO, the facility will be first of its kind to seek approval of the MBR-RO-AOP process train for indirect potable reuse.

Lead Process Engineer, Conceptual Design of the 150-MGD AWT Facility, Metropolitan Water District of Southern California, CA

Zakir led the conceptual design of a 150-MGD AWT facility consisting of MBR-MF-RO-AOP process train. Upon successful completion of the demonstration testing, the facility layout will be modified to include MBR-RO-AOP train that will be used for indirect potable reuse.

Technical Reviewer, Conceptual Design of AWT Facilities, City of Los Angeles, Bureau of Sanitation, CA

Zakir reviewed the conceptual design of a 2-MGD AWT Production Facility and a 0.5-MGD AWT Demonstration Facility. Both facilities included MBR-RO-AOP process train. The Demonstration Facility is intended to collect sufficient operational data for future modification of the high-purity oxygen Hyperion WWTP into a MBR facility and the Production Facility is intended to produce high quality effluent for use at the Los Angeles World Airport (LAWA), Scattergood Power Plant and on-site plant use.

Technical Reviewer, Pure Water Program, City of San Diego, CA

Zakir was a technical reviewer for a 34 MGD AWT facility consisting of MF/UF, RO and UV/AOP processes to treat secondary effluent from the North City Water Reclamation Plant. The treated effluent will be used for augmentation of either the San Vicente or Miramar reservoir.

Lead Process Engineer, Conceptual Study for AWT Facility, Las Virgenes Municipal Water District, CA

Zakir led the conceptual design of a 1-MGD AWT Facility intended to achieve effluent total nitrogen and total phosphorus limits of 1.0 and 0.1 mg/L, respectively. Two treatment trains were evaluated during the study – MBR-RO and MF-RO-IX, for treatment of secondary effluent from Tapia Water Reclamation Facility to augment the flow to the Malibu Creek. Cost estimates were developed for each treatment train.

Project Technical Lead, Water Recycling Demonstration Project, City of Anaheim, CA

Zakir led the process design of a 100,000 gpd decentralized water recycling facility using MBR and ozone to produce recycled water that meets CDPH's Title

22 requirements. He completed the process design of the treatment facility from the preliminary design phase to the final design, performed the engineering services during construction and led the plant commissioning and permitting process.

Project Engineer, Evaluation of New MBR Systems for Water Reclamation, Bureau of Reclamation

Zakir evaluated operational and water quality performance of five new MBR systems (Koch/Puron, Huber, Kruger, Norit, Asahi/Pall) with capacities ranging from 5,000-51,000 gpd. He also evaluated the performance of new generation RO membranes while operating on MBR effluent. Developed the cost estimates for 1-MGD and 5-MGD MBR installations.

Project Engineer, Integrated Membrane System (MBR-RO) Study, City of Rio Rancho, NM

Zakir evaluated the performance of MBR process (GE's MBR) followed by four different RO membranes (Osmonics, Saehan, Hydranautics and Toray). He assessed the long-term performance of MBR and RO membranes under various operating conditions and determine their efficiency in removal of emerging contaminants such as EDCs and PPCPs.

Project Engineer, Investigation of MBR Effluent Water Quality and Technology, WaterReuse Research Foundation

Zakir investigated the impact of operational parameters on effluent water quality produced by MBR process. He developed a MBR model to predict the performance of the process in removal of nutrients and emerging contaminants. The model incorporated membrane separation, was calibrated, and validated using real world data obtained from pilot and full-scale installations worldwide. The model was used to predict impact of key process parameters such as SRT, HRT and MLSS on aeration requirements and effluent water quality.

Project Manager, Evaluation of Different MBR Systems, Chino, CA

Zakir evaluated the performance of five new MBR systems (Toray, Sumitomo, Hitachi, Microdyn, Econity) to seek Title 22 approval for these systems. He worked with vendors for design, installation, start-up and commissioning.

Project Engineer, Biscayne Bay Coastal Wetlands Rehydration Pilot Project, Miami-Dade County Water and Sewer Department, FL

Zakir evaluated the limit of technologies to achieve very

low effluent nitrogen and phosphorus concentration while treating secondary effluent with two different process trains: 1) MBR, RO, and UV+H₂O₂ and 2) MBR, RO and Ozone+H₂O₂. The treated water was analyzed for a wide range of water quality parameters to evaluate its suitability for recharging coastal wetlands. He trained and supervised three junior engineers to operate and monitor the pilot systems, analyze data and troubleshoot different treatment processes.

Project Engineer, Disinfection Guidelines for Satellite Water Recycling Facilities, WaterReuse Research Foundation

Zakir surveyed and sampled 40 different MBR installations across the U.S to assess the impact of different design and operational variables on effluent water quality and subsequent disinfection requirements. The project findings defined the disinfection guidelines for MBRs including worst case scenarios such as membrane cleaning and breach.

Project Engineer, Water Reuse Study, City of San Diego, CA

The study consisted of three separate projects that evaluated performance of UF-RO-UV+H₂O₂ process train. The project was conducted in conjunction with the City's Water Reuse 2005 program which identified a 16 MGD AWT Indirect Potable Reuse (IPR) application as the most feasible option to supplement City's potable water supply.

Project Engineer, Western Corridor Water Project (WCWP), Southeast Queensland, Australia

Zakir evaluated the advanced water treatment of secondary effluent from the Gibson Island Wastewater Treatment Plant. The project objectives included characterizing the secondary effluent, evaluating the performance of the MF/UF and RO, assessing chemical phosphorus removal, evaluating RO to achieve low nitrogen limits and assessing formation potential of NDMA and sister compounds.

Engineering Intern, Los Angeles County Sanitation Districts, Whittier, CA

Evaluated biological treatment and membrane filtration performance of two different MBR systems (GE's Zenon and Kubota) utilizing dual recycle and simultaneous nitrification-denitrification (NdN) configurations. Also evaluated the efficiencies of conventional activated sludge (CAS) and MBR processes in removal of emerging contaminants.

Sarah Garber, PMP, CPP

CEQA Analysis

Ms. Garber is a principal environmental scientist with 27 years of experience in environmental impact assessments for infrastructure projects. In addition to National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) documentation, Ms. Garber also specializes in permit acquisition from a wide-range of regulatory agencies. Ms. Garber routinely conducts public scoping meetings for environmental documents, participates in stakeholder coordination meetings, and presents the environmental issues of projects at public hearings. In addition, Ms. Garber is involved in surface water investigations and permitting for stream discharges. She has worked as a field biologist, concentrating in water quality analysis, including fisheries investigations and natural resource surveys.

EDUCATION

MS, Biology, State University of New York

BS, Natural Resources, Cornell University

REGISTRATIONS

Project Management Professional (PMP)

Certified Permitting Professional (CPP)

PROJECT EXPERIENCE

Environmental Lead, Graves Reservoir Project, City of South Pasadena, CA.

For a proposed reservoir in a residential area, Ms. Garber prepared a CEQA Initial Study in accordance with the State Water Resources Control Board CEQA-Plus Guidelines for State Revolving Fund (SRF) projects. Mitigation measures were identified to reduce impacts from project construction to less than significant levels and the environmental requirements for the SRF loan were met.

Environmental Lead, Peck Reservoir and Pump Station, Manhattan Beach, CA

Mr. Garber is currently working on the CEQA documentation for the Peck Reservoir and Pump Station CEQA compliance. The project is to provide preliminary design and design phase services for a new 8 MG cast-in-place concrete reservoir, an 8.6 MGD pumping station, and new site amenities for the City of Manhattan Beach. This new facility will receive water from both City owned potable water wells and Metropolitan Water District of Southern California. The pump station will pump from the new reservoir into the distribution system. The pump station will be operated based on maintaining a set pressure in the distribution system. The new reservoir will replace an existing reservoir, the new reservoir will be

designed to meet current seismic design requirements and be hidden from view of the nearby residents.

Project Manager, Environmental Assessment and Air Quality Services, City of Los Angeles Department of Water and Power Los Angeles, Owens Valley, and Mono Basin, CA.

Ms. Garber is the overall Contract Manager for a task order based master services agreement (MSA) to provide environmental assessment and air quality services for a wide range of City projects – both water and power related. She also serves as Project Manager for task orders under another MSA with LADWP - the Eastern Sierra Water Resources Management Assistance contract. Ms. Garber has directly managed over 60 Task Orders ranging from preparation of a fast-tracked Initial Study for a stormwater pilot project (Woodman Avenue), to supervising cultural resources investigations over thousands of acres of Owens Lake (Dust Mitigation Project), to assisting the Department with environmental review of a penstock replacement (Haiwee Penstock project).

Project Manager, Mitigation Monitoring During Construction of the Under Ocean Floor Seawater Intake/Discharge Demonstration Project, Long Beach Water Department, CA.

Prior to construction of a seawater intake structure for a desalination pilot project, Ms. Garber prepared a permit compliance responsibility matrix to assist LBWD and the contractor implement mitigation measures adopted as part of the CEQA document for the project, as well as permitting requirements mandated by various regulatory agencies. Ms. Garber also managed resource monitoring necessary during construction. This included surveys for western snowy plover, night monitoring of egg deposition by Californian grunion, and monitoring of excavated soils for paleontological resources. As part of the project, excavated soils were processed to recover

fossils and the fossils were cataloged and prepared for curation at the Natural History Museum of Los Angeles County.

Permitting Lead, Peck Park Canyon Enhancement Project, City of Los Angeles Bureau of Engineering, Los Angeles, CA.

The Peck Park Canyon Enhancement Project is a Proposition O-funded recreation and habitat enhancement effort within an urban park in Los Angeles. Ms. Garber assisted the City with permit acquisition for modifications to the streambed, installation of erosion control features, and vegetation alterations. Permits were obtained from the CDFW, USACE, and the Los Angeles RWQCB.

Project Manager, San Gabriel River Sediment Management Plan, Los Angeles County Department of Public Works, CA.

Ms. Garber was Project Manager for a multi-year water quality and stream sampling program on the San Gabriel River conducted in accordance with the Sediment Management Plan that guides the removal of sediments from the San Gabriel and Morris Reservoirs. The monitoring plan was specifically intended to meet the requirements of the Los Angeles RWQCB Monitoring and Reporting Program, the Final EIS/EIR for the project, the CDFW Streambed Alteration Agreement and the Corps of Engineers 404 Permit.

Project Manager, Regulatory Compliance Projects, Elsinore Valley Municipal Water District, Lake Elsinore, CA.

The Regional Wastewater Treatment Plant discharges to both Temescal Wash (assumed habitat for the endangered least Bell's vireo and southwestern willow flycatcher) and to Lake Elsinore, an impaired water body included on the Clean Water Act Section 303(d) list. Ms. Garber managed permit acquisition for expansion of the Regional Plant from 4.0 to 8.0 mgd, installation of new discharge points in the Wash, and construction of an effluent pipeline to the lake. Coordination was required with the Santa Ana RWQCB, the U.S. Army Corps, USFWS, CDFW, SCAQMD, Caltrans, and Riverside County Flood Control & Water Conservation District. Additionally, MWH, in coordination with California State University San Bernardino, conducted 6 years of water quality monitoring on both Lake Elsinore and Canyon Lake in compliance with the Regional Board's total maximum

daily load (TMDL) program. Ms. Garber managed sample collection, data analysis, report preparation, and coordination with Regional Board staff and the TMDL stakeholders.

Lower Owens River Project Permitting and CEQA Compliance, Los Angeles Department of Water & Power, Bishop, CA.

Ms. Garber was project manager for CEQA compliance and permitting for the Lower Owens River Project (LORP) – the largest river restoration of its kind ever undertaken in the United States. Under this dynamic adaptive management project, over 60 miles of the Owens River was re-watered as mitigation for past water exportation in the Owens Valley. MWH conducted special studies to support environmental review of the project including hydrologic analysis, cultural resources investigations and biological resources surveys. Permits were obtained from the State Lands Commission, CDFW, and Lahontan RWQCB, and the U.S. Army Corps. Ms. Garber also assisted LADWP during preparation of the draft EIR/EIS and final EIR. After filing of a lawsuit by the Sierra Club, MWH also prepared a Supplemental EIR for the project focused on project impacts to the brine pool transition area of the Owens Lake. The findings of the SEIR were upheld by the court and the flows to the river were released. Ms. Garber facilitated the public meeting for the SEIR.

Lake Elsinore and Canyon Lake TMDL Monitoring, Elsinore Valley Municipal Water District, Lake Elsinore, CA and Lake Elsinore and San Jacinto Watershed Authority, Riverside, CA.

In coordination with California State University San Bernardino, MWH conducted over 6 years of water quality monitoring on both Lake Elsinore and Canyon Lake as required by the Regional Board's total maximum daily load (TMDL) program. Recent efforts included water quality and sediment sampling and analysis for Canyon Lake related to the Lake Elsinore and San Jacinto Watersheds Authority (LESJWA) alum application program. As Project Manager for these programs, Ms. Garber managed sample collection, data analysis, report preparation, and coordination with Regional Board staff and the TMDL stakeholders. Since 2006, Ms. Garber has presented data results and water quality trends to the TMDL Technical Advisory Committee and TMDL Task Force.

Christopher Mote, PE

Civil/Infrastructure Lead

Mr. Mote has over 15 years of engineering experience focusing on wet infrastructure design and construction phase services. He has worked as a project manager or project engineer on projects involving sanitary sewer collections systems, water distribution systems, recycled water distribution systems, pump stations, potable water wells, water storage facilities, water treatment plants, and wastewater treatment plants. His experience in construction phase services has honed his skills in equipment design, features to enhance operational flexibility and reliability, assistance in field start-up operations, regulatory coordination, and interdisciplinary coordination.

EDUCATION

MS, Environmental and Civil Engineering, Purdue University, West Lafayette, Indiana

BS, Environmental and Civil Engineering, Purdue University, West Lafayette, Indiana

REGISTRATIONS

Professional Engineer (Civil) – CA

PROJECT EXPERIENCE

Fairmont Pump Station, Yorba Linda, California
(Project Manager)

Chris provided project management and engineering services for the design of a 10,000 gpm pump station for the YLWD. This pump station replaces an aging pump station that is no longer meeting the demands of the existing system. This new pump station is designed to take water from the 675, and 920 pressure zones and boost it to the 780 and 1000 zones. This pump will currently include eight vertical turbine pumps totaling over 800 hp. This pump station was designed to meet local architectural standards and is designed to look like nearby homes. This pump station includes on-site sodium hypochlorite generation which will be generated from food grade salt. This facility must also be constructed while the existing facility is continuing to operate. Site investigation has found asbestos and lead paint in the existing building which will require a specific mitigation plan.

MWD On-Call Engineering Services, Los Angeles, California (Project Manager)

Chris is providing project management services for many task orders for Metropolitan Water District under our on-call services agreement. These task orders consist of staff augmentation, feasibility reports for pump stations, pipeline design, upgrading of existing hydropower facilities, and cost estimating services.

Graves Reservoir, South Pasadena, California
(Project Engineer)

Chris provided preliminary design and design phase services for a new 1 MG cast-in-place concrete reservoir, a new pump station, on-site chlorination equipment, and on-site ion exchange treatment system. The existing facilities will be demolished while keeping the existing well operable. The new reservoir and pump station design must be carefully considered in order to fit the facilities into the existing site. The on-site treatment is necessary to remove nitrate from the well water and we have reviewed several treatment technologies in coordination with the City.

Peck Reservoir and Pump Station, Manhattan Beach, California (Project Engineer)

Christopher is providing preliminary design and design phase services for a new 8 MG cast-in-place concrete reservoir, an 8.6 MGD pumping station, and new site amenities for the City of Manhattan Beach. This new facility will receive water from both City owned potable water wells and Metropolitan Water District of Southern California. The pump station will pump from the new reservoir into the distribution system. The pump station will be operated based on maintaining a set pressure in the distribution system. The new reservoir will replace an existing reservoir, the new reservoir will be designed to meet current seismic design requirements and be hidden from view of the nearby residents.

Hydropneumatic Tank 26*, Yucca Valley, California (Project Manager)

Chris is providing project management and design phase services for a new booster pump station and hydropneumatic tank. Chris is serving as project manager and is in charge of monitoring and controlling scope, schedule, and budget. Chris is also coordinating between discipline engineers and directing design document development.

Windy Ridge Reservoir, Anaheim, California (Project Engineer)

The Windy Ridge Reservoir will be a new 1.6 MG pre-stressed concrete reservoir constructed on the top of a hillside in the Anaheim Hills area. This new reservoir will be accessed by a new ½ mile access road cut into the hillside, following an existing ridgeline, and including retaining walls. Christopher prepared a preliminary design report analyzing the access road and reservoir options and has conducted design phase activities for development of the preliminary design into construction documents, and will provide engineering services during construction. The project design is completed and is currently on hold while the City weighs options for the project.

NAVFAC P-1045 RFP Development, Marine Corps Base Camp, Camp Pendleton, California (Project Manager)

Chris provided design phase services, design management, and project management for the development of a design-build RFP package for Camp Pendleton. The project consists of providing a preliminary design report, 60% design drawings for approximately 24 miles of domestic water pipeline, two pump stations, and a 3 MG reservoir. Drawings and specifications were developed to a 60% level to provide a more accurate bid for the design-build contractor. This work was conducted on an extremely tight schedule, all work was completed in 210 calendar days and met every deadline requested by the client.

NAVFAC P-1046 RFP Development, Marine Corps Base Camp, Camp Pendleton, California (Project Manager)

Chris provided project management services for the development of a design-build RFP package for Camp Pendleton. The project consists of providing a preliminary design report and 60% drawings for approximately 6 miles of sanitary sewers, 8 miles of recycled water pipe, two steel reservoirs, and an advanced treatment system. Drawings and specifications were developed to a 60% level to provide a more accurate bid for the design-build Contractor. This work was conducted on an extremely tight schedule, all work was completed in 190 calendar days and met every deadline requested by the client.

Northwest Area Recycled Water Facilities, Inland Empire, California (Project Engineer)

Chris was the project engineer responsible for the design of approximately 23,000 linear feet of pipeline in the cities

of Ontario, Rancho Cucamonga, and Upland. The project involved crossing two railroad right-of-ways, crossing a 152-inch diameter Metropolitan Water District feeder line, coordination with multiple municipalities, and integration of multiple design criteria into a single project. Chris is currently provided engineering services during construction in support of the IEUA.

Pure Water Program, City of San Diego, San Diego, California (Project Manager)

Chris provided project management and preliminary design phase services for a new 32 MGD sanitary sewer pumping station, screening facilities, ferric chloride feed facilities, an 11 mile sanitary sewage force main, and a 12 mile brine line. The purpose of this project is to deliver additional wastewater to the City of San Diego North City Water Reclamation Plant to provide the flow necessary for the City to develop their IPR and DPR program. This challenging project is located in the heart of the City of San Diego and the pipelines will be located in extremely busy City streets, right-of-way owned by SDG&E, and federal land owned by the Department of Defense.

Devil's Gate to Eaton Wash Pump Station and Pipeline, Los Angeles County, California (Project Manager)

Chris provided preliminary design services for a new 12,000 gpm pump station and 24,000 linear feet of pipe to convey stormwater from behind Devil's Gate Dam to Eaton Wash. This project required analysis of several pump station options in conjunction with three different pipeline alignments. This required development of six different hydraulic models and careful consideration of the costs of each of the six options to develop a recommendation for the most cost effective selection.

Wildomar Sanitary Sewer Upgrades*, Lake Elsinore, California (Project Manager)

Chris provided engineering services to upgrade two pump stations and replace two pipeline segments. The scope of work consists of providing a preliminary design report, design phase services, bidding assistance, and a construction management services. The project was designed to minimize down-time of associated facilities and maintain sanitary services in the project area during construction.

Oliver Slosser, PE

Assistant Project Manager

Oliver is a professional civil engineer with experience in recycled water, water and wastewater treatment, collection and potable system modeling, master planning, groundwater and surface water remediation, and water resources planning. His computer skills include InfoWater, InfoSWMM, SewerGEMS, ArcGIS, a number of database and spreadsheet programs, and basic programming.

