Las Virgenes – Triunfo Joint Powers Authority
4232 Las Virgenes Road, Calabasas, CA 91302
818.251.2100

Call and Notice of Special Meeting of the Governing Board of the
Las Virgenes – Triunfo Joint Powers Authority

A Special Meeting of the Governing Board of the Las Virgenes – Triunfo Joint Powers Authority (JPA) is hereby called, and notice of said Special Meeting is hereby given for **5:00 p.m. on Monday, April 29, 2019**, at Las Virgenes Municipal Water District, 4232 Las Virgenes Road, Calabasas, California 91302, to consider the following:

PLEDGE OF ALLEGIANCE

1. Call to Order and Roll Call
2. Special Meeting of April 29, 2019 (Agenda attached)
3. Adjourn

By Order of the Board of Directors
JANNA ORKNEY, Chair

David W. Pedersen, P.E.
Administering Agent/General Manager

Dated: April 24, 2019

c: Each Director

LAS VIRGENES - TRIUNFO
JOINT POWERS AUTHORITY
AGENDA

4232 Las Virgenes Road, Calabasas, CA 91302

Members of the public wishing to address the Las Virgenes-Triunfo Joint Powers Authority (JPA) Board of Directors are advised that a statement of Public Comment Protocols is available from the Clerk of the Board. Prior to speaking, each speaker is asked to review these protocols, complete a speakers' card, and hand it to the Clerk of the Board. Speakers will be recognized in the order the cards are received.

The Public Comments agenda item is presented to allow the public to address the Board on matters not on the agenda. The public may also present comments on matters on the agenda; speakers for agendized items will be recognized at the time the item is called up for discussion.

Materials prepared by the JPA in connection with the subject matter on the agenda are available for public inspection at 4232 Las Virgenes Road, Calabasas, CA 91302. Materials prepared by the JPA and distributed to the Board during this meeting are available for public inspection at the meeting or as soon thereafter as possible. Materials presented to the Board by the public will be maintained as part of the records of these proceedings and are available upon request to the Clerk of the Board.

5:00 PM April 29, 2019

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

Matters listed under the Consent Calendar are considered to be routine, non-controversial and normally approved with one motion. If discussion is requested by a member of the Board on any Consent Calendar item, or if a member of the public wishes to comment on an item, that item will be removed from the Consent Calendar for separate action.

A Minutes Special Meeting of March 28, 2019: Approve (Pg. 4)

B Financial Review: Third Quarter of Fiscal Year 2018-19 (Pg. 14)

Receive and file the financial review for the third quarter of Fiscal Year 2018-19.

C Leak on 21-inch Trunk Sewer: End of Emergency (Pg. 23)

Declare an end to the emergency for repair of a 21-inch trunk sewer on the west side of Las Virgenes Road, south of the Centrate Treatment Facilities.

D Rancho Digester No. 2 Cleaning: Final Acceptance (Pg. 25)

Approve the execution a Notice of Completion and have the same recorded, and in the absence of claims from subcontractors and others, release the retention, in the amount of $17,491.37, within 30 calendar days after filing the Notice of Completion for the Rancho Digester No. 2 Cleaning Project.

E Rancho Lighting Efficiency Upgrade Project: Final Acceptance (Pg. 29)

Approve the execution of a Notice of Completion and have the same recorded, and in the absence of claims from subcontractors and others, release the retention, in the amount of $15,178, within 30 calendar days after filing the Notice of Completion for the Rancho Lighting Efficiency Upgrade Project.

F Tapia Water Reclamation Facility Fiscal Year 2017-18 Rehabilitation Project: Final Acceptance (Pg. 33)

Approve the execution of a Notice of Completion and have the same recorded, and in the absence of claims from subcontractors and others, release the retention, in the amount of $77,156.15, within 30 calendar days after filing the Notice of Completion for the Tapia Water Reclamation Facility Fiscal Year 2017-18 Rehabilitation Project.

5 ILLUSTRATIVE AND/OR VERBAL PRESENTATION AGENDA ITEMS

A Pure Water Project Las Virgenes-Triunfo: Update

B Preliminary JPA Budget for Fiscal Year 2019-20 (Pg. 38)

Provide staff with feedback on the Preliminary JPA Budget for Fiscal Year 2019-20.

6 ACTION ITEMS

A Independent Auditing Services: Award (Pg. 57)

Accept the proposal from The Pun Group and authorize the Administering Agent/General Manager to execute a one-year professional services agreement, in the amount of $6,000, with up to four one-year renewal options, using a 3% annual escalation factor, for independent auditing services.

B Tapia SCADA System Upgrade Project: Approval of Scope Change (Pg. 59)

Approve an additional appropriation, in the amount of $55,260, and authorize the Administering Agent/General Manager to execute a change of scope, in the amount of $68,660, to Wunderlich-Malec for providing additional services for the Tapia SCADA System Upgrade Project.

C Tapia WRF Summer Season Waste Load Allocation Compliance Project: Award of Design (Pg. 67)

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 $207,917, for the design and services during construction for the Tapia WRF Summer Season Waste Load Allocation Compliance Project.

D Rancho Las Virgenes Centrate Storage Tank Project Takeover Agreement: Final Acceptance (Pg. 122)

Accept the work completed under the Takeover Agreement with Travelers Casualty and Surety Company of America; authorize the Administrating Agent/General Manager to execute a Notice of Cessation of Labor and have the same recorded; withhold a Civil Wage and Penalty Assessment, in the amount of $118,152.4, per Department of Industrial Relations instructions; and release the remaining funds, in the amount of $58,772.80, within 30 calendar days after filing the Notice of Cessation of Labor for the Rancho Las Virgenes Centrate Storage Tank Project.

E Pure Water Demonstration Project: Service Agreement for Visitor Experience Elements (Pg. 124)

Authorize the Administering Agent/General Manager to execute a service agreement with Astound Group, in the amount of $159,397, plus applicable sales tax, for the design, fabrication and installation of graphics, signs ad related items associated with the visitor experience for the Pure Water Demonstration Project.

F Pure Water Demonstration Project: Agreement for Visitor Experience Orientation Video (Pg. 141)

Accept the proposal from Global Visions and Associates, Inc., and authorize the Administering Agent/General Manager to execute a professional services agreement, in the amount of $39,750, for production of a visitor experience orientation video for the Pure Water Demonstration Project.

7 BOARD COMMENTS

8 ADMINISTERING AGENT/GENERAL MANAGER REPORT

9 FUTURE AGENDA ITEMS

10 INFORMATION ITEMS

A State and Federal Legislative Update (Pg 155)

B 2018 Bioassessment Monitoring Report: Approval of Purchase Order (Pg. 181)

C Annual Supply and Delivery of Polymer: Award (Pg. 241)

11 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

12 CLOSED SESSION

A Conference with Legal Counsel – Existing Litigation (Government Code Section 54956.9(a)):

13 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
SPECIAL MEETING

5:00 PM March 28, 2019

PLEDGE OF ALLEGIANCE

The Pledge of Allegiance to the Flag was led by Director Susan Pan.

1. CALL TO ORDER AND ROLL CALL

The meeting was called to order at **5:00 p.m.** by Chair Orkney at Oak Park Library, 899 Kanan Road, in Oak Park, California. Josie Guzman, Clerk of the Board, conducted the roll call.

Present: Directors Caspary, Lo-Hill, Orkney, Pan, Polan, Renger, Shapiro, Tjulander, and Wall.
Absent: Director Lewitt

2. APPROVAL OF AGENDA

Administering Agent/General Manager David Pedersen requested that Item 12A be removed from the agenda as there was no update.

Director Caspary moved to approve the agenda. Motion seconded by Director Tjulander. Motion carried by the following vote:

AYES: Caspary, Lo-Hill, Orkney, Pan, Polan, Renger, Shapiro, Tjulander, Wall
NOES: None
ABSTAIN: None
ABSENT: Lewitt

3. PUBLIC COMMENTS

None.

4. CONSENT CALENDAR

A Minutes: Regular Meeting of March 4, 2019

Director Polan moved to approve the Consent Calendar. Motion seconded by Director Renger. Motion carried by the following vote:

AYES: Caspary, Lo-Hill, Orkney, Pan, Polan, Renger, Shapiro, Tjulander, Wall
NOES: None
ABSTAIN: None
ABSENT: Lewitt

5. ILLUSTRATIVE AND/OR VERBAL PRESENTATION AGENDA ITEMS

A Pure Water Project Las Virgenes-Triunfo: Update

Administering Agent/General Manager David Pedersen stated that the update would be covered under Item 6B, and he noted the new website for the project: www.ourpureh2o.com.

6. ACTION ITEMS

A Heal the Bay's "Bring Back the Beach" Event: Attendance

Authorize one Board Member from each agency and the Administering Agent/General Manager to attend the Heal the Bay "Bring Back the Beach" Event at the cost of $600 per person.

Administering Agent/General Manager David Pedersen presented the report.

Chair Orkney moved to authorize LVMWD Director Jay Lewitt or his appointee, TSD Director Leon Shapiro, and Administering Agent/General Manager David Pedersen to attend the event, and approve Item 6A. Motion seconded by Director Polan. Motion carried by the following vote:

AYES: Caspary, Lo-Hill, Orkney, Pan, Polan, Renger, Shapiro, Tjulander, Wall
NOES: None
ABSTAIN: None
ABSENT: Lewitt

B Pure Water Demonstration Project Call for Bids

Approve the issuance of a Call for Bids for the Pure Water Project Demonstration Project.

David Lippman, Director of Facilities and Operations, presented the report. He responded to questions related to the amount of grant funding received for the project.

Director Caspary moved to approve Item 6B. Motion seconded by Director Tjulander. Motion carried by the following vote:

AYES: Caspary, Lo-Hill, Orkney, Pan, Polan, Renger, Shapiro, Tjulander, Wall
NOES: None
ABSTAIN: None
ABSENT: Lewitt

C Rancho Solar Generation Project Phase II: Approval of Power Purchase Agreement

Pass, approve, and adopt proposed Resolution No. 6, making findings, authorizing, and approving execution of an energy service contract with Borrego Solar System, Inc.; authorize the Administering Agent/General Manager to execute a Change of Scope for TerraVerde Renewable Partners, LLC, in the amount of $101,283, for services during construction; and appropriate additional reimbursable funding, in the amount of $120,000, for the Rancho Solar Generation Project Phase II.

RESOLUTION NO. 6

A RESOLUTION OF THE GOVERNING BOARD OF THE LAS VIRGENES-TRIUNFO JOINT POWERS MAKING FINDINGS, AUTHORIZING, AND APPROVING EXECUTION OF AN ENERGY SERVICE CONTRACT

(Reference is hereby made to Resolution No. 6 on file in the JPA's Resolution Book and by this reference the same is incorporated herein.)

John Zhao, Principal Engineer, presented the report. He responded to several questions posed by the Board related to the power purchase agreement,

Bob Jalalpour, representing Borrego Solar System, Inc., responded to questions regarding the formation of Las Virgenes Solar 1, LLC, and the financing structure for the solar facility, which would be financed through revenue generated from the 25-year term of the power purchase agreement.

A discussion ensued regarding the requirement for the solar provider to make repairs as soon as possible, and remove and properly dispose of damaged solar panels or incur a large penalty.

Administering Agent/General Manager David Pedersen noted that staff was recommending execution of an energy service contract with Borrego Solar System, Inc., due to its track record and success. He noted that their investors would ensure that the solar facility is functional.

Olivia Corkedale, representing TerraVerde Renewable Partners, LLC, responded to a question regarding provision of earthquake coverage by stating that Borrego Solar System, Inc. would adhere to the standard insurance requirements outlined in the agreement. She stated that she did not believe there was a provision for earthquake coverage because it is difficult and expensive to secure; however, the design of the array is made with seismic considerations. John Mathews, TSD Legal Counsel, confirmed that there is no provision for earthquake coverage in the agreement.

Ms. Corkedale also responded to a question regarding the formation of Las Virgenes Solar 1, LLC, by stating that the formation is a standard contracting strategy under a power purchase agreement and the lender would be responsible for any financial risks.

Director Renger moved to approve Item 6C. Motion seconded by Director Polan. Motion carried by the following vote:

AYES: Caspary, Lo-Hill, Pan, Polan, Renger, Shapiro, Tjulander, Wall
NOES: Orkney
ABSTAIN: None
ABSENT: Lewitt

D Leak on 21-inch Trunk Sewer: Declaration of Emergency

Pass, approve, and adopt proposed Resolution No. 7, declaring an emergency that requires immediate action without delay to repair a leak on a 21-inch trunk sewer.

RESOLUTION NO. 7

A RESOLUTION OF THE GOVERNING BOARD OF THE LAS VIRGENES-TRIUNFO JOINT POWERS AUTHORITY FINDING THAT AN EMERGENCY WILL NOT PERMIT A DELAY RESULTING FROM A COMPETITIVE SOLICITATION FOR REPAIR OF A 21-INCH TRUNK SEWER ON THE WEST SIDE OF LAS VIRGENES ROAD, SOUTH OF THE CENTRATE TREATMENT FACILITY

(Reference is hereby made to Resolution No. 7 on file in the JPA's Resolution book and by this reference the same is incorporated herein.)

David Lippman, Director of Facilities and Operations, presented the report. He responded to questions related to the repair using newer materials with newer technology. He noted that staff believes the damage was caused by the Woolsey Fire, and the damaged 21-inch trunk sewer was added to the request for reimbursement from the Federal Emergency Management Agency (FEMA).

Administering Agent/General Manager David Pedersen responded to a question regarding the recommendation for the Board to adopt a resolution by stating that the proposed resolution was presented so that the Board may make certain legal findings related to the declaration of emergency and actions in response to the emergency.

Director Caspary moved to approve Item 6D. Motion seconded by Director Pan. Motion carried by the following vote:

AYES: Caspary, Lo-Hill, Orkney, Pan, Polan, Renger, Shapiro, Tjulander, Wall
NOES: None
ABSTAIN: None
ABSENT: Lewitt

E Woolsey Fire Facility Repair Project Nos. 1 and 3: Award of Design Contracts

Accept the proposal from M6 Consulting, Inc.; authorize the Administering Agent/General Manager to execute a professional services agreement, in the amount of $121,380 contingent upon the LVMWD's approval of its share of the cost; and appropriate $46,955 for the JPA's share of the engineering design and support services during construction for the Woolsey Fire Facility Repair Project No. 1.

Accept the proposal from L. Newman Design Group, Inc.; authorize the Administering Agent/General Manager to execute a professional services agreement, in the amount of $122,105 contingent upon the LVMWD's approval of its share of the cost; and appropriate $46,112.25 for the JPA's share of the engineering design and support services during construction for the Woolsey Fire Facility Repair Project No. 3.

John Zhao, Principal Engineer, presented the report.

Director Caspary moved to approve Item 6E. Motion seconded by Director Wall. Motion carried by the following vote:

AYES: Caspary, Lo-Hill, Orkney, Pan, Polan, Renger, Shapiro, Tjulander, Wall
NOES: None
ABSTAIN: None
ABSENT: Lewitt

F JPA Infrastructure Investment Plan: Fiscal Years 2019-20 through 2023-24

Receive and file the JPA Infrastructure Investment Plan for Fiscal Years 2019-20 through 2023-24.

Angela Saccareccia, Finance Manager, provided an update regarding the two-year budget process.

Doug Anders, Administrative Services Coordinator, presented the report and supplementary pages.

Staff responded to several questions posed by the Board regarding the recommended appropriation changes to several program areas including the costs to repair JPA facilities due to the Woolsey Fire, which would be recovered through insurance, California Office of Emergency Services, and FEMA reimbursement.

Chair Orkney requested an additional explanation for the Appropriation Variance Analysis for Fiscal Year 2019-20 through Fiscal Year 2023-24 and the reason funds were not spent. Mr. Lippman responded that staff would include a footnote with an explanation.

Director Polan moved to receive and file Item 6F. Motion seconded by Director Caspary. Motion carried by the following vote:

AYES: Caspary, Lo-Hill, Orkney, Pan, Polan, Renger, Shapiro, Tjulander, Wall
NOES: None
ABSTAIN: None
ABSENT: Lewitt

7. BOARD COMMENTS

Director Polan noted that he attended the WateReuse Annual Conference, where a discussion was held regarding the definition of stormwater.

8. ADMINISTERING AGENT/GENERAL MANAGER REPORT

Administering Agent/General Manager David Pedersen reported that Directors Lewitt, Orkney, Polan, and Tjulander, as well as TSD General Manager Mark Norris, Director Resource Conservation and Public Outreach Joe McDermott, and himself would be attending the annual Washington D.C. lobbying trip. He also noted that the Malibu Creek avoidance period would begin in mid-April.

9. FUTURE AGENDA ITEMS

None.

10. INFORMATION ITEMS

A State and Federal Legislative Update

Chair Orkney noted that copies of the report were provided to the Board.

11. PUBLIC COMMENTS

None.

12. CLOSED SESSION – (This item was removed from the agenda.)

A Conference with Legal Counsel – Existing Litigation (Government Code Section 54956.9(a)):

Zusser Company, Inc. v. Las Virgenes Municipal Water District

13. ADJOURNMENT

Seeing no further business to come before the Board, the meeting was duly adjourned at **6:39 p.m**.

Janna Orkney, Chair

ATTEST:

Jay Lewitt, Vice Chair

April 29, 2019 JPA Board Meeting

TO: JPA Board of Directors

FROM: Finance & Administration

Subject : Financial Review: Third Quarter of Fiscal Year 2018-19

SUMMARY:

The third quarter financial review presents data as of March 31, 2019. It is important to note that due to the timing of various projects and payments, the third 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 third quarter of Fiscal Year 2018-19.

FISCAL IMPACT:

No

ITEM BUDGETED:

No

FINANCIAL IMPACT:

There is no financial impact associated with this action.

DISCUSSION:

The JPA's third quarter net uses of funds for Fiscal Year 2018-19 totaled $15.5 million, compared to $12.0 million for the same period in Fiscal Year 2017-18. There was a year-over-year decrease in operating revenues (13.8%) and an increase in operating expenditures (10.3%). The decrease in revenues was primarily due to decreased recycled water sales. The increase in operating expenditures was primarily due to increased labor costs. Capital project expenditures were approximately $2.3 million more than the prior year.

When comparing to Fiscal Year 2018-19 budget estimates through the third quarter, actual operating expenditures were approximately $280,000 (2.2%) below budget estimates. Capital project expenditures were approximately $258,000 (5.4%) below budget estimates, primarily

due to the timing of expenditures for planned projects.

Prepared by: Angela Saccareccia, Finance Manager

ATTACHMENTS:

Attachment A
Attachment B

Joint Powers Authority Operations

Quarterly Update - Comparison to Budget & Prior Year at March 31, 2019

	FY 17-18 Actual YTD	FY 18-19 Budget YTD	FY 18-19 Actual YTD
Total Operating Revenues	$ 1,629,139	$ 1,935,864	$ 1,404,381
RW Pump Station	900,160	1,000,233	794,043
RW Tanks & Reservoirs	44,466	96,304	57,092
RW System Operations	44,466	34,066	14,605
RW Distribution	88,487	73,090	21,179
Sewer	68,431	106,759	169,960
Waste Water Treatment	5,829,305	6,395,456	6,086,532
Composting	3,427,696	3,917,728	4,068,159
Centrate Treatment	209,999	238,268	228,472
Adminstration	607,176	764,871	905,847
Total Operating Expenses	11,220,186	12,626,775	12,345,889
Net Operating (Expenses)	$ (9,591,047)	$ (10,690,911)	$ (10,941,508)

Joint Powers Authority Operations
Quarterly Update - Comparison to Budget & Prior Year at March 31, 2019

	FY 17-18 Actual YTD	FY 18-19 Budget YTD	FY 18-19 Actual YTD
Las Virgenes Share:			
Total Revenues			
Operating Revenues	$ 1,150,171	$ 1,366,720	$ 991,493
Total Revenues	1,150,171	1,366,720	991,493
Total Expenses			
Operating Expenses	$ 7,711,192	$ 8,457,570	$ 8,506,318
Capital Project Expenses	1,541,613	3,374,358	3,192,184
Total Expenses	9,252,805	11,831,928	11,698,501
Net (Uses) of Funds - LV	$ (8,102,634)	$ (10,465,208)	$ (10,707,008)
Triunfo Share:			
Total Revenues			
Operating Revenues	$ 478,967	$ 569,144	$ 412,888
Total Revenues	478,967	569,144	412,888
Total Expenses			
Operating Expenses	$ 3,480,669	$ 4,169,205	$ 3,839,571
Capital Project Expenses	641,975	1,405,186	1,329,323
Total Expenses	4,122,644	5,574,391	5,168,895
Net (Uses) of Funds - TSD	$ (3,643,677)	$ (5,005,247)	$ (4,756,007)
Total JPA Net (Uses) of Funds	$ (11,746,311)	$ (15,470,455)	$ (15,463,015)

Joint Powers Authority Operations

Quarterly Update - Comparison to Budget & Prior Year at March 31, 2019

	FY 17-18 Actual YTD	FY 18-19 Budget YTD	FY 18-19 Actual YTD
Total Revenues			
Operating Revenues	$ 1,629,139	$ 1,935,864	$ 1,404,381
Total Revenues	1,629,139	1,935,864	1,404,381
Total Expenses			
Operating Expenses	$ 11,220,186	$ 12,626,775	$ 12,345,889
Capital Project Expenses	2,183,588	4,779,544	4,521,507
Other	-	-	-
Total Expenses	13,403,774	17,406,319	16,867,396
Net (Uses) of Funds	$ (11,774,635)	$ (15,470,455)	$ (15,463,015)
Las Virgenes Share	(8,312,892)	(10,465,208)	(10,707,008)
Triunfo Share	(3,461,743)	(5,005,247)	(4,756,007)

Las Virgenes - Triunfo Joint Powers Authority
Capital Improvement Project Status
March 31, 2019

Job # - Description	*LV %*	*TSD %*	*Total Project Appropriations*	*Prior Year Expenditures*	*Current Year Expenditures*	*Total Project Expenditures*	*Project Balance*	*LV Balance*	*TSD Balance*
Completed Projects									
10565 - Rancho LV:Digester Cleang/Rpr	**70.6%**	**29.4%**	**$1,866,751**	**$1,499,493**	**$404,813**	**$1,904,306**	**($37,555)**	**($26,514)**	**($11,041)**
Clean out and evaluate the condition of digesters that have been in service for more than 20 years.									
Additional appropriation $77,257 approved by LVMWD Board 8/28/2018, Item 7B									
Total Completed Projects			***$1,866,751***	***$1,499,493***	***$404,813***	***$1,904,306***	***($37,555)***	***($26,514)***	***($11,041)***
Projects to complete by June 30, 2019									
10589 - WIMS Software Implementation	**70.6%**	**29.4%**	**$32,350**	**$59,965**	**$34,225**	**$94,190**	**($61,840)**	**($43,659)**	**($18,181)**
Purchase and installation of water information management solution (WIMS).									
10608 - Rancho Amndmnt Bin&Convync Mod	**70.6%**	**29.4%**	**$2,070,518**	**$176,175**	**$324,307**	**$500,482**	**$1,570,036**	**$1,108,445**	**$461,591**
The project consists of installing a new smaller amendment bin and modification to the conveyor system to simplify the amendment conveyance process.									
Additional appropriation $381,868 approved by JPA Board 7/11/2018, Item 6A									
10653 - Tapia Rehab FY17-18	**70.6%**	**29.4%**	**$2,105,700**	**$146,285**	**$1,405,053**	**$1,551,338**	**$554,362**	**$391,380**	**$162,982**
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									
10656 - Rancho Reliability Imprv 18-19	**70.6%**	**29.4%**	**$100,000**	**$0**	**$0**	**$0**	**$100,000**	**$70,600**	**$29,400**
Replace or rehabilitate facilities and equipment at the Rancho facility based on failure, exceedance of useful life, or obsolescence. Specific projects are identified for each fiscal year.									
10657 - Tapia WRF Relib Imprv FY18-19	**70.6%**	**29.4%**	**$100,000**	**$0**	**$72,216**	**$72,216**	**$27,784**	**$19,616**	**$8,168**
Based on analysis of break history, facility age, pipe material, location and other distribution system indicators, this project will fund specific repair and/or replacement projects.									
10687 - Rancho Lighting EfficiencyUpgd	**70.6%**	**29.4%**	**$362,968**	**$0**	**$358,536**	**$358,536**	**$4,432**	**$3,129**	**$1,303**
Rancho Lighting Efficiency Upgrade									
Appropriation $362,968 approved by JPA Board 9/5/2018, Item 6B									

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, 2019									
Total Projects to complete by June 30, 2019			***$4,771,536***	***$382,425***	***$2,194,337***	***$2,576,762***	***$2,194,774***	***$1,549,510***	***$645,264***
Multi-Year Projects									
10564 - Centrate Equalization Tank	**70.6%**	**29.4%**	**$2,343,008**	**$2,056,871**	**$10,717**	**$2,067,588**	**$275,420**	**$194,447**	**$80,973**
Construct a centrate equalization tank at the centrate treatment facility at Rancho.									
10567 - Progmble Logic Contrlr Upgrd	**70.6%**	**29.4%**	**$332,850**	**$0**	**$55,660**	**$55,660**	**$277,190**	**$195,696**	**$81,494**
Replace obsolete programmable logic controllers and upgrade other electrical equipment at Tapia.									
10619 - Summer Season 2013 TMDL Compln	**70.6%**	**29.4%**	**$640,000**	**$60,806**	**$79,609**	**$140,415**	**$499,585**	**$352,707**	**$146,878**
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.									
10626 - Process Air Improvements	**70.6%**	**29.4%**	**$3,740,584**	**$345,623**	**$265,332**	**$610,955**	**$3,129,629**	**$2,209,518**	**$920,111**
The first phase is to replace the existing Roots blowers with new, high effiency, single stage blowers. To replace the air diffusers in the aeration basins with new full floor mounted fine bubble diffusers.									
Additional appropriation $1,989,126 approved by JPA Board 2/4/19, Item 6B									
10629 - Cny Oaks Prk RW Main Extension	**70.6%**	**29.4%**	**$399,780**	**$6,649**	**$646**	**$7,295**	**$392,485**	**$277,094**	**$115,391**
This extension will serve the City of Westlake Village's Oak Canyon Park and eliminate a long private service line to Yerba Buena School.									
Funding from Prop 84 IRWM 2015									
10635 - PURE WATER PROJECT	**70.6%**	**29.4%**	**$3,667,427**	**$94,033**	**$37,276**	**$131,309**	**$3,536,118**	**$2,496,499**	**$1,039,619**
This project funds preliminary studies, outreach, CEQA analysis, preliminary design and final design.									
Project 10637 Facility Siting Study was completed in prior year for $180,777.									
Project 10650 Land Acquisition was completed in prior year for $2,109,359									
10636 - Mixing & Dilution Study	**70.6%**	**29.4%**	**$389,186**	**$259,078**	**$78,422**	**$337,500**	**$51,686**	**$36,490**	**$15,196**
sub project of 10635 Pure Water Project									
10638 - Demonstration Project	**70.6%**	**29.4%**	**$1,512,610**	**$215,863**	**$489,621**	**$705,484**	**$807,126**	**$569,831**	**$237,295**
sub project of 10635 Pure Water Project									
10658 - Tapia Sluice Gate&Drv Rpl18-19	**70.6%**	**29.4%**	**$556,600**	**$0**	**$0**	**$0**	**$556,600**	**$392,960**	**$163,640**
Replace existing gates in the tanks and channels at Tapia as well as drive mechanisms for flights and chains.Replace ten RAS gates in FY18-19.									
10661 - A/B Bus Electrical Modificatn	**70.6%**	**29.4%**	**$100,000**	**$0**	**$0**	**$0**	**$100,000**	**$70,600**	**$29,400**
Study the feasibility of reconfiguring the Tapia electrical switch gear and then hire electrical team to make the modifications.									