EDUCATION

BA, Environmental Science, U.C. Berkeley

MS/MSc, Civil Engineering, Loyola Marymount University

REGISTRATIONS

Professional Engineer – CA

PROJECT EXPERIENCE

Project Manager, Basis of Design Report for Recycled Water Reuse Alternatives, Las Virgenes Municipal Water District (LVMWD), Calabasas, CA
Mr. Slosser managed the delivery of a Basis of Design Report for LVMWD as a continuation of the Recycled Water Seasonal Storage Plan of Action Study. The project involves evaluating two alternatives for future use of LVMWD's recycled water; one alternative involves leasing a reservoir from LADWP for use as seasonal storage while the other is looking at utilizing LVMWD's existing potable reservoir for use in an Indirect Potable Reuse scheme. Mr. Slosser will manage the project, deliver many of the technical portions of the project, and assist with reservoir modelling, initial site investigation, stakeholder engagement, interagency coordination, and several other tasks.

Project Engineer, Recycled Water Seasonal Storage Plan of Action, Las Virgenes Municipal Water District (LVMWD), Calabasas, CA

Las Virgenes Municipal Water District seeks to offset imbalance between seasonal recycled water supply and demand through the construction of a recycled water storage facility, or other means that would allow them to use more of their recycled water throughout the year. Mr. Slosser was project engineer for this project, which called for three public workshops and interviews with the Joint Powers Authority (JPA) Board of Directors in order to create a roadmap and public consensus for a storage and/or IPR reuse project. Mr. Slosser helped in all aspects of the project including research, coordination, creation

of slides and presentation materials, logistics, and final report writing.

Project Engineer, 2015 Water, Wastewater, and Recycled Water System Master Plans, Elsinore Valley Municipal Water District (EVMWD), Lake Elsinore, CA

Oliver is project engineer for EVMWD's 2015 Water, Wastewater, and Recycled Water Master Plan Update. Oliver is responsible for the wastewater collection system portion of the master plan update including hydraulic model update and calibration; existing and future system evaluation; and phased capital improvement plan. Oliver has also assisted in several related analysis for the water, sewer and recycled systems using the models.

Project Engineer, Valley Sanitary District Sewer Master Plan, Valley Sanitary District, Indio, CA

Building SewerGEMS model of VSD sewer system, writing TMs, data management. As part of VSD's Collection System Master Plan, Oliver was responsible for the creation of the collection system model. The collection system model was created using existing VSD data input into Bentley SewerGEMS modeling software. Along with creation of the model, Oliver analyzed flow monitoring data in order to calibrate and run the model, and used the model to evaluate system deficiencies and to recommend future upgrades to the system. The final report was delivered to VSD in November of 2013 and included a phased CIP with over \$49M in recommended improvements and replacements. The client is currently constructing an Interceptor pipeline estimated to cost over \$11M.

Project Engineer, Collection System Master Plan Update, Clark County Water Reclamation District, Las Vegas, NV

Mr. Slosser created design standards and cost estimates for the improvement projects recommended as part of the Master Plan. For cost estimation, Mr. Slosser utilized past and current bid data in order to set prices adjusted to current dollar values. As part of Valley Sanitary District's (VSD) Collection System Master Plan, Mr. Slosser was

responsible for the creation of the collection system model. The collection system model was created using existing VSD data input into Bentley SewerGEMS modeling software. Along with creation of the model, Mr. Slosser analyzed flow monitoring data in order to calibrate and run the model, and used the model to evaluate system deficiencies and to recommend future upgrades to the system. The final report was delivered to Valley Sanitary District in November of 2013 and included a phased CIP with over \$49M in recommended improvements and replacements. The client is currently constructing an Interceptor pipeline estimated to cost over \$11M.

Project Engineer, Water System Master Plan, Hi Desert Water District, Yucca Valley

Mr. Slosser is project engineer for Hi Desert's Water System Master Plan. He is responsible for modelling activities on the project, including model creation, calibration, and system analysis. Innovyze's InfoWater software is being used to model the system, and using the results, Mr. Slosser will help develop a phased improvement plan. In addition to modelling activities, Mr. Slosser also presents to Hi Desert's management and staff, and will generate most of the deliverables and final report sections for the project.

Project Engineer, Pump Station and Pipeline Conceptual Study, Metropolitan Water District of Southern California, Southern California

Mr. Slosser assisted on the hydraulic analysis for a conceptual study for Metropolitan to route water from an existing reservoir, against over 300 ft. of head, to a feeder pipeline serving thousands of customers. The purpose of the study was to provide preliminary recommendations and present the feasibility of building of a pump station to convey up to 180 cfs of water. This project is an effort to use existing resources during drought conditions, and includes turbines to generate power during periods with gravity flow. The study recommended the installation of a station with four 3,000 HP pumps in a 3 + 1 configuration.

Analysis, Groundwater – Injection Test/30-Day Pumping Test/Soil Characterization/Surface Water Collection and Treatment, Confidential Client, Simi Valley, CA

To assess the viability of injecting treated surface water and groundwater into a confined aquifer as an alternative to discharging the water into a local river, an injection test of an existing well to estimate the volume it could accept was conducted. The test included installation of three 20,000 gallon Baker tanks and a piping system to deliver water to the well via gravity. Mr. Slosser was tasked with collecting data for the test and running the injection system during portions of the test. He also oversaw redevelopment of the well and is taking part in analysis of the data.

As part of the client's efforts to better understand the hydrology of their site, a 30-day pumping test of a well was conducted. As part of this effort, Mr. Slosser was responsible for operation of the well during parts of the test as well as collecting data from the pumping well and 12 nearby monitoring wells using transducers. He also took part in some of the analysis of the collected data.

Mr. Slosser helped oversee several teams of drill rigs and field teams collecting soil and soil vapor samples to characterize the pattern of contamination on the site. Mr. Slosser's duties included verifying GPS coordinates, staking locations for sampling, and documenting areas after sampling.

As part of the client's remediation efforts, runoff from dozens of acres is collected in a series of outfalls and treated in two temporary plants constructed by MWH. These plants then discharge the treated water offsite. Mr. Slosser assisted in plant optimization and collection/analysis of treatment water samples. .

Project Manager, Basis of Design Reports for Recycled Water Reuse Alternatives, Las Virgenes Municipal Water District (LVMWD), Calabasas, CA

Oliver is managing the delivery of two Basis of Design Reports for LVMWD as a continuation of the Recycled Water Seasonal Storage Plan of Action Study. The project involves evaluating two alternatives for future use of LVMWD's recycled water.

Tyler Hadacek, PE

Process Engineer

Mr. Hadacek works for MWH, now part of Stantec, in Pasadena, California office. He has experience in water, wastewater, and water reuse treatment, covering projects from planning through design and permitting and support during construction. He has also has experience in water quality studies and analysis, and stormwater monitoring. He has worked on treatment facilities that range from small well-head applications, to full scale plants of up to 500 mgd. His experience includes advanced treatment plant design, treatment plant rehabilitation and expansion, unit process retrofits, environmental groundwater remediation, wellhead treatment systems for drinking water, plant-scale renovation feasibility studies and water quality studies. Mr. Hadacek has growing specialty knowledge and experience in advanced treatment process design, membrane filtration, and ozonation for water and wastewater treatment. In addition, he is familiar with a number of software applications, including water quality projection software, treatment process modeling, and CAD.

EDUCATION

BS/BSc, Civil and Environmental Engineering,
University of California at Los Angeles

MS/MSc, Environmental Engineering, University
of California at Los Angeles

REGISTRATIONS

Professional Engineer (Civil) - CA

PROJECT EXPERIENCE

Process Engineer, Preliminary Design of North City Pure Water Facility, City of San Diego, San Diego, CA

Mr. Hadacek was a process engineer for the 10% and 30% designs for the North City Pure Water Facility (NCPWF) that is part of the San Diego PURE Water program. This project will supply water for potable reuse to an existing surface water reservoir. He is working with the team on all treatment processes and facility layouts, and is the lead process-mechanical engineer for the microfiltration/ultrafiltration (MF/UF), BAC, and ozone systems for the pre-design of this 40 MGD facility. He is intimately familiar with the process performance considerations and the detailed design issues surrounding these systems. He is performing the process and design calculations, designing the layout of the facilities and piping, developing control strategies, and coordinating work of other disciplines on these systems. He is the lead project engineer for development of the pre-selection documents for the MF/UF system.

Process Engineer, Basis of Design – Advanced Water Treatment Plant, Las Virgenes Municipal Water District, Calabasas, CA

Mr. Hadacek was the process engineer for developing the basis of design for an Advanced Water Treatment Plant (AWT) for water reuse for the Las Virgenes Municipal Water District. This is an indirect potable reuse project via surface water augmentation of the Las Virgenes Reservoir. He worked with the team on all treatment processes to develop design criteria, facility layouts, and capital and O&M cost estimates. He is the lead process engineer for the reverse osmosis system and developed the O&M cost estimate for this AWT facility.

Project Engineer, San Francisco Public Utilities Commission, Sunol Valley WTP Ozonation System Alternatives Evaluation

San Francisco Public Utilities Commission's (SFPUC) Sunol Valley Water Treatment (SVWTP) has experienced more frequent taste and odor events due to geosmin and MIB by-products from algae blooms in the source water reservoirs. Mr. Hadacek is the project engineer for this evaluation of up to 9 alternatives for ozonation treatment at the SVWTP for the reduction of taste and odor compounds. Alternatives include multiple options for ozonation of raw water, settled water, and filtered water. The evaluation is comprehensive, taking into account additional treatment benefits, costs, disruption to the SVWTP during construction, and ease of operation among other factors. Mr. Hadacek is developing preliminary layouts and lifecycle cost analyses. He is working closely with SFPUC in a series of workshops to collaboratively assist in the selection of a preferred alternative.

Process Engineer, Advanced Water Treatment Plant Demonstration Facility, Metropolitan Water District, CA

Mr. Hadacek was a process engineer for the design of a 0.5 mgd advanced water treatment demonstration facility for the Metropolitan Water District. Mr. Hadacek is involved extensively in various treatment process design and procurement aspects of the facility, including developing the prequalification documents for the MBR, MF, and UV-AOP equipment. He is the lead process engineer for the UV disinfection and UV-AOP systems. The demonstration facility is part of a potential regional water supply program that plans to augment groundwater supplies via indirect potable reuse. The demonstration facility will treat secondary effluent from the LACSD Joint Water Pollution Control Plant through MBR, MF, RO, and UV/AOP, and will have the capacity to test the treatability of primary effluent. The project team will be involved through final design, construction, and one-year of operation to assist in gaining regulatory approval for the full-scale advanced treatment facility. Mr. Hadacek was also a process engineer for the conceptual design of the full scale 150 to 200-mgd facility.

Process Engineer, Round Mountain Water Treatment Plant, Camrosa Water District, Camarillo, CA

Mr. Hadacek has supported the engineering services during construction for the brackish groundwater RO membrane treatment plant at Round Mountain. He has been involved during the start-up phase at the water treatment plant and has helped with troubleshooting and finding solutions to issues surrounding the membrane treatment system.

Project Engineer, Water Recycling and Reuse Planning Study, Las Virgenes Municipal Water District, Calabasas, CA

Mr. Hadacek supported the evaluation of various water recycling and reuse alternatives for the Las Virgenes Municipal Water District. Options for direct and indirect potable reuse treatment, conveyance, and storage were evaluated at a conceptual level. Political, economic, environmental, permitting, and technical aspects of the alternatives were investigated, and a few alternatives were selected for further consideration in a Basis of Design report.

Project Engineer, Arsenic Ion Exchange and Manganese Treatment System Evaluation Study, US Navy, Bridgeport, CA

Mr. Hadacek was the project engineer for the evaluation of an arsenic and a manganese drinking water treatment

system in decentralized, remote locations treating contaminated groundwater. The project consisted of site investigations, data collection and analysis, treatment process evaluation, economic analysis, and recommendation of treatment system alternatives. Mr. Hadacek exercised sensitivity to existing conditions and client values, and applied a comprehensive technical knowledge of removal processes as well as interdisciplinary design requirements to propose optimal solutions for the client. He was the lead engineer for the arsenic treatment evaluation and developed preliminary design criteria for ion exchange and adsorption treatment systems. Mr. Hadacek exercised sensitivity to existing conditions and client values, and applied a comprehensive technical knowledge of removal processes as well as interdisciplinary design requirements to propose optimal solutions for the client. .

Project Engineer, Carbon Dioxide Injection System for pH Adjustment, Antelope Valley East Kern Water Agency, Palmdale, CA

Mr. Hadacek was the project engineer for the design and construction of the carbon dioxide injection system and for pH control at the Quartz Hill Water Treatment Plant. The project has required an acute understanding of the existing plant to effectively, efficiently, and safely design a carbon dioxide injection system for use during seasonal pH spikes. Implementing this process will reduce the plant's use alum in coagulation and allow for operation at high flows during critical seasons of the year. Mr. Hadacek evaluated all the process and equipment alternatives, developed the preliminary design, and managed the interdisciplinary design team. He developed the procurement documents and coordinated the assigned procurement contract to the construction contractor. His role involved project management support, managing the budget and schedule. He was the project engineering during all engineering support services during construction services.

Process Engineer, Weymouth Treatment Plant Filtration Rehabilitation, Metropolitan Water District, La Verne, CA

Mr. Hadacek performed site assessment and was a process engineer for the rehabilitation of 48 filters for a 500 MGD drinking water plant for Metropolitan Water District. He was the primary engineer managing the development of specifications for the contract documents. This project has required a great attention to detail and awareness of client engineer and operator preferences in the rehabilitation of an existing plant that is over 70 years old and is crucial to delivering water to end users in southern California.

Kyleen Marcella, EIT

Civil Engineer

Ms. Marcella is an Engineer in Training at Stantec in the Pasadena, California office. She has experience in a variety of multidisciplinary projects including alternative evaluation, potable/nonpotable water distribution systems, pump station and conveyance design and water resources. Ms. Marcella is experienced in feasibility assessments, conceptual studies, preliminary design, design drawings, and final design. Her computer skills include BioWin, AutoCAD, Microstation, and ArcGIS.

EDUCATION

MS, Environmental Engineering, University of Southern California

BS, Environmental Engineering, University of Southern California

REGISTRATIONS

Engineer in Training – CA

PROJECT EXPERIENCE

Project Engineer, 1,2,3-TCP Study, Chino Desalter Authority, Chino, CA.

A new MCL for 1, 2, 3-Trichloropropane (1, 2, 3-TCP) was recently introduced by the California State Water Resources Control Board. MWH is evaluating GAC treatment to remove 1, 2, 3-TCP from Chino Desalter Authority's groundwater wells. Ms. Marcella assessed various treatment scenarios for the well water, including treatment siting and piping at the Chino I facility.

Project Engineer, Wastewater Treatment Plant I, City of Rio Rancho, NM.

Ms. Marcella is currently working on the MBR design for a new 1-mgd wastewater treatment facility. The new plant will include coarse and fine screening, grit removal, biological nutrient removal, and chlorine disinfection. Ms. Marcella assisted with BioWin modeling for the 30% design phase.

Project Engineer, CLARTS Liquid Process Treatment Modelling, LA Sanitation, CA.

LA Sanitation is considering accepting food waste from the Central Los Angeles Recycling and Transfer Station (CLARTS) Organics Processing Facility (OPF) project at their Hyperion Water Reclamation Plant (HWRP). Ms. Marcella modeled HWRP's liquid treatment process in BioWin, determined the effects of the additional food waste to the plant and provided operational recommendations to mitigate the effects.

Project Engineer, Preliminary Feasibility Assessment of Pumping Option for Water Quality Improvement, Big Bear Municipal Water District, CA.

Ms. Marcella performed a preliminary feasibility assessment of two pumping options within Big Bear Lake to improve water quality for the lake. The assessment included an evaluation of two pipeline alignments and underwater pumping system. Preliminary capital and operational costs were developed for both options.

Project Engineer, One Water LA, LA Sanitation, CA.

One Water LA is an integrated approach for water supply, wastewater treatment, and stormwater management to provide Los Angeles with greater resiliency to drought conditions and climate change. Ms. Marcella is writing a comprehensive facility master plan for the Los Angeles – Glendale Water Reclamation Plant which develops strategies for planning treatment options to meet future growth and water demands. She is also working with the client to develop integration alternatives for the City of Los Angeles' water reclamation plants.

Project Engineer, California Multi-Agency CIP Benchmarking Study, CA

Ms. Marcella facilitates discussion between public agencies amongst the six largest cities in California (Sacramento, San Francisco, San Jose, Los Angeles, Long Beach and San Diego). Ms. Marcella collects project data from these agencies and analyzes the data to determine trends in project delivery costs for the agencies.

Project Engineer, Advanced Water Treatment Plant Demonstration Facility, Metropolitan Water District of Southern California, CA.

The Metropolitan Water District of Southern California and the Los Angeles County Sanitation Districts are partnering for one on the largest proposed water reuse projects in the world. This project will treat water from the Joint Water Pollution Control Plant to potable reuse quality for groundwater replenishment. The 0.5 mgd AWT Demonstration facility, consisting of MBR, RO and AOP

(UV/H₂O₂) process train, will be utilized to collect sufficient operational and water quality data for design of a 150-MGD AWT facility at the Joint Water Pollution Control Plant in Carson, CA. While using MBR as a pretreatment to RO, the facility will be first of its kind to seek approval of the MBR-RO-AOP process train for indirect potable reuse. Ms. Marcella assisted with project coordination during the design and bidding phases and will continue to support the project with engineering services during construction.

Project Engineer, Jensen Solar Generation Facility, Metropolitan Water District of Southern California, CA.

Ms. Marcella assisted with design drawings of a 1 megawatt solar power generation facility at the Jensen Water Treatment Plant. The solar facility could offset up to 30 percent of the plant's annual retail-energy consumption. Ms. Marcella will continue to support the project with engineering services during construction.

Project Engineer, Basis of Design Report, Las Virgenes - Triunfo Joint Powers Authority (JPA), Calabasas, CA.

Ms. Marcella assisted in the development of the Basis of Design Report which is a continuation of the Recycled Water Seasonal Storage Plan of Action Study. The project involved evaluating two alternatives for future use of LVMWD's recycled water; one alternative involves leasing a reservoir from LADWP for use as seasonal storage while the other is looking at utilizing LVMWD's existing potable reservoir for use in an Indirect Potable Reuse scheme. Ms. Marcella delivered many technical portions of the report including pump station sizing, supply/demand analysis and cost estimating.

Project Engineer, Windy Ridge Water Storage Tank, City of Anaheim, CA.

MWH designed a 1.6 million gallon prestressed concrete reservoir for the City of Anaheim's distribution system to provide supply of drinking water and water for fire

protection. Ms. Marcella assisted with design drawings for the access road and reservoir.

Project Engineer, Hyperion Reuse Feasibility Study, LA Sanitation, CA.

Ms. Marcella assisted with a study that assessed opportunities for water reuse at Hyperion Water Reclamation Plant, which included a long-term conversion strategy for transition to full reuse. The evaluation developed a strategy for production of Nitrified-Denitrified (NDN) secondary effluent followed by advanced water treatment (AWT). Ms. Marcella assisted with preliminary equipment sizing and layouts, cost estimating and report development.

Project Engineer, Weymouth Solar Generation Facility, Metropolitan Water District of Southern California, CA.

The Metropolitan Water District of Southern California recently completed a 3 megawatt solar power generation facility at the Weymouth Water Treatment Plant. Ms. Marcella assisted with submittal reviews for the project, attended design review meetings with the client and performed analyses once the facility was operational to determine solar performance.

Project Engineer, PureWater San Diego Program, City of San Diego, CA.

The PureWater San Diego Program is an ambitious program to create a safe, sustainable water supply through potable reuse. This program includes the North City Advanced Water Purification Facility (AWPF), which will treat tertiary effluent and deliver high-purity reuse water to one of the City's reservoirs. The AWPF will include microfiltration, reverse osmosis (RO), an ultraviolet/chlorine advanced oxidation process (UV-AOP), and post-stabilization. Ms. Marcella assisted with the preliminary design and layout of the AWPF's chemical system and stabilization.