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									
10665 - Cordillera Tank Rehab	**70.6%**	**29.4%**	**$1,201,267**	**$0**	**$45,307**	**$45,307**	**$1,155,960**	**$816,108**	**$339,852**
Rehabilitation including interior and exterior coating, valve and appurtenance upgrades and replacements, restoration of deteriorated asphalt, and work to ensure up-to-date compliance for safety and water quality equipment.									
10666 - Calabasas Prk RW Main Extensn	**70.6%**	**29.4%**	**$320,000**	**$0**	**$0**	**$0**	**$320,000**	**$225,920**	**$94,080**
Install approximately 1,200 LF of 6-8 inch pipeline to loop the existing recycled water system.									
10667 - Tapia Headworks White Room	**70.6%**	**29.4%**	**$55,000**	**$0**	**$38,981**	**$38,981**	**$16,019**	**$11,309**	**$4,710**
Modification or replacement is needed for the floor plates and steel framing floor plate supports in the white room located at Tapia's headworks building.									
10668 - RLV Storm Wtr Divsn Strctr Rpl	**70.6%**	**29.4%**	**$30,000**	**$0**	**$3,369**	**$3,369**	**$26,631**	**$18,801**	**$7,830**
Replacement of the two storm water diversion structures at the Rancho Las Virgenes Composting Facility. Increase the size and length of the farm field discharge pipeline.									
10669 - Dev Tour Seating Area @ Tapia	**70.6%**	**29.4%**	**$25,000**	**$0**	**$0**	**$0**	**$25,000**	**$17,650**	**$7,350**
Develop tour seating area at Tapia adjacent to the control building									
10670 - Centrate 20" Valve Repair	**70.6%**	**29.4%**	**$150,000**	**$0**	**$0**	**$0**	**$150,000**	**$105,900**	**$44,100**
Repair buried 20-inch Miliken valve at the centrate facility.									
10680 - RLV Digester Cleaning & Repair	**70.6%**	**29.4%**	**$533,694**	**$0**	**$416,431**	**$416,431**	**$117,263**	**$82,788**	**$34,475**
Clean out and make all necessary repairs to digesters #2. the scope of repairs is based on the recently completed rehabilitation of digester # 1. Additional appropriation $308,694 approved by JPA Board 1/17/19, Item 7A									
10688 - Rancho Solar Gen.-Ph II	**70.6%**	**29.4%**	**$398,555**	**$0**	**$400,986**	**$400,986**	**($2,431)**	**($1,716)**	**($715)**
Rancho Solar Generation Project Phase II: Service Agreement for Wholesale Distribution Service and Rule 21 Generator Interconnection Agreement Appropriation $208,557 approved by JPA Board 12/3/2018, Item 6A Reimbursable expense of an interconnection facility. Additional appropriation $189,998 approved by JPA Board 2/4/19, Item 6A.									
10689 - WoolseyFire Rpr - Rancho	**70.6%**	**29.4%**	**$46,955**	**$0**	**$0**	**$0**	**$46,955**	**$33,150**	**$13,805**
Woolsey Fire Facility Repair. Appropriation of $46,955 for engineering design and support services during construction approved by JPA Board 3/28/2019, Item 6E. Appropriation $46,955 approved by JPA Board 3/28/2019, Item 6E									
10692 - WoolseyFire Rpr-JPA Facilities	**70.6%**	**29.4%**	**$46,112**	**$0**	**$0**	**$0**	**$46,112**	**$32,555**	**$13,557**
Woolsey Fire Facility Repair. Appropriation of $46,112 for engineering design and support services during construction approved by JPA Board 3/28/2019, Item 6E. Appropriation $46,112 approved by JPA Board 3/28/2019, Item 6E									
Total Multi-Year Projects			***$16,488,628***	***$3,038,923***	***$1,922,357***	***$4,961,280***	***$11,527,348***	***$8,138,308***	***$3,389,040***

Job # - Description	LV %	TSD %	Total Project Appropriations	Prior Year Expenditures	Current Year Expenditures	Total Project Expenditures	Project Balance	LV Balance	TSD Balance
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.									
10611 - Tapia Duct Bank Infrstrc Upgrd	**70.6%**	**29.4%**	**$160,000**	**$0**	**$0**	**$0**	**$160,000**	**$112,960**	**$47,040**
Add new duct bank from the front gate to the chemical building with several intercept points along the way.									
10654 - Hilton Fnd Solar Carport Systm	**70.6%**	**29.4%**	**$300,000**	**$1,184**	**$0**	**$1,184**	**$298,816**	**$210,964**	**$87,852**
Relocation and installation of Solar Carport System donation from Conrad N. Hilton Foundation									
10682 - RLV: FOG Receiving Fac FY18-19	**70.6%**	**29.4%**	**$30,000**	**$0**	**$0**	**$0**	**$30,000**	**$21,180**	**$8,820**
To conduct a study to determine the market for local high strength wastes (food waste, fats, oils, and grease (FOG)) that can be fed into the third digester. After completion of the study, the installation of facilities for receiving and conveying fats, o									
Total Projects on Hold			***$583,100***	***$33,631***	***$0***	***$33,631***	***$549,469***	***$387,925***	***$161,544***
Totals			**$23,710,015**	**$4,954,472**	**$4,521,507**	**$9,475,979**	**$14,234,036**	**$10,049,229**	**$4,184,807**
Totals: Las Virgenes MWD			**$16,739,271**	**$3,497,857**	**$3,192,184**	**$6,690,041**	**$10,049,229**		
Totals: Triunfo Sanitation District			**$6,970,744**	**$1,456,615**	**$1,329,323**	**$2,785,938**	**$4,184,807**		

April 29, 2019 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : Leak on 21-inch Trunk Sewer: End of Emergency

SUMMARY:

At approximately 3:30 p.m. on March 12, 2019, staff was informed by California State Parks personnel that there was a leak on the JPA's 21-inch trunk sewer on the west side of Las Virgenes Road, south of the Centrate Treatment Facility. Staff responded immediately to contain the leak, and a contractor was mobilized to set-up by-pass pumping. The leak was at the transition of a 21-inch mortar-lined steel pipe and a 21-inch vitrified clay pipe at the downstream end of an exposed crossing for a tributary to Las Virgenes Creek. The damage was caused when the mastic used to seal the transition was super-heated due to the Woolsey Fire. Repairs were made once the by-pass was in place. In addition, the pipeline was video inspected to ensure that there was no additional damage.

On March 28, 2019, the JPA Board adopted Resolution No. 7, declaring an emergency because it was likely that the costs to contain, repair and inspect the sewer would exceed the $35,000 authority of the Administering Agent/General Manager. The repairs are now complete, and it is appropriate that the Board declare an end to the emergency.

RECOMMENDATION(S):

Declare an end to the emergency for repair of a 21-inch trunk sewer on the west side of Las Virgenes Road, south of the Centrate Treatment Facilities.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

No

FINANCIAL IMPACT:

The estimated cost to repair the trunk sewer is $40,353.54, excluding staff time. Sufficient funds are available in the adopted Fiscal Year 2018-19 JPA Budget for the work. Staff will include the repair in the JPA's FEMA/Cal-OES funding request for the Woolsey Fire.

Following is a summary of the repair costs:

Vendor	Item	Cost
Toro	By-pass pumping and repair	$30,353.54
National Plant	Video inspection service (estimated)	$10,000.00
	Total	**$40,353.54**

Prepared by: David R. Lippman, P.E., Director of Facilities and Operations

April 29, 2019 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : Rancho Digester No. 2 Cleaning: Final Acceptance

SUMMARY:

On January 7, 2019, the JPA Board awarded a construction contract to MP Environmental Services, Inc., in the amount of $351,327.40, for the Rancho Digester No. 2 Cleaning Project. The project consisted of removing and disposing of digested sludge, scum, grit, grease, rags and other debris, and pressure washing the interior surfaces of the digester. One deductive change order, in the amount of $1,500, was administratively approved. The work has been completed, and there are no outstanding issues to prevent acceptance of the project. As a result, it is appropriate to file the Notice of Completion and release the retention as stipulated in the contract documents.

RECOMMENDATION(S):

Approve the execution a Notice of Completion and have the same recorded, and in the absence of claims from subcontractors and others, release the retention, in the amount of $17,491.37, within 30 calendar days after filing the Notice of Completion for the Rancho Digester No. 2 Cleaning Project.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

The total cost of the project was $434,326.40. Sufficient funding for the project is available in the adopted Fiscal Year 2018-19 JPA Budget, including an additional appropriation approved by the JPA Board on January 7, 2019.

Following is a summary of the total project cost:

Description	Cost

Professional Services:	
Design & Bidding - PACE, Inc.	$34,810
Construction:	
Construction Award	$351,327.40
Change Order No. 1	($1,500)
Administrative	
District Labor	$9,577
G&A	$40,112
Total Project Cost	**$434,326.40**
Existing Appropriation	$533,694.40

DISCUSSION:

The Rancho Las Virgenes Digester Cleaning and Repair Project is a two-phase, multi-year project to repair and rehabilitate Digester Nos. 1 and 2 at the Rancho Las Virgenes Composting Facility. On August 28, 2018, the Board accepted the completion of the rehabilitation for Digester No. 1, which had been in continuous operation for 24 years. Now that Digester No. 2 has been emptied and cleaned, the next step is to perform an inspection of the interior of the digester to provide a comprehensive scope for any required repairs and/or rehabilitation before the digester is placed back into service.

During work on the project, there was one deductive change order, Change Order No. 1, in the amount of $1,500, which was administratively approved. The change order was for the elimination of an unused bid item (Bid Item No. 6), which provided an additional three days of operation or standby in the event of an emergency or other unexpected event.

The project was completed ahead of schedule and under budget.

Prepared by: Coleman Olinger, P.E., Associate Engineer

ATTACHMENTS:

Notice of Completion

RECORDING REQUESTED BY

Las Virgenes Municipal Water District

AND WHEN RECORDED MAIL TO

Name Susan Brown
Street Address Las Virgenes Municipal Water District
4232 Las Virgenes Road
City & State Zip Calabasas, CA 91302

T 420 LEGAL (9-94)

SPACE ABOVE THIS LINE FOR RECORDER'S USE

Notice of Completion

NOTICE IS HEREBY GIVEN THAT:

1. The undersigned is the owner of the interest or estate stated below in the property hereinafter described.
2. The full name of the undersigned is Las Virgenes Municipal Water District (NAME).
3. The full address of the undersigned is 4232 Las Virgenes Road, Calabasas CA 91302
(NUMBER AND STREET, CITY, STATE, ZIP).
4. The nature of the title of the undersigned is OWNER IN FEE
(E.G., owner in fee OR vendee under contract of purchase OR lessee OR OTHER APPROPRIATE DESIGNATION).
5. The full names and full addresses of all persons, if any, who hold title with the undersigned as joint tenants or as tenants in common are:

Names	Addresses
N/A	

6. The names of the predecessors in interest of the undersigned, if the property was transferred subsequent to the commencement of the work of improvement herein referred to are (OR IF NO TRANSFER WAS MADE, INSERT THE WORD "none"):

Names	Addresses
N/A	

7. A work of improvement on the property hereinafter described was completed on April 29, 2019 (DATE).
8. The name of the original contractor, if any, for the work of improvement was MP Environmental Services, Inc.
(NAME OF CONTRACTOR, OR IF NO CONTRACTOR FOR THE WORK OF IMPROVEMENT AS A WHOLE, INSERT THE WORD "none"). [IF NOTICE COVERS COMPLETION OF CONTRACT FOR ONLY PART OF THE WORK OF IMPROVEMENT, ADD: The kind of work done or material furnished was
(GIVE GENERAL STATEMENT, E.G., furnishing of concrete for sidewalks].
9. The property on which the work of improvement was completed is in the City of N/A, County of Los Angeles, State of California, and is described as follows:
Rancho Digester No. 2 Cleaning Project
(set forth description of jobsite sufficient for identification, using legal description if possible).
10. The street address of the said property is 3700 Las Virgenes Rd
(NUMBER AND STREET, OR, IF THERE IS NO OFFICIAL STREET ADDRESS, INSERT THE WORD "none".)

Dated: April 29, 2019, ____.

Las Virgenes Municipal Water District

(SIGNATURE)

David Pedersen, Administering Agent/General Manager (TYPED NAME)

VERIFICATION

I, the undersigned, say:
I am the person who signed the foregoing notice. I have read the above notice and know its contents, and the facts stated therein are true of my own knowledge.

I declare under penalty of perjury that the foregoing is true and correct.

Executed at Calabasas, California, this 29th day of April, 2019.

(SIGNATURE)
David Pedersen, Administering Agent/General Manager

DO NOT RECORD

Recommended Procedure in the Preparation of a Notice of Completion

A notice of completion must be filed for record *within* 10 *days* after completion of the work of improvement (to be computed exclusive of the day of completion), as provided in section 3093, Civil Code.

The "owner" who must file for record a notice of completion of a building or other work of improvement means the owner (or his successor in interest at the date of notice is filed) on whose behalf the work was done, though his ownership is less than the fee title. For example, if A is the owner in fee, and B, lessee under a lease, causes a building to be constructed, then B, or whoever has succeeded to his interest at the date the notice is filed, must file the notice.

If the ownership is in *two or more persons as joint tenants or tenants in common,* the notice may be signed by any one of the co-owners (in fact, the foregoing form is designed for giving of the notice by only one co-tenant), but the names and addresses of the other co-owners must be stated in paragraph 5 of the form.

In paragraphs 3 and 5, the full address called for should include street number, city, county and state.

As to paragraph 6, insert the date of completion of the work of improvement *as a whole* if applicable. However, if the notice is to be given only of completion of a particular contract, where work of improvement is made pursuant to two or more original contracts, strike the words "a work of improvement" and insert a general statement of the kind of work done or materials furnished pursuant to such contract (e.g. "The foundations for the improvements").

If the notice is to be given as a notice of completion of the work of improvement *as a whole,* insert the name of the prime contractor, if any, in paragraph 7. No contractor's name need be given if there is no general contractor, e.g., on so-called "owner-builder jobs". However, if the notice is to be given only of completion of a particular contract, where work of improvement is made pursuant to two or more original contracts, insert the name of the contractor who performed that particular contract.

Paragraph 8 should be completed only where the notice is signed by a successor in interest of the owner who caused the improvement to be constructed.

In paragraph 9, insert the *full legal* description, not merely a street address or tax description. Refer to deed or policy of title insurance. If the space provided for description is not sufficient, a rider may be attached.

In paragraph 10, show the street address, if any, assigned to the property by any competent public or governmental authority.

NOTICE OF COMPLETION

CHICAGO TITLE COMPANY

WESTERN DIVISION HEADQUARTERS
245 S. LOS ROBLES AVENUE, SUITE 105
PASADENA, CALIFORNIA 91101-2820
(818) 432-7600

CHICAGO TITLE COMPANY

April 29, 2019 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : Rancho Lighting Efficiency Upgrade Project: Final Acceptance

SUMMARY:

On May 5, 2018, the JPA Board awarded a service contract to Retro-Tek Energy Services, Inc., in the amount of $299,971, for the Rancho Lighting Efficiency Upgrade project. One change order, in the amount of $3,584 (1.2% of original contract amount), was administratively approved to reconcile various changes in fixture types and quantities due to field conditions. A total of 46 additional fixtures/lamps were installed. All of the work has been completed, and there are no outstanding issues to prevent final acceptance of the project. As a result, it is appropriate to file the Notice of Completion and release the retention as stipulated in the contract documents.

RECOMMENDATION(S):

Approve the execution of a Notice of Completion and have the same recorded, and in the absence of claims from subcontractors and others, release the retention, in the amount of $15,178, within 30 calendar days after filing the Notice of Completion for the Rancho Lighting Efficiency Upgrade Project.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

Sufficient funds for the project are available in the adopted Fiscal Year 2018-19 JPA Budget. No additional appropriation is needed.

DISCUSSION:

A total of 845 LED fixtures or lamps were replaced at the Rancho Las Virgenes Composting Facility. The estimated annual energy savings resulting from the project is 228,152 kWh,

which correlates to $31,983. Staff also estimates an annual maintenance cost-savings of $11,529 due to the durable nature of the modern LED lighting fixtures. In addition, staff anticipates receiving an incentive of $50,000 to $60,000 from SCE for the project. After accounting for both the incentive and savings in energy and maintenance costs, the payback period for the project is estimated to be 5.7 years. Staff is currently working with the SCE contractor to perform a post installation audit to calculate and process the exact incentive amount for the project.

The completion of the Rancho, Tapia, Westlake Filter Plant and Headquarters Lighting Efficiency Upgrade Projects not only improved the existing aging lighting systems for the three major facilities, it also reduced the carbon footprint, saving on-going energy costs and reducing maintenance costs for decades to come.

Prepared by: John Zhao, P.E., Principal Engineer

ATTACHMENTS:

Notice of Completion

RECORDING REQUESTED BY

Las Virgenes Municipal Water District

AND WHEN RECORDED MAIL TO

Name Susan Brown
Street Address Las Virgenes Municipal Water District
4232 Las Virgenes Road
City & State Zip Calabasas, CA 91302

T 420 LEGAL (9-94)

SPACE ABOVE THIS LINE FOR RECORDER'S USE

Notice of Completion

NOTICE IS HEREBY GIVEN THAT:

1. The undersigned is the owner of the interest or estate stated below in the property hereinafter described.
2. The full name of the undersigned is Las Virgenes Municipal Water District (NAME).
3. The full address of the undersigned is 4232 Las Virgenes Road, Calabasas CA 91302
(NUMBER AND STREET, CITY, STATE, ZIP).
4. The nature of the title of the undersigned is OWNER IN FEE
(E.G., owner in fee OR vendee under contract of purchase OR lessee OR OTHER APPROPRIATE DESIGNATION).
5. The full names and full addresses of all persons, if any, who hold title with the undersigned as joint tenants or as tenants in common are:

Names	Addresses
N/A	

6. The names of the predecessors in interest of the undersigned, if the property was transferred subsequent to the commencement of the work of improvement herein referred to are (OR IF NO TRANSFER WAS MADE, INSERT THE WORD "none"):

Names	Addresses
N/A	

7. A work of improvement on the property hereinafter described was completed on April 29, 2019 (DATE).
8. The name of the original contractor, if any, for the work of improvement was Retro-Tek Energy Services , Inc.
(NAME OF CONTRACTOR, OR IF NO CONTRACTOR FOR THE WORK OF IMPROVEMENT AS A WHOLE, INSERT THE WORD "none"). [IF NOTICE COVERS COMPLETION OF CONTRACT FOR ONLY PART OF THE WORK OF IMPROVEMENT, ADD: The kind of work done or material furnished was _____
(GIVE GENERAL STATEMENT, E.G., furnishing of concrete for sidewalks].
9. The property on which the work of improvement was completed is in the City of Calabasas, County of Los Angeles, State of California, and is described as follows:
Rancho Lighting Efficiency Upgrade Project
(set forth description of jobsite sufficient for identification, using legal description if possible).
10. The street address of the said property is None
(NUMBER AND STREET, OR, IF THERE IS NO OFFICIAL STREET ADDRESS, INSERT THE WORD "none".)

Dated: April 29, 2019.

Las Virgenes Municipal Water District

_____ (SIGNATURE)

Charles P. Caspary, Secretary of the Board (TYPED NAME)

VERIFICATION

I, the undersigned, say:
I am the person who signed the foregoing notice. I have read the above notice and know its contents, and the facts stated therein are true of my own knowledge.

I declare under penalty of perjury that the foregoing is true and correct.

Executed at Calabasas, California, this 29 day of April, 2019.

_____ (SIGNATURE)
Charles P. Caspary, Secretary of the Board

DO NOT RECORD

Recommended Procedure in the Preparation of a Notice of Completion

A notice of completion must be filed for record *within* 10 *days* after completion of the work of improvement (to be computed exclusive of the day of completion), as provided in section 3093, Civil Code.

The "owner" who must file for record a notice of completion of a building or other work of improvement means the owner (or his successor in interest at the date of notice is filed) on whose behalf the work was done, though his ownership is less than the fee title. For example, if A is the owner in fee, and B, lessee under a lease, causes a building to be constructed, then B, or whoever has succeeded to his interest at the date the notice is filed, must file the notice.

If the ownership is in *two or more persons as joint tenants or tenants in common,* the notice may be signed by any one of the co-owners (in fact, the foregoing form is designed for giving of the notice by only one co-tenant), but the names and addresses of the other co-owners must be stated in paragraph 5 of the form.

In paragraphs 3 and 5, the full address called for should include street number, city, county and state.

As to paragraph 6, insert the date of completion of the work of improvement *as a whole* if applicable. However, if the notice is to be given only of completion of a particular contract, where work of improvement is made pursuant to two or more original contracts, strike the words "a work of improvement" and insert a general statement of the kind of work done or materials furnished pursuant to such contract (e.g. "The foundations for the improvements").

If the notice is to be given as a notice of completion of the work of improvement *as a whole,* insert the name of the prime contractor, if any, in paragraph 7. No contractor's name need be given if there is no general contractor, e.g., on so-called "owner-builder jobs". However, if the notice is to be given only of completion of a particular contract, where work of improvement is made pursuant to two or more original contracts, insert the name of the contractor who performed that particular contract.

Paragraph 8 should be completed only where the notice is signed by a successor in interest of the owner who caused the improvement to be constructed.

In paragraph 9, insert the *full legal* description, not merely a street address or tax description. Refer to deed or policy of title insurance. If the space provided for description is not sufficient, a rider may be attached.

In paragraph 10, show the street address, if any, assigned to the property by any competent public or governmental authority.

NOTICE OF COMPLETION

CHICAGO TITLE COMPANY

WESTERN DIVISION HEADQUARTERS
245 S. LOS ROBLES AVENUE, SUITE 105
PASADENA, CALIFORNIA 91101-2820
(818) 432-7600

CHICAGO TITLE COMPANY

April 29, 2019 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : Tapia Water Reclamation Facility Fiscal Year 2017-18 Rehabilitation Project: Final Acceptance

SUMMARY:

On July 11, 2018, the JPA Board awarded a construction contract to GSE Construction Company, Inc., in the amount of $1,369,000, for the Tapia Water Reclamation Facility Fiscal Year 2017-18 Rehabilitation Project. The scope of work included rehabilitation of Primary Clarifiers Nos. 4 and 5, replacement of grit and skimming piping and replacement of Channel No. 4 weir gates. Four change orders were approved for the project, totaling $174,123, or approximately 12.7% of the original contract amount, and extending the completion date to March 30, 2019. A detailed discussion of the change orders is provided with this report.

Construction was completed on March 28, 2019, within the allowable contract duration. There are no outstanding issues to prevent acceptance of the project. As a result, it is appropriate to file the Notice of Completion and release the retention as stipulated in the contract documents.

RECOMMENDATION(S):

Approve the execution of a Notice of Completion and have the same recorded, and in the absence of claims from subcontractors and others, release the retention, in the amount of $77,156.15, within 30 calendar days after filing the Notice of Completion for the Tapia Water Reclamation Facility Fiscal Year 2017-18 Rehabilitation Project.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

The total cost of the project was $1,968,465. Sufficient funding for the project is available in the adopted Fiscal Year 2018-19 JPA Budget.

Following is a summary of the total project cost.

Description	Cost
Professional Services:	
Design & Support During Construction - Cannon Corp.	$60,204
Scope Change No. 1	$4,800
Preliminary Coating Inspection for Design - CSI Services, Inc.	$3,505
Construction:	
Construction Award	$1,369,000
Change Order No. 1	($6,400)
Change Order No. 2	$159,717
Change Order No. 3	$14,724
Change Order No. 4	$6,082
CSI Services Inc. (Coatings Inspection)	$22,800
Administrative	
District Labor	$71,554
G&A	$262,479
Total Project Cost	**$1,968,465**
Existing Appropriation	$2,105,700

DISCUSSION:

The Tapia Water Reclamation Facility Fiscal Year 2017-18 Rehabilitation Project involved replacement or rehabilitation of equipment in three different areas of Tapia: (1) rehabilitation of Primary Clarifier Nos. 4 and 5; (2) replacement of grit and skimmings piping; and (3) replacement of slide gates for Channel No. 4 of the secondary sedimentation basins. These three work items were originally planned and budgeted as three separate capital improvement projects; however, combining the work into one project provided cost-savings in design, bidding and construction. In addition, the work required carefully phased construction to avoid impacting on-going treatment operations. By having one contractor complete all of the work, staff was able to better control and specify the phasing of work.

During the construction work, there were four change orders, as follows:

- Change Order No. 1 was a deductive change order in the amount of $6,400. The change order allowed for a variance to the welding method specified in the contract documents and was administratively approved.

- Change Order No. 2 was approved on August 28, 2018 by the LVMWD Board, acting as the Administering Agent of the JPA, in the amount of $159,717. The change order expanded the scope of the original project to include the replacement of additional slide gates/boxes using the same unit price specified in the contract. The eight additional slide gates/boxes had been budgeted to be replaced separately through a different project (CIP No. 10658 - Tapia Sluice Gate and Drive Replacement) with funding available in the adopted Fiscal Year 2018-19 JPA Budget. During design of the project, staff received a price quote of $28,581 per gate/box combination for material only from

the existing gate manufacturer. GSE's price to provide material and labor to replace the gates was $8,900 per unit, resulting in significant savings to the JPA as compared to that anticipated for inclusion of the work in CIP No. 10658. GSE's price also included costs to dewater the channel to allow installation of the gates.

- Change Order No. 3 was administratively approved in the amount of $14,724. The change order included the following four separate items: modification of inlet diffuser sizing for Primary Clarifier No. 5 as the as-built condition did not match record drawings, removal and replacement of a section of damaged concrete curb for Primary Clarifier No. 4, replacement of skids for the flights and chains on Primary Clarifier Nos. 4 and 5, and modification of grit pipe header within the headworks clarifier room to avoid structural beams that interfered with the design location.

- Change Order No. 4 was administratively approved in the amount of $6,082. The change order included replacement of corroded couplings for the Channel No. 4 weir gates that were not shown on the record drawings and repair of broken segments of the PVC air diffusers and piping within Channel No. 4 that were discovered when the channel was drained.

GOALS:

Construct, Manage and Maintain All Facilities and Provide Services to Assure System Reliability and Environmental Compatibility

Prepared by: Coleman Olinger, P.E., Associate Engineer

ATTACHMENTS:

Notice of Completion

RECORDING REQUESTED BY

Las Virgenes Municipal Water District

AND WHEN RECORDED MAIL TO

Name Susan Brown
Street Address Las Virgenes Municipal Water District
4232 Las Virgenes Road
City & State Zip Calabasas, CA 91302

T 420 LEGAL (9-94)

SPACE ABOVE THIS LINE FOR RECORDER'S USE

Notice of Completion

NOTICE IS HEREBY GIVEN THAT:

1. The undersigned is the owner of the interest or estate stated below in the property hereinafter described.
2. The full name of the undersigned is Las Virgenes Municipal Water District (NAME).
3. The full address of the undersigned is 4232 Las Virgenes Road, Calabasas CA 91302 (NUMBER AND STREET, CITY, STATE, ZIP).
4. The nature of the title of the undersigned is OWNER IN FEE (E.G., owner in fee OR vendee under contract of purchase OR lessee OR OTHER APPROPRIATE DESIGNATION).
5. The full names and full addresses of all persons, if any, who hold title with the undersigned as joint tenants or as tenants in common are:

Names	Addresses
N/A	

6. The names of the predecessors in interest of the undersigned, if the property was transferred subsequent to the commencement of the work of improvement herein referred to are (OR IF NO TRANSFER WAS MADE, INSERT THE WORD "none"):

Names	Addresses
~~N/A~~	

7. A work of improvement on the property hereinafter described was completed on April 29, 2019 (DATE).
8. The name of the original contractor, if any, for the work of improvement was GSE Construction Company, Inc. (NAME OF CONTRACTOR, OR IF NO CONTRACTOR FOR THE WORK OF IMPROVEMENT AS A WHOLE, INSERT THE WORD "none"). [IF NOTICE COVERS COMPLETION OF CONTRACT FOR ONLY PART OF THE WORK OF IMPROVEMENT, ADD: The kind of work done or material furnished was (GIVE GENERAL STATEMENT, E.G., furnishing of concrete for sidewalks].
9. The property on which the work of improvement was completed is in the City of N/A, County of Los Angeles, State of California, and is described as follows: Tapia Water Reclamation Facility Fiscal Year 2017-18 Rehabilitation Project (set forth description of jobsite sufficient for identification, using legal description if possible).
10. The street address of the said property is None (NUMBER AND STREET, OR, IF THERE IS NO OFFICIAL STREET ADDRESS, INSERT THE WORD "none".)

Dated: April 29, 2019, ____.

Las Virgenes Municipal Water District

(SIGNATURE)

David Pedersen, Administering Agent/General Manager (TYPED NAME)

VERIFICATION

I, the undersigned, say:
I am the person who signed the foregoing notice. I have read the above notice and know its contents, and the facts stated therein are true of my own knowledge.

I declare under penalty of perjury that the foregoing is true and correct.

Executed at Calabasas, California, this 29th day of April, 2019.

(SIGNATURE)
David Pedersen, Administering Agent/General Manager

DO NOT RECORD

Recommended Procedure in the Preparation of a Notice of Completion

A notice of completion must be filed for record *within* 10 *days* after completion of the work of improvement (to be computed exclusive of the day of completion), as provided in section 3093, Civil Code.

The "owner" who must file for record a notice of completion of a building or other work of improvement means the owner (or his successor in interest at the date of notice is filed) on whose behalf the work was done, though his ownership is less than the fee title. For example, if A is the owner in fee, and B, lessee under a lease, causes a building to be constructed, then B, or whoever has succeeded to his interest at the date the notice is filed, must file the notice.

If the ownership is in *two or more persons as joint tenants or tenants in common,* the notice may be signed by any one of the co-owners (in fact, the foregoing form is designed for giving of the notice by only one co-tenant), but the names and addresses of the other co-owners must be stated in paragraph 5 of the form.

In paragraphs 3 and 5, the full address called for should include street number, city, county and state.

As to paragraph 6, insert the date of completion of the work of improvement *as a whole* if applicable. However, if the notice is to be given only of completion of a particular contract, where work of improvement is made pursuant to two or more original contracts, strike the words "a work of improvement" and insert a general statement of the kind of work done or materials furnished pursuant to such contract (e.g. "The foundations for the improvements").

If the notice is to be given as a notice of completion of the work of improvement *as a whole,* insert the name of the prime contractor, if any, in paragraph 7. No contractor's name need be given if there is no general contractor, e.g., on so-called "owner-builder jobs". However, if the notice is to be given only of completion of a particular contract, where work of improvement is made pursuant to two or more original contracts, insert the name of the contractor who performed that particular contract.

Paragraph 8 should be completed only where the notice is signed by a successor in interest of the owner who caused the improvement to be constructed.

In paragraph 9, insert the *full legal* description, not merely a street address or tax description. Refer to deed or policy of title insurance. If the space provided for description is not sufficient, a rider may be attached.

In paragraph 10, show the street address, if any, assigned to the property by any competent public or governmental authority.

NOTICE OF COMPLETION

CHICAGO TITLE COMPANY

WESTERN DIVISION HEADQUARTERS
245 S. LOS ROBLES AVENUE, SUITE 105
PASADENA, CALIFORNIA 91101-2820
(818) 432-7600

CHICAGO TITLE COMPANY

April 29, 2019 JPA Board Meeting

TO: JPA Board of Directors

FROM: Finance & Administration

Subject : Preliminary JPA Budget for Fiscal Year 2019-20

SUMMARY:

In June 2018, the JPA Board approved a two-year budget plan for Fiscal Years 2018-20. The preliminary budget for Fiscal Year 2019-20 highlights the significant changes from the original budget plan for the second year of the two-year budget cycle.

RECOMMENDATION(S):

Provide staff with feedback on the Preliminary JPA Budget for Fiscal Year 2019-20.

FISCAL IMPACT:

No

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

There is no financial impact associated with providing feedback on the preliminary budget.

DISCUSSION:

The purpose of preparing a two-year budget plan is to minimize changes to operating, capital improvement and staffing expenditures in the second year. As a result, the expenses generally represent a continuation of the same levels of staffing and services with minimal changes.

Following are the primary reasons for a two-year plan are to :

1. Improve long-term planning
2. Concentrate on the implementation of long-term strategic objectives
3. Create framework for stable operations and orderly spending patterns
4. Reduce staff time to prepare the budget, free staff to focus on other tasks

The preliminary budget for operating expenses in Fiscal Year 2019-20 is $17.6 million. The budget for net operating expenses in Fiscal Year 2019-20 is $14.8 million. Operating expenses increased as compared to the two-year budget plan by $158,000 due to organizational changes.

The JPA Capital Improvement Projects budget includes carryover amounts totaling $9.7 million, which is a net increase of $1.1 million due to the changes summarized in Attachment A. Several projects were shifted to later budget years, and $2.8 million of new projects related to the Woolsey Fire were added. Staff anticipates reimbursement from the JPA's insurance carrier and FEMA/Cal-OES; however, estimates for those reimbursement amounts have not yet been finalized.

Prepared by: Angela Saccareccia, Finance Manager

ATTACHMENTS:

Attachment A - Summary of Significant Capital Changes
Attachment B - Budget Summary

Summary of Significant Changes
Capital Improvement Projects
Fiscal Year 2019-20

	Budget Plan	Proposed	Adjustments
10689-Rancho Fire Repair-Woolsey Fire	$ -	$ 1,942,500	$ 1,942,500
10635-Pure Water Project	$ 3,500,000	$ 2,001,159	$ (1,498,841)
10619-Summer Season 2013 TMDL Compliance	$ 2,220,000	$ 809,985	$ (1,410,015)
10692-JPA Facility Repair-Woolsey Fire	$ -	$ 832,500	$ 832,500
10567-Programmable Logic Controller Updates	$ 376,700	$ 923,450	$ 546,750
10667-Tapia Headwks White Rm Floor Plate Repair & Steel Framing Repl.	$ -	$ 357,440	$ 357,440
Other Projects	$ 2,456,120	$ 2,791,169	$ 335,049
	$ 8,552,820	$ 9,658,203	$ 1,105,383

Las Virgenes – Triunfo Joint Powers Authority

Las Virgenes – Triunfo
Joint Powers Authority

Fiscal Year 2019-20

Triunfo Sanitation District
Raymond Tjulander
Susan Pan
Janna Orkney- Chair
Michael Paule
James Wall

Mark Norris – District Manager

Las Virgenes Municipal Water District
Leonard Polan
Charles Caspary
Lee Renger
Jay Lewitt- Vice Chair
Lynda Lo-Hill

David Pedersen – General Manager

Administering Agency:
Las Virgenes Municipal Water District
4232 Las Virgenes Road
Calabasas, CA 91302-1994
818.251.2100
www.lvmwd.com

JPA 2019-20 BUDGET

In June 2018 the JPA Board approved a two-year budget plan for Fiscal Years 2018-20. The purpose of preparing a two-year plan is to minimize changes to operating, capital improvement projects, and staffing in the second year. As a result, the expenses generally represent a continuation of the same levels of staffing and services with a minimal amount of changes.

The main reasons for a two- year plan are to :

1. Improve long-term planning
2. Concentrate on the implementation of long-term strategic objectives
3. Create framework for stable operations and orderly spending patterns
4. Reduce staff time to prepare the budget, free staff to focus on other tasks

The Fiscal Year 2019-20 JPA budget for operating expenses is $ 17.6 million. The net operating expense in FY 2019-20 is $ 14.8 million. Operating expenses increased from the budget plan by $158 thousand for staff organizational changes.

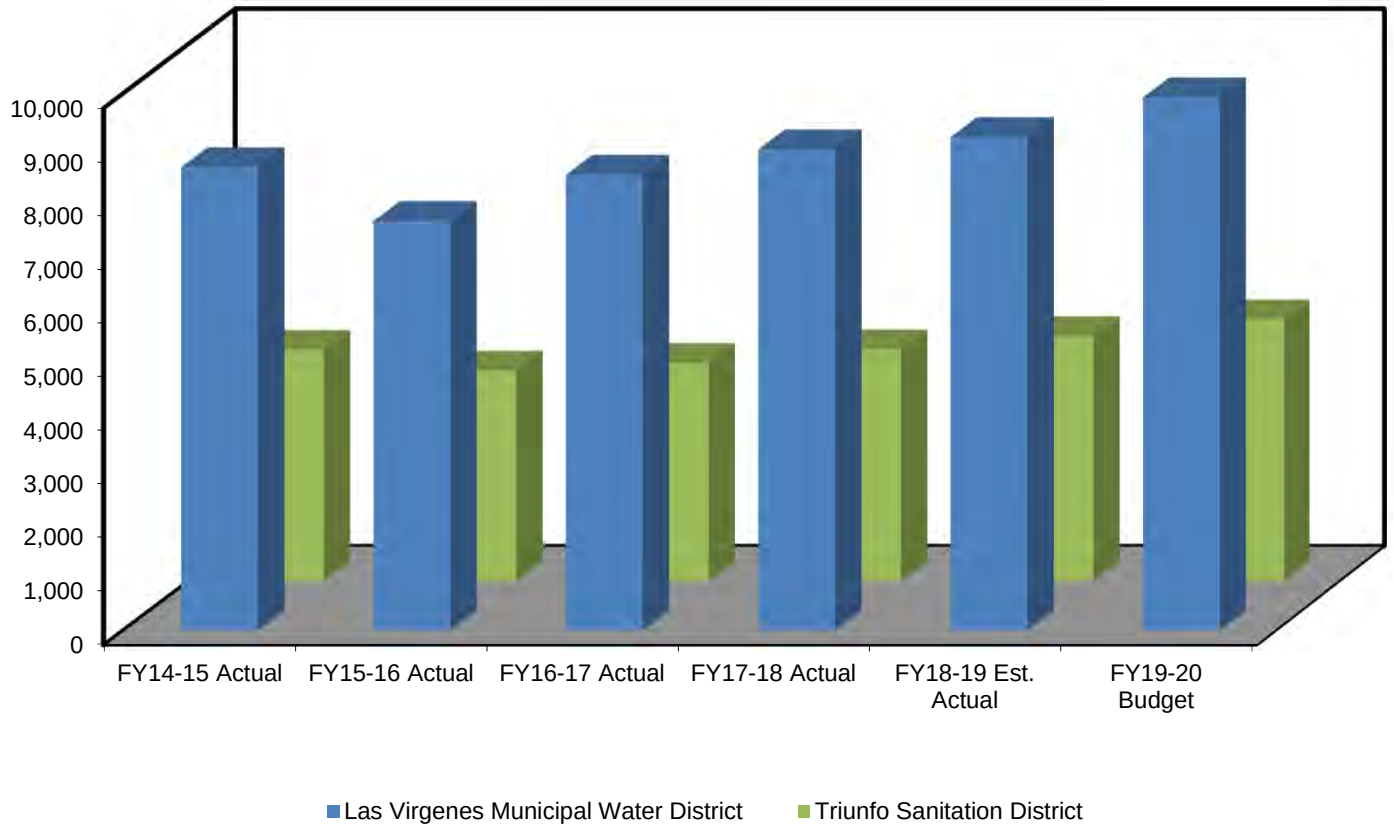
The JPA Capital Budget including carryover amounts is $ 9.7 million, which is a net increase of $1.1 million due to the significant changes presented below. Several projects were shifted to later budget years and $2.8 million of the added projects were related to the Woolsey fire. Staff anticipates partial reimbursement from insurance and FEMA, however those estimates have not yet been finalized.

Summary of Significant Changes
Capital Improvement Projects
Fiscal Year 2019-20

	Budget Plan	Proposed	Adjustments
10689-Rancho Fire Repair-Woolsey Fire	$ -	$ 1,942,500	$ 1,942,500
10638-Pure Water Project - Demonstration Plant	$ 3,500,000	$ 2,001,159	$ (1,498,841)
10619-Summer Season 2013 TMDL Compliance	$ 2,220,000	$ 809,985	$ (1,410,015)
10692-JPA Facility Repair-Woolsey Fire	$ -	$ 832,500	$ 832,500
10567-Programmable Logic Controller Updates	$ 376,700	$ 923,450	$ 546,750
10667-Tapia Headwks White Rm Floor Plate Repair & Steel Framing	$ -	$ 357,440	$ 357,440
Other Projects	$ 2,456,120	$ 2,791,169	$ 335,049
	$ 8,552,820	$ 9,658,203	$ 1,105,383

Las Virgenes - Triunfo
Joint Powers Authority
Allocated Net Expense Summary
(Dollars in Thousands)

	FY14-15 Actual	FY15-16 Actual	FY16-17 Actual	FY17-18 Actual	FY18-19 Est. Actual	FY19-20 Budget
JPA Revenues	2,326	2,346	2,168	2,346	2,364	2,767
JPA Expenses	15,189	13,920	14,755	15,679	16,126	17,580
Net Operating Expense	12,863	11,574	12,587	13,333	13,762	14,813
Non-Operating Revenue (Expense)	(66)	34	45	69	20	20
Net Expenses	12,929	11,540	12,542	13,264	13,742	14,793
Las Virgenes Municipal Water District	8,624	7,623	8,483	8,954	9,184	9,922
Triunfo Sanitation District	4,305	3,917	4,059	4,310	4,558	4,871
Total Allocated Expenses	12,929	11,540	12,542	13,264	13,742	14,793



RW WHOLESALE RATE COMPUTATIONS

FY 2019-20 Budgeted Costs	Total Cost	Base Cost	Add'l Pumping	East-West Cost
Pump Stations	1,379,114	661,409	717,705	
Reservoirs	133,191	133,191		
System Operations	47,592	47,592		
Distribution	101,209	101,209		
RW Operations	1,661,106			
RW Ops/Total JPA Ops	9.5%			
Total JPA Admin	1,012,311			
RW Administration	96,515	96,515		
subtotal:Operations & Admin	1,757,621	1,039,916		
Est. Depreciation FY17-18	929,736	929,736	-	
Total Cost	$ 2,687,357	$ 1,969,652	$ 717,705	
Costs per Acre Foot		$ 346.65	$ 133.88	$ 480.53

FY 2019-20 Estimated Deliveries

	Acre Feet	Rate		
LV Valley	321	$ 346.65	/AF	$ 111,274.65
LVMWD East	1,443	$ 480.53	/AF	$ 693,404.79
LVMWD West	2,151	$ 480.53	/AF	$ 1,033,620.03
Total LVMWD	3,915			$ 1,838,299.47
TSD	1,767	$ 480.53	/AF	$ 849,096.51
	5,682			$ 2,687,395.98

Las Virgenes - Triunfo
Joint Powers Authority
Operations Summary

	FY 14-15 Actual	FY 15-16 Actual	FY 16-17 Actual	FY 17-18 Actual	FY 18-19 Budget	FY 18-19 Est. Actual	FY 19-20 Budget
OPERATING REVENUES							
4235 RW Sales - LVMWD	$1,508,136	$1,557,726	$1,369,024	$1,603,106	$1,817,122	$1,609,490	$1,838,299
4240 RW Sales - TSD	626,542	728,937	688,676	678,150	838,972	674,548	849,097
4245 MWD Incentive - Local Projects	100,331	0	0	0	0	0	0
4505 Other Income from Operations	54,523	41,954	96,197	55,595	65,000	65,000	65,000
4510 Compost Sales	36,698	17,224	14,161	8,882	15,000	15,000	15,000
TOTAL OPERATING REVENUES	**$2,326,230**	**$2,345,841**	**$2,168,058**	**$2,345,733**	**$2,736,093**	**$2,364,038**	**$2,767,396**
SOURCE OF SUPPLY							
5115 Purchased Water - Potable Suppl	136,529	0	34,124	0	0	0	0
OPERATIONS DIVISION EXPENSE							
5400 Labor	1,833,291	1,814,962	1,986,771	1,972,298	2,206,257	2,351,511	2,263,114
5405.1 Electricity	2,547,058	2,227,083	2,101,399	2,270,433	2,438,504	2,028,850	2,509,986
5405.2 Telephone	21,501	31,564	52,977	20,075	41,998	41,998	43,228
5405.3 Natural Gas	23,294	17,631	21,443	16,244	20,789	20,789	21,413
5405.4 Water	11,141	7,022	7,956	11,493	8,808	8,808	9,066
5410 Supplies/Material	58,280	80,525	72,756	80,218	78,312	78,312	79,648
5410.1 Fuel	14,978	6,004	26,208	20,065	28,445	28,445	29,298
5410.5 Ferric Chloride	60,306	56,100	42,204	37,853	52,870	52,870	54,456
5410.6 Defoamer/Deodorant	5,990	0	6,082	7,079	4,000	4,000	4,120
5410.7 Polymer	114,821	81,706	120,588	117,798	105,705	95,000	108,876
5410.8 Amendment	181,136	200,344	142,893	101,919	120,000	90,000	123,600
5410.9 Alum	14,569	6,205	6,864	6,917	9,213	9,213	9,489
5410.10 Sodium Hypochlorite	243,406	150,971	212,248	184,319	202,208	264,000	208,274
5410.11 Sodium Bisulfite	150,059	110,119	77,498	98,766	112,559	90,000	115,936
5410.13 Aqua Ammonia	20,249	40,318	31,675	27,657	30,747	30,747	31,669
5415 Outside Services	42,275	46,961	57,168	58,373	57,500	57,500	58,400
5417 Odor Control	130,480	72,177	143,703	141,619	195,000	165,000	200,850
5420 Permits and Fee	188,358	181,108	193,347	174,028	187,765	187,765	191,295
5425 Consulting Services	11,582	948	0	96,515	69,177	69,177	4,302
5430 Capital Outlay	16,609	27,790	23,994	0	67,500	67,500	65,000
Sub-total	$5,689,383	$5,159,538	$5,327,774	$5,443,669	$6,037,357	$5,741,485	$6,132,020
MAINTENANCE DIVISION EXPENSE							
5500 Labor	1,259,216	1,119,250	1,211,888	1,228,843	1,365,516	1,308,577	1,400,989
5510 Supplies/Material	532,159	585,576	396,570	380,410	483,500	479,500	483,500
5515 Outside Services	362,683	362,494	437,628	350,741	356,450	344,450	341,450
5518 Building Maintenance	108,602	96,566	88,631	105,941	116,000	116,000	116,000
5520 Permits and Fee	768	814	580	1,211	500	500	500
5525 Consulting Services	4,002	0	2,252	0	0	0	0
5530 Capital Outlay	23,670	31,622	45,774	161,552	25,500	25,500	95,000
Sub-total	$2,291,100	$2,196,322	$2,183,323	$2,228,698	$2,347,466	$2,274,527	$2,437,439
INVENTORY EXPENSES							
5536 Inventory Adjustment	12,800	3,102	(2,393)	6,134	4,400	4,400	4,840
Sub-total	$12,800	$3,102	($2,393)	$6,134	$4,400	$4,400	$4,840
PUBLIC INFORMATION							
6602 School Education Program	10,509	9,290	22,535	14,394	19,770	12,504	20,971
6604 Public Education Program	39,331	57,663	70,275	45,330	67,668	35,816	67,722
6606 Community Group Outreach	1,184	220	1,182	2,911	5,990	5,500	6,028
6608 Intergovernmental Coordination	1,842	6,008	4,146	1,098	5,277	845	5,298
Sub-total	$52,866	$73,181	$98,138	$63,733	$98,705	$54,665	$100,019
RESOURCE CONSERVATION							
6788 District Sprayfield	254,095	258,114	251,449	283,186	321,367	312,342	321,779
6789 005 Discharge	5,523	3,652	277	387	400	400	400
6785 Watershed Programs	27,504	4,370	60,773	17,097	46,429	40,000	46,594
Sub-total	$287,122	$266,136	$312,499	$300,670	$368,196	$352,742	$368,773

Las Virgenes - Triunfo
Joint Powers Authority
Operations Summary

	FY 14-15 Actual	FY 15-16 Actual	FY 16-17 Actual	FY 17-18 Actual	FY 18-19 Budget	FY 18-19 Est. Actual	FY 19-20 Budget
SPECIALTY EXPENSES							
5700 SCADA Services	68,401	58,619	49,624	38,646	110,198	76,475	114,310
5710.2 Technical Services	1,090	1,228	0	0	638	325	646
5712 Compost Sales/Use Tax	4,549	3,721	2,922	3,246	4,000	4,000	4,000
5715.2 Other Lab Services	147,489	168,185	141,224	154,291	152,286	152,286	156,855
5715.3 Tapia Lab Sampling	140,569	137,910	125,705	130,352	147,443	137,966	151,302
7202 Allocated Lab Expense	351,743	335,237	378,015	399,644	435,685	419,200	449,138
Sub-total	$713,841	$704,900	$697,490	$726,179	$850,250	$790,252	$876,251
ADMINISTRATIVE EXPENSES							
6215 Equipment Maintenance	0	0	0	0	0	0	0
6872 Litigation/Outside Services	219,268	106,211	83,990	49,115	25,000	25,000	25,000
6874 Litigation/District Costs	0	0	0	0	0	0	0
6516 Other Professional Services	20,186	149,719	95,007	167,843	136,800	136,800	137,000
6517 Audit Fees	2,500	3,296	3,395	3,395	3,600	3,600	3,700
7110 Travel/Misc Staff Expense	54	138	248	0	0	0	0
7135 General Insurance	0	0	0	0	0	0	0
7135.1 Property Insurance	55,181	55,132	56,955	69,614	58,038	58,038	59,779
7135.4 Earthquake Insurance	89,726	88,786	91,466	110,557	92,775	92,775	95,559
7145 Claims Paid	147,000	18,000	122,451	21,000	0	0	0
7153 TSD Staff Services	4,036	1,804	0	0	5,000	5,000	5,000
7155 Other Expense	0	0	54,029	9,000	0	0	0
6260 Rental Charge - Facility Repl	344,732	336,150	371,357	351,674	363,316	363,316	363,316
7160 Direct Charged Supplies & Services	0	0	0	0	0	0	0
7203 Allocated Building Maint	88,082	95,945	83,651	89,824	107,102	132,253	88,804
7225 Allocated Support Services	3,432,606	3,288,672	3,528,201	4,099,146	4,465,585	4,142,252	4,713,915
7226 Allocated Operations Services	1,602,547	1,372,249	1,613,325	1,938,958	2,100,809	1,948,699	2,169,190
Sub-total	$6,005,918	$5,516,102	$6,104,075	$6,910,126	$7,358,025	$6,907,733	$7,661,264
TOTAL EXPENSES	**$15,189,559**	**$13,919,281**	**$14,755,030**	**$15,679,209**	**$17,064,399**	**$16,125,804**	**$17,580,606**
NET OPERATING EXPENSE	**$12,863,329**	**$11,573,440**	**$12,586,972**	**$13,333,476**	**$14,328,305**	**$13,761,766**	**$14,813,210**

JPA Capital Improvement Project Detail, FY2019-20

Proj #	Project Name/Description	Priority/ Status		through June 30, 2019	FY19-20 Appropriations
10520	**SCADA System Communication Upgrades**	2 Deferred	Appr. Exp.	$93,100 $32,447	**$0**

Migration of the existing communication system from a serial radio network to an Ethernet based radio network. Provide redundant data paths for uninterrupted communication. Eliminate need to rely on telephone company equipment.

Project Funding:		JPA Share - LV:	JPA Share - TSD:
Sanitation Replacement	100.00%	70.60%	29.40%

Estimated Impact on Annual Operating Expense — Anticipated Future Expenditures: Yes

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10564	**Centrate Equalization Tank**	2 Continuing	Appr. Exp.	$2,343,008 $2,067,588	**$0**

Construct a centrate equalization tank at the centrate treatment facility.

Project Funding:		JPA Share - LV:	JPA Share - TSD:
Sanitation Construction	25.00%	70.60%	29.40%
Sanitation Replacement	75.00%		

Estimated Impact on Annual Operating Expense — Anticipated Future Expenditures: No

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10565	**Rancho Las Virgenes Digester Cleaning and Repair**	1 Completed	Appr. Exp.	$1,866,751 $1,904,306	**$0**

To clean out and evaluate the condition of existing digesters # 1. The full scope of repairs is unknown at this time but could include coatings ,concrete patching, pipe and valve repairs, removal of the steam lances, and repairs to hatches and seals.

Project Funding:		JPA Share - LV:	JPA Share - TSD:
Sanitation Replacement	100.00%	70.60%	29.40%

Estimated Impact on Annual Operating Expense — Anticipated Future Expenditures: No

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10567	**Programmable Logic Controller Upgrades**	2 Continuing	Appr. Exp.	$332,850 $79,700	**$923,450**

This project replaces programmable logic controllers (PLC's) with newer PLCs and provides necessary equipment upgrades (fiber optics, network switches and programming) to complete the installation. This is a program project which addresses Tapia in the first two years and centrate treatment in the third year. Design will occur in the first year for all facilities.

Project Funding:		JPA Share - LV:	JPA Share - TSD:
Sanitation Replacement	100.00%	70.60%	29.40%

Estimated Impact on Annual Operating Expense — Anticipated Future Expenditures: Yes

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JPA Capital Improvement Project Detail, FY2019-20

Proj #	Project Name/Description	Priority/ Status		through June 30, 2019	FY19-20 Appropriations
10589	**WIMS Software Implementation**	2	Appr.	$32,350	**$0**
		Completed	Exp.	$94,190	
	Purchase and installation of Water Information Management solution.				
	Project Funding:		JPA Share - LV:	JPA Share - TSD:	
	Sanitation Replacement 100.00%		70.60%	29.40%	
	Estimated Impact on Annual Operating Expense		Anticipated Future Expenditures		No
10608	**Rancho Amendment Bin and Conveyance Modification Project**	2	Appr.	$2,070,518	**$0**
		Completed	Exp.	$2,070,518	
	The project consists of installing a new smaller amendment bin and modification to the conveyor system to simplify the amendment conveyance process.				
	Project Funding:		JPA Share - LV:	JPA Share - TSD:	
	Sanitation Replacement 100.00%		70.60%	29.40%	
	Estimated Impact on Annual Operating Expense		Anticipated Future Expenditures		No
10611	**Tapia Duct Bank Infrastructure Upgrade**	2	Appr.	$160,000	**$0**
		Cancelled	Exp.	$0	
	Add new duct bank from the front gate to the chemical building with several intercept points along the way.				
	Project Funding:		JPA Share - LV:	JPA Share - TSD:	
	Sanitation Replacement 100.00%		70.60%	29.40%	
	Estimated Impact on Annual Operating Expense		Anticipated Future Expenditures		No
10619	**Summer Season 2013 TMDL Compliance**	1	Appr.	$640,000	**$809,985**
		Continuing	Exp.	$137,985	
	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. The size is based on the maximum daily flow from 2013-2015.				
	Project Funding:		JPA Share - LV:	JPA Share - TSD:	
	Sanitation Construction 25.00%		70.60%	29.40%	
	Sanitation Replacement 75.00%				
	Estimated Impact on Annual Operating Expense		Anticipated Future Expenditures		Yes
10626	**Process Air Improvements**	2	Appr.	$5,729,710	**$0**
		Continuing	Exp.	$769,575	
	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.				
	Project Funding:		JPA Share - LV:	JPA Share - TSD:	
	Sanitation Replacement 100.00%		70.60%	29.40%	
	Estimated Impact on Annual Operating Expense		Anticipated Future Expenditures		No

JPA Capital Improvement Project Detail, FY2019-20

Proj #	Project Name/Description	Priority/ Status		through June 30, 2019	FY19-20 Appropriations
10629	**Canyon Oaks Park RW Main Extension**	2 Continuing	Appr. Exp.	$399,780 $7,295	**$0**

This extension will serve the City of Westlake Village's Canyon Oaks Park and eliminate a long private service line to Yerba Buena School.