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300 North Lake Avenue, Suite 400

Pasadena, CA 91101

Tel 626 796 9141

November 6, 2017 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : Pure Water Project Las Virgenes-Triunfo: Award of Contract for Title XVI Feasibility Study Preparation

SUMMARY:

On August 1, 2016, the JPA Board directed staff to develop the next steps for the Pure Water Project Las Virgenes-Triunfo. The steps fall into seven categories: (1) funding and financing, (2) advocacy, (3) technical studies, (4) outreach, (5) demonstration project, (6) environmental analysis, and (7) potential institutional issues. The next steps were further refined on September 6, 2016, when the Board authorized staff to issue requests for proposals for the preliminary design and environmental review of a demonstration project, technical studies to support compliance with the draft surface water augmentation regulations, and initial work to support the future environmental review of the Pure Water Project Las Virgenes-Triunfo.

Title XVI of Public Law 102-575 provides the U.S. Bureau of Reclamation the authority to provide grants for the planning, design and construction of water recycling and reuse projects. A first step in the eligibility process to compete for design and construction funding is preparation of a Title XVI Feasibility Study. The JPA secured a \$150,000 grant to prepare a feasibility study for the Pure Water Project Las Virgenes-Triunfo. The feasibility study will serve as a foundational document for future environmental studies and will incorporate the results of the siting and mixing/dilution studies. To select a firm to prepare the study, staff issued a Request for Proposals.

Three proposals were received for the work. Based on the proposed scope of work, project understanding, experience and fee proposals, staff recommends accepting the proposal from Kennedy/Jenks Consultants, in the amount of \$140,370 which includes optional tasks for evaluation of low-flow diversions and brine minimization strategies for \$24,620.

RECOMMENDATION(S):

Accept the proposal from Kennedy/Jenks Consultants and authorize the General Manager/Administering Agent to execute a professional services agreement, in the amount of \$140,370 for preparation of a Title XVI Feasibility Study for the Pure Water Project Las Virgenes-Triunfo.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

The cost of this work would be 100% offset by a U.S. Bureau of Reclamation grant, in the amount of \$150,000. The 50% local match requirement would be met through completion of the Mixing and Dilution Study, which is currently underway and was previously authorized by the Board. Sufficient funds are available in the adopted Fiscal Year 2017-18 JPA Budget for this work. No additional appropriation is required.

A budget of \$1,750,000 is provided for the Pure Water Project Las Virgenes-Triunfo under CIP Job No. 10587, which is allocated 70.6% to LVMWD and 29.4% to Triunfo Sanitation District. As shown in the table below, a total of \$1,051,092 would be committed to date with the Board's acceptance of this proposal.

Plan of Action (MWH)	\$ 174,716
Basis of Design Report (MWH)	\$ 491,125
Encino Reservoir Investigation (RMC)	\$ 52,820
Outreach (Katz & Associates)	\$ 65,113
Financial Consultant (PFM Group)	\$ 30,000
LADWP Contribution	\$ (62,370)
Demo Project Preliminary Design (CDM)	\$ 142,487
Mixing & Dilution Study (Trussell Tech)	\$ 279,678
Siting Study (Woodard & Curran)	\$ 157,648
Title XVI Feasibility Study (Kennedy/Jenks)	\$ 140,370
Bureau of Reclamation Research Grant (Demo Project)	\$ (300,000)
Bureau of Reclamation Title XVI Feasibility Study Grant	\$ (150,000)
New Water ReSources (Demo Project)	\$ 29,505
TOTAL	\$ 1,051,092

DISCUSSION:

The JPA Board directed staff to develop the next steps for the Pure Water Project Las Virgenes-Triunfo on August 1, 2016. The steps fall into seven categories: (1) funding and financing, (2) advocacy, (3) technical studies, (4) outreach, (5) demonstration project, (6) environmental analysis, and (7) potential institutional issues. The next steps were further refined on September 6, 2016, when the Board authorized staff to issue requests for proposals for the preliminary design and environmental review of a demonstration project, technical studies to support compliance with the draft surface water augmentation regulations, and initial work to support the future environmental review of the Pure Water Project Las Virgenes-Triunfo.

Title XVI provides the U.S. Bureau of Reclamation the authority to award grants for the planning, design and construction of water recycling and reuse projects. A first step in the

eligibility process to compete for design and construction funding is preparation of a Title XVI Feasibility Study. The JPA secured a \$150,000 grant to prepare a feasibility study for the Pure Water Project Las Virgenes-Triunfo. The grant requires a 50% match of local funds, so the grant was for a total project cost of \$300,000. Staff included the mixing and dilution study in the grant proposal, so the local match requirement will be met through completion of that work. The feasibility study will serve as a foundational document for future environmental studies and will incorporate the results of the siting and mixing/dilution studies. To select a firm to prepare the study, staff issued a Request for Proposals and received the following three proposals:

Firm	Cost	Notes
Kennedy /Jenks	\$171,350	Includes four proposed optional tasks for \$55,600
Woodard & Curran	\$285,263	Includes four proposed optional tasks for \$195,268
MWH/Stantec	\$235,180	

Based on the proposed scope of work, project understanding, experience, and fee proposals, staff recommends accepting the proposal from Kennedy/Jenks Consultants for \$140,370, which includes optional tasks totaling \$24,620 to analyze low-flow diversions as a supplemental source of water and conduct a brine recovery evaluation.

All three proposals were from well-known, qualified firms and responsive to the Request for Proposals. The base cost for the Kennedy/Jenks proposal is \$115,750; however, they proposal included four optional tasks. Following is a summary of the optional tasks: (1) low-flow diversions as a supplemental source of water analysis for \$14,680; (2) brine recovery evaluation for \$9,620; (3) advanced water treatment plant value-added engineering for \$15,580; and (4) alternative project delivery analysis for \$14,340. The purpose of the low-flow diversion task is to identify and evaluate opportunities to divert storm water as a supplemental source of water to the Pure Water Project Las Virgenes-Triunfo, including evaluation of any impacts on recycled water quality. The purpose of the brine recovery evaluation is to identify and evaluate opportunities to minimize the need for brine disposal using innovative technologies. Staff recommends including these two optional task as they would add value to the completed study.

Prepared by: David R. Lippman, P.E., Director of Facilities and Operations

ATTACHMENTS:

Kennedy/Jenks Proposal for Title XVI Feasibility Study
 Kennedy/Jenks Fee Proposal

PURE WATER PROJECT **LAS VIRGENES-TRIUNFO JOINT** **POWERS AUTHORITY**

Proposal

Title XVI Feasibility Study

11 September 2017



Kennedy/Jenks Consultants

Kennedy/Jenks Consultants

Engineers & Scientists

2775 North Ventura Road, Suite 100
Oxnard, California 93036
805-973-5700
FAX: 805-973-1440

11 September 2017

David R. Lippman, P.E.
Las Virgenes Municipal Water District
4232 Las Virgenes Road
Calabasas, CA 91302

Subject: Proposal for Title XVI Feasibility Study

Dear Mr. Lippman:

The Pure Water Project Las Virgenes-Triunfo (Pure Water Project) will complement the Las Virgenes-Triunfo Joint Powers Authority's (JPA) existing, and successful, recycled water program, which beneficially reuses nearly all available recycled water produced at the Tapia WRF during the summer months for irrigation of golf courses, green belts, parks, and schools. The JPA needs a highly qualified local team with a proven approach to conducting feasibility studies for potable reuse projects. Kennedy/Jenks Consultants (Kennedy/Jenks) offers the JPA a team with a fresh perspective to highlight what matters. Together, with your team we will add value to your project by:

Applying direct experience on IPR Feasibility Studies to deliver practical solutions. The Kennedy/Jenks team has developed a collaborate relationship with the U.S. Bureau of Reclamation (USBR) to fund nearly \$90M in projects for our clients. We understand their directives and how to expedite the review process and obtain compliance with the WaterSMART grant process requirements. Developing a strong rapport with your local representative during the planning process is a critical first step to selling your project and offering the USBR an opportunity to become a long-term partner in your success.

Leveraging hands-on experience with planning through design to make an impact on Day 1. The Kennedy/Jenks team is comprised of individuals who have also designed similar indirect potable reuse (IPR) facilities. We understand advanced treatment processes and the associated infrastructure needed, and will be able to help during the planning study to incorporate better alternatives, with solid engineering, cost estimating, and dealing with soft issues, such as environmental, permitting, and public acceptance.

Legal Name of Firm:
Kennedy/Jenks Consultants

Firm Address:
303 2nd Street, Ste. 300 S
San Francisco, CA 94107
(415) 243-2150

Project Management:
2775 N. Ventura Road, Ste. 100
Oxnard, CA 93036
(805) 973-5700

Principals:
Jeff Savard, PE
Vice President with firm
Principal-in-Charge for this project

Dawn Taffler, PE
Principal of the firm
Project Manager for this project

David R. Lippman, P.E.
Las Virgenes Municipal Water District
11 September 2017
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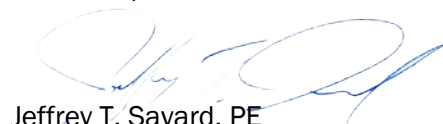
Dedicating a local core team supported by a resource bench to meet your delivery needs. Our team has overarching knowledge of your water resources and facilities through prior planning efforts. Our proposed Project Manager, Dawn Taffler, lives only 20 minutes from District Headquarters, leads our National Recycled Water Practice, and is a Board member of WateReuse California. She has led many of our recent recycled water planning assignments, including a Title XVI FS for the North Bay Water Reuse Program. Dawn is supported by a team with recent success working together on collaborative IPR studies, who are available to hit the ground running, and meet your schedule milestones.

Kennedy/Jenks is committed to helping the JPA plan for reliable, local, and sustainable water supplies through the development of a high-quality project for the long-term benefit of the community. We appreciate your consideration of the Kennedy/Jenks team and look forward to discussing this project with you further.

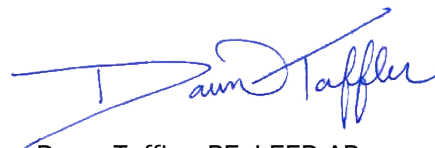
If you have any questions regarding our proposal, please contact Dawn Taffler at 626.568.4323 or Jeff Savard at 805.973.5719. We look forward to working with you on this exciting and important project.

Very truly yours,

KENNEDY/JENKS CONSULTANTS



Jeffrey T. Savard, PE
Vice President



Dawn Taffler, PE, LEED AP
Recycled Water Practice Leader





**LAS VIRGENES-TRIUNFO
JOINT POWERS AUTHORITY**

PROPOSAL FOR TITLE XVI FEASIBILITY STUDY

11 SEPTEMBER 2017

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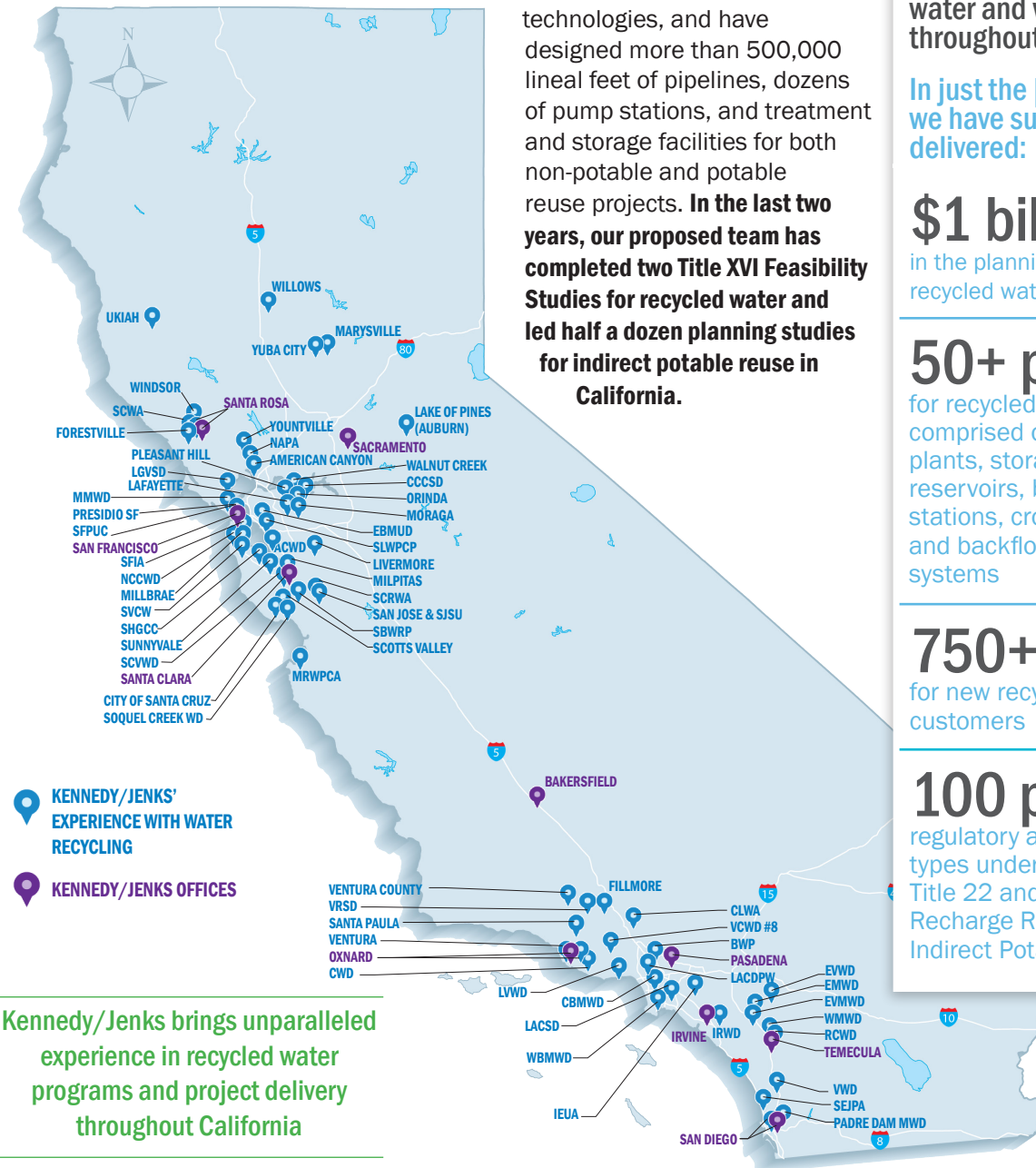
SECTION 1: Firm Overview

STATEWIDE RECYCLED WATER EXPERTISE

A PROUD HISTORY IN WATER RECYCLING

Kennedy/Jenks Consultants (Kennedy/Jenks) has been committed to water recycling in California since wastewater was first recognized as a valuable renewable resource. We completed the first-ever water recycling facility at Golden Gate Park in the 1930s, and have since completed well over 50 recycled water related projects in seven western states and Hawaii with a combined construction value of over \$1B. Our services have included all aspects of facilities planning and siting studies, predesign, final design, and construction support, including alternative project delivery. During the past five years alone, our talented engineers have participated in the planning of several of California's largest recycled water projects, pilot tested a variety of emerging membrane treatment and disinfection technologies, and have designed more than 500,000 lineal feet of pipelines, dozens of pump stations, and treatment and storage facilities for both non-potable and potable reuse projects. **In the last two years, our proposed team has completed two Title XVI Feasibility Studies for recycled water and led half a dozen planning studies for indirect potable reuse in California.**

In the last two years, our proposed team has completed two Title XVI Feasibility Studies for recycled water and led half a dozen planning studies for indirect potable reuse in California.



-  KENNEDY/JENKS' EXPERIENCE WITH WATER RECYCLING
-  KENNEDY/JENKS OFFICES

Kennedy/Jenks brings unparalleled experience in recycled water programs and project delivery throughout California

What We Do

Since our founding in 1919, Kennedy/Jenks has pioneered industry-leading recycled water and waste systems throughout California.

In just the past 10 years, we have successfully delivered:

\$1 billion+ in the planning and design of recycled water infrastructure

50+ projects for recycled water clients comprised of treatment plants, storage tanks/reservoirs, booster pump stations, cross connection, and backflow prevention systems

750+ retrofits for new recycled water customers

100 percent regulatory approval of all use types under California's DDW Title 22 and Groundwater Recharge Regulations for Indirect Potable Use

INNOVATIVE SOLUTIONS THROUGH WATER RECYCLING

Overview of Services

The 2012-2016 drought significantly impacted California's water resources as well as the resources of several other west coast states.

Even though the drought officially ended in April 2017, many of our clients recognize an imminent need to reduce potable water demands, enhance water supplies, and improve reliability through innovative recycled water projects. The future of recycled water is rapidly evolving. The feasibility of direct potable reuse (DPR) was recognized by the Division of Drinking Water (DDW) in December 2016 and draft Surface Water Augmentation (SWA) regulations were released just last month. Many of our clients are actively reviewing the potential for implementing potable reuse programs while also expanding non-potable reuse. Whether it involves a traditional purple pipe system, indirect potable reuse (IPR) through groundwater or surface water augmentation or DPR, Kennedy/Jenks' expertise in planning, water quality, regulatory compliance, advanced treatment technologies, groundwater hydrogeology, and public outreach provides all of the necessary building blocks for exploring how recycled water could be a part of your water supply portfolio.

Our team offers a full-range of services for planning and program development, feasibility studies, project delivery, pursuit funding, design, and construction management. We complement these services with additional support ranging from utility strategy and prioritization, monitoring plans and data analysis, evaluation of fate and transport in treatment systems and the environment, customer retrofits, and public outreach. We also have the right combination of client project experience and applied research capability to develop effective and practical solutions and messaging to address concerns about contaminants of emerging concern (CECs) in recycled water.

Returning Your Investment in Water:
Reusing. Innovating. Advancing.

DELIVERING PRACTICAL SOLUTIONS: Breadth and Depth of Our Services



Collaborative Feasibility Studies for IPR: We have successfully completed Title XVI Feasibility Studies and State Water Resource Control Board Recycled Water Facilities Planning Studies for IPR projects, on time and within budget, that met all the grant requirements by the funding agencies and helped our clients establish a road map to advance their projects. Recently, studies have been completed for Elsinore Valley MWD, City of Santa Cruz, and the North Bay Water Reuse Program.



Building on Strong U.S. Bureau of Reclamation Relationships: We have worked seamlessly with key USBR leadership and staff to through the contracting, execution and completion of various Title XVI projects to move quickly and successfully through USBR reviews.



Reducing Costs at Each Project Stage: We combine solid science and practical design experience to customize solutions and provide the right level of analysis to fit your budget during planning stages, through design, and into construction.



Achieving Regulatory Compliance: Drawing on the breadth of leadership roles held by our in-house disciplines—WateReuse California Board, National Board, and various Technical Advisory Committees—we have our finger on the pulse of the latest regulatory thinking for potable reuse and can target the right compliance strategy through every step of your project.



Securing Funding and Maximizing Limited Resources: We help you apply for and manage funding contracts and devise strategies for cost containment, such as repurposing or reusing assets.



Demonstrating Reliability and Feasibility: We can quantify improvements to the overall reliability of your water system and show avoided costs as well as the non-cost benefits to develop and defend criteria for justifying future user rates and connection fees for potable reuse projects.

Other Services to Benefit the JPA

Kennedy/Jenks provides the full breadth of multi-disciplinary science and engineering services along with value-added expertise in areas such as alternative project delivery, advanced research, and funding strategies.

◆ Alternative Project Delivery to Expedite

Potable Reuse: Kennedy/Jenks serves as owner's representative for clients, working with them to select and tailor project delivery strategies to meet aggressive schedules and financial goals. We have successfully facilitated the procurement process, provided third-party design review and construction management services, and developed innovative financing strategies to implement advanced treatment and potable reuse projects in California.



Kennedy/Jenks facilitated an Alternative Delivery Workshop for Pure Water Monterey to solicit input on stakeholder preferences and to build consensus through open discussions.

◆ Advanced Research Group Expertise:

Kennedy/Jenks recognizes that clients need assistance on a broad perspective of project work from the routine to those requiring cutting-edge or novel solutions. To help clients resolve technologically challenging problems, Kennedy/Jenks offers support from our Advanced Research Group (ARG). The ARG is composed of scientists and engineers who have led major research initiatives in the water and wastewater fields resulting in acceptance of new treatment technologies and processes. ARG can quickly access information from universities and other institutions doing research in specific subject areas and apply that knowledge or technique to solve client problems.

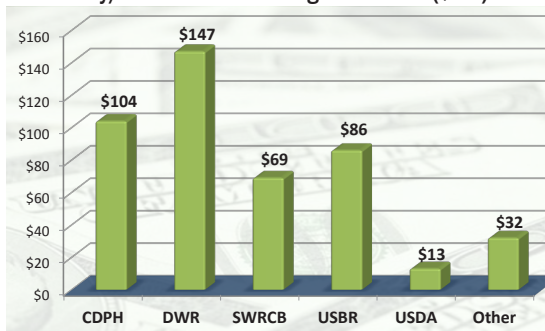


Jean Debroux, PhD was the lead author for the chapter titled "Contaminants of Emerging Concern: Removal and Risk" for the recently released Potable Reuse Research Compilation: Synthesis of Findings (WRRF 15-01) summarizing the state of potable reuse for the DPR Expert Panel.

◆ Grant Programs and Funding

Strategies: Kennedy/Jenks has secured over \$450M in grants and loans for clients across the western United States. Our significant expertise with grant programs and funding strategies means we can help you craft project implementation plans that provide equitably for existing and future ratepayers. Kennedy/Jenks understands funding programs and how to pursue and secure available funds for our clients. We have a successful track record of identifying funding resources, providing hands-on assistance in writing winning grant proposals, and developing a funding strategy and approach that is comprehensive, realistic, and expedient.

Kennedy/Jenks Grant Funding Successes (\$mil)



Kennedy/Jenks has a successful track record of identifying grant resources, writing winning grant proposals, and developing realistic funding strategies.

Kennedy/Jenks wrote the successful grant application for Padre Dam Municipal Water District's East County Regional Potable Reuse Program, and secured an ultra-low 1-percent loan as well as a \$15M grant for facilities construction.



**Recommended
Scope of Work**

SECTION 2: Project Understanding and Approach

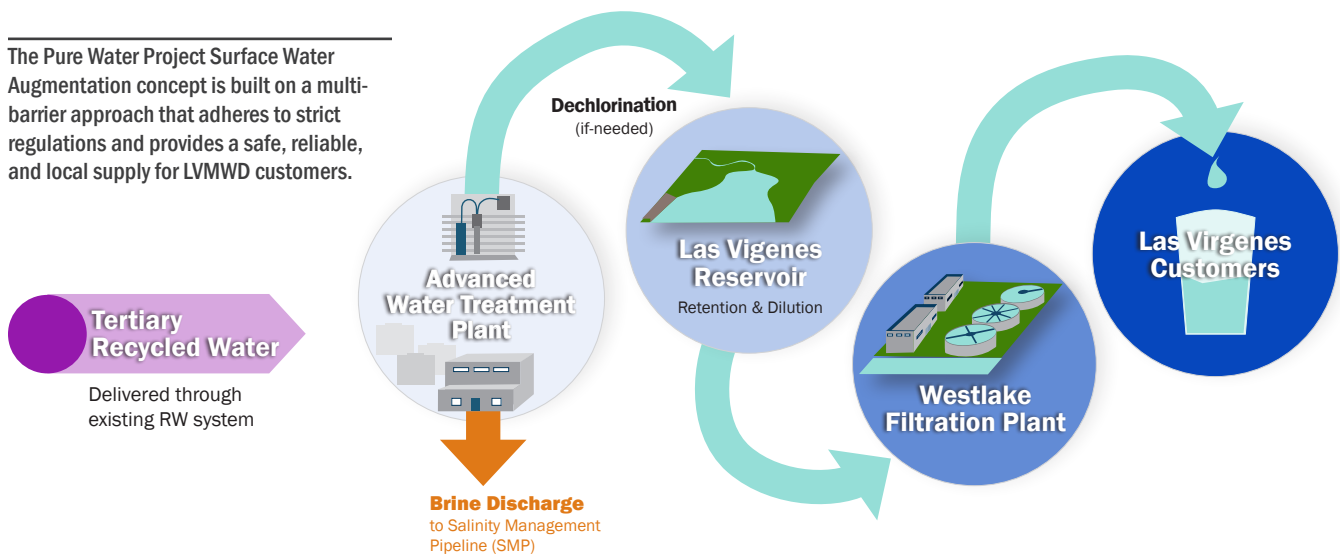
UNDERSTANDING

The Las Virgenes-Triunfo Joint Powers Authority (JPA) is exploring the feasibility of an Indirect Potable Reuse (IPR) Project that would further treat available recycled water from the Tapia Water Reclamation Facility (Tapia WRF) at a new Advance Water Treatment Plant (AWTP) and convey purified water to Las Virgenes Reservoir for later use as drinking water. This project, now called the “Pure Water Project Las Virgenes-Triunfo” and herein referred to as the Pure Water Project, provides the JPA an option that would:

- ◆ Reduce the demand for imported water,
- ◆ Help reduce (but not eliminate) the need to discharge excess recycled water to Malibu Creek to meet increasingly stringent nutrient loading requirements, and
- ◆ Supplement the potable water supply portfolio with a local and sustainable supply.

The Pure Water Project will complement the JPA’s existing, and successful, recycled water program, which beneficially reuses nearly all available recycled water produced at the Tapia WRF during the summer months for irrigation of golf courses, green belts, parks and schools. The Pure Water Project concept materialized through a comprehensive stakeholder driven process that explored six scenarios and identified surface water augmentation at Las Virgenes Reservoir as the preferred scenario.

The Pure Water Project Surface Water Augmentation concept is built on a multi-barrier approach that adheres to strict regulations and provides a safe, reliable, and local supply for LVMWD customers.



The JPA was awarded a U.S. Bureau of Reclamation (USBR) WaterSMART grant in May 2017 to conduct a Title XVI Feasibility Study (Title XVI FS) for the Pure Water Project to further evaluate alternatives. This work will help the JPA address a major challenge related to the seasonal imbalance in the supply and demand for recycled water. The purpose of the Title XVI FS is to identify and investigate opportunities and determine the feasibility for the JPA to reuse wastewater. The focus of the study will be to present the preferred alternative for the future potential IPR effort describing the quantities, treatment processes, conveyance system, brine discharge and reservoir augmentation system in accordance with the USBR reporting requirements.

The Title XVI FS will consolidate information from prior and current planning studies, update and refine costs, and provide the JPA with an implementation strategy for the Pure Water Project. This proposal responds to the RFP released by the JPA to develop a Title XVI FS for the Pure Water Project.

Title XVI Feasibility Study Objective

The primary objectives of the Title XVI FS are to:

1. Meet USBR Feasibility Study Directives and Standards and grant requirements,
2. Position for future USBR funding for design and construction by building relationships with USBR staff and educate them about the Pure Water Project.
3. Refine the implementation strategy for the Pure Water Project

For the **first objective**, the Reclamation Manual Directives and Standards WTR 11-01 for a Title XVI FS outlines 10 specific report sections and provides guidelines for the content in each. Our experience shows that following these sections to the greatest degree possible will expedite the review process and ensure compliance with grant requirements.

The **second objective** focuses on developing a rapport with the local USBR staff person to “sell” your project and the opportunities for USBR to become a long-term partner in your success. This is a sound strategy to position for future funding, one which our experienced grant management team can support you through the grant process.

The **third objective** builds on the substantial base of work prior Pure Water Project Studies to refine the implementation plan based on addition technical evaluations and recommendations developed during the Title XVI FS. Our team can offer alternative approaches and suggestions on constructability and recommendations from similar potable reuse projects, to address not only capital cost constraints and long-term operation and maintenance requirements.

Adherence to Title XVI FS Report Sections Outline to Expedite USBR Review and Approval

- Section 1. Introductory Information
- Section 2. Statement of Problems and Needs
- Section 3. Water Reclamation and Reuse Opportunities
- Section 4. Description of Alternatives
- Section 5. Economic Analysis
- Section 6. Selection of Proposed Title XVI Project
- Section 7. Environmental Consideration & Potential Effects
- Section 8. Legal and Institutional Requirements
- Section 9. Financial Capability of Sponsor
- Section 10. Research Needs

What Drives the USBR

APPLYING DIRECT EXPERIENCE ON IPR FEASIBILITY STUDIES TO DELIVER PRACTICAL SOLUTIONS

Kennedy/Jenks has successfully applied for numerous Title XVI and other WaterSMART grants over the last decade, which has enabled us to understand which project merits are particularly valuable for purposes of obtaining future funding. At the same time, our extensive experience in grant administration has provided us with essential insight for efficiently meeting grant agreement requirements to the complete satisfaction of the grant managers. We understand the various federal requirements (e.g., federal cross-cutters, procurement requirements, Davis-Bacon) and have helped many clients successfully execute projects with federal funding. USBR is a valuable project partner. Our approach is to work through any project challenges directly with USBR staff; in the past, we have been able to successfully modify scope, schedule, and budget of projects without jeopardizing funding.



The Pure Water Project is a highly attractive project for USBR WaterSMART grant programs as it directly addresses the overarching goal of investigating opportunities for water reclamation and reuse projects to stretch existing water supplies and promote environmental stewardship. This project will enable increased and optimized use of existing recycled water supplies that will offset imported water in like amounts, and in turn reduce diversions from the Sacramento-San Joaquin Bay Delta. In addition, the rigorous assessment of alternatives that will be conducted as part of the Title XVI FS will enable the JPA to demonstrate consideration given to minimizing environmental impacts. Further, the comprehensive stakeholder process to date and the potential for this project to benefit the Malibu Creek Watershed are valuable for demonstrating a more regional perspective to water resources management.

Nexus between Prior Studies and Your Title XVI Feasibility Study

Over the last two years the JPA has completed various technical, engineering, environmental, and economic studies to further define the Pure Water Project, which have narrowed down options for infrastructure, treatment, facility sites, and pipeline alignments. These have addressed financial, public outreach and environmental issues along the way. The Title XVI FS will build on previous and recent planning and preliminary design documents. Our team has reviewed the studies completed to date, and can efficiently pull information, reference elements and update, where appropriate, to meet the USBR Title XVI FS requirements and provide a concise document for the Pure Water Project.

The timeline below describes the nexus of these recent studies, with the Title XVI FS, specifically highlighting where information from these studies will support recommended sections outlined in WTR 11-01.

Recycled Water Seasonal Storage Basis of Design Report (BODR)

The two seasonal storage scenarios evaluated in the BODR will be the basis for the six (6) alternatives to be developed for the Title XVI FS: (1) Las Virgenes Reservoir Indirect Potable Reuse – Scenario 5 and (2) Encino Reservoir Recycled Water Storage – Scenario 6. Our team can provide a fresh look at these alternatives while incorporating recent information to efficiently define the key components for the **Description of Alternatives**. Our recent experience designing similarly sized IPR projects for Monterey and Padre puts us in a unique position to validate costs, based on recent bids, for a more accurate cost estimate in the **Economic Analysis** section of the Title XVI FS.

Recycled Water Master Plan (RWMP)

Understanding your existing non-potable recycled water system facilities, operations and maintenance practices and projected future supply and demand for recycled water is integral to implementing a potable reuse project; particularly to address seasonal imbalance and operational considerations for using the purple pipe system to convey tertiary recycled water to the AWTP. The **Water Reclamation and Reuse Opportunities** section will showcase the JPA's commitment to continuing to serve their existing NPR customers while implementing potable reuse to utilize excess supplies not used for irrigation.

Urban Water Management Plan

Kennedy/Jenks developed this plan, which provides an overview of your water supply portfolio and addresses many of **Introductory Information** for the Title XVI FS. Having worked on all aspects of your potable, recycled water, and wastewater plans we can effectively work with the JPA to refine the **Statement of Problems and Needs** that sets the right tone for your Pure Water Project.

Financial

Prior work by PFM to identify state, federal and local funding and financing options during the BODR can be integrated into the **Financial Capability of Sponsor** section, as-appropriate. Our team can complement this prior work with the most up to date information on available grants, loans and research funding opportunities, such as the recently enacted WIIN Act, to position your project to prepare the JPA for upcoming grant solicitations and to maximize funding.

Demonstration Preliminary Design

Developing an educational demonstration project during the early stages of a potable reuse program is a smart strategy that has outreach, research and operational benefits. Findings from this effort will be informative for defining treatment requirements and water quality considerations in **Description of Alternatives**, as well as detailing potential **Research Needs** and opportunities.

Mixing Study

Though this report won't be completed until February of 2018, the importance of the findings will be instrumental to demonstrating that the surface water augmentation (SWA) regulatory criteria (now Draft, but anticipated to be final by the end of 2017) can be achieved. This study will be summarized to provide sufficient information in the **Description of Alternatives** sections and heavily referenced to direct the USBR to the detailed information, as-appropriate, while keeping the report succinct to save time and money.



Recycled Water Seasonal Storage Feasibility Study for LVMWD

This Study followed the USBR Title XVI FS outline and provides useful background information to meet **WTR 11-01 requirements**. As a first reviewer, our team offers a fresh perspective to effectively highlight those elements needed to equally evaluate alternatives and comply with the grant requirements.

Sanitation Master Plan Update

Kennedy/Jenks performed this update for the JPA, in part to support the development of the updated recycled water plan. Understanding the flow and water quality variations at the Tapia WRF is critical to defining the **Water Reclamation and Reuse Opportunities** and estimating purified water parameters, assessing the need for nutrient removal and guiding the overall management of the AWTP in the **Description of Alternatives**.

Encino Reservoir Investigation

This investigation served to update assumptions and outcomes of the BODR Scenario 5 alternative by further investigating seasonal storage opportunities in conjunction with the Woodland Hills Water Recycling Project. We realize there is no reason to "recreate the wheel" for this alternative and the intent will be to integrate updated flows and infrastructure requirements into the **Description of Alternatives** as appropriate.

Outreach and Communication

The JPA has been working with Katz & Associates on branding the Pure Water Project and developing collateral materials. Getting the language right is an important element of pulling together multiple planning documents into this cohesive document. Our team will seamlessly integrate key messages into the **Executive Summary** of the Title XVI FS, to serve as a digestible overview of technical information suitable for a wider audience, which will reduce your internal effort needed to deliver a consistent message to your community.

Environmental Checklist

Recently, Envicom performed an initial study and environmental checklist for the purchase of a potential AWTP site. We understand that it is not the intent to perform additional environmental evaluations as part of this study. Our team has the expertise to document **Environmental Consideration & Potential Effects** at a suitable level using existing databases instead of field investigations to minimize schedule delays and still meet Title XVI FS requirements.

Preliminary Siting Study

Similar to the Mixing Study, it is anticipated that this report will be completed in February of 2018, and will feed into the **Description of Alternatives** sections for the SWA alternative. The screening criteria and approach developed as part of this effort will be reviewed with the JPA to assess the applicability of using some, or all, of the criteria to guide the **Selection of Proposed Title XVI Project**.

Our team offers immediate availability to start your Title XVI FS while these other studies are wrapping up to meet your schedule milestones.

OVERALL APPROACH

Based on our extensive experience from similar IPR projects and Feasibility Studies and understanding of JPA facilities and resources; Kennedy/Jenks has tailored an approach to meet your objectives and result in a successful Title XVI FS being completed by July 2018. Our approach to your project consists of the following:

1. Applying a streamlined approach for your Title XVI FS that will comply with your grant requirements
2. Technical approach that builds on prior work and brings real-world experience from recent design work
3. Consistent screening to select a preferred alternative(s) that will gain consensus

Our proposed Project Engineer, Paul Chau, and Strategic Advisor, David Ferguson, recently completed the EVMWD Indirect Potable Reuse Title XVI Feasibility Study, using a similar approach as proposed herein. The feasibility study was approved by the USBR in a single report submittal, within 30 days, allowing EVMWD to incorporate their future plan for advanced treatment into their current wastewater plant expansion.

Streamlined Title XVI FS Approach

WE HAVE STREAMLINED OUR APPROACH AND SCOPE OF WORK TO MEET YOUR SCHEDULE, STAY WITHIN YOUR BUDGET, AND ENSURE USBR ACCEPTANCE

We recommend structuring the report to expedite USBR’s review process and meet grant requirements, including splicing in WTR 11-01 requirements directly into the report to make it easy for USBR staff to check the box as each requirement is addressed. The following table describes our step-by-step approach to efficiently execute your Title XVI FS to meet USBR grant requirements and aligns with our scope of work, which details specific tasks by section.

Title XVI Report Preparation	Approach	Working Together to Benefit the JPA
Section 1: Introductory Information	Our team has led your 2015 UWMP and your combined Potable, Recycled Water and Wastewater Master Plans. We understand your facilities and can efficiently frame the study area’s key water resource management problems and needs.	Key roles of Jeff Savard and Meredith Clement on your prior master plans will save time and minimize effort in the development of this section.
Section 2: Statement of Problems and Needs	During an initial meeting, we will work with the JPA to refine the three-point statement of problems and needs, detailed in your final application package, based on findings from recent studies or feedback from Staff, your Board, and input received from the community.	Dawn Taffler brings recent experience at Rancho California WD and Santa Cruz working with staff, executive teams, and at the Board level to gain consensus and succinctly articulate goals and objectives for potable reuse projects.
Section 3: Water Reclamation and Reuse Opportunities	Through our involvement in similar Title XVI studies, local knowledge and worldwide recycled water experience; we can efficiently identify current and future reuse opportunities and the appropriate available technologies to meet the most up to date regulatory requirements.	We recognize there is no need to recreate the wheel. We will begin by building on prior studies, bringing new ideas to the table to reflect changing regulations and legislation, climatic conditions, and other factors that may expand or limit reuse opportunities.

Title XVI Report Preparation	Approach	Working Together to Benefit the JPA
<p>Section 4: Description of Alternatives</p>	<p>Per the grant application, six (6) alternatives will be developed to reflect options for SWA in Las Virgenes Reservoir and seasonal storage in Encino Reservoir. Our approach will be to provide third-party review of the design assumptions, constructability and O&M considerations, along with other regulatory requirements identified in prior studies based on our involvement implementing Pure Water Monterey and Padre Dam’s Pure Water Program, and Michael Welch’s involvement in Pure Water San Diego.</p>	<p>Our fresh perspective grounded by people who have designed and constructed these facilities, will give you peace of mind that the work will be accepted by USBR, and supported technically and financially as you transition from planning to implementation.</p>
<p>Section 5: Economic Analysis</p>	<p>We will review prior cost estimates and develop updated capital, O&M and unit life cycle costs to compare alternative on an apples-to-apples basis. Our approach will be to assess cost effectiveness, net economic benefits and qualitative metrics (where appropriate) to guide the selection of the Title XVI Project.</p>	<p>In the last few months, Todd Reynolds oversaw a two-phase bid process for the Pure Water Monterey 4-mgd AWTP and associated facilities, which can provide an up-to-date and directly relevant reference for construction costs and a realistic economic assessment for implementation.</p>
<p>Section 6: Selection of Proposed Title XVI Project</p>	<p>Our team’s expertise in climate change, risk assessment and experience working with regulators on most of the potable reuse programs throughout the state will provide insight that can be combined with direction from the JPA to guide the selection of a recommended project.</p>	<p>David Ferguson and Paul Chau’s recent completion of the Elsinore Valley IPR Title XVI FS offers instant access to key team members who met USBR requirements for justification of project selection at an early stage in the program’s development when, similar to your program, facility siting and pipeline alignments were yet to be confirmed.</p>
<p>Section 7: Environmental Consideration and Potential Effects</p>	<p>Given that this study may not identify one preferred AWTP site or a preferred pipeline alignment, we will perform the minimum amount of environmental assessment to meet the Title XVI FS requirements and allow Reclamation to assess the potential measures and costs to comply with NEPA. Opportunities to dual-purpose a brine line to treat impaired groundwater will be explored as a regional environmental benefit.</p>	<p>Lauren Everett and Meredith Clement together understand the level and type of environmental analysis needed to comply with Title XVI, which will minimize dollars spent during this study and prepare the JPA for the timing and effort for future environmental studies.</p>

Title XVI Report Preparation	Approach	Working Together to Benefit the JPA
<p>Section 8: Legal and Institutional Requirements</p>	<p>Our team will verify the grant application’s assessment that there are no legal or institutional barriers, including the nexus of the selected project with the 2013 TMDL. This will include a review of relevant JPA or stakeholder agreements related to treatment, lake replenishment, and seasonal storage. Art Baggett, attorney and former member of the SWRCB, brings decades of experience presiding over water rights proceedings, and Michael Welch, former San Diego RWQCB member, has been helping the San Diego CWA navigate their SWA permitting and environmental quality issues since the early 90s.</p>	<p>Dawn has worked directly with these two experts on various recycled water projects, and can call upon them as needed to answer specific questions or vet broader strategies to reassure the JPA that potential legal or institutional obstacles have not been overlooked.</p>
<p>Section 9: Financial Capability of Sponsor</p>	<p>Our understanding of the JPA, knowledge of alternative project delivery methods, and experience executing similar grants will allow us to work with you to strategize potential avenues to fund the non-Federal share of the project costs. We will coordinate with the JPA to evaluate public debt financing and build off prior studies, such as the recent one by PFM, as appropriate.</p>	<p>Kennedy/Jenks has secured over \$260 million in grants and \$30 million in loans for more than 45 clients in the Western U.S. We can leverage this experience to help the JPA map a “proactive” approach to investigating and pursuing grants and financing options that will solicit positive feedback from your Board and rate payers.</p>
<p>Section 10: Research Needs</p>	<p>Kennedy/Jenks’ Advanced Research Group, led by Jean Debroux, PhD, consistently tracks the state of research for reuse and can quickly access information from universities and other institutions doing research to identify approaches to address issues that may arise for your potable reuse program.</p>	<p>Jean Debroux’s participation as a contributing Author for (WRRF 15-01) Potable Reuse Research Compilation: Synthesis of Findings provides him access to the most current state of research and the ability to efficiently assess potential research needs for your project.</p>

Our proposed, local team has worked together in similar roles on half a dozen recycled water planning studies throughout California, with specific related experience in surface water augmentation. Section 4: Project Team, provides additional information about each team members’ role and area of expertise.