Project Funding:		JPA Share - LV:	JPA Share - TSD:
Recycled Water Conservation	100.00%	70.60%	29.40%

Other Funding from: Proposition 84 ***$354,000***

Estimated Impact on Annual Operating Expense — Anticipated Future Expenditures — No

10635	**Pure Water Project Las Virgenes-Triunfo**	2 Continuing	Appr. Exp.	$3,667,427 $140,370	**$0**

On August 1, 2016 the JPA Board selected indirect potable reuse using Las Virgenes Reservoir as the preferred scenario for the Basis of Design Report. This CIP will fund preliminary studies, outreach, CEQA analysis, preliminary design and final design.

Sub-Projects: 10636-Mixing & Dilution Study
10637-Facility Siting Study
10638-Demonstration Project
10650-Land Acquisition

Project Funding:		JPA Share - LV:	JPA Share - TSD:
Sanitation Replacement	100.00%	70.60%	29.40%

Other Funding from: Title XVI ***$272,600***

Estimated Impact on Annual Operating Expense — Anticipated Future Expenditures — Yes

10636	**Pure Water Project - Mixing and Dilution Study**	2 Continuing	Appr. Exp.	$389,186 $385,859	**$0**

Project Funding:		JPA Share - LV:	JPA Share - TSD:
Sanitation Replacement	100.00%	70.60%	29.40%

Estimated Impact on Annual Operating Expense — Anticipated Future Expenditures — No

10638	**Pure Water Demonstration Project**	2 Continuing	Appr. Exp.	$1,512,610 $621,769	**$2,001,159**

Project Funding:		JPA Share - LV:	JPA Share - TSD:
Sanitation Replacement	100.00%	70.60%	29.40%

Other Funding from: B.O.R./CA Coastal Comm ***$1,100,000***

Estimated Impact on Annual Operating Expense — Anticipated Future Expenditures — No

JPA Capital Improvement Project Detail, FY2019-20

Proj #	Project Name/Description	Priority/ Status		through June 30, 2019	FY19-20 Appropriations
10653	**Tapia Rehab FY17-18**	2 Completed	Appr. Exp.	$2,105,700 $2,105,700	**$0**
	Rehabilitation or replacement of equipment in three different areas of Tapia WRF: rehabilitation of primary clarifiers No. 4 & 5, replacement of grit and skimmings piping, and replacement of 12 (of 20) channel 4 slide gates on the secondary sedimentation basins.				
	Project Funding:		JPA Share - LV:	JPA Share - TSD:	
	Sanitation Replacement 100.00%		70.60%	29.40%	
	Estimated Impact on Annual Operating Expense		Anticipated Future Expenditures		No
10654	**Hilton Foundation Solar Carport System**	2 Cancelled	Appr. Exp.	$300,000 $1,184	**$0**
	Project Funding:		JPA Share - LV:	JPA Share - TSD:	
	Sanitation Replacement 100.00%		70.60%	29.40%	
	Estimated Impact on Annual Operating Expense		Anticipated Future Expenditures		No
10656	**Rancho Reliability Improvements**	Annual	Appr. Exp.	$100,000 $0	**$0**
	Replace or rehabilitate facilities and equipment at the Rancho facility based on failure, exceedance of useful life, or obsolescence. Specific projects are identified for each fiscal year.				
	Project Funding:		JPA Share - LV:	JPA Share - TSD:	
	Sanitation Replacement 100.00%		70.60%	29.40%	
	Estimated Impact on Annual Operating Expense		Anticipated Future Expenditures		Yes
10657	**Tapia Water Reclamation Facility Reliability Improvements**	3 Annual	Appr. Exp.	$100,000 $72,216	**$0**
	Based on analysis of break history, facility age, pipe material, location and other distribution system indicators, this project will fund specific repair and/or replacement projects.				
	Project Funding:		JPA Share - LV:	JPA Share - TSD:	
	Sanitation Replacement 100.00%		70.60%	29.40%	
	Estimated Impact on Annual Operating Expense		Anticipated Future Expenditures		Yes
10658	**Tapia Sluice Gate and Drive Replacement**	2 Continuing	Appr. Exp.	$556,600 $0	**$0**
	Replace existing gates in the tanks and channels at Tapia as well as drive mechanisms for flights and chains. Replace ten RAS gates in FY18-19.				
	Project Funding:		JPA Share - LV:	JPA Share - TSD:	
	Sanitation Replacement 100.00%		70.60%	29.40%	
	Estimated Impact on Annual Operating Expense		Anticipated Future Expenditures		No

JPA Capital Improvement Project Detail, FY2019-20

Proj #	Project Name/Description	Priority/ Status	through June 30, 2019	FY19-20 Appropriations
10661	**A/B Bus Electrical Modification**	3 Continuing	Appr. $100,000 Exp. $0	**$0**

Study the feasibility of reconfiguring the Tapia electrical switch gear and then hire electrical team to make the modifications.
Construction cost estimates will be developed following the completion of the feasibility study.

Project Funding:		JPA Share - LV:	JPA Share - TSD:
Sanitation Replacement	100.00%	70.60%	29.40%

Estimated Impact on Annual Operating Expense — Anticipated Future Expenditures — No

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Proj #	Project Name/Description	Priority/ Status	through June 30, 2019	FY19-20 Appropriations
10665	**Cordillera Tank Rehabilitation**	2 Continuing	Appr. $1,201,267 Exp. $50,203	**$0**

Rehabilitation including interior and exterior coating, valve and appurtenance upgrades and replacements, restoration of deteriorated asphalt, and work to ensure up-to-date compliance for safety and water quality equipment.

Project Funding:		JPA Share - LV:	JPA Share - TSD:
Recycled Water Replacement	100.00%	70.60%	29.40%

Estimated Impact on Annual Operating Expense — Anticipated Future Expenditures — No

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Proj #	Project Name/Description	Priority/ Status	through June 30, 2019	FY19-20 Appropriations
10666	**Calabasas Park Recycled Water Main Extension**	2 Continuing	Appr. $320,000 Exp. $0	**$0**

Install approximately 1,200 LF of 6-8 inch pipeline to loop the existing recycled water system.

Project Funding:		JPA Share - LV:	JPA Share - TSD:
Recycled Water Replacement	100.00%	70.60%	29.40%

Estimated Impact on Annual Operating Expense — Anticipated Future Expenditures — No

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Proj #	Project Name/Description	Priority/ Status	through June 30, 2019	FY19-20 Appropriations
10667	**Tapia Headworks White Room Floor Plate Repair and Steel Framing Replacement**	2 Continuing	Appr. $55,000 Exp. $45,223	**$357,440**

Modification or replacement is needed for the floor plates and steel framing floor plate supports in the white room located at Tapia's headworks building.

Project Funding:		JPA Share - LV:	JPA Share - TSD:
Sanitation Replacement	100.00%	70.60%	29.40%

Estimated Impact on Annual Operating Expense — Anticipated Future Expenditures — No

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Proj #	Project Name/Description	Priority/ Status	through June 30, 2019	FY19-20 Appropriations
10668	**Rancho LV Storm Water Diversion Structure Replacement**	1 Continuing	Appr. $30,000 Exp. $2,167	**$11,767**

Replacement of the two storm water diversion structures at the Rancho Las Virgenes Composting Facility. Increase the size and length of the farm field discharge pipeline.

Project Funding:		JPA Share - LV:	JPA Share - TSD:
Sanitation Replacement	100.00%	70.60%	29.40%

Estimated Impact on Annual Operating Expense — Anticipated Future Expenditures — No

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JPA Capital Improvement Project Detail, FY2019-20

Proj #	Project Name/Description	Priority/ Status		through June 30, 2019	FY19-20 Appropriations
10669	**Develop Tour Seating Area at Tapia & Fish Tank Removal**	3 Continuing	Appr. Exp.	$25,000 $0	**$0**
	Develop tour seating area at Tapia adjacent to the control building				
	Project Funding:		JPA Share - LV:	JPA Share - TSD:	
	Sanitation Replacement 100.00%		70.60%	29.40%	
	Estimated Impact on Annual Operating Expense		Anticipated Future Expenditures		No
10670	**Centrate 20-Inch Valve Repair**	2 Continuing	Appr. Exp.	$150,000 $0	**$114,000**
	Repair buried 20-inch Miliken valve at the centrate facility.				
	Project Funding:		JPA Share - LV:	JPA Share - TSD:	
	Sanitation Replacement 100.00%		70.60%	29.40%	
	Estimated Impact on Annual Operating Expense		Anticipated Future Expenditures		No
10680	**Rancho Las Virgenes Digester Cleaning and Repair**	2 Continuing	Appr. Exp.	$533,694 $437,904	**$1,574,082**
	Clean out and make all necessary repairs to digesters #2. the scope of repairs is based on the recently completed rehabilitation of digester # 1.				
	Project Funding:		JPA Share - LV:	JPA Share - TSD:	
	Sanitation Replacement 100.00%		70.60%	29.40%	
	Estimated Impact on Annual Operating Expense		Anticipated Future Expenditures		No
10682	**Rancho Las Virgenes: FOG Receiving Facilities**	3 Deferred	Appr. Exp.	$30,000 $0	**$0**
	To conduct a study to determine the market for local high strength wastes (food waste, fats, oils, and grease (FOG)) that can be fed into the third digester. After completion of the study, the installation of facilities for receiving and conveying fats, oils, and grease (FOG) and food waste into the newly constructed third digester.				
	Project Funding:		JPA Share - LV:	JPA Share - TSD:	
	Sanitation Replacement 100.00%		70.60%	29.40%	
	Estimated Impact on Annual Operating Expense		Anticipated Future Expenditures		Yes
10687	**Rancho Lighting Efficiency Upgrade**	3 Completed	Appr. Exp.	$362,968 $362,968	**$0**
	Project Funding:		JPA Share - LV:	JPA Share - TSD:	
	Sanitation Replacement 100.00%		70.60%	29.40%	
	Estimated Impact on Annual Operating Expense		Anticipated Future Expenditures		No

JPA Capital Improvement Project Detail, FY2019-20

Proj #	Project Name/Description	Priority/ Status		through June 30, 2019	FY19-20 Appropriations
10688	**Rancho Solar Generation Project - Phase II**	2 Continuing	Appr. Exp.	$398,556 $398,556	**$198,000**
	Project Funding:		JPA Share - LV:	JPA Share - TSD:	
	Sanitation Replacement 100.00%		70.60%	29.40%	
	Other Funding from: Reimbusement by solar provider	***$105,000***			
	Estimated Impact on Annual Operating Expense		Anticipated Future Expenditures		No
10689	**Rancho Fire Repair - Woolsey Fire**	2 New	Appr. Exp.	$46,955 $46,955	**$1,942,500**
	Project Funding:		JPA Share - LV:	JPA Share - TSD:	
	Sanitation Replacement 100.00%		70.60%	29.40%	
	Estimated Impact on Annual Operating Expense		Anticipated Future Expenditures		No
10692	**JPA Facility Repair - Woolsey Fire**	2 New	Appr. Exp.	$46,112 $46,112	**$832,500**
	Project Funding:		JPA Share - LV:	JPA Share - TSD:	
	Sanitation Replacement 100.00%		70.60%	29.40%	
	Estimated Impact on Annual Operating Expense		Anticipated Future Expenditures		No
60033	**Pavement Restoration Rancho**	3 New	Appr. Exp.	$0 $0	**$533,320**
	Pavement restoration/slurry at Rancho				
	Project Funding:		JPA Share - LV:	JPA Share - TSD:	
	Sanitation Replacement 100.00%		70.60%	29.40%	
	Estimated Impact on Annual Operating Expense		Anticipated Future Expenditures		No
70014	**Rancho Reliability Improvements FY 19-20**	2 Annual	Appr. Exp.	$0 $0	**$100,000**
	Project Funding:		JPA Share - LV:	JPA Share - TSD:	
	Sanitation Replacement 100.00%		70.60%	29.40%	
	Estimated Impact on Annual Operating Expense		Anticipated Future Expenditures		Yes

JPA Capital Improvement Project Detail, FY2019-20

Proj #	Project Name/Description	Priority/ Status		through June 30, 2019	FY19-20 Appropriations
70015	**Tapia Water Reclamation Facility Reliability Improvements FY 19-20**	2 Annual	Appr. Exp.	$0 $0	**$100,000**

Project Funding:		JPA Share - LV:	JPA Share - TSD:
Sanitation Replacement	100.00%	70.60%	29.40%

Estimated Impact on Annual Operating Expense — Anticipated Future Expenditures: Yes

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Proj #	Project Name/Description	Priority/ Status		through June 30, 2019	FY19-20 Appropriations
201808	**Tapia Effluent Pump Station 4160 V Feeder Relocation**	2 New	Appr. Exp.	$0 $0	**$100,000**

Remove or abandon in place existing 4160 Volt feeders currently encased in the top slab of the Effluent Pump Station Wet Well, underneath the existing MCCs. Perform electrical design and replace with overhead 4160 Volt feeders. Ensure coordination with 480V switchgear improvements

Project Funding:		JPA Share - LV:	JPA Share - TSD:
Sanitation Replacement	100.00%	70.60%	29.40%

Estimated Impact on Annual Operating Expense — Anticipated Future Expenditures: No

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Proj #	Project Name/Description	Priority/ Status		through June 30, 2019	FY19-20 Appropriations
201810	**Tapia Tertiary Filters Rehabilitation**	2 New	Appr. Exp.	$0 $0	**$60,000**

Tertiary Filters concrete rehabilitation. Approximately 25 locations that require a 1 square foot patching with rebar repair. Replace 45 metal plates (2' x 4') on the filter deck and fix concrete around the plates with proper joint sealer. Also include the repair of an electrical panel in the Filter gallery. Replace existing electric actuators at filter structure with new electric actuators. Program plant control system to function with both remote PLC control of actuators and local actuator control. Upgrade local controls to replace old filter annunciator panels which are currently located on the top deck of the filter structure. Potentially provide 1 local control panel for multiple filters. Provide weather protection for existing controls until replacement.

Project Funding:		JPA Share - LV:	JPA Share - TSD:
Sanitation Replacement	100.00%	70.60%	29.40%

Estimated Impact on Annual Operating Expense — Anticipated Future Expenditures: Yes

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JPA Capital Improvement Project Detail, FY2019-20

Proj #	Project Name/Description	Priority/ Status	through June 30, 2019	FY19-20 Appropriations
Total Capital Improvement Project Appropriations				**$9,658,203**
	Total Other Funding	*$3,807,117*		
	Total Estimated Impact on Annual Operating Expense			

Appropriations by Fund	FY 2019-20 Appropriations	JPA Projects TSD Share	Net LVMWD Appropriations
Recycled Water Conservation	**$0**	**$0**	**$0**
Recycled Water Replacement	**$0**	**$0**	**$0**
Sanitation Construction	**$202,496**	**$59,534**	**$142,962**
Sanitation Replacement	**$9,455,707**	**$2,779,978**	**$6,675,729**
FY 2019-20 GRAND TOTAL	**$9,658,203**	**$2,839,512**	**$6,818,691**

April 29, 2019 JPA Board Meeting

TO: JPA Board of Directors

FROM: Finance & Administration

Subject : Independent Auditing Services: Award

SUMMARY:

Staff issued a Request for Proposals (RFP) for independent audit services on February 20, 2019, resulting in 10 proposals submitted. The RFP included audit services for both LVMWD and the JPA as the work has traditionally been performed by the same firm to reduce overall costs. A staff review committee was formed to evaluate the 10 proposals. The five highest-rated firms were invited for interviews.

The top three firms from the evaluation and staff interviews were invited to give presentations to the LVMWD Board's Audit Committee, consisting of President Jay Lewitt and Treasurer Lynda Lo-Hill. Following the presentations, the Audit Committee met to discuss the qualifications of the three highest-rated firms and mutually agreed to recommend that the LVMWD and JPA Boards accept the proposal from The Pun Group.

RECOMMENDATION(S):

Accept the proposal from The Pun Group and authorize the Administering Agent/General Manager to execute a one-year professional services agreement, in the amount of $6,000, with up to four one-year renewal options, using a 3% annual escalation factor, for independent auditing services.

FISCAL IMPACT:

No

ITEM BUDGETED:

No

FINANCIAL IMPACT:

Sufficient funds are included in the adopted Fiscal Year 2018-19 JPA Budget for the independent audit services. Funds for additional year audit services will be included in the proposed future fiscal year budgets.

DISCUSSION:

The Request for Proposals (RFP) to provide professional audit services to LVMWD and the JPA was posted on LVMWD's website on February 20, 2019. The scope of work was prepared in conformance with Government Finance Officers Association (GFOA) Best Practices Guidelines. The Los Angeles County Grand Jury has issued guidance that audit services should be considered at least once every five years. As a result, it is anticipated that the selected firm will provide audit services for LVMWD and the JPA for a minimum of one and maximum of five years, subject to meeting the Board's performance expectations.

The RFP was sent to known firms providing audit services and advertised on the California Society of Municipal Finance Officers (CSMFO) website. The responses were initially reviewed and ranked by a staff review committee consisting of the LVMWD's Director of Finance and Administration and Finance Manager, as well as Triunfo Sanitation District's Finance Director. The five highest-ranked firms were invited for interviews. Following the interviews, the three highest-rated firms were referred to the LVMWD Board's Audit Committee, consisting of President Jay Lewitt and Treasurer Lynda Lo-Hill. The Audit Committee recommends that the JPA Board accept the proposal from The Pun Group.

The Pun Group, LLP, Certified Public Accountants and Business Advisors, was founded in 2012. The Pun Group presented a comprehensive approach to audit services, demonstrated thorough knowledge of current and upcoming Government Accounting Standards Board (GASB) requirements, and proposed a team with a track record of successfully performing government agency audits. Additionally the firm offers annual client seminars that assist staff in keeping current on the latest changes affecting government accounting and auditing. Since The Pun Group is the JPA's incumbent auditor, they will rotate audit partners to maintain independence.

Staff recommends the JPA Board accept the proposal from The Pun Group and authorize the Administering Agent/General Manager to execute a one-year professional services agreement, in the amount of $6,000, with up to four one-year renewal options using a 3% annual escalation factor. The agreement will be structured such that the renewal options will only be exercised if staff and the Board are satisfied with the performance of The Pun Group.

Prepared by: Angela Saccareccia, Finance Manager

April 29, 2019 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : Tapia SCADA System Upgrade Project: Approval of Scope Change

SUMMARY:

On October 23, 2018, the LVMWD Board accepted a proposal from Wunderlich-Malec and authorized the Administering Agent/General Manager to execute a professional services agreement, in the amount of $79,700, to document existing field conditions and compile all available records to develop a comprehensive summary of the existing SCADA infrastructure at Tapia. The data is required as a baseline to develop an RFP for contractual services to assist the District in implementing the Tapia SCADA System Upgrade Project.

During their initial research, Wunderlich-Malec representatives discovered that there was a significant amount of programming documentation missing from the as-built records, programming files, and piping and instrumentation diagrams (P&IDs). In addition and during the course of work, Wunderlich-Malec identified and proposed a new industrial WIFI system that would improve wireless communications at Tapia, create a backbone network for additional security cameras and reduce the number of workstations required for the project.

As a result, staff recommends approval of a scope change, in the amount of $68,660, to Wunderlich-Malec that includes field verification of activities; development of P&IDs, schematics and process descriptions; and design of an industrial WIFI network that can support important security enhancements at Tapia. An additional appropriation, in the amount of $55,260, is required to complete the work.

RECOMMENDATION(S):

Approve an additional appropriation, in the amount of $55,260, and authorize the Administering Agent/General Manager to execute a change of scope, in the amount of $68,660, to Wunderlich-Malec for providing additional services for the Tapia SCADA System Upgrade Project.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

Funding is available in the adopted Fiscal Year 2018-19 JPA Budget under CIP Job No. 10520, in the amount of $93,100. An additional appropriation, in the amount of $55,260, is required to complete the work. The cost of the project is allocated 70.6% to LVWMD and 29.4% to Triunfo Sanitation District.

DISCUSSION:

The JPA uses a Supervisory Control and Data Acquisition (SCADA) system for its wastewater treatment and recycled water facilities. The SCADA system provides automation of processes, alarm protocols, data collection for analysis and reporting, and remote control and monitoring of processes and equipment. The SCADA network includes field instruments, programmable logic controllers (PLCs), a communication network and a human machine interface (HMI).

Most of the PLCs installed at the Tapia Water Reclamation Facility are obsolete and no longer available or supported by the manufacturer. The JPA's current HMI is also obsolete and cumbersome due to its age and modifications that have been made over time. Many expansions, modifications and capital improvements have been made at Tapia over its 53 years of service, and there is limited documentation of the existing SCADA infrastructure. Programming adjustments have been made or modified through phased plant expansions over the life of the Tapia Water Reclamation Facility.

In addition to modifications performed through planned capital improvement projects, programming changes due to operational needs were often made by in-house staff or through outside consultants. Many of these changes lack historical documentation and are not reflected in system records. A comprehensive as-built network schematic of the field inputs and outputs, hardware, HMI, software and communication protocols is not available. Documenting the existing SCADA infrastructure is necessary as part of the RFP development process to enable interested firms to have an equal understanding of the project scope and to support a fair and competitive bidding environment.

The purpose and intent of the original proposal from Wunderlich-Malec was to provide professional services to assist the JPA in developing as-built documentation of the SCADA infrastructure at the Tapia Water Reclamation Facility and to provide scope and bidding documents to solicit bids for the Tapia SCADA System Upgrade Project. During this process, it was discovered that there was significant missing documentation that must be produced for future bidding of the project. As such, Wunderlich-Malec provided a proposal for a scope of change that would address the following additional activities:

- Field verification of inputs and outputs for P&ID creation.
    - Verifying instruments and naming for creation of P&ID documents.

- Developing P&IDs
    - Creating all missing P&IDs for each process.

- Developing process descriptions for each plant process to coincide with P&IDs.
    - Meeting with operators to provide written descriptions of each plant process to coincide with P&IDs and clearly delineate control philosophy.

- Providing initial design recommendations for installation of an industrial WIFI and security system.
    - Providing initial design concepts and recommendations for installation of industrial WIFI and security network. Design recommendations will assist to ensure that network and power infrastructure that is installed for controls upgrades will support future projects.

Prepared by: Eric Schlageter, P.E., Senior Engineer

ATTACHMENTS:

Scope Change Proposal

Proposal for

Las Virgenes Municipal Water District

Project

Tapia Controls Upgrade

Additional Services

Prepared by

Matt Gassaway

Wunderlich-Malec
Engineering | Systems | Services
4505 Las Virgenes Rd. Suite 121
Calabasas, CA 91302
Email: matt.gassaway@wmeng.com

Proposal #
6518081001.1

April 12, 2019

Matt Gassaway
Wunderlich-Malec
4505 Las Virgenes Rd. Suite 121
Calabasas, CA 91302

April 12, 2019

Mr. James Korkosz
Las Virgenes Municipal Water District
4232 Las Virgenes Rd.
Calabasas, CA 91302

Subject: Proposal 6518081001.1 – Tapia Controls Upgrade Additional Services

Dear James:

Wunderlich-Malec (WM) is pleased to provide a proposal for additional engineering scoping services to Las Virgenes Municipal Water District (LVMWD) for the anticipating control system upgrade to the Tapia Water Reclamation Facility in Calabasas, CA. This includes field verification activities, P&ID/schematic/Process description development, and providing design of Industrial Wifi and Security Camera requirements for the system integration activities associated with the upgrade.

About Wunderlich-Malec

Wunderlich-Malec originated in the Minneapolis/St. Paul area, and has been in business since 1981. We are an employee owned, ESOP company that focuses on strong partnerships with our customers and highly values each member of our team. We have expertise in control systems design and integration across several leading vertical markets. We design each project approach to suit the customer's needs and build strong teams through our diverse range of expertise across the company as well as strategic partnerships with our vendors.

We provide SCADA, EPMS, and Process Control systems application integration nationally. Our team can support you in all aspects of the engineering and programming needed. We have electrical, chemical, mechanical, controls, IT, and architectural design services in-house. We manufacture custom modular systems and control panels, program all major brands on industrial controls on a broad range of applications and processes. We provide oversight and subcontract management for trades providing piping, electrical, controls, instrumentation and related installation. We are a member of the Control System Integrators Association (CSIA) and have 30+ locations in the US.

Industry Experience

Wunderlich-Malec is dedicated to meeting the challenges of the municipal water/wastewater industry. Our staff, having years of diverse technology experience and using standard approaches, provides each client with innovative solutions. Our ability to utilize the talents of all Wunderlich-Malec employees, combined with a local presence throughout the United States, make us unique as a nationwide systems integrator. Our services include project design, electrical and control system drawings, system application development (SCADA, HMI, PLC, reporting), network and radio system design and implementation (RF path studies and on-site verification, network architecture specification and development), custom MCC and Switchgear configurations, simulation and testing, site installation and coordination, and on-going maintenance including 24/7 support contracts.

Application Experience: Schneider Electric & Wonderware

WM hold a Certified Alliance Integration Partner, Specialist Solutions Provider (Termis, Aquis), and Certified System Integrator (Wonderware) status with Schneider Electric. With over 80 certified engineers in Wonderware products and being the first integrator to achieve Schneider Electric Solution partner status, WM is well positioned to support your Unity, EcoStruxure, System Platform, InTouch, Historian, Citect, Termis, and Aquis needs.

Additionally, WM has created our own intellectual property in the form of custom libraries for Unity M580 and Wonderware System Platform 2017 known as Wunder-Tech Op-Ware Operational Awareness Framework. These libraries provide the industry best standard for visualization, control, and navigation - while maintaining the proven compatibility and reliability of a robust system solution – packaged in a modular, state-machine based toolset. This enables the consistency, cost savings, and fast deployment that our customers value.

Application Experience: Rockwell Automation

Our team has broad experience working with Rockwell applications and products. WM provides national support for Rockwell Automation technology. As a Rockwell Automation Recognized System Integrator, WM has the proven competency with their products and has a mutually supportive relationship with Rockwell's sales representatives and distributors. The WM and Rockwell Automation relationship can provide you applied expertise in most industrial applications.

See more at Rockwell's website:
http://www.software.rockwell.com/corporate/sp/RASIDetail.cfm?CompanyID=3462.

Scope of Work

WM will provide engineering services to assist with the design elements required for the Tapia controls upgrade. Activities will primarily consist of:

- Field verification of I/O for P&ID creation
  - Verify instruments and naming for creation of P&ID documents
- Develop P&IDs
  - Create all missing P&ID's for each process
- Develop Process Descriptions of each process of the plant that coincides with P&ID's
  - Sit with operators to provide written descriptions of each process that conincides with P&ID's and clearly delineates control philosophy
- Provide initial design recommendations for installation of Industrial Wifi and Security System
  - Provide initial design concepts and recommendations for installation of Industrial Wifi network and Security network. Design recommendations will assist in ensuring that network infrastructure and power infrastructure that is installed for controls upgrade will support these future projects.

Proposal Price

We offer the above scope of work in accordance with the clarifications noted on a time and materials (T&M) basis as follows:

Line #	Bid Item	Description	Total Price
01	Field Verification Services	120 hours at $115/hour	$13,800
02	P&IDs	240 hours at $115/hour	$27,600
03	Process Descriptions	160 hours at $145/hour	$23,200
04	Industrial Wifi	12 hours at $145/hour	$1,740
05	Security Cameras	20 hours at $145/hour	$2,320
	Total		**$ 68,660**

Clarifications

- The scope of work is an initial list of items. WM may perform additional services at the request of LVMWD.
- Price quoted is an estimated allocation based on hours anticipated. Activities may take more or less time than what is listed.
- WM will provide progress reports/updates to LVMWD that will include information on remaining hours per task
- Per request, WM will take direction from one point of contact (POC) within LVMWD which will be defined by LVMWD. WM will not initiate any work unless approval is received from this POC.
- No hardware, software, or programming included with this proposal

If there are any questions please do not hesitate to contact me

Sincerely,

Matt Gassaway
Senior Controls Engineer
Wunderlich-Malec
Engineering | Systems | Services
Office: (818) 880-8038, Ext. 6502
Mobile: (503) 936-2854
Email: matt.gassaway@wmeng.com

April 29, 2019 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : Tapia WRF Summer Season Waste Load Allocation Compliance Project: Award of Design

SUMMARY:

On March 4, 2019, the JPA Board adopted a Mitigated Negative Declaration and received and filed a Preliminary Design Report for the Tapia Water Reclamation Facility Summer Season Waste Load Allocation Compliance Project. The objective of the project is to use treated potable water discharged to Malibu Creek to achieve compliance with the future summer season permit limits (1.0 mg/l total nitrogen and 0.1 mg/l total phosphorous), which become effective on May 16, 2022.