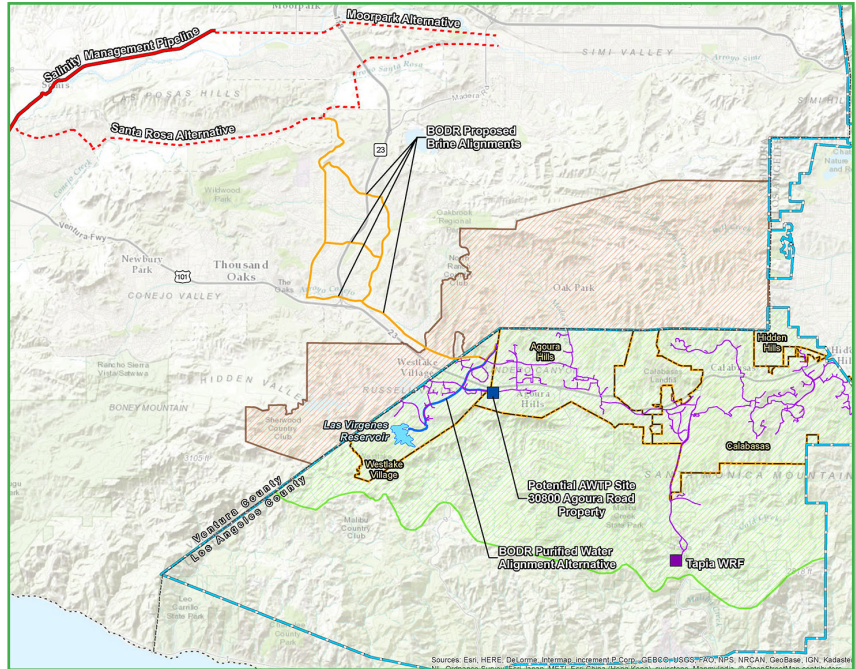
Technical Approach

LEVERAGING HANDS-ON EXPERIENCE WITH PLANNING THROUGH DESIGN TO MAKE AN IMPACT FROM DAY 1

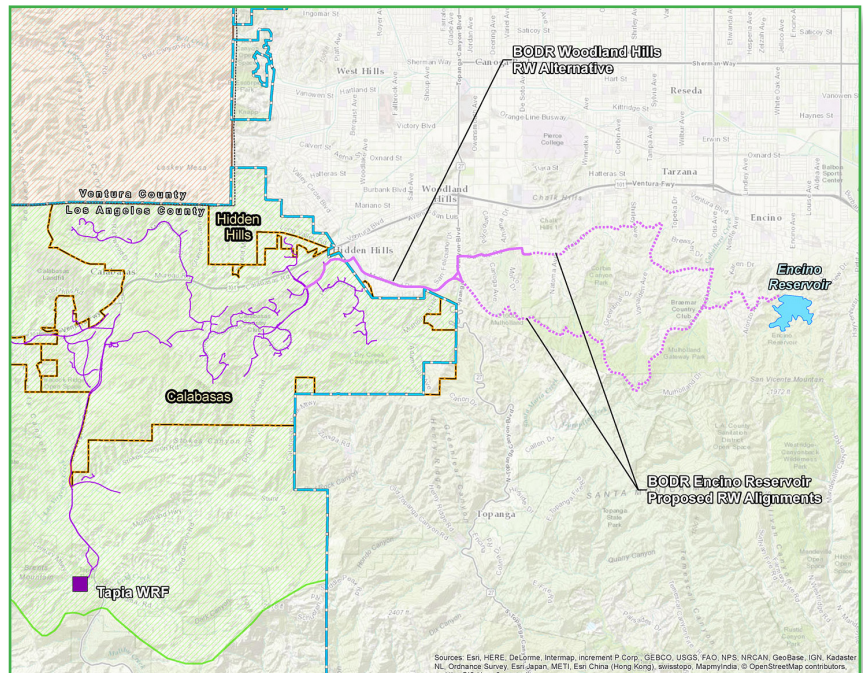
Our team is fully available to hit the ground running, by incorporating work from prior studies as an initial step, while the Mixing Study and Siting Study are being completed by other consultants. This will allow us to fast-track early sections of the report and supplemental evaluations to meet your project schedule. We will then refine alternatives based on recent experience on similar potable reuse projects for Monterey Pure Water and Padre Dam, to define a flexible and cost-effective reuse project that achieves regulatory compliance and meets Title XVI FS requirements.

This section details some key approaches to evaluating and refining the treatment and conveyance assumptions for Alternative 1: SWA in Las Virgenes and Alternative 2: Seasonal Storage based on information available to date. The maps on this page illustrate major facilities associated with each alternative, based on prior studies, that will be used as a starting point for the development and evaluation of up to six alternative projects.

Alternative 1: SWA in Las Virgenes Reservoir - Facility sites, pipeline alignments and design assumptions for Alternative 1 will be updated based on the outcomes of the Preliminary Siting Study and Mixing Study, which will identify preferred AWTP sites and Las Virgenes Reservoir inlet sites, respectively.



Alternative 2: Seasonal Storage in Encino Reservoir - This alternative will reflect a non-potable reuse options for comparison to SWA, based on the infrastructure requirements identified in the BODR's Encino Reservoir Recycled Water Storage – Scenario 6, including any updates from the Woodland Hills Water Recycling Expansion Project.



INCORPORATING YOUR ESTABLISHED POLICY PRINCIPLES FOR TREATMENT SITING AND BEYOND

For Alternative 1, it is anticipated that up to three potential AWTP sites will be identified in the Siting Study to move forward as part of the alternatives evaluation for the Title XVI FS including one site, at 30800 Agoura Road, which is currently being considered for purchase. The JPA developed ten policy principles to be applied to evaluate the 30800 Agoura Road property and potentially apply to future facility sites. These policy principles are intended to provide a broad guidance framework for staff in the planning process for siting an AWTP. The findings from the Siting Study assessment of the ability of each site to address these policy principles will be relevant to and integrated in the Title XVI FS section on Environmental Consideration and Potential Effects to address the potential for the project to have significant impacts. These principles may be applied to other above-ground facilities, as appropriate.

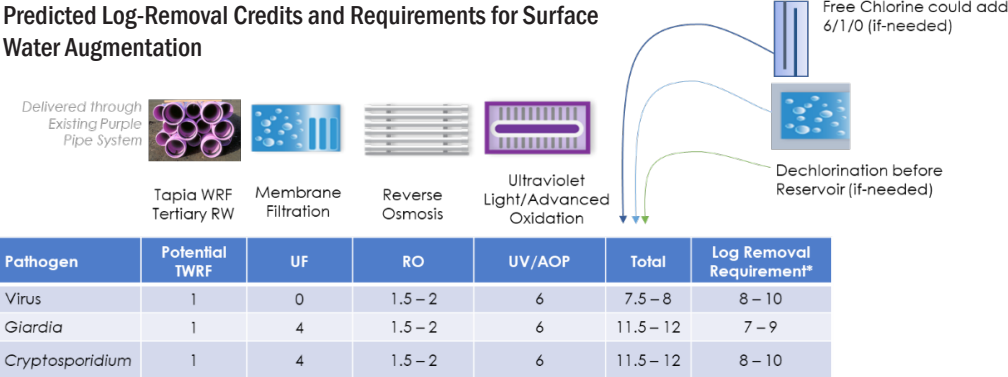
VALIDATING AWTP PROCESS AND LAYOUT ASSUMPTIONS BASED ON RECENT DESIGN EXPERIENCE

We understand the Preliminary Siting Study is exploring layout options and the Demonstration Preliminary Design Study is looking more closely at the process selection to meet regulatory requirements and facilitate seasonal operation. The Mixing Study may also identify additional post-treatment steps that may be needed to meet NPDES permit requirements prior to discharge into Las Virgenes Reservoir. Our team can take a fresh look at these separate studies, check assumptions, consolidate criteria and incorporate recent design experience from our experience designing similar sized advanced water treatment facilities at Monterey, Padre Dam, San Elijo, and the Santa Margarita Water District to refine AWTP requirements for your Title XVI FS.

Based on the recently released Draft SWA criteria, the predicted log removal credits and requirements are depicted below for typical advance treatment processes. Additional parameters for consideration include 0.5 log removal of 1,4-Dioxane and demonstrating that all maximum containment levels (MCLs) would be met. Our team is tracking developments for these criteria through our role on the WaterReuse California Board, participation on the Technical Advisory Committees for recent IPR projects, and leadership on Padre Dam’s SWA

Project. **Our scope of work includes an optional task to provide a more in-depth analysis of brine recovery options should minimizing brine and maximizing produced water recovery be desired.**

Predicted Log-Removal Credits and Requirements for Surface Water Augmentation



The JPA 10 Policy Principles for AWTP Siting will be Integrated in the Title XVI FS for Screening and Assessing Impacts

1. Involve the City and Community in the development and design of facilities.
2. Preserve the natural beauty of the site.
3. Reserve a portion of the property for public benefit in coordination with the City of Agoura Hills.
4. Minimize the impact to oak trees and other natural resources on the property.
5. Design the facilities with architecture compatible with the surrounding area.
6. Minimize the overall footprint of the facility.
7. Provide for the on-site treatment and/or capture of stormwater.
8. Keep the community and recreational users informed of any project-related activities that may affect them.
9. Minimize the potential for noise or light to emanate from the site.
10. Utilize renewable energy sources to offset demands at the site.

Our AWTP design lead, Todd Reynolds, can take a fresh look at the AWTP design and layouts being explored in three separate studies to identify opportunities to reduce costs, increase flexibility and achieve regulatory compliance.

For **Alternative 1**, the BODR estimated a 2-acre site would be needed for a 6 mgd AWTP and the Siting Study is refining the proposed layouts for a handful of preferred sites, including consideration of a multi-story facility. Site layout facility assumptions from prior studies will be reviewed and compared against our recent experience designing Monterey Pure Water’s 4.5-mgd (expandable to 6.5 mgd) AWTP, which will be located on a 4-acre site, as well as our work developing alternative layouts for SFPUC’s 4 mgd, 2-story AWTP, which will be located on a site with less than 1 acre of available space for their advance treatment facilities. The lessons learned from these projects, both of which will be under construction in the next year, will be valuable to confirm assumptions and validate costs for your proposed facility. **Our scope of work includes an optional task to provide value-added engineering to assess assumptions related to disposal of off-spec water, practical operational considerations and a high-level assessment of potential structural, mechanical, architectural issues that may arise.**

For **Alternative 2**, minimal additional treatment would be needed beyond the existing Title 22 process prior to discharge into Encino Reservoir. It is likely that post storage, there may be a need to strain and chlorinate prior to reuse. Based on the BODR, it was assumed that the Encino Reservoir Pump Station could house a small self-cleaning straining unit and chlorination dosing station, or use of LADWPs existing gaseous chlorine system, to meet water quality needs for non-potable reuse. Our approach will be to review these assumptions and update the costs as-appropriate.

CONVEYANCE CONSIDERATIONS

For Alternative 1 and 2, the conveyance of tertiary recycled water, purified water and brine disposal has been studied in the BODR and follow on studies. Additional alignments for Alternative 1 will be forthcoming though the siting and mixing studies based on identified AWTP sites and point of discharge to Las Virgenes Reservoir.

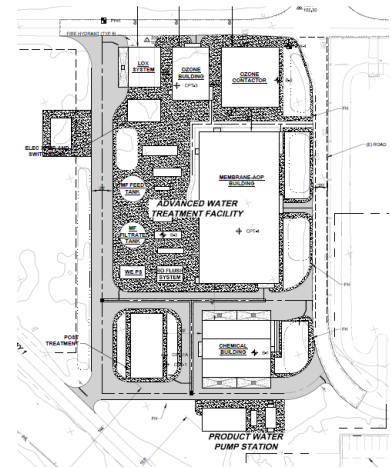
Kennedy/Jenks has designed almost 500 miles of pipeline infrastructure. A significant number of our pipeline design projects have included trenchless construction methods including bore and jack crossings under watercourses and/or flood control channels as well as Caltrans infrastructure. We understand the challenges associated with conveyance studies, design and construction as well as the issues and factors associated with trenchless construction techniques. Our approach will be to build on these studies, refining alignments based on the preferred AWTP locations, confirming the hydraulic capacity of existing and proposed facilities, reviewing and commenting on site constraints and providing guidance to identify potential cost-savings and avoid significant constructability issues.

Screening Approach

The JPA has investigated significant time and energy into defining objectives and criteria to screen alternatives and sites through the BODR and ongoing Siting Study. We recognize the value of maintaining consistency and will work with the JPA to refine objectives or modify the methodology, as-needed, to select a Proposed Title XVI Project(s).

Once the JPA is aligned on a preferred project, we can work with you to develop an implementation plan to achieve your long-term goal to “Bring Your Water Full Circle”.

Kennedy/Jenks’ design layout for the soon-to-be constructed Pure Water Monterey AWTP incorporates unique hydraulic and control strategies, and operations-focused input for improved accessibility for maintenance



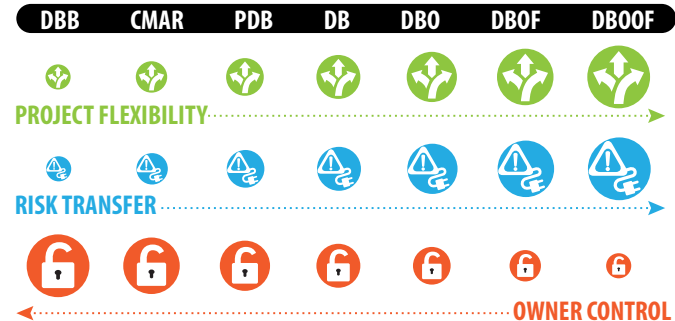
Bill Yates will lead the conveyance evaluation and brings a unique understanding of the District’s design, construction, operational, and maintenance requirements. Bill’s knowledge of the District will ensure an efficient planning evaluation and successful outcome.

Our proposed Project Manager, Dawn Taffler, has performed screening for a dozen recent planning studies, and offers the flexibility to advise, revise and implement an approach that meets the needs of your Title XVI FS.

Early Consideration of JPA’s Project Delivery Alternatives Helps Shape the Program Strategy

Our team can offer insight on how alternative project delivery methods could influence how your project is designed and constructed and provide a forward-looking approach to consider financing options and position for funding. Kennedy/Jenks has been involved in alternative forms of project delivery for the past 20 years, serving clients as their owner’s representative for alternative delivery projects, helping them select and tailor a project delivery strategy to best meet their project goals, facilitating the procurement process, and providing third-party design review and construction management services. We have delivered projects through: design-bid-build (DBB), design-build (DB), construction management at risk (CMAR), progressive design-build (PDB), and design-build-operate (DBO) forms of project delivery.

Project flexibility and risk transfer increase with Alternative Project Delivery and Owner control decreases.



Sample Project Delivery Comparative Table that would be developed after reviewing the suitability of each project delivery method to meeting the JPA preferences.

	SAMPLE IMPORTANCE FACTOR	DESIGN BID BUILD	DESIGN BUILD	CMAR	PROGRESSIVE DB
Reduce Project Cost	2	●	●	●	●
Reduce Project Schedule	3	●	●	●	●
Improved Construction Quality	4	●	●	●	●
Owner Satisfaction	5	●	●	●	●
Reduced Litigation Risk	1	●	●	●	●
Reduced Change Orders	4	●	●	●	●

● FAVORABLE
● SOMEWHAT FAVORABLE
● LEAST FAVORABLE

Leveraging our recent project experience for the San Elijo JPA AWTP, Padre Dam MWD’s Demonstration Plant and subsequently their full-scale AWTP, and the Monterey Pure Water Program we can efficiently help the JPA assess the myriad of project delivery alternatives and how these alternatives could be applied to each of the Pure Water Project Elements. Our approach initiates the evaluation of project delivery options is to solicit input to tailor the assessment, develop a comparative table (similar to above) based on stakeholder preferences and conduct a workshop with stakeholders to facilitate input on the project delivery analysis.

Our scope of work includes an optional task to compare project delivery options for your Selected Alternative, which would be led by Patrick Huston, our National Practice Leader for Project Delivery.



SECTION 3: Recommended Scope of Work

The scope of work has been organized to mirror the recommended sections outlined in the USBR Reclamation Manual Directives and Standards WTR 11-01 for a Title XVI Feasibility Study to expedite the review process and ensure compliance with grant requirements. Each task will pull pertinent information from, and build on, prior studies prepared for the Pure Water Project, including but not limited to the: (1) Basis of Design Report (BODR), (2) Encino Reservoir Investigation, (3) Preliminary Siting Study, (4) Mixing Study, (5) Demonstration Project Preliminary Design and supporting outreach, financial and environmental studies, collectively referred herein as “Prior Studies”. The proposed tasks with key deliverables and meetings are listed below and described in greater detail in this section. Four optional tasks have been included—as described in Tasks 3, 4 and 9—to provide additional insight into options to increase water supply, optimize design assumptions, and save time and money.

Task	Key Deliverables	Meeting/Presentations
Task 1. Introductory Information	Data request Study area map	Kick-off Meeting
Task 2. Statement of Problems and Needs		
Task 3. Water Reclamation and Reuse Opportunities	Optional Task A: Stormwater Diversion TM	Progress Meeting #1
Task 4. Description of Alternatives	Alternative Maps Summary of Facilities and Costs Alternatives Screening Table Optional Task B: Brine Recovery TM Optional Task C: AWTP Value Added Engineering TM	Progress Meeting #2
Task 5. Economic Analysis		Alternatives and Economic Analysis Presentation to JPA Board
Task 6. Selection of Proposed Title XVI Project		Presentation to JPA Board
Task 7. Environmental Consideration & Potential Effects		Progress Meeting #3
Task 8. Legal and Institutional Requirements		Progress Meeting #3
Task 9. Financial Capability of Sponsor	Optional Task D: Alternative Project Delivery TM	Progress Meeting #3
Task 10. Research Needs		
Task 11. Report Preparation	Administrative Draft Sections, Draft Feasibility Study, Final Feasibility Study	Presentation to JPA Board
Task 12. Project Management & QA/QC	Monthly invoices, status reports, and schedules	Monthly Conference Calls

Task 1. Introductory Information

This section sets the stage for the project, and will:

- ◆ Provide a brief overview of the Project.
- ◆ Describe JPA as project sponsor.
- ◆ Provide a description of the study area, including existing recycled water facilities and proposed facilities that were analyzed.

The introductory section serves to inform USBR staff about the project, partners, stakeholders and the value of the project to the region, and will be crafted to make USBR part of the solution.

Task 2. Statement of Problems and Needs

This section highlights how recycled water could provide a solution to key water resource management issues in the region. Prior Studies will be updated based on input from the JPA to:

- ◆ Provide a brief description of why the Project is needed from a water supply perspective.
- ◆ Provide a description of the District's current and future water supplies based on the District's 2015 Urban Water Management Plan.
- ◆ Provide a description of the District's current and future water demands based on the District's 2015 Urban Water Management Plan (UWMP).
- ◆ Provide a brief discussion on the water quality of the District's current and future water supplies.
- ◆ Provide a summary of surface water augmentation water quality requirements.
- ◆ Provide a summary of the District's current recycled water uses, consisting of non-potable reuse and live stream discharge to Malibu Creek.
- ◆ If applicable, provide a description of planned new facilities at Tapia Water Reclamation Facility (WRF).

TASK 2 ASSUMPTIONS: Water and recycled water supply and demand projections will reference the 2015 UWMP or updates from Prior Studies.

Task 3. Water Reclamation and Reuse Opportunities

This section focuses on the opportunities and limitations to expand reuse, and will:

- ◆ Provide a summary of potential water reclamation and reuse opportunities, based primarily on information from the BODR, supplemented by Prior Studies.
- ◆ Describe current effluent discharge limits for Tapia WRF.
- ◆ Briefly describe the water market for the Project, which would be potable water users for a SWA Project and non-potable water users for seasonal storage.
- ◆ Briefly describe potential project challenges, which may include public acceptance (based on prior public outreach efforts) and regulatory approval (based on the outcomes from the Mixing Study).
- ◆ Describe potential stakeholders of the Project.
- ◆ Provide a brief description of the Tapia WRF, including capacities, treatment processes, and design criteria.
- ◆ Provide a brief description of the District's current non-potable reuse, which will be referenced from the 2015 Urban Water Management Plan.
- ◆ Provide a flow projection of available supply for the Project, including seasonal variations by month.
- ◆ Provide description of brine discharge compliance requirements for the Calleguas Regional Salinity Management Pipeline.

TASK 3 ASSUMPTIONS: Additional evaluation of NPR expansion will not be conducted as part of the SWA Project. Prior studies for seasonal storage will be referenced to cite potential NPR expansion. It will be clearly noted that the District is committed to keeping current NPR commitments. Public outreach efforts are not included as part of the Title XVI FS and will be performed under a separate contract, if needed.

OPTIONAL TASK A: Stormwater Diversion for Supplemental Source Water Analysis

The purpose of this task would be to identify and evaluate opportunities to divert stormwater as a supplemental source water for the Pure Water Project.

Activities would be to:

- ◆ Review stormwater collection system maps (provided in electronic GIS form) and USGS watershed maps to identify potential points of diversion and tributary areas as well as potential interties into existing sanitary sewer collection system for conveyance to the Tapia WRF or the AWTP.
- ◆ Review of local precipitation and gage data, if available, to evaluate potential quantities for diversion.
- ◆ Evaluate water quality data, if available, from the local stormwater management entity including Agoura Hills, Calabasas, Westlake Village, and unincorporated Los Angeles County. If data is not available, typical urban runoff water quality values will be assumed.
- ◆ Estimate salt concentrations in stormwater and potential impacts of salt concentrations when combined with existing inflows at Tapia WRF to produce recycled water and subsequent impact on brine water quality from the AWTP. Kennedy/Jenks has a good understanding of acceptable brine water quality discharging to the Calleguas SMP based on our planning and design efforts associated with SMP discharge stations for Port Hueneme Water Agency and Camrosa Water District—the only SMP discharge stations currently in operation.
- ◆ Identify planned stormwater capture and storage projects in the study area.
- ◆ Develop planning-level infrastructure concepts and conceptual level costs for up to two (2) alternatives for diversion of storm water.

OPTIONAL TASK A DELIVERABLE: Prepare a Draft and Final Technical Memorandum (TM) to document the analysis.

Task 4. Description of Alternatives

This section describes the project alternatives, and sub-alternatives evaluated in the Study Area, consolidating information from Prior Studies and supplementing with new information to:

- ◆ Provide summary of Project objectives.
- ◆ Describe available recycled water for the Project.
- ◆ Describe alternatives for the Project, based

on Scenario 4 (SWA Project) and Scenario 5 (Seasonal Storage Project) from the BODR and new sub-alternatives identified in the Preliminary Siting Study.

- ◆ **For the SWA Project:** Describe up to two (2) pipeline alignments to convey tertiary recycled water from Tapia WRF, via the existing purple pipe system, and extending to each recommended Advanced Water Purification. Describe up to two (2) brine pipeline alignments and pump station capacities from each recommended AWTP site to the Salinity Management Pipeline (SMP). Describe up to two (2) pipeline alignments to convey purified water to the Las Virgenes Reservoir.
- ◆ **For the Seasonal Storage Project:** Describe up to three (3) pipelines alignments to Encino Reservoir associated recycled water demands served, per Woodland Hills Water Recycling Expansion Concept in Appendix K of the BODR.
- ◆ Combine AWTP design assumptions and requirements from the Siting Study, Mixing Study, and Demonstration Facility pre-design to reconcile inconsistencies and identify opportunities to reduce costs and increase flexibility while complying with regulations.
- ◆ Develop budgetary-level capital and O&M cost estimates for major facility components, including but not limited to: the AWTP, conveyance facilities, reservoir discharge facility, connections to the SMP for brine disposal, and modifications to the Westlake Filtration Plant as it relates to SWA. Cost estimates developed as part of Prior Studies will be used as a basis and will be updated for consistency and based on recent cost data from current project bids.
- ◆ Develop unit life cycle costs based on annualized unit capital costs (assuming a consistent interest rate and project payback period) plus unit O&M costs.
- ◆ Cost estimating will meet USBR criteria per Reclamation Manual FAC 09B01 Directives and Standards. Project costs for funding will be formatted to meet OMB CIRCULAR AB87 REVISED principles and standards for determining costs for Federal awards carried out through grants, cost reimbursement contracts, and other agreements with State and local governments and federally recognized Indian tribal governments (governmental units).

In the BODR, the SWA Project was recommended over the Seasonal Storage Project based on a series of workshops with the JPA Board of Directors. The decision-making process, evaluation criteria, and scoring will be described in the Feasibility Study and applied to the sub-alternatives developed in this section. The screening scores for cost-related criteria, consisting of Guiding Principle - “Seek Cost Effective Solutions”, Objective - “Cost/Benefit”, and Risk - “Project Costs” will be re-evaluated based on updated capital and O&M costs. Non-quantitative scores will be guided by prior scoring efforts and input from the JPA. Our team will present the findings of the updated screening evaluation to the JPA for consensus on the selection of a Proposed Title XVI Project.

TASK 4 ASSUMPTIONS: Up to six (6)-Alternative Projects will be developed based on the identification of up to three (3) preferred sites, from the Preliminary Siting Study and up to three (3) alignments to Encino Reservoir. Evaluation criteria, as shown in BODR Table 6-5, will be utilized for alternatives analysis. Scores developed by the JPA Board for non-cost related criteria will be utilized.

TASK 4 DELIVERABLES: Alternative maps, alternative cost tables (capital, O&M and unit life cycle costs), updated screening matrix.

OPTIONAL TASK B: Brine Recovery Evaluation

The purpose of this task would be to identify and evaluate opportunities to minimize brine disposal using innovative brine minimization technologies. Activities would include:

- ◆ Identification of brine concentration/recovery alternatives, including multi-stage concentrators, closed circuit reverse osmosis (CCRO) and advanced electrodialysis reversal (EDR).
- ◆ Utilization of projection modeling using reverse osmosis (RO) manufacturer developed software to assess preliminary sizing, footprint, and capital costs.
- ◆ Evaluation of alternatives based on cost and non-cost criteria developed in consultation with the JPA.
- ◆ Identification of one or more potential brine recovery options for inclusion in Title XVI FS and/or further exploration in the next phase of design for the demonstration facility.

OPTIONAL TASK B DELIVERABLE: Prepare a Draft and Final TM to document the analysis.

OPTIONAL TASK C: AWTP Value-Added Engineering

The purpose of this task would be to provide a value-added third-party review of the completed work, related to the AWTP facility, by the three separate studies (Siting, Mixing, and Demonstration Pre-Design) to identify technologies, design, and operational criteria that can be translatable from a demonstration scale to a full-scale facility. This assessment would benefit the next stage of demonstration facility design as well as refining the assumptions for the Title XVI FS.

The work would build on evaluation of AWTP process and facility components performed in Task 4 by conducting two (2) value-added engineering reviews:

1. The first review would be an operations focused effort focused on the operability of the demonstration facility and future full-scale facility.
2. The second review would be based on constructability and costs.

These reviews would identify and evaluate opportunities and assumptions related to the disposal of off-spec water, practical operational and maintenance considerations and a high-level assessment of potential structural, mechanical, architectural issues that may arise. Based on our recent work at Monterey and Padre, our team has first-hand experience transitioning from demonstration facility to full facility design. We can build on lessons learned to identify potential operational, construction, and cost constraints to avoid as you move to the design of your full-scale facility.

It is anticipated that two (2) 4-hour review workshops would be conducted to facilitate these reviews, including the JPA and Kennedy/Jenks experts. Meeting materials, minutes, and a summary of review comments would be incorporated into a TM and relevant findings would be integrated into the Title XVI FS as-appropriate.

OPTIONAL TASK C DELIVERABLE: Prepare a Draft and Final TM to document the review workshops and outcomes.

Task 5. Economic Analysis

This section focuses on a comparison of the Proposed Title XVI Project to other water supply alternatives that could be implemented. The intent is to justify the cost-effectiveness and economic benefits that would be realized after implementation of the Proposed Title XVI Project. This section will:

- ◆ Describe conditions that exist in the area and projects of the future with and without the project.
- ◆ Compare the costs of alternatives that would satisfy the same demands as the Proposed Title XVI Project (i.e. cost of increasing imported water or qualitative cost).
- ◆ Identify the benefits of the Proposed Title XVI Project in terms of the cost of the alternative most likely to be implemented in the absence of the project. Qualitative benefits will be described.

Task 6. Selection of Proposed Title XVI Project

This section serves to provide a justification of why the proposed project is the selected alternative in terms of meeting objectives, demands, needs, cost effectiveness and other criteria that influenced the decision.

- ◆ Provide summary of alternatives analysis and screening to justify Project selection.
- ◆ Provide analysis of how the Project will affect the District's need for other water supplies through reduction, postponement or elimination of development of new or expanded water supplies.
- ◆ Discuss reduction of demand on imported supplies.
- ◆ Discuss reduction of discharge to Malibu Creek.

OPTIONAL TASK D: Alternative Project Delivery Analysis

The purpose of this task would be to explore project delivery options tailored to the JPA's need for the Pure Water Project. Our approach would be to:

- ◆ Conduct an initial workshop with JPA staff to discuss the Pure Water Program in the context of project delivery. The workshop will be facilitated by Kennedy/Jenks Design-Build Practice Leader, Patrick Huston. He will provide an overview of each of the project delivery methods commonly being utilized in the United States to build a

working understanding of the project delivery alternatives for LVMWD's project stakeholders. Workshop attendees will discuss the role that project delivery can and should play in achieving the Pure Water Project goals and objectives. A Project Delivery Questionnaire will be distributed to solicit input to tailor the assessment of delivery approaches.

- ◆ Evaluate project delivery methods and provide a comparative table based on stakeholder preferences with a narrative of the benefits and limitations.
- ◆ Prepare a Draft and Final TM, building from the input received from workshop and summarizing the project delivery alternatives under consideration. The TM will discuss how the project delivery alternatives may comparatively rank in fulfilling the Pure Water Project goals and objectives for each phase of the program, including the demonstration facility, full-scale advanced water treatment plant, conveyance facilities, and ancillary program facilities. A high-level outline of the Proposed Title XVI Project delivery timeline and recommended next steps in consideration of project delivery will be included.

OPTIONAL TASK D DELIVERABLE: Prepare a Draft and Final TM to document the analysis.

Task 7. Environmental Consideration and Potential Effects

The review of a Title XVI FS does not require National Environmental Policy Act (NEPA) compliance as USBR is not making a recommendation to go forward with the proposed project. However, the Title XVI FS must include sufficient information on each alternative to allow assessment of potential measures and costs that may be necessary to comply with NEPA and other applicable Federal Law. This task will:

- ◆ Discuss CEQA and NEPA compliance considerations (e.g., Federal Crosscutter studies) for each alternative.
- ◆ Conduct a high-level preliminary environmental review to assess potential environmental constraints for each alternative that could result in significant effects on the environment. It is understood that at a later date, full

California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) compliance must be completed if federal funding is pursued. It is anticipated that a Mitigated Negative Declaration (MND) may be required for the project, however final design will dictate requirements for final environmental documentation.

- ◆ Identify potential impacts on, or benefits to, endangered or threatened species (e.g., Delta Smelt and Southern Steelhead), public health or safety, natural resources, regulated waters of the United States, or cultural resources from existing reports on conditions in the area.
- ◆ Discuss how the project will affect water supply and water quality.
- ◆ Discuss potential to dual-purpose at AWTP brine line to dispose of brine waste from treating impaired groundwater as it relates to improving the quality of regional groundwater.
- ◆ Discuss potential energy benefit from the offset of imported water with recycled water.
- ◆ Review historical land use information and discuss need for consultations with federal, state and local agencies to identify or mitigate potential unique or undefined environmental risks.
- ◆ Discuss the extent to which the public was involved in the feasibility study and summarize any comments received.

TASK 7 ASSUMPTIONS: Public outreach is not included as part of this scope. If needed, public outreach would be conducted under a separate contract with the JPA.

Task 8. Legal and Institutional Requirements

This section will identify any legal or institutional requirements or barriers to implementing the Proposed Title XVI Project. This task will:

- ◆ Review existing inter-agency agreements and discuss potential future agreements that could be required for the Project.
- ◆ Discuss water rights to delineate ownership of the various Project flows (wastewater, recycled water, AWTP product water, potable water), based on input from the District and a review of the JPA agreement.
- ◆ Discuss contractual requirements that could impact supply availability for the Proposed Title XVI Project.

- ◆ Provide a summary of permitting requirements for the Proposed Title XVI Project.
- ◆ Comment on any unresolved issues associated with implementing the Proposed Title XVI Project and how and when such issues may be resolved or how the project would be affected if such issues are not resolved.

Task 9. Financial Capability of Sponsor

This section is intended to demonstrate to USBR that the non-Federal sponsor is likely to demonstrate financial capability if the project moves to construction. This task will:

- ◆ Provide an implementation schedule for the Project.
- ◆ Discuss willingness of the non-Federal Sponsor to pay for its share of the capital and O&M costs.
- ◆ Provide a brief discussion on how the Project will be funded with input from the District, building on prior study by PFM.
- ◆ Summarize potential available funding for the project based on the most recent information available on current and potential future grants and loans, including cost-share limitations.

Task 10. Research Needs

The focus of this section is to identify basic research needs and the extent that the Proposed Title XVI Project will use proven technologies and conventional system components, when available, to implement the project. If the SWA Project is identified as the Proposed Title XVI Project, this task will:

- ◆ Provide a description of potential research needs for implementation of the Project and regulatory compliance, based on information provided from the Mixing and Dilution Study, the most up to date SWA criteria and the current state of research for potable reuse.
- ◆ Provide information on forthcoming AWTP Demonstration Facility and potential research focused grant funding opportunities that could be pursued to meet the project's research needs.
- ◆ Leverage our team's experience with surface water augmentation projects, participation in NWRI, and work with regulatory agencies in southern California to identify potential research pursuits that will be beneficial for the Project.

Jean Debroux will identify current research needs based on his role on various research advisory panels which are focused on identifying research gaps for potable reuse.

Task 11. Report Preparation

The Title XVI FS will be developed in three parts.

11.1 Administrative Draft Sections

- ◆ Prepare an outline to follow the guidelines of the U.S. Bureau of Reclamation (USBR), Reclamation Manual WTR 11-01, March 17, 2008.
- ◆ Prepare Administrative Draft Sections that summarize the work described in Tasks 1 through 10. Individual or small groups of sections will be submitted following receiving input on key deliverables. This will allow for ongoing review of small, digestible, segments of the report and to solicit input along the way.

11.2 Draft Title XVI Feasibility Study

- ◆ Prepare a Draft Feasibility Study based on JPA comments on the Administrative Draft sections.
- ◆ Submit Draft Report to USBR.

11.3 Final Title XVI Feasibility Study

- ◆ Prepare a Final Feasibility Study based on USBR and JPA comments on the Draft Report.

TASK 11 DELIVERABLES: Administrative draft sections, draft feasibility study, final feasibility study.

Task 12. Project Management & QA/QC

Project management activities will include project planning, organizing staff and resources, budget tracking, quality assurance/control reviews, and ongoing communications with the District and project team regarding project status and priorities via email and telephone calls. Our Project Manager, Dawn Taffler, will ensure Kennedy/Jenks' internal quality assurance/quality control procedures are followed throughout the course of this project. Deliverables will be reviewed by a senior staff member to ensure they meet Kennedy/Jenks standards for quality.

12.1 Management & Administration

- ◆ Project coordination and administration will consist of invoicing, schedule and budget monitoring, subconsultant coordination, and contract administration.

- ◆ Provide a monthly status report with submittal of the monthly invoice. The status report will include a summary of work progress, budget summary, and schedule update.

12.2 Meetings and Progress Conference Calls

- ◆ Six (6) meetings will be conducted, consisting of one kick-off meeting, three progress meetings, and two presentations to the JPA Board of Directors.
- ◆ Five (5) monthly conference calls between the proposed PM and JPA primary point(s) of contact will be conducted to discuss project status. Conference calls are scheduled for months where a meeting or Board presentation are not scheduled.

12.3 Grant Management Support

- ◆ Kennedy/Jenks will provide quarterly progress summaries to support the JPA's preparation of quarterly performance reports to USBR.
- ◆ The quarterly progress summaries will report on the major activities of the project (Water Reclamation and Reuse Opportunities, Description of Alternatives, Economic Analysis, Environmental Considerations, and Legal and Institutional Requirements).

12.4 QA/QC

- ◆ Established QA/QC procedures, to be employed by all team members, shall address the use of quality control review, calculation checking, conceptual design checking, GIS interference and interface checking, construction and operation issues, and other measures necessary to maintain a consistent, complete, high quality, and compatible deliverable.
- ◆ Quality reviews will be conducted prior to draft and final submittals.
- ◆ A concept and criteria review (C&CR), an internal Kennedy/Jenks process, will be conducted at an early stage of the planning process. The C&CR is an important quality control tool that gives the team an early opportunity to review the project concepts with experienced staff.
- ◆ See the Quality Control Process section in this proposal for additional details about our internal QA/QC processes.

TASK 12 DELIVERABLES: Monthly invoices, monthly status report and project schedule updates. Quarterly project summaries for grant management support.