The Preliminary Design Report recommended extending a potable water main south on Malibu Canyon Road into Tapia, where it would terminate at the effluent overflow structure. Modifications to the effluent structure including baffling, analyzers, chemical storage tanks, and new piping would be installed to allow treatment to occur in the overflow structure before the water is discharged to Malibu Creek.

A Request for Proposals for design and services during construction was advertised on LVMWD's website. One proposal was received, from Stantec Consulting Services, Inc., by the April 4th deadline. Staff recommends that the work for the Tapia WRF Summer Season Waste Load Allocation Compliance Project be awarded to Stantec Consulting Services, Inc., because of their previous work on the summertime compliance evaluation, as well as the JPA's positive experience in working with Stantec in the past.

Stantec included an optional task in its proposal to provide utility research, mapping and potholing. Staff recommends adding this optional task, which will provide valuable information to reduce utility interference issues during the construction of the pipeline.

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 $207,917, for the design and services during construction for the Tapia WRF Summer Season Waste Load Allocation Compliance Project.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

The total cost of the design and services during construction is $207,917. Sufficient funds are available for the work in the adopted Fiscal Year 2018-19 JPA Budget. The project costs are allocated 70.6% to LVMWD and 29.4% to Triunfo Sanitation District.

DISCUSSION:

In June of 2017, the Los Angeles Regional Water Quality Control Board approved a new NPDES permit for Tapia. Limits established by the permit for total nitrogen (TN) and total phosphorous (TP) discharged to Malibu Creek are seasonal. The winter season (November 16-April 14) limits of 4.0 mg/L TN and 0.20 mg/L TP become effective November 16, 2030. The JPA's plan for compliance with the winter season TMDL nutrient limits will be achieved through the Las Virgenes- Triunfo Pure Water Project.

Tapia is prohibited from discharging to Malibu Creek from April 15 until November 15 each year. However, there are three specific exceptions to the discharge prohibition. One of these exceptions is a requirement to augment flow in Malibu Creek such that 2.5 cfs of maximum total flow is measured at the downstream Los Angeles County gauging station F-130-R. This requirement is in place to sustain endangered species 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 into the creek in increasing increments until the desired flow at the gauging station is reached. The maximum flow released for augmentation in a year was 165 MG in 2018.

The summer season (April 15 - November 15) limits are 1.0 mg/L TN and 0.10 mg/L TP and become effective May 16, 2022. In February of 2016, Stantec was engaged to prepare a Technical Memorandum, a Preliminary Design Report, and CEQA determination. At the May 7, 2018 JPA meeting, the Board approved that technical memorandum selecting breakpoint chlorination and the discharge of potable water to Malibu Creek as the preferred method to comply with Tapia's summer season waste load allocation.

On March 4, 2019, the JPA Board adopted a Mitigated Negative Declaration and received and filed a Preliminary Design Report for the Tapia Water Reclamation Facility Summer Season Waste Load Allocation Compliance Project. The Preliminary Design Report recommended extending a potable water main south on Malibu Canyon Road and across Malibu Creek under the bridge to get to Tapia. The pipeline would then turn west and run to the effluent overflow structure. Modifications to the effluent structure would include baffling, analyzers, chemical storage tanks, and piping need to be installed to allow chlorination treatment to occur in the overflow structure before discharge to Malibu Creek.

The CEQA analysis determined that there were potentially significant impacts from the project upon biological resources, cultural resources and noise and traffic. Mitigation measures through best management practices, workforce education, construction surveys, biological

avoidance and monitoring were adopted to alleviate these impacts to be “less than significant.”

On March 3rd, a Request for Proposals for design and services during construction for the project was issued and advertised on LVMWD’s website. One proposal was received from Stantec Consulting Services, Inc. by the April 5th deadline. Staff followed up with consultants who did not provide proposals and learned that their current workload was too high to propose on the project at the time.

Staff recommends that design and services during construction for the Tapia WRF Summer Season Waste Load Allocation Compliance Project be awarded to Stantec Consulting Services, Inc., because of their previous work on the summertime compliance evaluation, as well as the JPA’s positive experience working with them in the past.

Prepared by: Brett Dingman, Water Reclamation Manager

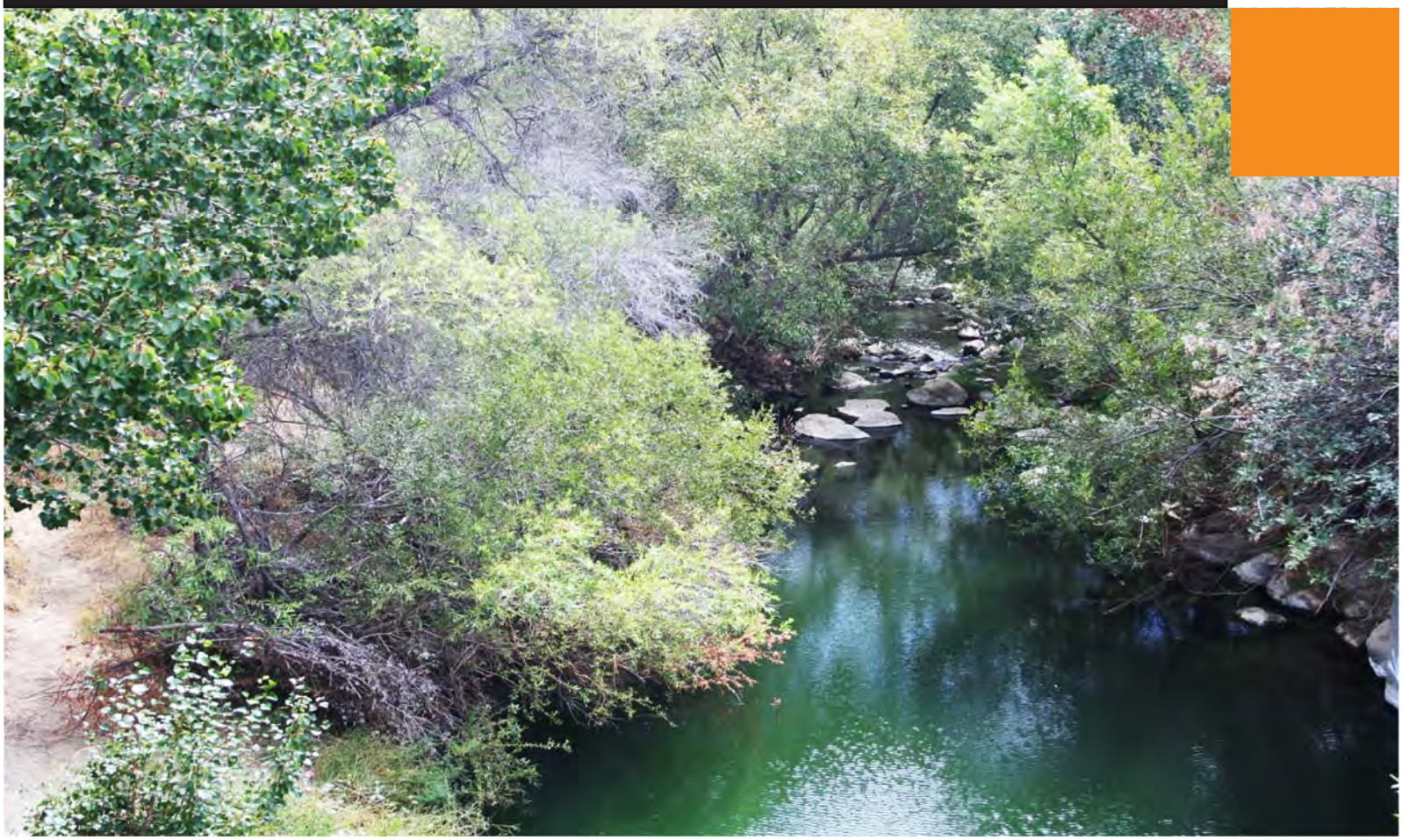
ATTACHMENTS:

Stantec Proposal
Stantec Fee Proposal

Tapia Water Reclamation Facility Summer Season Waste Load Allocation Compliance Design and Services During Construction

Las Virgenes – Triunfo Joint Powers Authority

April 5, 2019



Stantec Consulting Services Inc.
300 N Lake Ave #400 Pasadena, CA 91101

April 5, 2019

Attention: Brett Dingman, P.E.
Las Virgenes Municipal Water District (LVMWD)
4232 Las Virgenes Road
Calabasas, CA 91302

Reference: Proposal for Tapia Water Reclamation Facility Summer Season Waste Load Allocation Compliance Design and Services During Construction Project

Dear Mr. Dingman,

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 designs to support the JPA's goal to achieve lower nutrient levels for discharge to Malibu Creek.

Most recently, we completed the conceptual study and preliminary design report for the selected option, summer augmentation using potable water with ammonia removal. We are confident that by leveraging our specific knowledge of this project, we can deliver an efficient design and support construction to successfully complete this work. Stantec will provide the following key benefits to the JPA in meeting the summertime nutrient limits:

Project Knowledge: Through multiple studies and our preliminary design effort, we identified a practical and efficient design that will utilize existing infrastructure at Tapia WRF and provide operations staff with a simple and easy to operate solution for summer augmentation of Malibu Creek. We know the history of this project better than anyone else and will leverage our same team members to support the JPA though completion.

Proven Team: Our core team has completed many successful projects for the JPA that were delivered on-time and on-budget and with high quality. We are proud of the work we've accomplished together with the JPA, and have proposed the same proven team to complete this project. We will work with the JPA.to ensure that the Summer Flow Augmentation of Malibu Creek is successful, as well.

On-Time Delivery: A major aspect of this project is the schedule and permitting constraints including the regulatory compliance deadline, continued operations at Tapia WRF and bird nesting season. We understand the requirements to meet discharge limits by 2022 and have proposed a schedule that will deliver this project well before this deadline, while accommodating changes resulting from any permitting or schedule changes. Completion of this project prior to 2022 will also allow the JPA to optimize operations before the discharge limits are imposed.

Our proposal is signed by Zakir Hirani and James Borchardt, officially authorized to bind Stantec. If you have any questions or require additional information, please do not hesitate to contact Zakir or Jim by phone or email. Thank you for your consideration and we look forward to working with you on this opportunity.

Sincerely,

Stantec Consulting Services Inc.

Zakir Hirani, PE
Project Manager (626) 568-6093
zakir.hirani@stantec.com

James Borchardt, PE
Vice President (626) 568-6283
james.borchardt@stantec.com

Contents

1. FIRM PROFILE

Established in 1954, the Stantec community unites approximately 22,000 employees working in more than 400 locations across six continents. Our work—environmental sciences, engineering, architecture, interior design, planning, landscape architecture, surveying, project management, and project economics, from initial project concept and planning through design, construction, and management—begins at the intersection of community, creativity, and client relationships.

For decades, Stantec's local strength, knowledge, and relationships, coupled with our world-class expertise, have allowed us to go anywhere to meet our clients' needs in more creative and personalized ways. With a long-term commitment to the people and places we serve, our staff are able to connect to projects on a personal level and, through these projects, work towards advancing the quality of life in communities across the globe.

We care about the communities we serve—because they're our communities too. We're designers, engineers, scientists, and project managers, innovating together at the intersection of community, creativity, and client relationships. Balancing these priorities results in projects that advance the quality of life in communities across the globe.

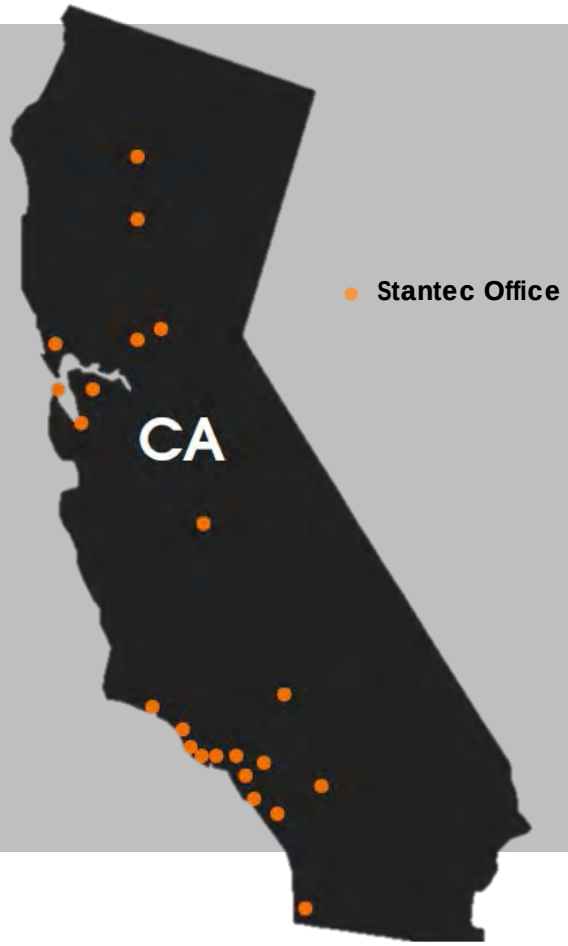
Legal Name of Firm
Stantec Consulting Services Inc.

Address
300 N Lake Ave
Suite 400
Pasadena, CA 91101

Main Phone
(626) 796-9141

Principal:
James Borchardt, PE
(626) 568-6283
james.borchardt@stantec.com

Project Manager and Main Point of Contact:
Zakir Hirani, PE
(626) 568-6093
zakir.hirani@stantec.com



2. PROJECT UNDERSTANDING AND APPROACH

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. Starting in May of 2022, Tapia WRF will have to meet very stringent summertime 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 the project starting from a conceptual level analysis of the alternatives for compliance. Stantec has a solid understanding of this project - better than anyone outside the JPA. We recently completed the Preliminary Design Report and California Environmental Quality Act (CEQA) analysis for the selected project alternative – Breakpoint Chlorination (Ammonia Removal) of Potable water. We are prepared to assist the JPA to take this project through the final step – Detailed Design and Construction.

Stantec has been involved with this project from its inception – Conceptual Level Analysis of Alternatives

APPROACH

We believe that there are two key elements for cost-efficient and timely completion of this project:

- Leveraging a qualified and proven design team and,
- A good understanding of the schedule and permitting constraints surrounding this project.

Qualified and Proven Design Team

Our core team is the same team that successfully completed the Compliance Method Study and Preliminary Design Report. We have a solid understanding of this project through the initial work and have laid the groundwork for a simple but effective design to accomplish the JPA's goals of summer augmentation with ammonia removal of potable water. As Project Manager, Zakir Hirani, will oversee the work of our team and will be assisted by Oliver Slosser, Tyler Hadacek and Kyleen Marcella who were all involved in the conceptual and preliminary design phases of this project. Jim Borchardt will provide support and oversight as the principal-in-charge.

We understand there are multiple design aspects to this project, not just a new pipeline and basin modifications. Some of these design elements will require additional discussion with JPA staff during the kickoff meeting to determine the final design approach. These elements include:

- Installation of a new conduit duct bank from the Tapia WRF entrance gate to the chemical building. This duct bank will allow for future modifications to the Plant entry system i.e. video cameras, lighting and other security features.
- Upgrade of the existing chemical systems including a new duct bank and feedlines for sodium hypochlorite from the chemical building to the chlorine contact channel, balancing pond and RAS channel.
- Integration of the existing chemical storage and feed systems with new injection of sodium hypochlorite and sodium bisulfite. Three options were included in the PDR. Our team understands each and will facilitate discussion at the kickoff meeting to arrive at a preferred option for final design.

Our team also understands that there are various details to be coordinated with the existing facility in addition to the above, and that spending time onsite and listening to plant staff is a must to get things right. Our team will coordinate closely with JPA and plant staff early on and continue communication through design to minimize disruptions to the plant and maximize additional value provided by the plant modifications.

Schedule and Permitting Constraints

There are four main schedule constraints, as discussed in the Preliminary Design Report. We have accounted for each constraint and have left room in our proposed schedule to accommodate changes resulting from any of them. Many of these constraints are related to the permitting requirements of this project. Our team, led by Sarah Garber, navigated the CEQA process and understands the sensitive permitting aspects that contribute to many of the schedule constraints, as itemized below:

A key aspect of this project is the permitting process which will have impacts on both design and construction.

- **Bird nesting season** – Construction is anticipated to begin in late summer/early fall to allow the contractor to finish much of the construction for the potable water pipeline before the nesting season begins on February 15th. Construction may be able to continue past this deadline but it is understood

that those construction activities should have limited noise impact to nearby birds. We will provide requirements within the design specifications to accommodate these constraints and associated permitting requirements and constraints.

- **Continued operations of the overflow structure at Tapia WRF** – The overflow structure at Tapia WRF is utilized only during the wintertime when recycled water demands are low and the adjacent effluent pond reaches capacity. To provide minimal interruption of this service for Tapia WRF operations, we anticipate that modifications to this structure will begin in late summer, if disruption of the nesting season is determined not to be a major concern. In the event of an emergency overflow during construction, the Parshall flume can still be used for discharge to Outfall 003.

- **Pipe construction along Las Virgenes Rd and Malibu Canyon Rd** – Typically, the stretch of road from Piuma Road to the entrance of Tapia WRF has heavy traffic during the day resulting in limits for daytime construction activities. We intend to specify that most construction activities in Malibu Canyon Rd be performed at night, when reducing the road to a single lane would result in minimal disruption to the local community.

- **Los Angeles County Department of Public Works construction permit** – During the preliminary design report, we had discussions with LA County about their permitting approval process which could require a minimum of three months. Understanding that permitting may take longer, we have provided additional time in our schedule for the permitting process to avoid delays during the time-sensitive construction period. We have integrated into our design schedule the development and submittal of a permit application to LA County during the design phase in order to account for comments and mitigate further schedule impacts.

3. RECOMMENDED SCOPE OF WORK

TASK 1: PROJECT MANAGEMENT, COORDINATION, MEETINGS

Stantec will perform project management and administration activities throughout the project. Our Project Manager, Zakir Hirani, will oversee project management and administration, consisting of project setup and document control, weekly monitoring of schedule and budget, monthly invoicing, conference calls and project close-out activities. An initial kickoff meeting will be held within one week from notice-to-proceed with JPA staff to introduce the team, review scope and schedule, define communications, establish project protocols and discuss the design approach for key design items. Design items to be discussed at the kickoff meeting include:

- Approach to chemical feed systems for the options presented in the PDR,
- Extent and definition of communications improvements for the access gate,
- Location and approach to programming and connection of the new Programmable Logic Controller (PLC) panel into the existing plant SCADA system

Stantec will submit a project schedule at the kick-off meeting, with periodic updates to JPA staff over the course of the project. We will send four staff members to the kickoff meeting, including key discipline design leads. Stantec will provide a meeting agenda stating the goals of the meeting summarizing key design questions to be discussed. We will also submit an initial data request list as part of the kickoff meeting. Stantec will prepare meeting minutes within three days following the meeting for distribution to JPA staff. It is assumed that a site visit at the Tapia WRF will occur as part of the kickoff meeting.

Design Workshops

Stantec assumes two (2) design workshops in person with JPA staff as needed to discuss and review design submittals and progress, attended by two Stantec staff in person. It is assumed the workshops will be held at Tapia WRF and will occur subsequent to the 60% and 90% design submittals.

Progress Updates

Stantec will organize and attend six progress conference calls with the JPA's staff to review project status and discuss project issues. Stantec assumes two staff members will attend each meeting. Issues that require discussion and resolution will be identified in the agenda that will be distributed by email two (2) business days prior to each meeting.

JPA Board Meeting

The Stantec team assumes attendance at one JPA board meeting to present a design summary after delivery of the 100% design documents for construction.

TASK 2: DATA COLLECTION AND REVIEW

Stantec will conduct a document review and analysis of relevant project material. It is assumed that relevant material not previously collected during preliminary design will be provided at or just following the project kick-off meeting, including record drawings, survey data and base files, geotechnical reports, and utility maps.

TASK 3: DETAILED DESIGN

The Project work will be carried out using a 3-step design delivery approach of 60% detailed design, 90% detailed design, and 100% construction documents. Each design step will consist of a specific list of work products and deliverables, which are identified in the following sections.

The scope of work for the design of this project consists of the following and is structured to meet the design basis in the Preliminary Design Report:

- The installation of approximately 1,270 feet of new 8-inch potable water pipeline and appurtenances, including hanging pipe on an existing bridge as defined in the PDR. The pipeline needs to be installed with equipment mounted to or suspended from the bridge.

- Modifications to the existing overflow structure for treatment of potable water to achieve new permit limits, consisting of demolition of the existing internal weir wall and installation of a new flow meter in Outfall 001, construction of new baffle walls, piping, and valving as defined in the PDR.

- Installation of sodium hypochlorite and sodium bisulfite feed systems. Of the three options presented in the PDR, one option will be selected at the kick-off meeting for further development in detailed design. For estimating purposes, we have assumed that day tanks and new chemical pumps will be used.

- Installation of analyzers for total chlorine, ammonia, nitrate, and dechlorination as defined in the PDR.

- Installation of a new PLC and connection to Tapia's SCADA system as defined in the PDR.

- Installation of a new conduit duct bank from the Tapia entrance gate to the chemical building with several intercept points to allow for better communications with gate and camera. It is assumed that this task consists of designing a new conduit duct bank only, and does not include wiring details, connection to plant communications, or software programming. Details will be discussed and confirmed during the project kick-off meeting.

- Installation of new duct banks for chemical feed lines at the Tapia WRF. We assume new banks and feed lines for sodium hypochlorite from the chemical building to the chlorine contact channel, balancing pond, and RAS channel. Other chemical feed lines, such as sodium bisulfite, are not included but may be added as additional scope if desired, with agreed upon change to scope and fee.

We anticipate approximately 27 drawings will be produced for this design as follows:

Sheet No.	Drawing Title
General	
G-1	Title & Index
G-2	Notes
G-3	Piping & Equipment Schedule
Civil	
GC-1	General Civil Notes
GC-2	General Civil Notes
GC-3	Details - Pipe Hanger
1C-1	Plan & Profile 1 - 20' scale
1C-2	Plan & Profile 2 - 20' scale
2C-1	Site Plan - Yard Piping
Mechanical	
GM-1	Details
GM-2	Details
2M-1	Mechanical Plan
2M-2	Mechanical Plan and Details
Structural	
GS-1	Notes and Codes
GS-2	Structural Observation and Inspections
GS-3	Standard Details
2S-2	Structural Plans
2S-1	Section Details
Electrical	
GE-1	Notes & Symbols
GE-2	Notes & Symbols
GE-3	Details
2E-1	Site Plan - Overview
2E-2	Detailed Plan
Instrumentation & Control	
GI-1	General Instrumentation
GI-2	General Instrumentation
GI-3	PLC Panel Detail
I-1	P&ID

60% Design

Stantec will prepare 60% progress drawings and specifications suitable for the JPA's review. Drawings and specifications at the 60% level of completion will be prepared using standard Stantec design, CAD, and technical specifications. Stantec assumes that the JPA will be responsible for distributing 60% drawings and

specifications internally and collecting comments, that will be sent to Stantec. Stantec assumes incorporating one set of consolidated comments.

The drawing numbers and technical specifications for this submittal will be based on the sheet list provided in this proposal. Stantec will submit the 60% Design documents in electronic format (pdf) for review and comment by JPA staff.

90% Design

Stantec will prepare 90% progress drawings and specifications suitable for the JPA's review. Drawings and specifications at the 90% level of completion will be prepared using standard Stantec design, CAD, and technical specifications. The deliverables will be submitted to the JPA as electronic PDF files. Stantec assumes the JPA will be responsible for distributing 90% drawings and specifications internally and collecting comments, that will be sent to Stantec. Stantec assumes incorporating one set of consolidated comments. Stantec will submit the 90% Design documents in electronic format (pdf) for review and comment by JPA staff.

Final (100%) Design

Edits to the 90% Design Submittal will be agreed to at a design review workshop or through design review comments and responses. Stantec will incorporate agreed upon edits into a 100% Design Submittal, and submit stamped and signed Drawings, Specifications and final calculations suitable for bidding and construction. The deliverables will be submitted to the JPA as five (5) hard copies, and as electronic (pdf) files. Final design drawings will also be delivered in AutoCAD format.

TASK 4: BID PHASE SUPPORT

Stantec will provide 40 hours of engineering services during bidding for the plans and specifications developed in the prior tasks. Stantec will support and assist the JPA in the bid process, consisting of attending the pre-bid meeting, responding to up to five (5) Request for Information (RFIs) during the bid period, and providing one conformed set of specifications and drawings based on the aforementioned RFIs. It is assumed the JPA will be responsible for bid advertisement, document distribution, and bid opening. Stantec will assist with bid review to support award of a construction contract.

TASK 5: ENGINEERING SERVICES DURING CONSTRUCTION

During the construction phase of the work Stantec will provide support services consisting of:

- Pre-construction Meeting: Stantec will attend one pre-construction meeting. Stantec assumes this will take place at Tapia WRF and that two Stantec staff will attend.
- RFIs: Stantec assumes 2 hours per RFI and has budgeted for a total of 10 RFIs.
- Shop Drawing and Technical Manual Submittal Reviews: Stantec will provide up to five (5) hours of review per shop drawing and/or technical manual submittals forwarded by JPA staff for compliance with the requirements of the Contract Documents. Stantec will transfer comments as required and return them to the JPA. The scope assumes 10 submittals, including re-submittals.
- Construction Progress Meetings: Stantec will attend progress meetings via conference call. These are assumed to occur every two weeks for a duration of one hour each over a 6-month construction period.

- Record Drawing Support: The Construction Documents prepared will require the Contractor to mark a set of Contract Drawings to reflect any changes made during construction. Upon receipt of these documents, Stantec will modify the CAD files and deliver a revised set of CAD files and a combined pdf file. It is assumed that Stantec will not be responsible for reproduction.

TASK 6: PERMITTING

Based on the California Environmental Quality Act (CEQA) document prepared by Stantec for the project, and Stantec experience with other infrastructure projects in the area, the following table summarizes anticipated permits and Stantec's scope of work to assist the JPA with permit acquisition. It is assumed that any fees associated with agency reviews or permits would be paid by the JPA.

Agency	Relevant Permitting	Stantec Scope of Work
Los Angeles County	Permit to construct the pipeline across the bridge over Malibu Creek	Stantec assumes that at the 90% design phase, an initial discussion to review the design progress will be coordinated with the Los Angeles County Department of Public Works for a permit to construct the pipeline across Bridge 989 over Malibu Creek. Stantec will compile the relevant design drawings and information for the permit application and attend one review meeting in person with LA County.
	Coastal Development Permit	It is assumed that the project will qualify for a waiver from the Department of Regional Planning for construction within the Santa Monica Mountains Coastal Zone. Stantec will assist the JPA will coordination with the County; up to 30 staff hours will be expended. Tasks may include preparation of an application package, one meeting with Regional Planning staff, and informal coordination via phone and email. If the County determines that a waiver is not appropriate for the project, Stantec could assist the JPA with acquisition of a Coastal Development Permit as an optional task.
South Coast Air Quality Management District	Permit to Operate for temporary electric generation during construction	It is assumed that the construction contractor will obtain this permit. Stantec will reference this requirement in the specifications.
	Compliance with dust Rule	It is assumed that the construction contractor will maintain compliance with SCAQMD Rule 403 during construction. Stantec will reference this requirement in the specifications.
	Update to existing Permit to Operate for Tapia WRF	Stantec will draft a letter of notification to SCAQMD for finalization and submittal by LVMWD. It is assumed that modifications at the treatment plant will not require revision of the existing permit to operate.
Caltrans	Permit for transport of heavy construction equipment on State highways	It is assumed that the construction contractor will obtain this permit. Stantec will reference this requirement in the specifications.