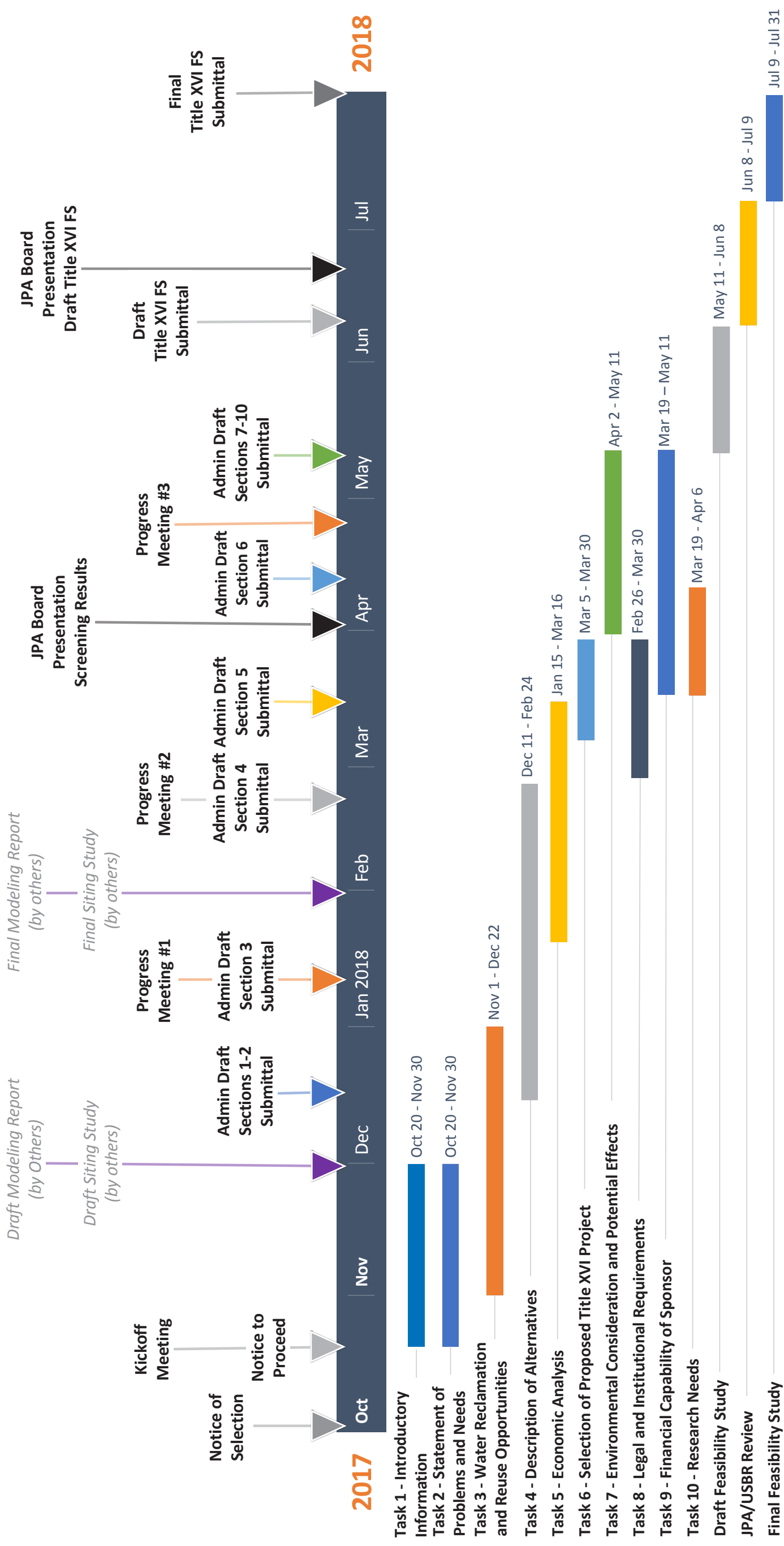
General Assumptions

The general assumptions used to prepare this Scope of Work are summarized as follows.

- ◆ This study will focus on input from JPA Staff and the JPA Board of Directors. Collaboration with other project stakeholders will be considered on an as-needed basis.
- ◆ The District will provide access to JPA/LVMWD/TSD facilities, available records and data.
- ◆ Boundaries of study area to be confirmed during kick-off meeting based on discussion with JPA staff.
- ◆ For each deliverable, the District will provide a set of combined written comments from JPA Staff, JPA Board and/or other project stakeholders. The project schedule has been developed assuming all review comments will be received within two weeks of the draft documents' date. Comments will be discussed as required and incorporated into the final document as appropriate.
- ◆ The Kennedy/Jenks team will provide verbal progress updates to JPA Staff during scheduled conference calls and a monthly status report will accompany each invoice for work.
- ◆ The project is assumed to be performed over a 10-month period starting upon receipt of the Notice to Proceed (NTP).
- ◆ The Scope of Work shall be managed to be within the overall budget established for the project. Some tasks and subtasks may require more or less effort to complete, based on conditions that may be unforeseen at the time of scoping. Kennedy/Jenks reserves the right to move budget between tasks/subtasks for the base scope of work.
- ◆ Sampling and other field work is not included in this scope of work.
- ◆ The JPA will designate one or more individuals (as-needed) to serve as a point of contact to assist the Kennedy/Jenks team in obtaining needed data and scheduling meetings and workshops, as defined in the scope of work.

Proposed Title XVI Feasibility Study Schedule

The following schedule has been developed to meet the Final Title XVI FS deliverable date of July 31, 2018 indicated in the USBR grant contract. Anticipated meeting dates and presentations are indicated and will be confirmed with the JPA upon project initiation. We would be happy to work with the JPA to modify the schedule, as appropriate to meet your needs.





SECTION 4: Project Team

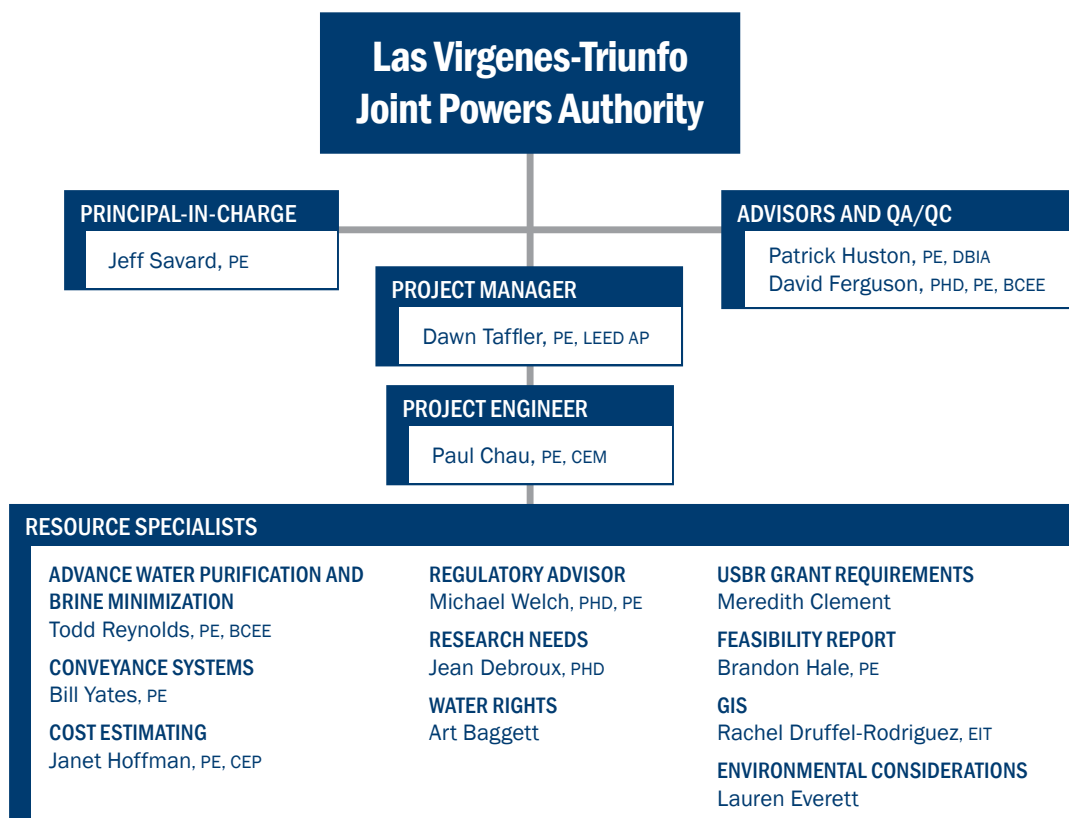
DEDICATING A LOCAL CORE TEAM SUPPORTED BY A RESOURCE BENCH TO MEET YOUR DELIVERY NEEDS

KENNEDY/JENKS HAS ASSEMBLED A BALANCED TEAM WITH TECHNICAL EXPERTISE, LOCAL KNOWLEDGE, AND LEADERSHIP FORGED FROM DIRECT EXPERIENCE PLANNING SIMILAR STUDIES THROUGHOUT CALIFORNIA.

The Kennedy/Jenks team is comprised of in-house specialists bringing a fresh vision for the future of Pure Water Project Las Virgenes-Triunfo, coupled with comprehensive and recent experience for evaluating indirect potable reuse (IPR) for feasibility studies. Our team members have focused their careers on evaluating and implementing recycled water projects and will provide the JPA with the right balance of in-depth local knowledge of your stakeholders, extensive recycled water technical expertise, a fresh perspective, and a comprehensive understanding of local, regional, and statewide water resource issues. We have enhanced our team with **Michael Welch** who—based on his involvement in the Pure Water San Diego Program—provides a grounded assessment of potential regulatory and permitting challenges that may arise for surface water augmentation.

Our management team, shown in the organization chart below, is defined by clear lines of authority, responsibility, and communication to provide timely delivery of project deliverables. Our Project Manager, **Dawn Taffler**, will be supported by our Project Engineer, **Paul Chau**, with specialists and advisors who intimately know your local issues, your existing recycled water system, and the most innovative treatment technologies; together, this team brings valuable lessons learned from planning and implementing IPR programs. Brief biographies for our team members are included in this section. Tailored resumes for all staff are included in **Appendix A**. Proof of professional registration for key staff are included in **Appendix B**.

Our team covers all required expertise in-house, with the addition of one subconsultant who has specific, related experience in SWA. Our proposed, local Project Manager has worked with every person on this team on similar potable reuse planning studies. This team can efficiently and effectively execute all aspects of your Title XVI Feasibility Study and has the available capacity to do the work.





Dawn Taffler, PE, LEED AP

Project Manager

Dawn will serve as the JPA's primary point of contact and will be responsible for communicating project status; overseeing the execution of the work, schedule, and budget compliance; and coordinating various team efforts. Dawn brings great energy and an organized, collaborative management style to benefit your one-of-a-kind program.

Dawn's 16 years of experience serving as Project Manager and Project Engineer for large recycled water and water resource projects throughout California will help guide this project to success. She has contributed to, or led the development of, over a dozen recycled water planning studies, including Title XVI Feasibility Studies, SWRCB Grant-funded Facilities Planning Reports, and Prop 84-funded Master Plans. She has developed regional strategies and performed technical evaluations for numerous studies focused on non-potable and potable reuse opportunities. Dawn currently serves on the WaterReuse California Board and is the Recycled Water Community of Practice Leader at Kennedy/Jenks.

Education

BS, Civil and Environmental Engineering, University of Illinois, Champaign-Urbana

MS, Civil and Environmental Engineering, UC Berkeley

Registrations/Certifications

Professional Civil Engineer, California

Leadership in Energy and Environmental Design (LEED), Green Building Institute

Memberships/Affiliations

WaterReuse Association

CA Section WaterReuse Association - Trustee to the Board 2015-present

WaterReuse Association, Northern CA Chapter - President, 2013-14; VP, 2011-12, Program Chair

What Clients Say About Dawn Taffler:

"...this document is by far the most thorough, comprehensive, and well written professional piece of work that I have seen during my tenure at Petaluma... I know that there are other consultants involved and they deserve some of the praise, but not nearly as much as Dawn... I know Dawn has put in untold hours to make this submittal happen and for one, I would like the opportunity to thank her personally."

-- Dan St. John, Director Public Works - City of Petaluma

- ◆ **North Bay Water Reuse Authority - Phase 2 Title XVI Feasibility Study, Sonoma County Water Agency, Santa Rosa, CA** - For the past two years, Dawn has led the engineering team to support the development of a U.S. Bureau of Reclamation-funded (USBR) Title XVI Feasibility Study for more than 10 regional public agencies in the North Bay area to fund their \$100M Phase 2 expansion. Dawn was responsible for delivering feasibility-level design and cost estimates for treatment, distribution, and storage facilities to meet USBR requirements. The Title XVI was submitted and approved in 2017 and our team continues to provide engineering support as the liaison to the environmental team during the development of a Programmatic EIR through 2018.
- ◆ **Recycled Water Resources Plan, Rancho California Water District, Temecula, CA** - Dawn and Paul Chau are currently developing a Recycled Water Resources Plan (RWRP) to provide the District a clear and concise strategy for utilizing its available recycled water supplies. Eighteen non-potable and potable reuse alternatives (including groundwater replenishment, conjunctive use via nearby reservoir, and direct potable reuse) are being evaluated on an equal basis to assess feasibility and cost-effectiveness.
- ◆ **Recycled Water Master Plan (RWMP) Update, Castaic Lake Water Agency, Santa Clarita, CA** - Dawn and Paul Chau completed a Prop 84-funded RWMP Update in 2016 to investigate expansion of CLWA's existing non-potable system and explore future opportunities for groundwater recharge, surface water augmentation, and direct potable reuse. Throughout the project, Dawn and Paul led workshops and provided project updates at purveyor, engineering committee, and Board of Director meetings to obtain buy-in on the preferred near- and long-term alternatives as well as the development of rules and regulations to guide each project through implementation.



Paul Chau, PE, CEM

Project Engineer

As Project Engineer, Paul will be responsible for leading technical engineering evaluations and integrating elements from our multidisciplinary team. He will work directly with Dawn Taffler to assure project milestones are met and efforts are within the negotiated budget.

Paul is a civil and environmental engineer with extensive experience in recycled water and potable reuse projects. He has completed multiple feasibility studies and designs for non-potable and potable reuse systems. Paul and Dawn recently worked together to successfully complete the Castaic Lake Water Agency Recycled Water Master Plan, which included evaluation of surface water augmentation and facility siting alternative evaluation. He has collaborated with every member of our internal team on various recycled water studies, including the Palmdale Water District Regional Groundwater Recharge and Recovery Project, Eastern Municipal Water District's Recycled Water Facilities and Strategic Master Plan, and Elsinore Valley Municipal Water District's (EVMWD) Title XVI IPR Feasibility Study. Paul has the direct relevant experience and expertise to execute the feasibility study efficiently.

Education

BS, Environmental Engineering and Science, University of California, Los Angeles

MS, Civil and Environmental Engineering, Stanford University

Registrations/Certifications

Professional Civil Engineer, California

Certified Energy Manager, Association of Energy Engineers (AEE)

Memberships/Affiliations

Association of Energy Engineers

- ◆ **Elsinore Valley Municipal Water District, IPR Feasibility Study, Lake Elsinore, CA** - Paul served as Project Engineer for this IPR FS, which included an analysis of multiple surface spreading groundwater recharge, injection groundwater recharge, and surface water augmentation alternatives. The project also included groundwater modeling, treatment analysis, regulatory and environmental compliance strategies, and cost estimating. The project was completed on time and within budget, and the Title XVI FS was approved by the USBR in a single report submittal within 30 days, allowing EVMWD to take plan for a future Full Advanced Treatment Plant as part of its current wastewater plant expansion.
- ◆ **Padre Dam Municipal Water District, Potable Reuse Feasibility Study, Santee, CA** - Paul served as Project Engineer for this feasibility study which evaluated five project alternatives to develop a potable reuse water supply. Options included various facility sites and conveyance options for distribution network expansion, indirect potable reuse via groundwater recharge and recovery in the Santee Basin, and lake augmentation potable reuse. Proposed facilities included a new wastewater treatment plant, advanced water treatment plant, conveyance facilities, including pumps, pipes, diversion structures, and injection wells.
- ◆ **San Gabriel Valley Municipal Water District, Recycled Water Feasibility Study, Azusa, CA** - Paul managed the development of a hydraulic model as well as engineering support for evaluating the District's recycled water system demands and identifying facility requirements. Recycled water demands and demand patterns were incorporated into the model. Facility requirements to serve potential recycled water customers were analyzed.
- ◆ **City of South Gate, Recycled Water Master Plan, South Gate, CA** - Paul is currently engaged as the Recycled Water and Sewer Lead for a series of master plans (water, recycled water, and sewer). Three standalone documents are being prepared evaluating immediate, short-term, and ultimate deficiencies, and will address water demands, recycled water demands, and gravity sewer flows. The water supply situation will further improve implementation of recycled water expansion to roughly nine city parks and schools.



Pat Huston, PE, DBIA

Strategic Advisor and QA/QC

Pat and Dawn have worked together on recycled water projects for over a decade. As a Strategic Advisor, Pat will provide input on approaches to successfully lead from planning to design—including project delivery options to save time and money—bringing valuable lessons learned from his program management role leading Padre Dam MWD’s surface water augmentation planning studies, demonstration project, and design elements.

Pat is a civil engineer with over 25 years’ experience in water, wastewater, and reclamation system infrastructure, including treatment facilities, pump stations, storage reservoirs, and distribution systems. His involvement in these areas has included project management, planning, analysis, design, construction and permit coordination. Pat’s relevant experience includes many similarities to your project, including successfully performing alternatives evaluation, screening, and selection of a recommended project through a collaborative process with key decision makers and stakeholders. Pat will bring lessons learned and technical expertise to advise on and provide QA/QC for the various site alternatives being considered for your Pure Water Project.

Education

BS, Civil Engineering, San Diego State University

MS, Civil Engineering, San Diego State University

Registrations/Certifications

Professional Civil Engineer, California

Design-Build Professional, Design-Build Institute of America



David Ferguson PhD, PE, BCEE

Strategic Advisor and QA/QC

David will bring his experience successfully managing the Title XVI Feasibility Study for Elsinore Valley MWD to advise the project team for efficient execution of your study. He will provide QA/QC of engineering evaluations, including conveyance requirements, treatment, and operational considerations.

David has extensive experience in the planning, design, construction, and operation of water supply, infrastructure, and treatment projects. His background includes project and program management, as well as management of engineering and/or operations for three large water utilities in Southern California. His recent experience includes serving as project manager for recycled water projects, including the Palmdale Regional Groundwater Recharge and Recovery Project, Elsinore Valley’s Title XVI IPR Feasibility Study, and Eastern MWD’s Recycled Water Pond Pump Station Design, as well as project manager of Inland Empire Utility Agency’s Recycled Water Planning Study (while with a previous firm). David has been responsible for the evaluation and/or design of upgrades, rehabilitation, retrofit and/or replacement for over 40 water treatment plants, 30 reservoirs, 20 pumping station and many miles of pipelines.

Education

BS Civil Engineer, University of Massachusetts

BS, Environmental Science, University of Massachusetts

MS, Civil Engineering, University of Massachusetts

MBA, Business Management, California State University, San Bernardino

PhD, Executive Management, Claremont Graduate University

Registrations/Certifications

Professional Civil Engineer, California

Board Certified Environmental Engineer (BCEE), American Academy of Environmental Engineers and Scientists



Education

BS, Environmental Policy, Analysis and Planning, University of California at Davis, 1996

MS, City and Regional Planning, California Polytechnic State University, 2000

MS, Transportation Engineering, California Polytechnic State University, 2000

Meredith Clement

USBR Grant Requirements

Meredith will work with the project team to make sure the project has the necessary elements to make it competitive for grant funding.

Meredith leads our Funding Specialist Group and has helped our clients secure over \$142M in grants from DWR, the SWRCB, DDW and the USBR, and \$48M in loans for our clients in California. Meredith's funding knowledge extends from application, to negotiation of grant and loan terms, and compliance with terms and conditions of public financing. Meredith is currently the Grant Manager for the Chino Basin Desalter Authority. She manages four separate USBR grants and has developed close working relationships with USBR. She was also the Project Manager for LVMWD's Urban Water Management Plan Update, and Grant Writer for several other projects, including Grant Funding Assistance for Recycled Water Storage and Demineralization Project for the San Elijo Joint Powers Authority, Proposition 1 Water Recycling Grant and SRF Loan Application Assistance for Padre Dam Municipal Water District, and As-needed Grant Support for Western Municipal Water District.



Education

BS, Environmental Policy, Analysis and Planning, University of California at Davis, 1996

Registrations/Certifications

Professional Civil Engineer, California

Jeff Savard, PE

Principal-in-Charge

Jeff will work with Dawn and Paul to provide oversight for project management and execution, and make sure your project has sufficient resource capacity to be able to meet your needs and achieve your desired schedule.