	Traffic Control Plan	It is assumed that the construction contractor will prepare a traffic control plan for review and submittal to Caltrans and the County. Stantec will reference this requirement in the specifications.
California Department of Fish and Wildlife	Streambed Alteration Agreement	With installation of the pipeline on the bridge, the RFP states the assumption that a Streambed Alteration Agreement will not be required for the project. However, to verify that project impacts will not impact areas under CDFW jurisdiction, Stantec will compare the design drawings to preliminary jurisdictional mapping prepared by Stantec during the biological resources evaluation. In addition to direct impacts from trench construction, staging areas for vehicles and equipment will also be considered. Based on the review, recommendations for coordination with CDFW will be made.

In order to minimize impacts to oak trees during pipeline installation, a Stantec arborist would assist the design engineers during finalization of the pipeline alignment. This task includes up to 14 manhours (including 12-hours of design consultation with the arborist).

OPTIONAL TASKS

The following tasks were not specifically mentioned in the Request For Proposal and may or may not be needed in the conduct of the work. Stantec has included them here as optional scope items.

Utility Research and Mapping

If requested by JPA, Stantec will conduct utility research and mapping from available public and private utility providers and retain a potholing company to perform 10 potholes to confirm utility type and location along the Tapia WRF access road. It is assumed that no encroachment permits or permits of any kind will be required to perform potholing. If required, such permits shall be provided at no cost to Stantec.

Parshall Flume Removal

If requested by the JPA, Stantec will include the removal of the Parshall flume on the Outfall 003 discharge in our design. The Parshall flume is expected to be replaced with a new flow meter in the future. Since the Parshall flume may be used during modification of the overflow structure, Stantec would specify construction sequencing of this modification after the overflow structure is complete.

Detailed Permitting Support

The permitting scope above is based on the assumptions that a Coastal Development Permit waiver will be applicable, and that a Streambed Alteration Agreement will not be required. However, since the applicability of permits will be dependent on final design, and agency determinations, Stantec has identified two Optional Tasks for Additional Permitting Support.

- **Coastal Development Permit (CDP)** – If Los Angeles County determines that a waiver to the Coastal Development Permitting process is not appropriate for the project, Stantec would assist the JPA with acquisition of a Coastal Development Permit. Tasks would include a meeting with Regional Planning staff in the field, preparation of an application package, and negotiation of permit conditions. Up to 60 manhours would be expended assisting the JPA with CDP acquisition. The related Protected Tree Survey could be completed under Optional Task 3, below.

- **Streambed Alteration Agreement (SAA)** – If the comparison of the design drawings to the existing mapping of waters of the State indicates that a Streambed Alteration Agreement may be required for the project, Stantec will coordinate with CDFW. Stantec will prepare the appropriate notification forms/requests and prepare a permit package with supporting appendices for the CDFW. Stantec will submit a permit application package including figures, questionnaires, and a cover letter to the CDFW on behalf of the JPA. Stantec will conduct one site visit with the CDFW, if required, and one follow-up meeting with the agencies after submittal of the permit application package. Up to 60 manhours would be expended assisting the JPA with SAA acquisition.

It is assumed that any fees associated with agency reviews or permits would be paid by the JPA.

CEQA and Permit Compliance Support

After acquisition of permits for the project, compliance with CEQA mitigation measures will be required to construct the project. The level of effort necessary for some of these optional tasks would vary based on final design and agency determinations. General scopes of work for tasks associated with CEQA mitigation measure and permit condition compliance are provided below. At the JPA's direction, Stantec could develop more detailed scope and cost estimates for these optional tasks.

- **Oak and other Native Tree Avoidance Measures** – Based on final design, a Stantec arborist would conduct a Protected Tree Survey. In compliance with mitigation measure BIO-5, Stantec will coordinate with Los Angeles County Department of Regional Planning regarding encroachment into the protected zone of protected native trees. Avoidance measures outlined in mitigation measure BIO-5 would be implemented during project construction. A Stantec arborist would be on-site to ensure compliance with the mitigation measures and any permit-specific conditions.

- **WEEP** – In compliance with the mitigation measures BIO-2, Stantec would prepare and implement a Worker Environmental Education Program (WEEP) for the protection of biological resources. Stantec will prepare a WEEP (power point based), prepare a flyer and provide awareness training up to two times, at a location provided by the JPA, to construction contractor personnel; the training location will be indoors with electricity and a wall/screen for projection of a power point presentation. The training program will present the environmental regulations and applicable permit conditions that the Project team shall comply with. The training program will include applicable measures established for the Project to minimize impacts to water quality and avoid sensitive resources, habitats and species. Dated sign-in sheets for attendees at these meetings will be maintained.

- **Pre-construction Surveys and Biological Resources Monitoring** – Stantec would conduct pre-construction plant and wildlife surveys and biological monitoring as prescribed by mitigation measure BIO-3.

  Pre-construction Surveys. Stantec will provide qualified biologists to conduct a single pre-construction survey event to document the presence/absence of common and special-status wildlife within the Project and adjacent areas. Upon completion of the surveys, Stantec will prepare a brief survey memorandum detailing the results of the surveys.

  Biological Monitoring. Stantec will provide a qualified biologist(s) knowledgeable with the flora and fauna within and adjacent to the Project site to monitor compliance with biological-related permit conditions and mitigation measures during the proposed 8 months of construction. The biologist shall be on-site during all initial site disturbance activities and during all construction-related activities occurring within suitable habitat for special-status species. The biologist will complete the daily biological monitoring compliance checklist for each day monitoring occurs. If required, during required monitoring efforts, the qualified biologist will relocate common and special-status species that enter the Project site; some special-status species may require specific permits prior to handling and/or have established protocols for relocation. Records of all detections, captures and releases (if such events occur) will be noted in the daily biological monitoring compliance checklists.

- **Nesting Bird Surveys and Avoidance Measures** – Due to the seasonality of bird nesting, the construction start date for the project will determine the relevance of mitigation measure BIO-4. If relevant, Stantec would conduct nesting bird surveys as prescribed by mitigation measure BIO-4. If construction is scheduled to begin during the avian nesting season (February 15 through September 15; January 1 to August 15 for raptors), Stantec biologists would conduct a minimum of three survey events, three days apart, with the last survey no more than three days prior to the start of site disturbance. Surveys will be conducted within 500 feet of all proposed project activities.

- **Cultural Resources** – Stantec archaeologists would prepare a Worker Education Awareness Program (WEAP) for the protection of cultural resources. In compliance with mitigation measure CR-1, the program would be presented to construction personnel prior to the start of project construction. Up to two trainings are assumed.

It is assumed that any fees associated with agency reviews or permits would be paid by the JPA.

Update of Operations and Maintenance Manuals

If requested by JPA, Stantec will update and expand on any applicable sections of the Operation and Maintenance Manuals for the Tapia WRF. This task will include updating the design concepts and operation modes for recycled water discharge to Malibu Creek, including specific manufacturer product information, parts list and maintenance procedures. We will update the Operation and Maintenance Manuals for the Project, as designed and constructed. Stantec will include an addendum to the current Operations and Maintenance manual to be added by the JPA. The final Operation and Maintenance Manuals for the Project will include, but not be limited to the following:

- A brief description of the Project and how the Project will fit into the overall operation of the Tapia WRF discharge to Malibu Creek;

- Stantec and manufacturers' recommendations concerning equipment and facility maintenance, including methods and schedules for maintenance, parts lists, recommended spare parts to be maintained on hand, and manufacturers' and vendors' names, addresses, and telephone numbers.

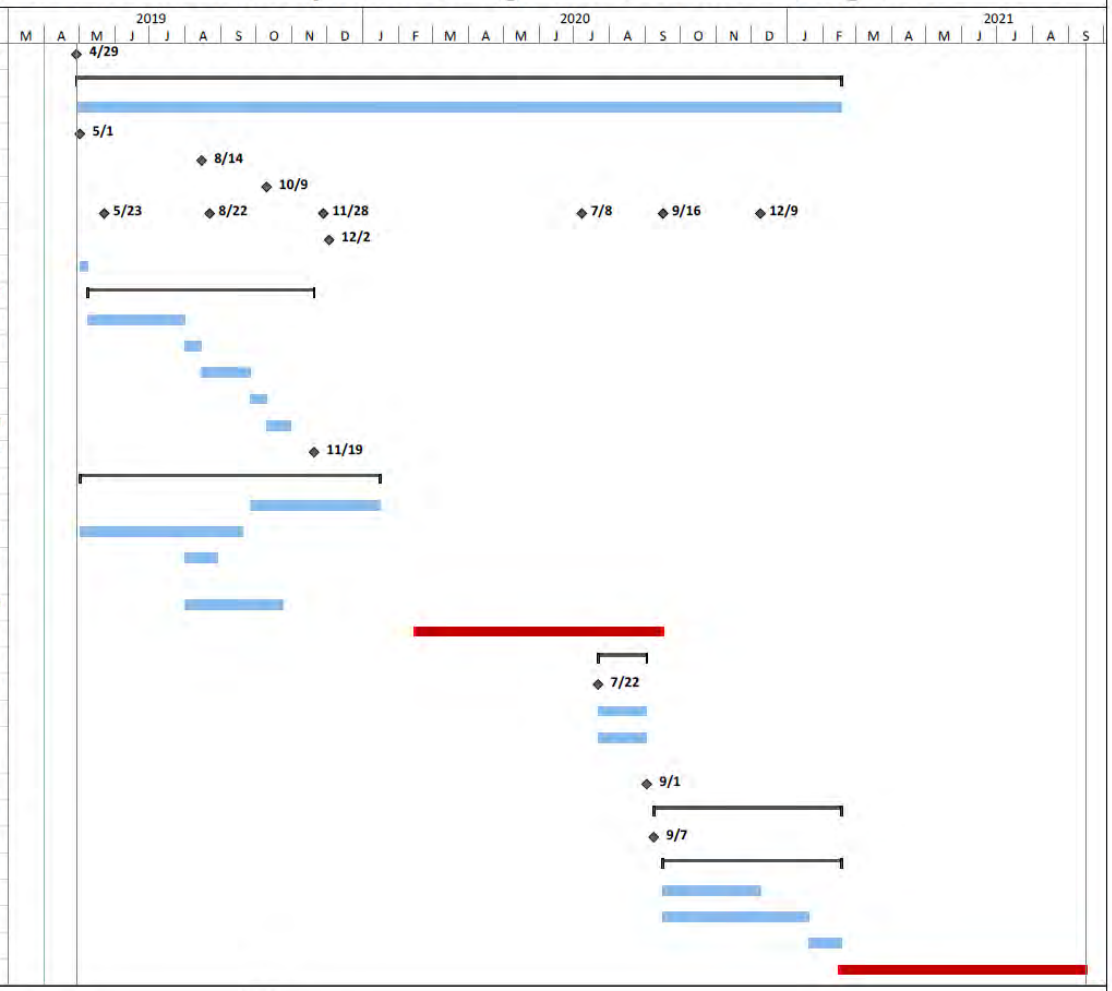
- Data and maintenance instructions concerning any engineering features, protective coating, or other features provided or used in the construction.

- Stantec will submit the updated draft Operation and Maintenance Manuals to JPA during the Final Design phase of the Project. Stantec will submit the final Operation and Maintenance Manuals to JPA before equipment startup and testing, and acceptance of the construction contract work by the JPA, subject to delivery of the portions of the O&M Manual required from the Contractor. A total of 32 hours have been budgeted for the updates to the O&M Manual.

PROPOSED SCHEDULE

Tapia WRF Summer Season Waste Load Allocation Compliance Design and Services During Construction

Task Name	Duration	Start	Finish
Notice To Proceed	**0 days**	**Mon 4/29/19**	**Mon 4/29/19**
Project Management	**473 days**	**Mon 4/29/19**	**Tue 2/16/21**
Project Management	473 days	Mon 4/29/19	Tue 2/16/21
Kickoff Meeting	0 days	Wed 5/1/19	Wed 5/1/19
Design Workshop #1	0 days	Wed 8/14/19	Wed 8/14/19
Design Workshop #2	0 days	Wed 10/9/19	Wed 10/9/19
Progress Calls	**406 days**	**Thu 5/23/19**	**Wed 12/9/20**
JPA Board Meeting	0 days	Mon 12/2/19	Mon 12/2/19
Document Review	**5 days**	**Thu 5/2/19**	**Wed 5/8/19**
Design Phase	**139 days**	**Thu 5/9/19**	**Tue 11/19/19**
60% Design	60 days	Thu 5/9/19	Wed 7/31/19
JPA Review	10 days	Thu 8/1/19	Wed 8/14/19
90% Design	30 days	Thu 8/15/19	Wed 9/25/19
JPA Review	10 days	Thu 9/26/19	Wed 10/9/19
100% Design	15 days	Thu 10/10/19	Wed 10/30/19
Final Design Approval	0 days	Tue 11/19/19	Tue 11/19/19
Permitting	**185 days**	**Thu 5/2/19**	**Wed 1/15/20**
LA County DPW Bridge Permit	80 days	Thu 9/26/19	Wed 1/15/20
Coastal Development Permit	100 days	Thu 5/2/19	Wed 9/18/19
SCAQMD Update to Existing Permit to Operate for Tapia WRF	20 days	Thu 8/1/19	Wed 8/28/19
CDFW - Streambed Alteration Agreem	60 days	Thu 8/1/19	Wed 10/23/19
Bird Nesting Season 2020	153 days	Sat 2/15/20	Tue 9/15/20
Bid Phase Support	**30 days**	**Wed 7/22/20**	**Tue 9/1/20**
Pre-Bid Meeting	0 days	Wed 7/22/20	Wed 7/22/20
Bidding	30 days	Wed 7/22/20	Tue 9/1/20
Responding to RFIs and Developing Conformed Specs and Drawings	30 days	Wed 7/22/20	Tue 9/1/20
Construction Award	0 days	Tue 9/1/20	Tue 9/1/20
Construction Phase	**116 days**	**Mon 9/7/20**	**Tue 2/16/21**
Pre-Construction Meeting	0 days	Mon 9/7/20	Mon 9/7/20
Construction	110 days	Wed 9/16/20	Tue 2/16/21
Contactor Construction	60 days	Wed 9/16/20	Tue 12/8/20
Pipeline Construction	90 days	Wed 9/16/20	Tue 1/19/21
Commissioning	20 days	Wed 1/20/21	Tue 2/16/21
Bird Nesting Season 2021	153 days	Mon 2/15/21	Wed 9/15/21



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4. ASSUMPTIONS

- A period of two weeks for JPA review is assumed for each design submittal. The JPA will collate and validate all comments from reviewers prior to issuance to Stantec. Comments will be incorporated into the final document(s).
- It is assumed that geotechnical investigations will not be completed as part of this work. Stantec will use existing geotechnical data and information on soil corrosivity provided by JPA staff. No new geotechnical investigation services are provided within this scope of work.
- It is assumed that surveying investigations at Tapia WRF will not be completed as part of this work. Stantec assumes that existing survey information for Tapia WRF will be used for completing this scope of work.
- Detailed traffic or noise modeling are not included in the scope of work.
- The JPA will pay applicable fees, including fees payable to the Los Angeles County Planning, California Department of Fish and Wildlife and CEQA notice posting fees, as applicable.
- The electrical design assumes that there are available spaces and electrical system capacity in the existing MCC and power panels to accommodate this new equipment. This scope of work does not include expanding capacity of the existing electrical system (primary or standby power, as applicable).
- Lighting changes are not part of this scope of work.
- JPA specifications will be used as the basis for the general conditions and front-end specifications. Stantec master specifications, in CSI 2004 format, will be used as the basis for all technical specifications.
- The contract documents will be developed as a single bid package.
- Landscape design services are not included.
- Hazardous material assessment of facilities to be demolished or modified will be provided by JPA staff.
- The design will be based on federal, state, and local codes and standards in effect on the effective date of the Notice to Proceed. Any changes in these codes may necessitate a change in scope. Planning and Building Department review and approval will not be required.
- No equipment pre-purchase or pre-negotiation will be required.
- The drawings will follow Stantec standards. Final drawings will be provided in AutoCad and PDF formats.
- All submittals and RFIs listed in Task 4 and 5 are assumed to be submitted electronically.
- The JPA will be responsible for all printing of drawings, specification and other deliverables unless otherwise noted.

5. REFERENCES

We have included client references and project descriptions in this section for the work we've performed that most closely aligns with the scope and goals of this project.

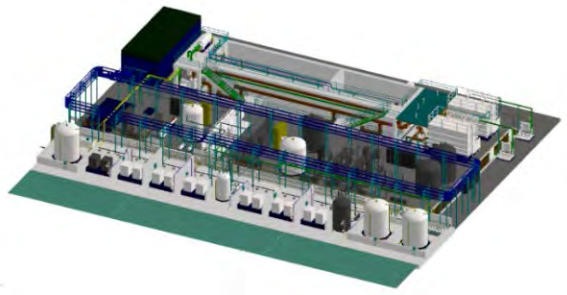
Project	Agency	Reference
Advanced Water Treatment Demonstration Facility	Metropolitan Water District of Southern California	Gloria Lai-Blüml, Project Manager (213) 217-7538
Anaheim Water Recycling Demonstration Project	City of Anaheim Public Utilities	Bill Moorhead, Project Manager (714) 765-4165
Morena Pump Station, Wastewater Force Main and Brine Conveyance	City of San Diego	John Helminski, Program Manager (858) 292-6402

ADVANCED WATER TREATMENT DEMONSTRATION FACILITY – METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

LOCATION: Carson, CA

PROJECT STATUS: In construction

TEAM MEMBERS INVOLVED: Jim Borchardt, Zakir Hirani, Tyler Hadacek, Kyleen Marcella, Christopher Mote, Sarah Garber



Metropolitan Water District of Southern California (Metropolitan) and Los Angeles County Sanitation Districts (Sanitation Districts) 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.

Non-nitrified secondary effluent from Sanitation District'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 – consisting of Membrane Bioreactor (MBR), Reverse Osmosis (RO) and Advanced Oxidation Process (AOP). One of the objectives for the project is to collect sufficient data to seek approval for this alternative FAT train (MBR – RO – AOP) for groundwater recharge.

Nitrogen management is a key aspect of the project. The Demonstration Facility is designed to treat either primary or secondary effluent to potable reuse standards using MBR. The Facility will be tested in different configurations to achieve varying degrees of nitrification and denitrification, and removal of nitrate by single and double pass RO. Stantec is also assisting Metropolitan with several conceptual studies for the potential 150-MGD full-scale AWT Facility.

ANAHEIM WATER RECYCLING DEMONSTRATION PROJECT – CITY OF ANAHEIM

LOCATION: Anaheim, CA

PROJECT STATUS: Completed in 2014

TEAM MEMBERS INVOLVED: Jim Borchardt, Zakir Hirani, Tyler Hadacek

The City of Anaheim's Water Recycling Demonstration Project (WRDP) demonstrates how urban developers can utilize low impact development features in any location. The Water Recycling Facility (WRF) demonstrates several sustainability features that reduce dependence on imported water. The WRDP consists of a 100,000 gpd recycled water treatment plant that diverts raw sewage from a nearby sewer pipeline and treats it with Membrane Bioreactor (MBR) and ozone disinfection processes to produce disinfected tertiary effluent. The treated water is being used for toilet and urinal flushing in City Hall West, landscape irrigation around City Hall, and will be used in future for other indoor and outdoor uses, including irrigation, in nearby parks, schools and future developments. Stantec was hired by the City to design the facility and provide engineering services during construction.

The treatment plant odor control system scrubs all the air such that the facility has zero odors outside the building, a key design element given the facility is located 20-foot from Anaheim City Hall and near a major business district. Design elements also ensure elimination of noise associated with the treatment process required to prove that the facility can be situated in any urban development, with no noise and zero odor.

As the facility was designed and constructed for demonstration purposes, over half the building is made of glass to allow educational tours of the building from the outside. Informational signs and graphics are located around the facility to point out features of the treatment process, water-conserving landscape features and rainwater collection barrels. Visitors can witness the dark sewer influent coming into the plant through the window and a 30-ft tall treated water fountain located outside the facility highlights the cleanliness of recycled water.

The WRF was built with an ultimate treatment capacity of 100,000 gpd. Phase 1 of the project consisted of designing and building a 50,000 gpd facility, which includes an influent diversion pump station, wastewater conveyance pipeline to the WRF, fine screen, nitrification and denitrification tanks, membrane filtration system for MBR, ozone disinfection system, clear well and supporting facilities such as odor control. These facilities are housed in a climate-controlled, architecturally-finished building.

Phase 2 of the project will add another membrane filtration system in the existing building to expand recycled water service to a nearby ice skating rink and park. Stantec utilized Building Information Modeling (BIM) software to help optimize the layout, resolve the piping/ducting conflicts and improve access for operators, thus reducing logistical issues given the small footprint of the site. This model was pivotal in providing lean construction methods for the contractor and early collaboration between the design and construction teams.

MORENA PUMP STATION, WASTEWATER FORCE MAIN AND BRINE CONVEYANCE – CITY OF SAN DIEGO

LOCATION: San Diego, CA

PROJECT STATUS: Not Started; Anticipated Completion 2023

TEAM MEMBERS INVOLVED: Jim Borchardt, Chris Mote

In 2015, the City retained Stantec to provide program management and engineering services to the Pure Water San Diego Program. This phased, multi-year program uses proven technology to produce a potable water supply to the City. When the program is in full implementation, it will provide the City with one-third of its potable water supply locally and reduce ocean wastewater discharges by 50 percent.

The Stantec Team recently completed preliminary design on all of Phase 1, the North City conveyance and treatment projects, including the Morena Pump Station and Pipeline Project.

The Morena Pump Station will consist of five sets of two-stage vertical-turbine, 1,000-hp pumps operating in a four active plus one set standby (4+1) configuration. The average annual daily flow for the Morena Pump Station is 32 mgd. Daily peak flow will be as high as 37 mgd and low flow conditions will be as low as 8 mgd. This highly variable flow condition required careful consideration of the design and coordination with the NCWRP design team. The total dynamic head of 600 ft is required to overcome dynamic losses caused by elements such as the 10.4-mile force main conveyance and a 500 foot difference in elevation. Major project elements include the 32-mgd wastewater pump station, wastewater force main, and brine/centrate conveyance pipeline.

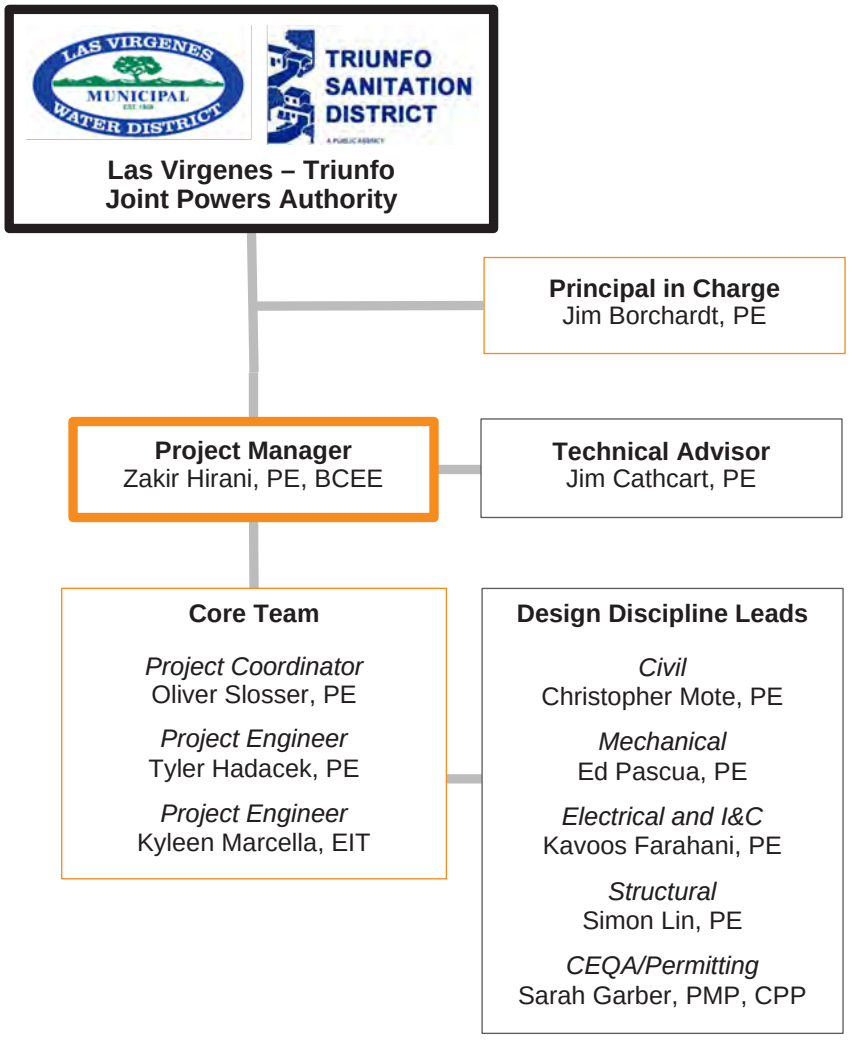
The Morena Project will intercept and divert wastewater to the North City Water Reclamation Plant (NCWRP). It will return an annual average 6 mgd of brine waste created from the North City Pure Water Facility (NCPWF) and an annual average of 4 mgd of centrate created from the Metropolitan Bio-Solids Center (MBC).

Wastewater will be conveyed from the Morena Pump Station via the Morena Pipeline, a new 48-inch-diameter force main, approximately 10.4 miles north to the NCWRP. The 24-inch-diameter Brine Pipeline will convey a new waste stream from the NCPWF site through the NCWRP site (no connection). The Brine Pipeline then increases in size to a 30-inch-diameter pipe and conveys the waste stream to the offsite sewer near the new Morena Pump Station.

Most of the Morena Pipeline is anticipated to be constructed using open-trench methods. A portion will be constructed using tunneling methods, such as microtunneling or conventional tunneling, at freeway crossings and three potential creek crossings. This alignment will cross through significant portions of the City of San Diego and environmentally sensitive areas.

6. PROJECT TEAM

The following organization chart outlines our teaming structure and identifies discipline leads and/or key staff for project task support. Our integrated team structure provides effective direction, hands-on control, and comprehensive coordination. Each team member brings specific expertise to contribute to the success of your project. Moreover, we provide a strong leadership structure to support an efficient and cohesive project. A brief summary, resumes, and proof of professional registrations for our project team are provided in **Appendix A - Resumes**.



7. QUALITY CONTROL PROCESSES

At Stantec, we promote quality, safety, and the environment across our entire organization. Through our integrated management system, we provide a disciplined and accountable framework for managing risks, quality outcomes, and regulatory compliance.

We are also ISO 9001 Quality Management System (QMS) certified, which, combined with our corporate business processes and our mandatory 10 Point Project Management (PM) Framework, enables us to outline required project tasks to efficiently manage risk and quality on all projects. To support the unique needs of our clients, we supplement our Framework with work practices that are both flexible and scalable to support small and large oil and gas projects, anywhere in North America.

STANTEC QUALITY MANAGEMENT SYSTEM

The Stantec Quality Management System (QMS) interprets the work practices in Stantec through the filter of the ISO 9001 standard. Our current ISO certification is approved through December 16, 2020. ISO 9001 is an internationally recognized standard for quality management and has been adopted by Stantec to:

- ✓ Reduce the risk and consequences of design errors
- ✓ Help us grow by promoting reliable processes
- ✓ Improve productivity and efficiency
- ✓ Promote the quality and reliability of our services
- ✓ Improve the financial performance of our operations
- ✓ Increase client confidence and loyalty
- ✓ Support regulatory compliance

The Stantec QMS provides our employees with information on our organization's practices for planning, managing people, client satisfaction, practice management, managing subconsultants, and for continual improvement. The Stantec QMS is broken down into the following sections:

- ✓ Planning
- ✓ People focus
- ✓ Customer focus
- ✓ Project management processes
- ✓ Service delivery processes
- ✓ Supplier focus
- ✓ Measurement, analysis, and improvement

Our commitment to quality is shared by management, technical, clerical and administrative staff. Quality assurance and control procedures are implemented throughout a project, starting with the individual work components.