Jeff is a Vice President of the firm and Client Team Leader for the Oxnard Office. He has been providing engineering services for the JPA over the last five years. Jeff's successful track record and wealth of water engineering knowledge provides a solid background to serve as our team's Principal-in-Charge (PIC). Much of Jeff's experience, during his 25-year engineering career, has been for the planning, design, and construction of potable water, wastewater, and recycled water systems.

Jeff served as the PIC for the LVMWD Update of the Potable Water, Recycled Water and Sanitation Master Plans, bringing extensive knowledge on how these critical water systems work together now and in the future. He also served as the PIC for the CLWA's Recycled Water Master Plan, led by Dawn and Paul, where he had a similar role providing oversight and bringing local knowledge while applying practical design experience to support the evaluation of alternatives.

Resource Specialists

Name/Role	Qualifications
<p>Todd Reynolds, PE, BCEE Advanced Water Purification and Brine Minimization</p>	<p>Todd has 26 years of experience designing and managing projects with emerging treatment technologies, including advance water treatment (AWT) for potable reuse, seawater desalination, and project delivery options, including Design-Build and Construction Management at Risk (CMAR). Todd has worked with this team extensively to evaluate treatment options during planning studies and deliver successful AWT projects for construction. Todd will review current AWT process layouts, assess brine minimization strategies, and advise on cost-saving strategies to provide a conservative and realistic estimation of treatment facility requirements.</p>
<p>Bill Yates, PE Conveyance Systems</p>	<p>Bill has 28 years of experience in the water resources/civil engineering field. He has been responsible for the design, construction, and inspection of vital infrastructure for treatment and distribution of water and wastewater. In his career, Bill has designed more than 100,000 linear feet of large-diameter pipelines, including several recycled water pipelines in Southern California, such as CLWA and EMWD recycled water systems. Bill will oversee conveyance evaluations for alternatives to efficiently identify reasonable alignments, pumping and potential constructability requirements for challenging terrain of special crossings.</p>
<p>Jean Debroux, PhD Research Needs</p>	<p>Jean's work has been focused on the interface of wastewater discharges and water supply since the early 1990s. He has been tracking the state of research for reuse and accessing the most current information from institutions doing research to identify approaches to anticipate and address issues that may arise for your potable reuse program. Jean's access to the most current state of research, and decades of research experience, will promote an efficient assessment of potential research needs for your Selected Project, as required by Reclamation Manual WTR 11-01.</p>
<p>Art Baggett Water Rights</p>	<p>Art Baggett served as Chair of the California State Water Resources Control Board (SWRCB) for Governors Davis and Schwarzenegger. He has experience in complex water right and quality negotiations, was hearing officer on numerous water rights proceedings. He has overseen complex proceedings through the SWRCB process, including the State Implementation Plan, the California Toxics Rule, numerous TDMLs, Basin Plans and 303(d) proceedings, the first MS4 Phase 2 Storm Water Permit, WDR waivers and policy, and the statewide policy on desalinization and water recycling. Art will determine if there are any potential water rights issues arising from the project, as well as other legal and institutional requirements or obstacles.</p>
<p>Janet Hoffman, PE, CEP Cost Estimating</p>	<p>Janet is a mechanical engineer with experience in design and construction of public, industrial, and institutional facilities. She has specialized in cost estimating for the last 12 years and regularly provides cost estimating services for recycled water projects. She most recently provided cost estimates to meet USBR requirements for planning, design and construction grants. Janet will develop cost estimates that meet the USBR directives and standards for cost estimating (FAC 09-01) to ensure timely reviews and approval.</p>

Name/Role	Qualifications
<p>Brandon Hale, PE Feasibility Report</p>	<p>Brandon is a project engineer with a background in water resource and environmental planning in Southern California with a focus on hydraulic modeling, water supply and demand management, and water master planning. He has performed numerous recycled water studies, including supporting Dawn and Paul on the CLWA Recycled Water Master Plan, the Palmdale Groundwater Replenishment Project, Eastern MWD RWMP, and Elsinore MWD's Title XVI Feasibility Study. Brandon will work closely with Dawn and Paul to efficiently compile information from prior studies, with any new analysis, as well as preparing responses to comments received from the JPA and USBR.</p>
<p>Rachel Druffel-Rodriguez, EIT Geographic Information Systems (GIS)</p>	<p>Rachel is a Staff Engineer specializing in GIS modeling for recycled water, water, and wastewater projects. She has been involved in study, design, and construction projects as well as master planning and alternative evaluations. Rachel will assemble GIS layers from prior studies to develop maps for each of the project alternatives evaluated in the Title XVI FS to support the engineering and cost analyses.</p>
<p>Lauren Everett Environmental Considerations</p>	<p>Lauren is a Water Resources Specialist with experience in environmental and regulatory compliance providing research and technical support for a diverse range of water resource and watershed related projects, including CEQA analyses. Lauren will provide a high-level assessment of environmental issues to address Title XVI requirements for the Feasibility Study, including potential environmental impacts of the project and in consideration of the National Environmental Policy Act, any other applicable federal, state, or local environmental laws.</p>

Specialty Subconsultant

Michael R. Welch, PhD, PE (Consulting Engineer)

Regulatory Advisor

Michael will advise on specific approaches to address meeting the draft SWA criteria at Las Virgenes Reservoir, bringing the latest regulatory knowledge from his role advising on the San Diego Pure Water Program.



Michael Welch, PhD, PE has over 30 years of experience in planning and implementing California water, groundwater, wastewater, and recycled water projects. He is considered the leading expert in California on reservoir augmentation for potable reuse with his experience in IPR dating back to the early 90s. He has significant water quality and regulatory experience, and understands the key issues that must be addressed to properly achieve travel time and distance in reservoirs, including how to introduce recycled water, evaluate stratification and mixing, and finally withdraw the raw water for final treatment and use.

Michael's experience with IPR/reservoir augmentation (IPR/RA) dates to 1990 when he prepared a feasibility study for the San Diego County Water Authority that assessed the potential for discharging purified recycled water to San Vicente Reservoir as a supplemental source of raw water supply. During the past five years, he has participated on teams evaluating IPR/RA feasibility opportunities for the Rancho California Water District (Vail Reservoir), City of Escondido, City of Santa Cruz, and City of Oceanside.

Michael also brings experience in municipal wastewater discharge regulations, including evaluating California Ocean Plan compliance and assessing impacts of effluent discharges for ocean outfalls that serve the City of Oceanside and USBC Base Camp Pendleton, amongst others. Michael has worked with Dawn Taffler in a similar capacity examining surface water augmentation for potable reuse planning studies for the City of Santa Cruz, CLWA, and Rancho California Water District. He has served as an independent consultant since 1994 and specializes in assisting municipalities and public agencies in evaluating regulatory compliance with state and federal water quality regulations, state and federal drinking water regulations, and state public health regulations.

Kennedy/Jenks Consultants

Engineers & Scientists

2775 North Ventura Road, Suite 100
 Oxnard, California 93036
 (805) 973-5700
 FAX (805) 973-1440

11 September 2017

David R. Lippman, P.E.
 Las Virgenes Municipal Water District
 4232 Las Virgenes Road
 Calabasas, California 91302

Subject: Fee Estimate for Proposal for Title XVI Feasibility Study

Kennedy/Jenks Consultants is pleased to provide the following information in support of our proposal provided under separate cover:

- Fee Estimate with hours and cost for the project team including subconsultants.
- Hourly Rate Schedules for Kennedy/Jenks and subconsultants.

The budget established for this work is \$115,750 as detailed on the enclosed spreadsheet and summarized by task below. The budget for four Optional Tasks is provided on the following page. The spreadsheet provides a listing of the tasks, estimated hours to be expended by task by billing classification, hourly rates for each classification, and the total cost for each task. The work will be performed on a time and expense basis in accordance with our Schedule of Charges, enclosed.

Summary of Estimated Level of Effort and Cost by Task

Tasks	Total Est Hours	Total KJ Labor	SUB Michael Welch	Total Expenses	Total Labor + Subs + Expenses
Task 1 - Introductory Information	14	\$2,190	\$0	\$0	\$2,190
Task 2 - Statement of Problems and Needs	14	\$2,190	\$0	\$0	\$2,190
Task 3 - Water Reclamation and Reuse Opportunities	40	\$5,920	\$0	\$0	\$5,920
Task 4 - Description of Alternatives	70	\$11,220	\$2,560	\$77	\$13,857
Task 5 - Economic Analysis	72	\$10,760	\$0	\$0	\$10,760
Task 6 - Selection of Proposed Title XVI Project	20	\$3,780	\$0	\$0	\$3,780
Task 7 - Env. Consideration and Potential Effects	42	\$7,650	\$0	\$0	\$7,650
Task 8 - Legal and Institutional Requirements	16	\$3,100	\$640	\$19	\$3,759
Task 9 - Financial Capability of Sponsor	12	\$2,690	\$0	\$0	\$2,690
Task 10 - Research Needs	8	\$2,010	\$0	\$0	\$2,010
Task 11 - Report Preparation	200	\$33,680	\$0	\$104	\$33,784
Task 12 - Project Management & QA/QC	122	\$26,560	\$0	\$600	\$27,160
Task 1-12 Total	630	\$111,750	\$3,200	\$800	\$115,750

David R. Lippman, P.E.
 Las Virgenes Municipal Water District
 11 September 2017
 Page 2

Tasks	Total Est Hours	Total KJ Labor	SUB	Total Expenses	Total Labor + Subs + Expenses
Summary of Estimated Level of Effort and Cost for Optional Tasks					
Optional Task A. Stormwater Diversion Analysis	84	\$14,680	\$0	\$320	\$15,000
Optional Task B. Brine Recovery Evaluation	52	\$9,620	\$0	\$380	\$10,000
Optional Task C. AWTP Value-Added Engineering	72	\$15,580	\$0	\$420	\$16,000
Optional TaskD. Alternative Project Delivery Analysis	68	\$14,340	\$0	\$260	\$14,600

We welcome the opportunity to discuss our fee estimate in more detail. Please feel free to contact Dawn or Jeff if you have any questions or need additional information.

Very truly yours,
 KENNEDY/JENKS CONSULTANTS



Dawn Taffler, P.E. | Project Manager
 (626) 568-4323 direct
 DawnTaffler@KennedyJenks.com



Jeff Savard, P.E. | Principal-in-Charge
 (805) 973-5719 direct
 JeffSavard@KennedyJenks.com

Proposal Fee Estimate

Kennedy/Jenks Consultants

CLIENT Name: Las Virgenes – Triunfo Joint Powers Authority (JPA)
 PROJECT Description: Title XVI IPR Feasibility Study
 Proposal/Job Number: B10440009/0008/PROP Date: 9/11/2017

Classification:	Eng-Sc-9 David F. Jean D, Path, Jeffs,	Eng-Sc-8 Todd R	Eng-Sc-7 Dawn T, Meredith C, Steve D, Sachil	Eng-Sc-6 Laurent F	Eng-Sc-5 Paul C	Eng-Sc-4 Brandon H, Sheuil	Eng-Sc-3 Tim W	Eng-Sc-2 Melanier	Project Admin.	Total Hours	KJ Total Labor Fees	Sub Michael Welch Fees	KJ Sub-Markup 3%	KJ ODCs Fees	Total Expenses (Including Subs)	Total Labor + Expenses Fees
Hourly Rate:	\$260	\$240	\$225	\$200	\$185	\$160	\$145	\$125	\$110							
Task 1 - Introductory Information			2	4	4	0	0	8	0	14	\$2,190	\$0	\$0	\$0	\$0	\$2,190
Task 1 - Subtotal										14	\$2,190	\$0	\$0	\$0	\$0	\$2,190
Task 2 - Statement of Problems and Needs			2	4	4	0	0	8	0	14	\$2,190	\$0	\$0	\$0	\$0	\$2,190
Task 2 - Subtotal										14	\$2,190	\$0	\$0	\$0	\$0	\$2,190
Task 3 - Water Reclamation and Reuse Opportunities			4	4	4	8	24	24	0	40	\$5,920	\$0	\$0	\$0	\$0	\$5,920
Task 3 - Subtotal										40	\$5,920	\$0	\$0	\$0	\$0	\$5,920
Task 4 - Description of Alternatives		2	12	8	8	16	32	32	0	70	\$11,220	\$2,560	\$77	\$0	\$2,637	\$13,857
Task 4 - Subtotal										70	\$11,220	\$2,560	\$77	\$0	\$2,637	\$13,857
Task 5 - Economic Analysis			8	16	16	0	0	48	0	72	\$10,760	\$0	\$0	\$0	\$0	\$10,760
Task 5 - Subtotal										72	\$10,760	\$0	\$0	\$0	\$0	\$10,760
Task 6 - Selection of Proposed Title XVI Project			8	8	8	0	4	48	0	72	\$10,760	\$0	\$0	\$0	\$0	\$10,760
Task 6 - Subtotal										72	\$10,760	\$0	\$0	\$0	\$0	\$10,760
Task 7 - Environmental Consideration and Potential Effects			2	20	20	20	0	0	0	42	\$7,650	\$0	\$0	\$0	\$0	\$7,650
Task 7 - Subtotal										42	\$7,650	\$0	\$0	\$0	\$0	\$7,650
Task 8 - Legal and Institutional Requirements	4		2	6	6	6	4	4	0	16	\$3,100	\$940	\$19	\$659	\$3,759	
Task 8 - Subtotal										16	\$3,100	\$940	\$19	\$659	\$3,759	
Task 9 - Financial Capability of Sponsor	2		8	2	2	0	0	0	0	12	\$2,690	\$0	\$0	\$0	\$0	\$2,690
Task 9 - Subtotal										12	\$2,690	\$0	\$0	\$0	\$0	\$2,690
Task 10 - Research Needs	6		2	0	0	0	0	0	0	8	\$2,010	\$0	\$0	\$0	\$0	\$2,010
Task 10 - Subtotal										8	\$2,010	\$0	\$0	\$0	\$0	\$2,010
Task 11 - Report Preparation	4	4	24	24	24	32	44	44	0	132	\$22,460	\$0	\$0	\$0	\$0	\$22,460
11.1 Administrative Draft Sections			8	8	8	12	16	16	0	44	\$7,200	\$0	\$52	\$52	\$7,252	
11.2 Draft Title XVI Feasibility Study			4	4	4	4	8	8	0	24	\$4,020	\$0	\$52	\$52	\$4,072	
11.3 Final Title XVI Feasibility Study	4	4	36	0	40	48	0	68	0	200	\$33,680	\$0	\$104	\$104	\$33,784	
Task 12 - Project Management & QA/QC			30	18	18	0	0	6	0	38	\$7,930	\$0	\$0	\$0	\$0	\$7,930
12.1 Management & Administration			24	18	18	0	0	0	0	42	\$8,730	\$0	\$600	\$600	\$9,330	
12.2 Meetings and Progress Conference Calls			12	8	8	0	0	0	0	20	\$4,180	\$0	\$0	\$0	\$0	\$4,180
12.3 Grant Management Support	22		0	0	0	0	0	0	0	22	\$5,720	\$0	\$0	\$0	\$0	\$5,720
12.4 QA/QC	24	0	66	0	26	0	0	0	6	122	\$26,560	\$0	\$600	\$600	\$27,160	
Task 12 - Subtotal										630	\$111,750	\$3,200	\$96	\$704	\$4,000	\$115,750
All Tasks Total	40	6	152	20	118	92	0	196	6	630	\$111,750	\$3,200	\$96	\$704	\$4,000	\$115,750
OPTIONAL TASKS																
Optional Task A. Stormwater Diversion Analysis			16	8	8	60	0	0	0	84	\$14,680	\$0	\$320	\$320	\$15,000	
Optional Task B. Brine Recovery Evaluation			24	4	4	24	24	0	0	52	\$9,620	\$0	\$380	\$380	\$10,000	
Optional Task C. AWWTP Value-Added Engineering	4	24	24	12	12	0	8	0	0	72	\$15,580	\$0	\$420	\$420	\$16,000	
Optional TaskD. Alternative Project Delivery Analysis	32		8	4	4	0	24	0	0	68	\$14,340	\$0	\$260	\$260	\$14,600	
Optional Tasks - Subtotal	36	24	72	0	28	60	56	0	0	276	\$54,220	\$0	\$1,380	\$1,380	\$55,600	

Client/Address: Las Virgenes-Triunfo Joint Powers Authority
 4232 Las Virgenes Road
 Calabasas, California 91302

Contract/Proposal Date: Proposal for Title XVI Feasibility Study
 11 September 2017

Custom Schedule of Charges

Date: January 4, 2017

PERSONNEL COMPENSATION

Classification	Hourly Rate
CAD-Technician	\$120
Designer-Senior Technician	\$155
Engineer-Scientist-Specialist 1	\$115
Engineer-Scientist-Specialist 2	\$125
Engineer-Scientist-Specialist 3	\$145
Engineer-Scientist-Specialist 4	\$160
Engineer-Scientist-Specialist 5	\$185
Engineer-Scientist-Specialist 6	\$200
Engineer-Scientist-Specialist 7	\$225
Engineer-Scientist-Specialist 8	\$240
Engineer-Scientist-Specialist 9	\$260
Project Administrator	\$110
Administrative Assistant	\$95
Aide	\$75

In addition to the above Hourly Rates, a four percent Communications Surcharge will be added to Personnel Compensation for normal and incidental copies, communications and postage.

Direct Expenses

Reimbursement for direct expenses, as listed below, incurred in connection with the work, will be at cost plus ten percent for items such as:

- a. Maps, photographs, 3rd party reproductions, 3rd party printing, equipment rental, and special supplies related to the work.
- b. Consultants, soils engineers, surveyors, contractors, and other outside services.
- c. Rented vehicles, local public transportation and taxis, travel and subsistence.
- d. Project specific telecommunications and delivery charges.
- e. Special fees, insurance, permits, and licenses applicable to the work.
- f. Outside computer processing, computation, and proprietary programs purchased for the work.

Reimbursement for vehicles used in connection with the work will be at the federally approved mileage rates or at a negotiated monthly rate.

Reimbursement for use of computerized drafting systems (CAD), geographical information systems (GIS), and other specialized software and hardware will be at the rate of \$12 per hour.

Rates for professional staff for legal proceedings or as expert witnesses will be at rates one and one-half times the Hourly Rates specified above.

Excise and gross receipts taxes, if any, will be added as a direct expense.

The foregoing Schedule of Charges is incorporated into the agreement for the services provided, effective January 4, 2017 through December 31, 2017. After December 31, 2017, invoices will reflect the Schedule of Charges currently in effect.

November 6, 2017 JPA Board Meeting

TO: JPA Board of Directors

FROM: General Manager

Subject : State and Federal Legislative and Regulatory Advocacy: Contract Renewal

SUMMARY:

On August 1, 2016, the JPA Board authorized the Administering Agent/General Manager to execute a one-year professional services agreement with Best Best & Krieger LLP, in the amount of \$130,000, for state and federal legislative and regulatory advocacy services. Under the agreement, Mr. John Freshman has represented the JPA well on federal affairs, and Mr. Syrus Devers has done the same at the state level. Staff recommends that the Board authorize a one-year renewal of the existing contract with Best Best & Krieger LLP to allow continuation of the advocacy services.

RECOMMENDATION(S):

Authorize the Administering Agent/General Manager to execute a one-year renewal of the professional services agreement with Best Best & Krieger LLP, in the amount of \$130,000, for state and federal legislative and regulatory advocacy services.

FISCAL IMPACT:

No

ITEM BUDGETED:

No

FINANCIAL IMPACT:

Sufficient funds are available in the adopted Fiscal Year 2016-17 JPA Budget for the services. The total cost of the work is not expected to exceed \$130,000. Best Best & Krieger LLP has agreed to provide the services under the same terms as defined in the existing professional services agreement.

DISCUSSION:

The JPA Board authorized the Administering Agent/General Manager to execute a one-year professional services agreement with Best Best & Krieger LLP for state and federal

legislative and regulatory advocacy services on August 1, 2016. The term of the contract was from August 1, 2016 through July 31, 2017. The Administering Agent/General Manager administratively extended the agreement for one month to provide continued services through August 31, 2017. The proposed contract renewal would be for the period of September 1, 2017 through August 31, 2018.

Prepared by: David W. Pedersen, Administering Agent/General Manager