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

8. CERTIFICATE OF LIABILITY INSURANCE

CERTIFICATE OF LIABILITY INSURANCE

5/1/2019

DATE (MM/DD/YYYY) 4/4/2019

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): E-MAIL ADDRESS:
INSURED 1415077 STANTEC CONSULTING SERVICES, INC. 8211 SOUTH 48TH STREET PHOENIX AZ 85044 PASADENA, CA - 1840	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : Zurich American Insurance Company — 16535 INSURER B : Travelers Property Casualty Co of America — 25674 INSURER C : American Guarantee and Liab. Ins. Co. — 26247 INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** 16005734 **REVISION NUMBER:** XXXXXXX

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	X COMMERCIAL GENERAL LIABILITY [ ] CLAIMS-MADE [X] OCCUR X CONTRACTUAL/CROSS X XCU COVERED GEN'L AGGREGATE LIMIT APPLIES PER: [ ] POLICY [X] PRO-JECT [X] LOC [ ] OTHER:	Y	Y	GLO0246172	5/1/2018	5/1/2019	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG [ ]	$ 2,000,000 $ 300,000 $ 25,000 $ 2,000,000 $ 4,000,000 $ 2,000,000 $
B B B	AUTOMOBILE LIABILITY X ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS [ ] HIRED AUTOS ONLY [ ] NON-OWNED AUTOS ONLY	Y	Y	TC2J-CAP-8E086819 TJ-BAP-8E086820 TC2J-CAP-8E087017	5/1/2018 5/1/2018 5/1/2018	5/1/2019 5/1/2019 5/1/2019	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) [ ]	$ 1,000,000 $ XXXXXXX $ XXXXXXX $ XXXXXXX $ XXXXXXX
C	X UMBRELLA LIAB [X] OCCUR X EXCESS LIAB [ ] CLAIMS-MADE [ ] DED [X] RETENTION $ 10,000	N	N	AUC9184637	5/1/2018	5/1/2019	EACH OCCURRENCE AGGREGATE [ ]	$ 5,000,000 $ 5,000,000 $ XXXXXXX
B B B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N [N] (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	Y	TC2J-UB-8E08592 (AOS) TRJ-UB-8E08593 (MA, WI) EXCEPT FOR OH ND WA WY	5/1/2018 5/1/2018	5/1/2019 5/1/2019	X PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: REGIONAL BRINE MANAGEMENT STUDY. LAS VIRGENES MUNICIPAL WATER DISTRICT AND ITS BOARD MEMBERS, OFFICERS, EMPLOYEES, AGENTS AND VOLUNTEERS ARE ADDITIONAL INSUREDS AS RESPECTS GENERAL LIABILITY AND AUTO LIABILITY, AND THESE COVERAGES ARE PRIMARY AND NON-CONTRIBUTORY, AS REQUIRED BY WRITTEN CONTRACT. WAIVER OF SUBROGATION APPLIES TO GENERAL LIABILITY, AUTO LIABILITY AND WORKERS COMPENSATION/EMPLOYER'S LIABILITY WHERE ALLOWED BY STATE LAW AND AS REQUIRED BY WRITTEN CONTRACT.

CERTIFICATE HOLDER

16005734
LAS VIRGENES-
TRIUNFO JOINT POWERS AUTHORITY (JPA)
ATTN: DAVID R. LIPPMAN, P.E.
LAS VIRGENES MUNICIPAL WATER DISTRICT
4232 LAS VIRGENES ROAD
CALABASAS CA 91302

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

Joseph M Agnello

CERTIFICATE OF LIABILITY INSURANCE

10/1/2019

DATE (MM/DD/YYYY) 4/4/2019

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): E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A : Lloyds of London	
INSURED 1414100 STANTEC CONSULTING SERVICES, INC. 8211 SOUTH 48TH STREET PHOENIX AZ 85044 PASADENA, CA - 1840	INSURER B : AIG Specialty Insurance Company	26883
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** 16005738 **REVISION NUMBER:** XXXXXXX

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	
	COMMERCIAL GENERAL LIABILITY			NOT APPLICABLE			EACH OCCURRENCE	$ XXXXXXX
	[ ] CLAIMS-MADE [ ] OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ XXXXXXX
							MED EXP (Any one person)	$ XXXXXXX
							PERSONAL & ADV INJURY	$ XXXXXXX
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ XXXXXXX
	POLICY [X] PRO-JECT [X] LOC						PRODUCTS - COMP/OP AGG	$ XXXXXXX
	OTHER:							$
	AUTOMOBILE LIABILITY			NOT APPLICABLE			COMBINED SINGLE LIMIT (Ea accident)	$ XXXXXXX
	ANY AUTO						BODILY INJURY (Per person)	$ XXXXXXX
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$ XXXXXXX
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$ XXXXXXX
								$ XXXXXXX
	UMBRELLA LIAB [ ] OCCUR			NOT APPLICABLE			EACH OCCURRENCE	$ XXXXXXX
	EXCESS LIAB [ ] CLAIMS-MADE						AGGREGATE	$ XXXXXXX
	DED [ ] RETENTION $							$ XXXXXXX
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N			NOT APPLICABLE			[ ] PER STATUTE [ ] OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [ ] N/A						E.L. EACH ACCIDENT	$ XXXXXXX
	(Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ XXXXXXX
							E.L. DISEASE - POLICY LIMIT	$ XXXXXXX
A	Professional Liab	N	N	GLOPR1801673	10/1/2018	10/1/2019	$3,000,000 PER CLAIM/AGG	
A				NO RETROACTIVE DATE			INCLUSIVE OF COSTS	
B	Contractors Pollution Liab			CPO8085428	10/1/2017	10/1/2019	$3,000,000 PER LOSS/AGG	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
RE: REGIONAL BRINE MANAGEMENT STUDY

CERTIFICATE HOLDER

16005738
LAS VIRGENES-
TRIUNFO JOINT POWERS AUTHORITY (JPA)
ATTN: DAVID R. LIPPMAN, P.E.
LAS VIRGENES MUNICIPAL WATER DISTRICT
4232 LAS VIRGENES ROAD
CALABASAS CA 91302

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

Joseph M Agnello

APPENDIX A: RESUMES

Zakir Hirani PE, BCEE

Project Manager

Zakir Hirani is a Process Engineer with expertise in physiochemical and biological treatment of water and wastewater with emphasis on advanced water treatment. He is experienced in several aspects of wastewater treatment including conceptual and detailed design, modeling, permitting, start-up/commissioning and process troubleshooting. He has 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). He has worked on numerous advanced water treatment (AWT) projects including MWD's AWT Demonstration Facility, City of LA's Hyperion AWT Facilities and City of San Diego's Pure Water Program.

EDUCATION

MS, Environmental Engineering, University of Southern California

BE, Civil Engineering, The Maharaja Sayajirao University of Baroda, India

REGISTRATIONS

Registered Civil Engineer #77284, State of California

PROJECT EXPERIENCE

Advanced Water Treatment (AWT) Facility, Metropolitan Water District of Southern California, CA (Process Lead)

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 (IPR). Also led the conceptual design of a 150-MGD AWT facility consisting of MBR-RO-AOP process train. Project scope includes preparing a Title 22 Engineering Report and working with DDW to develop the test plan to seek approval of the process train.

Water Recycling Demonstration Project, City of Anaheim, CA (Project Technical Lead)

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. Mr. Hirani 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. Assisted City in preparation of Title 22 Engineering Report.

Conceptual Design of AWT Facilities, City of Los Angeles, Bureau of Sanitation, CA (Process Lead)

Led the conceptual design of a 1.5-MGD AWT Production Facility and a 0.75-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 70-MGD 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. Project scope includes supporting the City for preparation of Title 22 Engineering Report and responding to DDW's comments.

** denotes projects completed with other firms*

Zakir Hirani PE, BCEE

Project Manager

Nutrient Removal Alternatives Analysis and Preliminary Design for Summer Discharge to Malibu Creek, Las Virgenes-Triunfo Joint Powers Authority (Process Lead)
Led the conceptual analysis of treatment alternatives to meet total nitrogen and total phosphorus limits of 1.0 and 0.1 mg/L, respectively for the water used to augment flow to Malibu Creek. Upon selection of the alternative, led the preliminary design of the selected alternative – Breakpoint chlorination of Potable Water.

WWTP Expansion, South County Regional Wastewater Authority, CA (Technical Reviewer)
Technical reviewer for the 2.5 MGD MBR facility built to expand the treatment capacity of the existing conventional activated sludge plant (oxidation ditch) to 11 MGD. The expansion consists of headworks (pump stations and fine screens), nitrification-denitrification bioreactor basins, membrane basins, internal recycle and return sludge pumping.

Chlorine Disinfection Study for the Water Reclamation Facility, CA (Project Technical Lead)
Led the development of a test protocol for a chlorine disinfection study to demonstrate that a lower CT value could be utilized to achieve the level of disinfection required by California's Title 22 standards for disinfected tertiary effluent with respect to MS-2 bacteriophage and total coliform bacteria. Worked with DDW to seek approval of the test protocol and final study results.

Western Corridor Water Project (WCWP), Southeast Queensland, Australia (Project Engineer)
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.

Evaluation of New MBR Systems for Water Reclamation, Bureau of Reclamation (Project Engineer)
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. 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.

Disinfection Guidelines for Satellite Water Recycling Facilities, WateReuse Research Foundation (Project Engineer)
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.

** denotes projects completed with other firms*

Jim H Borchardt PE

Principal-in-Charge

Jim has 40 years of experience in project management and engineering for water treatment, conveyance, and storage facilities. He is an award winning water treatment expert and a contributing author 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 managed 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 on more than 125 treatment facilities. Jim has also served as technical advisor on more than 250 other treatment projects.

EDUCATION

Bachelor of Science, Civil Engineering, Colorado State University, Fort Collins, Colorado, 1976

Master of Science, Environmental Engineering, University of North Carolina, Chapel Hill, North Carolina, 1979

CERTIFICATIONS & TRAINING

Awards, 2006 Engineer of the Year in Santa Barbara County

REGISTRATIONS

Registered Professional Engineer #21603, State of Nevada

Registered Civil Engineer #17847, State of Colorado

Registered Civil Engineer #35819, State of California

MEMBERSHIPS

Member, WateReuse Association

Member, Water Environment Federation

Member, International Ozone Association

Member, American Water Works Association

Member, Chi Epsilon National Civil Engineering Honor Society

Member, American Membrane Technology Association

Member, American Society of Civil Engineers

PROJECT EXPERIENCE

Recycled Water Seasonal Storage Facility Plan of Action and Basis of Design, Las Virgenes – Triunfo Joint Powers Authority (Technical Lead)

Jim led the JPA Board, project stakeholders, and Stantec team through a facilitated public workshop process to develop and evaluate six conceptual project alternatives. The JPA Board selected two scenarios for further investigation and established a Plan of Action for development of a project. The subsequent Basis of Design provided detailed evaluation of the two scenarios and continued the process of stakeholder engagement, four public workshops, and technical analysis. The conceptual scenarios were refined into two specific project alternatives, each with strong stakeholder support. On August 3, 2016, the JPA Board of Directors voted to explore Potable Reuse using surface water augmentation in the Las Virgenes Reservoir as the preferred option to address seasonal storage.

South Base Water System Evaluation and Permitting, NAVFAC, Camp Pendleton, California (Technical Lead)

Jim served as the technical director for the Camp Pendleton South Base Water System Evaluation and Permitting Project. Facilities included 15 active well sources, two iron/manganese filtration plants, 28 storage reservoirs, 16 booster pump stations, and 7 chlorine booster stations. The objective of the project was to achieve stable free

chlorine residuals within the distribution system, comply with California Department of Public Health (CDPH) directives, and achieve conversion to chloramines to achieve compliance with disinfection byproducts (DBP) regulations. Work involved updating and calibrating the existing distribution system hydraulic model to predict detention times and identify alternatives to both maintain chlorine residuals and minimize DBP formation. A cost-effective solution was found involving chlorine dose control, reservoir operation, and reconfiguring several pressure zones to remove small reservoirs from active service. The final plan was presented and approved by CDPH, as part of an amended operating permit.

Advanced Water Treatment Demonstration Facility, Metropolitan Water District of Southern California, Los Angeles, California (Project Manager)
Jim serves as project manager for the 0.5 mgd Advanced Water Treatment Demonstration Facility, proposed as a partnership between the Metropolitan Water District of Southern California and the Los Angeles County Sanitation Districts. The AWTDF will provide biological NdN treatment with MBR, followed by traditional RO-UV/AOP treatment on secondary effluent from the 400-MG Joint Water Pollution Control Plant, to investigate treatment needs for indirect potable reuse. The goal of the project is to obtain DDW approval for log removal credits for MBR. In related studies, full-scale facilities of up to 340-mgd have been modeled and cost estimates prepared to support the Regional Recycled Water Supply Project.

Disinfection Basin Re-Rating Study, Camrosa Water District Camarillo, California (Principal-in-Charge)
Jim led an effort to re-rate the chlorine disinfection contact basins at the Camrosa Water Reclamation Facility, a plant producing tertiary water with low ammonia and turbidity. Water quality requirements in California stipulate a default CT value of 450 mg-min/L for disinfected tertiary recycled water, which is based on the kinetics of chloramine disinfection. The objective was to challenge this requirement and demonstrate effective disinfection at lower CT values using free chlorine, allowing the plant to produce more water for irrigation reuse without physical expansion. The study was conducted on the full-scale facility and included tracer, chlorine demand, and virus seeding tests. Results show that CT values as low as 25 mg-min/l achieve disinfection equivalency, and these results were reviewed and approved by regulators.

Advanced Wastewater Treatment Plant Membrane/Ozone Phase 1/Phase 2, Clark County Water Reclamation District, Las Vegas, Nevada (Project Manager)
Jim managed the detailed design of new AWT facilities to provide low phosphorus and high levels of disinfection and PPCP control for secondary effluent from the District's Central Plant. The project included drum screens, UF membrane filtration, and ozonation for an initial capacity of 30-mgd average daily flow and 42-mgd peak wet weather flow. Planning for subsequent phases of the work included retrofitting the adjacent existing gravity filter structure for membranes and expanding the facility up to 150 mgd.

Jim Cathcart PE

Technical Advisor

Jim has more than 41 years of experience specializing in water resources supply and development in California and throughout the western US. His technical experience includes program/project management and engineering specializing in planning; design; construction management of water, wastewater, and reclamation infrastructure; computer modeling; master planning; ground and surface water treatment; transmission and storage; and pipeline design. He also has provided expert witness services for water system planning, modeling, and design.

EDUCATION

MS, Civil Engineering, California State University at Long Beach, Long Beach, California, 1983

BS, Civil Engineering, State University of New York at Buffalo, Buffalo, New York, 1977

AA, Liberal Arts, Niagara Community College, Niagara Falls, New York, 1973

REGISTRATIONS

Professional Engineer #C31518, State of California, December 31, 2018

Professional Engineer #CE014350, State of Nevada, December 31, 2018

PROJECT EXPERIENCE

Reclaimed Water Distribution System*, Walnut, CA (Project Manager)

Jim managed the District's reclaimed water distribution system project from the initial state funding (obtaining a $6 million grant) through final design, construction management and start-up in the early 1980's. The $8.3 million system included 24 miles of transmission and distribution pipeline up to 20 inches in diameter, a 5.4-MGD pump station, 1.44-MGD booster station and hydropneumatic tank, 2-MG steel reservoir, and hydropower generating station, as well as retrofitting of 27 on-site user irrigation systems. He was also responsible for the user and inter-agency water use negotiations and agreements, negotiations for MWD Local Projects Program funding, and use ordinance and user manual preparation. In additional, Jim managed design of a second 2-MG steel reservoir added to the system in 1992.

Southeast Water Reliability*, Carson, CA (Principal-in-Charge)

Jim provided client liaison and design review for the preliminary and final design of approximately 11.4 miles of 42-inch-diameter recycled water transmission pipeline from the City of Vernon to the City of Pico Rivera. The project also included new pumping facilities consisting of three 7,350-gpm, 900-hp pumps in a new pump station; and three 4,900-gpm, 600-hp pumps in the existing Rio Hondo Pump Station. After final design, the project was scaled back and the pipeline was redesigned as a 3.9-mile, 30-inch-diameter pipeline. The project also included adding a variable-speed 3,700-gpm pump and replacing the sodium hypochlorite disinfection system at the Rio Hondo Pump Station, a major supply source for the system. Piping alignment challenges included dealing with private oil and gas pipelines located throughout the project alignment through the City of Montebello, and Beverly Boulevard bridge installation over the Rio Hondo River.

Ortega Highway Pipeline*, San Juan Capistrano, CA (Project Reviewer)

Jim reviewed design of 5,500 feet of 12-inch-diameter steel pipeline and one pressure-reducing structure along Ortega Highway in conjunction with an ongoing road project.

** denotes projects completed with other firms*

Jim Cathcart PE

Technical Advisor

Paseo de Colinas Recycled Water Pipeline Design*, Laguna Niguel, CA(Principal-in-Charge)
Jim provided project overview and quality control review for the design of approximately 30,000 feet of pipeline ranging from 6- to 16-inch-diameter. The project included pressure reducing valves, utilities search, locating irrigation meters and service connections to meter vaults.

Recycled Water Near-Term Facilities Design*, Rowland Heights, CA (Principal-in-Charge)
Jim provided overview of design and construction support for portions of Rowland Water District's near-term recycled water pipelines. Project tasks included construction support and record drawing preparation for the Arenth Avenue pipeline (Phase 1), and design and construction support for more than 42,000 feet of pipelines ranging from 8 to 24-inch-diameter included in Phases 2 and 3.

090G Groundwater Development (GWD) Project*, Barclay, CA (QA/QC Manager)
Jim managed all QA/QC activities, and conducted quality assurance reviews on all technical memoranda and a preliminary hydraulics report for this preliminary design. The project preliminary design consisted of approximately 202 miles of welded steel raw water pipeline, between 72 and 90 inches in diameter; one pumping station: six regulating tanks ranging between 7 and 10 MG in capacity; a 40-MG buried water storage reservoir; and two hydroturbine energy recovery facilities.

Miscellaneous Waterline Replacements*, Oceanside, CA (Principal-in-Charge/Project Manager)
Jim was responsible for leading the design and preparation of construction documents for over 5,600 feet of PVC and DI water lines. Line sizes varied between 6, 8 and 24-inch-diameter. The project involved construction in residential and commercial areas and included geotechnical and survey coordination, preliminary and final design, and office engineering during construction.

Utilities Design at Cal Poly Campus*, San Luis Obispo, CA (Project Manager)
Jim managed the design for a $16 million campus infrastructure improvement program at the Cal Poly, San Luis Obispo campus. Improvements included 15,000 feet of water distribution piping, a 5 MGD pumping station with standby power, 2.5 MGD pumping station upgrade, 0.5-MG concrete reservoir, 8,000 feet of utilidors and utility tunnels, central plant conversion from high pressure steam to hot water boilers, new hot water distribution system piping and hot water heating system conversion to 58 buildings throughout the campus.

P-1045 New Potable Water Conveyance*, Oceanside, CA (Project Manager/Design QC Manager)
Jim oversaw the final design of 28 miles of 12 and 20-inch HDPE water transmission mains, three pump stations (up to 5 MGD capacity) and a 3-MG prestressed concrete reservoir. The project was for NAVFAC at MCB Camp Pendleton as part of a $54 million design/build contract with a Filanc/Orion JV. The project included horizontal directional drilling under four creeks plus one horizontal directional drill under the I-5 Freeway and NCTD railway.

** denotes projects completed with other firms*

Oliver Slosser PE

Project Coordinator

Oliver is a senior 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, InfoSewer, SewerGEMS, ArcView, ArcGIS, a number of database and spreadsheet programs, and basic programming.

EDUCATION

MS, Civil Engineering, Loyola Marymount University, Los Angeles, California

BS, Environmental Science, University of California, Berkeley, Berkeley, California

REGISTRATIONS

Registered Civil Engineer #82832, State of California

PROJECT EXPERIENCE

Basis of Design Report for Recycled Water Reuse Alternatives, Las Virgenes Municipal Water District, Calabasas, CA (Project Manager)
Oliver 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. Oliver 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.

Recycled Water Seasonal Storage Plan of Action, Las Virgenes – Triunfo Joint Powers Authority, Calabasas, CA (Project Engineer)
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. Oliver 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. Oliver helped in all aspects of the project including research, coordination, creation of slides and presentation materials, logistics, and final report writing.

LVMWD Rancho Las Virgenes Compost Facility Amendment Bin Replacement Design and Construction, Las Virgenes Municipal Water District, Calabasas, CA (Project Manager)
Oliver is project manager for LVMWD's Amendment Bin replacement project at the RLVCF. This project included initial investigation of the facility and a PDR presenting alternatives for future operation of the facility. The project called for replacement of LVMWD existing 330 cubic yard bin with a smaller alternative that would lead to less detention time for the amendment used at the facility. The project is currently being constructed and Oliver leads ESDC for Stantec working closely with LVMWD staff to ensure a successful construction and start-up.

** denotes projects completed with other firms*

Oliver Slosser PE

Project Coordinator

Nutrient Removal Alternatives Analysis and Preliminary Design for Summer Discharge to Malibu Creek, Las Virgenes-Triunfo Joint Powers Authority (Project Manager)
Oliver is managing the Stantec team assisting with LVMWD's investigation into options to provide water to Malibu Creek during times of low flow. This project looks at ways in which LVMWD can comply with State Water Resources Control Board requirements for minimum flow in Malibu Creek through multiple options. The project is currently going through predesign and an initial environmental investigation.

LVMWD Westlake TTHM Study, Calabasas, CA (Project Manager)
Oliver is Stantec's project manager for the LVMWD Westlake TTHM study. This project considers ways to minimize TTHM formation at LVMWD Westlake Filtration Plant and offers solutions for operating the facility to minimize this constituent. Stantec will also assist LVMWD in working with DDW to approve changes to the plant's operation scheme.

PEIR and PDR for Potable System Improvements in District 29, Malibu, CA (Project Engineer)
As part of the District 29 Water Master Plan, Oliver helped provide LACDPW with 32 different improvement projects for the potable water system serving Malibu and Topanga. Oliver is providing engineering support, including site visits, report writing and compilation, project research, utility research, and other tasks as needed. This project would call for roughly $55M in infrastructure replacements and improvements
that would add reliability and flexibility to the District 29 system.

Water Reclamation Facility Alternative Evaluation Study, Lake Elsinore, CA (Project Engineer)
Oliver led this study for Elsinore Valley Municipal Water District in which six alternatives for future treatment and conveyance of their wastewater were evaluated. The study looked at anticipated flows in the northern section of their system, and whether to treat the flow locally with a new water reclamation facility, or pump to their existing Regional facility. The study further looked at three options for dealing with the system's southern portion, which has cross connections with a neighboring district. The evaluation included a life cycle cost analysis of all options as well as a ranking matrix which considered such factors as the possibility for Indirect Potable Reuse, constructability, cost, and environmental impact.

Valley Sanitary District Sewer Master Plan, Valley Sanitary District, Indio, CA (Project Engineer)
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.

** denotes projects completed with other firms*

Tyler Hadacek PE

Project Engineer

Tyler is a process engineer with experience in water, wastewater, and water reuse treatment, covering projects from master planning through conceptual design, final design, permitting, and support during construction. He currently serves as a project engineer on drinking water, stormwater, wastewater, water recycling, and water reuse studies, planning, and treatment design. His experience includes environmental remediation treatment of metals, hydrocarbons, and other trace contaminants, both conventional and advanced treatment plant design for water and wastewater, treatment plant rehabilitation and expansion, unit process retrofits, and wellhead treatment systems. He has been extensively involved in many recent integrated water resources and water reuse projects planning and designing water treatment facilities to leverage available water resources for beneficial use for water utilities, stakeholders, and the environment.

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

Nutrient Removal Alternatives Analysis and Preliminary Design for Summer Discharge to Malibu Creek, Las Virgenes-Triunfo Joint Powers Authority (Process Engineer)

The Las Virgenes-Triunfo Joint Powers Authority (JPA) own and operate the Tapia Water Reclamation Facility (Tapia) that discharges its treated effluent for part of the year to Malibu Creek. Stantec is helping the JPA conduct an alternatives evaluation and subsequent preliminary design considering multiple options for meeting the nutrient requirements in the discharge to the creek of 1.0 mg/L total nitrogen (TN) and 0.1 mg/L total phosphorous (TP). Tyler developed the process design criteria and treatment option alternatives evaluation. He was the project engineer for the preliminary design of the selected alternative involving 1,200 LF of a new 8-inch potable water pipeline and modifications of existing infrastructure for a new chlorination and de-chlorination basin.

Weymouth Treatment Plant Filtration Rehabilitation, Metropolitan Water District, La Verne, CA (Process Engineer)

Tyler 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.

Tracer Study, Chlorine Disinfection, and Bioassay Testing, Camrosa Water District, Camarillo, CA (Process Engineer)

Tyler was involved in performing a chlorine disinfection study involving bioassay testing to rerate the existing chlorine contactor for producing Title XXII recycled water at higher flow rates. This rerating was based on the experimental proof of viral and bacterial disinfection – one of the first projects of its kind. This plant scale study involved a tracer study, a chlorine demand study, and a chlorine disinfection study involving seeding of MS2 bacteriophage. Tyler was heavily involved in all phases of the project. The project was accepted as a paper and presentation at the WateReuse 2015 Conference.

** denotes projects completed with other firms*

Tyler Hadacek PE

Project Engineer

Advanced Water Treatment Plant Demonstration Facility, Metropolitan Water District, CA (Process Engineer)
Tyler was a process engineer for the design of a 0.5 mgd advanced water treatment demonstration facility for the Metropolitan Water District. The plant will treat primary or secondary effluent through MBR, RO, and UV/AOP. Tyler was involved extensively in the process design and procurement, 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 project is a fore-runner in seeking to obtain pathogen removal credit for MBR for potable reuse in California. The project team will be involved through one-year of operation to assist in gaining regulatory approval for indirect potable reuse via groundwater injection.

Chlorine Contactor Tracer Study, City of Simi Valley, Simi Valley, CA (Process Engineer)
Tyler conducted a plant-scale tracer study at a 15 MGD wastewater treatment plant in order to investigate actual contact times and re-rate the chlorine contactor for higher flow rates. He performed dosing calculations, developed the field procedures for the experiments, and helped execute all of the tests at the treatment plant which utilized hydrofluorosilicic acid and fluoride ISE probes. Tyler performed data analysis and co-authored the final report that summarized the study and its findings.

Tapia WRF Alternative Disinfection Ammonia Feed Design, Las Virgenes Municipal Water District, Calabasas, CA (Project Engineer)
Tyler supported the completion of the alternative disinfection project at Tapia WRF. He developed the final set of record drawings and assisted in final closeout.

Disinfection By-Product Evaluation and Mitigation Study, Las Virgenes Municipal Water District, Malibu, CA (Project Engineer)
Tyler is assisting the District in evaluating the formation of DBPs at their 18 mgd drinking water treatment plant (WTP) and facilitating the adoption of a new strategy and permit to mitigate DPB formation. Tyler is performing bench scale tests and working with the District and the California State Water Board Division of Drinking Water for a revised disinfection strategy for the WTP.

Basis of Design – Advanced Water Treatment Plant, Las Virgenes Municipal Water District, Calabasas, CA (Process Engineer)
Tyler conducted a Tyler 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 cost estimates. He was the lead process engineer for the reverse osmosis system and for developing the O&M cost estimate for this entire facility.

Water Recycling and Reuse Planning Study, Las Virgenes Municipal Water District, Calabasas, CA (Project Engineer)
Tyler 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.

** denotes projects completed with other firms*

Kyleen Marcella EIT

Project Engineer

Kyleen has experience in a variety of multidisciplinary projects including alternatives evaluation, process modeling, potable/nonpotable water distribution systems, pump station and conveyance design, and water resources. She 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, California

BS, Environmental Engineering, University of Southern California, California

REGISTRATIONS

Registered Engineer-in-Training #157341

PROJECT EXPERIENCE

Nutrient Removal Alternatives Analysis and Preliminary Design for Summer Discharge to Malibu Creek, Las Virgenes-Triunfo Joint Powers Authority (Project Engineer)

The Las Virgenes Municipal Water District (LVMWD) augments flows of up to 2.5 cfs to Malibu Creek through its Tapia Water Reclamation Facility. LVMWD must meet new, more stringent summertime requirements for total nitrogen and total phosphorous of 1.0 mg/L and 0.1 mg/L respectively. Stantec was tasked with evaluating five different treatment options to meet these requirements including secondary MBR, tertiary MBR, BAF, MF/RO and breakpoint chlorination. Kyleen developed design criteria utilizing BioWin for process modeling and calculated associated costs for evaluation of the treatment processes. After developing the evaluation criteria in conjunction with the District, these alternatives were ranked and preliminary design and CEQA analysis for the selected alternative was performed. Kyleen led the preliminary design of a chlorine contact basin.

Basis of Design Report, Las Virgenes-Triunfo Joint Powers Authority, Calabasas, CA (Project Engineer)

Kyleen 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. Kyleen delivered many technical portions of the report including pump station sizing, supply/demand analysis and cost estimating.

Sustainable Water Infrastructure Project, City of Santa Monica, Santa Monica, CA (Project Engineer)

The City of Santa Monica's Sustainable Water Infrastructure Project (SWIP) is an integrated water resources project to help the City utilize all of its water resources, including stormwater runoff, recycled municipal wastewater, and brackish groundwater, to achieve its long-term goal of water sustainability and drought resilience. This project includes construction of a new below-grade advanced water treatment facility in addition to two new below-grade storm water harvesting tanks and upgrades to an existing urban runoff treatment facility. Kyleen developed conceptual design of upgrades to the urban runoff treatment facility including the addition of reverse osmosis and solar generation.

** denotes projects completed with other firms*

Kyleen Marcella EIT

Project Engineer

Hyperion MBR Pilot Facility Project, LASAN, Los Angeles, CA (Project Engineer)
The Hyperion Membrane Bioreactor (MBR) Pilot Facility project represents a major step in expanding water reuse within the City. The project will test MBR systems at a pilot scale (0.5 mgd) and determine the viability of, and design basis for, a full-scale conversion of existing high-purity oxygen activated sludge (HPOAS) facilities. Kyleen developed process models in BioWin for both the pilot facility and full-scale conversion. She also developed cost estimates for both facilities, evaluated conversion strategies for the full-scale project and is leading the design of the pilot facility.

Advanced Water Treatment Plant Demonstration Facility, Metropolitan Water District of Southern California (MWDOC), Carson, CA (Project Engineer)
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, California. 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. Kyleen assisted with project coordination during the design, bidding and construction phases, and is now supporting start-up and commissioning.

Nitrogen Management Evaluation for Full-Scale Advanced Water Treatment Facility, MWDOC, Carson, CA (Project Engineer)
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 (JWPCP) to potable reuse quality for groundwater replenishment. Nitrogen management in an advanced water treatment (AWT) facility at the JWPCP will be crucial for potable reuse to meet water quality objectives. This study identified and evaluated alternatives to manage nitrogen for the proposed AWT Facility. Kyleen developed conceptual design criteria, including process modeling with BioWin, and associated cost estimates for seventeen process trains to provide recommendations for future planning efforts.

1,2,3-TCP Study, Chino Desalter Authority, Chino, CA (Project Engineer)
A new MCL for 1, 2, 3-Trichloropropane (1, 2, 3-TCP) was recently introduced by the California State Water Resources Control Board. As part of the evaluation of GAC treatment to remove 1, 2, 3-TCP from Chino Desalter Authority's groundwater wells, Kyleen assessed various treatment scenarios for the well water, including treatment siting and piping at the Chino I facility.

** denotes projects completed with other firms*

Sarah Garber PMP, CPP

CEQA/Permitting

Sarah is a principal environmental scientist with 29 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, she also specializes in permit acquisition from a wide-range of regulatory agencies. Sarah 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, she 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, College at Brockport, New York

BS, Natural Resources, Cornell University, Ithaca, New York

REGISTRATIONS

Project Management Professional (PMP)® #1561265, Project Management Institute

Certified Air Permitting Professional #C7603, South Coast Air Quality Management District

PROJECT EXPERIENCE

Summer Flow Augmentation of Malibu Creek Project, Las Virgenes – Triunfo Joint Powers Authority, Los Angeles County, CA (CEQA Lead)
Sarah prepared a CEQA Initial Study for the construction and operation of potable water treatment facilities at the Tapia WRF and installation of 1,270 feet of 8-inch pipeline across Malibu Creek on a County bridge to the treatment plant. Key environmental issues for the project include potential impacts to nesting birds and other wildlife during project construction. The Initial Study also includes mitigation measures to minimize impacts to oaks and other native trees.

Regulatory Compliance Projects, Lake Elsinore, CA (Project Manager)
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. Sarah 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, in coordination with California State University San Bernardino, we conducted six 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. Sarah managed sample collection, data analysis, report preparation, and coordination with Regional Board staff and the TMDL stakeholders.

Environmental Assessment and Air Quality Services, City of Los Angeles Department of Water and Power, Los Angeles, Owens Valley, and Mono Basin, CA (Contract Manager)
Since 2008, Sarah has been the overall contract manager for a task order-based master services

** denotes projects completed with other firms*

agreement (MSA) to provide environmental assessment and air quality services for a wide range of City projects—both water and power related. Since 2016, she has also served as project manager for task orders under another MSA with LADWP—the Eastern Sierra Water Resources Management Assistance contract. Sarah has directly managed more than 80 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 environmental review of a penstock replacement (Haiwee Penstock project). The Haiwee project would install 2 miles of new 84-inch penstock from South Haiwee Reservoir to the Haiwee Power Plant in order to increase the reliability of the water conveyance system as well as improve operability of the power generating system. The Haiwee Power Plant consists of two 2.5 MW hydroelectric generating units originally constructed and put in service in 1927.

To coordinate archaeological issues on Owens Lake for LADWP, Sarah was the initial facilitator for the Owens Lake Cultural Resources Task Force. She has conducted public and agency scoping meetings for LADWP for a range of projects in the Owens Valley. Her agency coordination for Department projects has ranged from the California State Lands Commission, to the California Department of Fish and Wildlife, to Regional Water Quality Control Boards.

Los Angeles County Waterworks District 29 Water System Master Plan Program EIR, County of Los Angeles Department of Public Works, Alhambra, CA (Environmental Project Manager)
Sarah recently managed the preparation of a Program EIR for a Water System Master Plan in the City of Malibu and unincorporated area of Tujunga. The Master Plan identifies Phase I Improvements, to be addressed within the first 5 years: 5 above ground tank reservoirs, 29 pipeline segments and an emergency connection pipeline (pipelines totaling approximately 17 miles), and water quality improvements in multiple zones. Key issues for the EIR were compliance with the Coastal Plan, including protection of trees along proposed pipeline alignments during construction.

Environmental Regulatory Assessment, California American Water, Rosemead, CA (Project Scientist)
Sarah conducted an environmental regulatory assessment and prepared an environmental compliance program for the water company. Sarah conducted site visits at various facilities in all six districts of the company. Existing operations were compared for applicability to federal, state, and local environmental regulations. The compliance program includes written procedures for 18 major environmental laws and regulations covering the areas of air, water, biologic resources, noise, hazardous materials, and waste. A preconstruction checklist was prepared to assist the company with environmental compliance for future projects.

Graves Reservoir Project, City of South Pasedena, Public Works Department, Pasadena, CA (Environmental Lead)
For a proposed reservoir in a residential area, Sarah 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.

** denotes projects completed with other firms*

Chris Mote PE

Civil Engineering Lead

Chris has 16 years of engineering experience focusing on wet infrastructure utilities design and construction phase services. He has worked as a project engineer on numerous projects involving sanitary sewer collections systems, pump stations, domestic water distribution systems, potable water wells, recycled water distribution systems, water storage facilities, and wastewater treatment plants. His wide range of experience has given him unparalleled experience in coordination of design and planning documents

EDUCATION

Bachelor of Science, Civil Engineering, Purdue University, West Lafayette, Indiana, 1998

Master of Science, Civil and Environmental Engineering, Purdue University, West Lafayette, Indiana, 2000

REGISTRATIONS

Professional Engineer #C87384, State of California 2001/01/01 - 2019/30/09

PROJECT EXPERIENCE

Pure Water San Diego Program, Public Utilities Department, San Diego, CA (Pump Station Task Manager/Project Engineer)

Chris provided project management and preliminary design phase services for a new 32-MGD sanitary sewer pumping station, screening facilities, ferric chloride feed facilities, 24-inch-diameter 11-mile steel sanitary sewage force main, and 48-inch-diameter 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 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 San Diego G&E, and federal land owned by the Department of Defense.

P-1045 North/South Potable Water Conveyance Project - RFP Development, Naval Facilities Engineering Command (NAVFAC), Camp Pendleton, CA (Hydraulic Engineer)

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. The 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, and was completed in 210 calendar days—meeting every deadline requested by the client. The proposed HDPE and ductile iron water pipelines are 8, 12, and 16 inches in diameter.

Graves Reservoir Replacement Project, City of South Pasedena, Public Works Department, Pasadena, CA (Project Engineer)

Chris provided preliminary design and design phase services for a new 1-MG; cast-in-place concrete reservoir; new pump station; 2,000 linear feet of 8-, 12-, and 16-inch-diameter PVC and steel transmission pipeline; and on-site chlorination equipment. 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.

** denotes projects completed with other firms*

Chris Mote PE

Civil Engineering Lead

Devil's Gate to Eaton Wash Pump Station and Pipeline, Los Angeles County Department of Public Works, Los Angeles, CA (Project Engineer)
Chris provided feasibility level design services for a new 11,200-gpm pump station and 24,000 linear feet of 30-inch-diameter pipe to convey stormwater from behind Devil's Gate Dam to Eaton Wash. The pipeline will be constructed of both steel and high-density polyethylene (HDPE). 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.

NAVFAC P-1046 RFP Development, Naval Facilities Engineering Command (NAVFAC), San Diego, California (Project Manager)
Chris managed the development of a design-build RFP package for Camp Pendleton. The project consists of a preliminary design report and 60% drawings for 6 miles of sanitary sewers, 8 miles of recycled water pipe, two steel reservoirs, and an advanced treatment system. This work was conducted on an extremely tight schedule, and was completed in 190 calendar days—meeting every deadline requested by the client. The proposed HDPE and ductile iron water pipelines are 8-, 12-, 16-, and 24-inches-in-diameter.

Water Distribution System/Town of Windfall Water System Improvements, City of Windfall, Windfall, IN (Project Manager)
Chris provided design phase services for approximately 34,000 linear feet of small diameter water distribution piping, a new groundwater treatment plant, and a new 120,000-gallon water tower.

Coleville Water Treatment System Study, NAVFAC, Coleville, CA (Project Engineer)
Chris provided engineering and project management services for the identification of flaws in two existing water treatment systems at the Navy Mountain Warfare Training Centre. The existing systems are not removing sufficient manganese or arsenic to comply with DDW standards and the deficiencies must be identified and solutions provided to comply with state standards.

On-Call Engineering Services, Metropolitan Water District of Southern California, Los Angeles, California (Project Manager/Project Engineer)
Chris provided project management and project engineering services for many Metropolitan Water District task orders under our on-call services agreement. These task orders consist of staff augmentation, feasibility reports for pump stations, hydraulic analysis of the Rialto Pipeline, pipeline design, upgrading of existing hydropower facilities, cost estimating services, design of solar power facilities, and others. The Rialto Pipeline Analysis and Design Task Order involved a 2,400 linear foot steel pipeline ranging in size from 12- to 24-inches-in-diameter.

Post-Rawles Sanitary Sewer Improvements*, Indianapolis Department Of Public Works, Indianapolis, IN (Project Manager)
Chris provided design phase services for approximately 18,000 feet of 8-inch and 10-inch-diameter gravity sanitary sewers, jack-and-bore under under two roadways which needed to remain in operation, and a new pump station. His duties included client communication, design decisions, permitting, and management of CAD personnel.

** denotes projects completed with other firms*

Simon Lin PhD, PE, SE

Structural Engineering Lead

With more than 15 years of national and international experience as a Civil/Structural Engineer, Simon has a strong structural analysis background with hands-on structural design and project management experience. His professional expertise includes water delivery facilities, earthquake engineering, seismic retrofit and design, and applications of advanced technologies.

EDUCATION

Doctor of Philosophy, Civil/Structural Engineering, University of California, Irvine, Irvine, California

REGISTRATIONS

Registered Civil Engineer #C73920, State of California

Licensed Structural Engineer #S5911, State of California

Disaster Service Worker (DSW) Volunteer #SAP 64451, State of California

PUBLICATIONS

Lin, S. Buckling Restrained Braced Frame (BRBF) Structures: Analysis, Design and Approvals Issues. SEAOC Convention, Long Beach, CA, 2006.

Lin, S. Viscous Fluid Damper Retrofit of Pre-Northridge Steel Moment Frame Structures. SEAOC Convention, Squaw Creek, CA, 2007.

Lin, S. Performance Based Seismic Retrofit of the Los Angles Downtown Women's Center Project. ATC&SEI Conference, San Francisco, CA, 2009.

Lin, S. BRB Seismic Retrofit of Pre-Northridge Steel Moment Frame Building. SEAOC Convention, Indian Wells, California, 2010.

PROJECT EXPERIENCE

Basins 2 and 3 Collection System Improvements, City of San Mateo, San Mateo, CA (Structural Engineer)

Simon has been working this project as one of key structural engineers. The improvements in Basins 2 & 3 of collection system include: Install a new minimum 4.2 MG in-system flow equalization storage facility, including associated pumping and odor control; Upgrade /expand 3 existing pump stations, including expansion of the firm pumping capacity to meet peak wet weather flows, rehabilitation of wet wells, and upgrading of piping and electrical systems; Install approximately 6 miles of new parallel and upsized gravity sewers and force mains, ranging in size from 8inches to 48 inches, and provide rehabilitation of some force mains.

Structural Assessment of Activated Sludge Selectors and Aeration Basins, Valley Sanitary District, Indio, CA (Lead Structural Engineer)

Simon has been working on this project as a lead structural engineer. This project includes structural assessment of the existing Activated Sludge Selectors and Aeration Basins. A condition assessment using visual observations and non-destructive testing is performed for the existing concrete basins (selectors, aeration basins), safety railing and concrete bridge above aeration tanks. The final technical memorandum summarizes the findings and recommendations as well as an AACE concept level cost estimate for the recommended repair approach.

** denotes projects completed with other firms*

Sustainable Water Infrastructure Project, City of Santa Monica, Santa Monica, CA (Lead Structural Peer Reviewer)
As a lead structural peer reviewer, Simon is involved in the large progressive design build project of sustainable water infrastructure for the City of Santa Monica. The project includes four component as follows, a).SMURRF upgrades for reverse osmosis and ultra-violet treatment system; b).Memorial park stormwater harvesting system; c). Civic center stormwater harvesting system; and d).Advanced water treatment facility. My role in this project is to review the structural design and constructability for all structural related components, also provide expert recommendations to the design team and the City of Santa Monica with considering a reasonable construction cost.

Seismic Retrofit for Water Quality Control Plant, City of Simi Valley*, Simi Valley, CA (Principal Structural Engineer)
Simon was the principal structural engineer for this project. Seismic retrofit design of six 1970s era buildings located at the Water Quality Control Plant in Simi Valley. Each structure required seismic upgrades to provide adequate masonry wall anchorage to the flexible wood roof diaphragm and to provide a complete load path to distribute wall forces into the roof diaphragms. Coordination of demolition, architectural ceiling repairs and other nonstructural components were provided to assist the City of Simi Valley with preparing a general contractor RFP for the proposed seismic upgrades.

Structural Evaluation of Santa Barbara El Estero Waste Water Treatment Plant*, City of Santa Barbara, Santa Barbara, CA (Project Manager)
Simon worked as the project manager of this project, in which structural and corrosion engineering assessment and evaluation of the existing 1970s era concrete process structures, support and maintenance buildings as part of an overall asset management plan (19 concrete structures in total). The assessment included concrete condition, seismic evaluation, corrosion considerations, expected serviceability and performance, and recommendations for repairs and upgrades. A detailed report prioritized repairs and made recommendations for future improvements as part of an overall capital improvement plan. The report aids the City of Santa Barbara to allocate funds for future improvements and maintenance.

South Bay Inter. Waste Water Treatment Plant New Admin. Building*, International Boundary & Water Commission, San Diego, CA (Structural Engineer)
Simon was the project structural engineer of this project, in which we provided civil, structural, mechanical, electrical, and fire protection engineering services for the Design Build construction of a new administration building for the South Bay International Waste Water Treatment Plant. The structural design included the Unified Facilities Criteria - Department of Defense Minimum Antiterrorism Standards for Buildings. The project was finished successfully in budget and on schedule.

** denotes projects completed with other firms*

Ed Pascua PE, LEED AP

Mechanical Engineering Lead

Ed has 19 years of experience working as a mechanical engineer on water and wastewater treatment projects. He has been involved in the design and construction of numerous pump stations throughout his career. Ed specializes in mechanical pumping systems, surge analysis, and water treatment unit processes. He has been responsible for mechanical predesign reports, mechanical designs, equipment and piping condition assessments, pump station design and optimization, and provided construction support for both water pump stations and treatment plants.

EDUCATION

BS, Mechanical Engineering, University of Notre Dame, Notre Dame, Indiana, 1994

MBA, Business, University of Hawaii, Hawaii, Hawaii, 1996

REGISTRATIONS

Mechanical Engineer #32213, California Board for Professional Engineers, Land Surveyors, and Geologists

MEMBERSHIPS

Member, American Society of Mechanical Engineers

PROJECT EXPERIENCE

North Valley Regional Recycled Water Program Design-Build Services, City of Modesto, Modesto, CA (Lead Mechanical Engineer)

Ed led the mechanical design of this project, which included seven miles of 42-inch-diameter pipeline, a 32 MGD effluent pump station, a horizontally directionally drilled (HDD) crossing of the San Joaquin River, and an outfall at the Delta Mendota Canal. The project is being constructed as a design-build project to provide treated effluent from the City's treatment plant to the Delta Mendota Canal to provide agricultural customers relief from water supply shortages. Challenges included conducting computational fluid dynamic (CFD) modeling and physical test model for the existing pump wet well in order to meet Hydraulic Institute performance criteria, performing geotechnical analysis and recommendations to accommodate liquefiable soil conditions, and meeting permitting constraints and delivering the work to meet aggressive schedule requirements.

LVMWD Rancho Las Virgenes Compost Facility Amendment Bin Replacement Design and Construction, Las Virgenes Municipal Water District, Calabasas, CA (Lead Mechanical)

Ed led the mechanical design for LVMWD's Amendment Bin replacement project at the RLVCF. This project included initial investigation of the facility and a PDR presenting alternatives for future operation of the facility. The project called for replacement of LVMWD existing 330 cubic yard bin with a smaller alternative that would lead to less detention time for the amendment used at the facility.

Durango Hills Water Resource Center Process Upgrades Project, City of Las Vegas, Las Vegas, NV (Lead Mechanical Engineer)

Ed provided the mechanical design for process upgrades at the Durango Hills WRC. The project included replacement of two granular media filter cells with cloth media filters, addition of a 12,000-gallon sodium hypochlorite storage and feed facility, replacement of a UV disinfection system with a 10 MGD chlorine contact basin, replacement of existing screening equipment with perforated plate screens, replacement of the plant's non-potable water system, and miscellaneous upgrades to the clarifier scum

** denotes projects completed with other firms*

collection, aeration process air compressors, and secondary effluent channel isolation.

Lancaster Water Reclamation Plant Stage 5 Plant Expansion, Sanitation Districts of Los Angeles County, Lancaster, CA (Lead Mechanical Engineer)
Ed provided detailed mechanical design for the expansion and upgrade of this 16 MGD plant. The existing facility provides primary and secondary (oxidation pond) treatment with solids digestion and air-drying. New facilities are required to increase plant capacity, upgrade nitrogen removal treatment, and produce recycled water for unrestricted reuse. Detailed design included adding aeration tanks, final sedimentation tanks, tertiary filters, chlorine contact tanks, polymer, liquid alum, sodium hypochlorite, and ammonia storage and feed facilities, equalization basins, a sludge dewatering building, sludge handling facilities, and provisions for future expansion of existing facilities to 21 MGD.

Dual Media Filters Phases 3 and 4, City of Las Vegas, Las Vegas, NV (Lead Mechanical Engineer)
Ed led the mechanical design for the expansion of the filtration facilities at the Client's central plant and provided the detailed mechanical design for the related pump stations. The project included the addition of 16 gravity media filters, the addition and rehabilitation of UV disinfection channels, the addition of a new filter influent pump station, the expansion of the backwash and washwater pump stations, the addition of a new equalization basin, the expansion of the blower building, and related piping. Ed contributed to the design of all pump stations, pump, pipe, and valve specifications, and provided oversight of all mechanical design activities for the project.

RP-1 Asset Management and Dechlorination Station Upgrades, Inland Empire Utilities Agency, Ontario, CA (Mechanical Engineer)
Ed provided mechanical design for the modification and replacement of existing equipment and facilities at the owner's Regional Plant No. 1. The improvements made to the facility include the upgrading of the chemical metering pump equipment and piping, replacing the primary sludge collection equipment, rehabilitating the slide gates at the headworks, and replacing the channel aeration piping.

Basins 2 and 3 Collection System Improvements, City of San Mateo, San Mateo, CA (Lead Mechanical Engineer)
Ed led the mechanical design which includes a series of technical, environmental and social analyses leading to elimination of sanitary sewer overflows and an upgrade of sewer capacity. The results of the analyses recommended a series of critical wastewater upgrades for design and construction. Projects identified in Basins 2 and 3 includes 11 relief sewers, 3 pump station replacement/upgrade projects, and an in-system storage facility. Alternatives that eliminate SSOs in the design storm were developed to conceptual design level by Stantec.

Otay Water Treatment Plant Upgrade Project, City of San Diego, San Diego, CA (Mechanical Engineer)
Ed provided mechanical design for the modification and expansion of the existing chemical equipment and facilities at the owner's 60 MGD plant. Modifications included the addition of a chlorine dioxide generator and contactor, addition of chemical feed tanks, addition of an ammonia feed system, addition of chemical dosing points, addition of rapid mix equipment, and miscellaneous mechanical upgrades on the plant.

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Kavoos Farahani PE

Electrical Engineering and I&C Lead

Kavoos is a licensed professional engineer and electrical systems designer with over 25 years' experience in various public/private infrastructure projects, including water/wastewater treatment plants and networks. As a senior engineer, Kavoos has supervised electrical works across the entire project timeline, from design to commissioning. He also has provided electrical services, including design calculation and equipment selection, for various industrial, process and infrastructural facilities such as MV/LV substations, switchgears, transformers, switchboards, motor control centers (MCC), protection relays, starters, generators, transfer switches, grounding systems, lightning protection, lighting, and small power wiring. In addition, Kavoos has considerable experience with control systems (PLC/HMI/SCADA based projects), control theories, process instruments and analyzers in water and wastewater projects.

EDUCATION

MSc., Electrical Engineering, Shiraz University

REGISTRATIONS

Member, Professional Engineers of Ontario, Canada

Licensed Professional Engineer, Board for Professional Engineers, Land Surveyors, and Geologists, State of California, U.S.A.

PROJECT EXPERIENCE

Pre-Contract Professional Consultancy Services for Sewage Pumping Stations Refurbishments*, CP771- PS IA2 & 44 Public Works Authority (ASHGHAL) (Lead Electrical Engineer)

Kavoos is Lead Electrical Engineer responsible for designing, coordination and managing of the power design system, control, instrumentation and automation (ICA) of the proposed sewage pumping stations in the project area.

The project is including the upgrades for two existing pumping stations with target pumping capacity of 720 l/s and 1400 l/s. The project includes concept, detail design and tender package preparation. The following pump configuration is utilized in the design:

PS IA2- 720 l/s, total 6 submersible pumps (2 duty + 1 standby each wet well), 180KW VFD drive

PS 44- 1400 l/s, total 6 submersible pumps (2 duty + 1 standby each wet well), 315KW VFD drive

The station is designed to have full automatic control system with telecommunication to the Client's central SCADA.

The total cost at is estimated around USD14 million.

Independent Water Project, Seawater Reverse Osmosis Desalination Plant at Barka*, Oman (Lead Electrical Engineer)

Kavoos is the lead Electrical Engineer responsible for the review and evaluation of the EPC contractor's submittals for electrical, control, instrumentation and automation (ICA) system design and documentation, in compliance with project documents. MWH and Egis present the Owner's Engineer for SPC/ the consortium of four companies

The project consists of seawater reverse osmosis Desalination plant of 281000 m3/day produced water capacity with a total construction cost of around USD 300 million. The project involves offshore intake facilities and piping, seawater pumping station with screens, Dissolved air floatation units, Dual media gravity filters, 1st Pass RO trains and energy recovery device, 2nd pass RO trains, potabilization units, disinfection units, fluoride injection , RO pre and post chemical injection units and sludge treatment units.

** denotes projects completed with other firms*

C823 Sheehaniya Strategic Sewer & Forwarding Pump Station*, Public Works Authority (ASHGHAL) (Lead Electrical Engineer)
Kavoos is Lead Electrical Engineer responsible for designing of the power distribution, control, instrumentation and automation (ICA) of the combination of proposed sewage pumping stations in the project area.
The project is comprising of existing and new pumping stations with total approximate pumping capacity of 2800 l/s. The existing stations shall be upgraded to meet the project new capacity. The project include concept, Preliminary, detail design and tender package preparation. Currently the concept design has completed and the prelim design shall be commenced upon Client's approval. Depending on the capacity of stations, the wet well or dry well submersible pumps shall be utilized. The station shall be designed to have full automatic control system with telecommunication to the Client's central SCADA. The total cost at preliminary stage is estimated around USD 178 million.

Port Darlington Water Pollution Control Plant Phase II Expansion*, City of Clarington, Ontario (Electrical Engineer Contract Admin)
To meet its environmental goals, the city government found that it needed to double the capacity of this water treatment facility to nearly 40 MLD. This expansion required a new energy building, standby diesel generator system (2000 kW) and power transformer station (2,500 kVA), as well as upgrades to the existing pumping systems and instrumentation and SCADA for the entire plant. Kavoos was responsible for contract administration, reviewing shop drawings, and reviewing and responding to requests for information. He was also responsible for site preparation, construction supervision and reporting on construction progress.

Development of Water Standard Design Guidelines*, Abu Dhabi Transmission & Dispatch Company (TRANSCO) (ICA Specialist)
Kavoos is engaged in this project as an Instrumentation, control and automation (ICA) specialist. The project involves development of water design guidelines for the Abu Dhabi Water Transmission Company, as well as Standard project specifications and standard detail drawings based on the latest technology, national and international regulations and standards

Lakeside Sewage Pumping Station Upgrades and Rehabilitation*, Halifax Water, Nova Scotia, 2013 (Lead Electrical engineer)
Kavoos was responsible for designing the electrical upgrades necessary for an existing sewage pumping station. The project included replacing three 20-hp vertical pumps with three 75-hp dry-pit submersible pumps equipped with solid-state starters, a new automatic control system, an MCC, transfer switch, gas detection system and ventilation system for both dry well and wet well. In this design, Kavoos incorporated one 400-kW, 600-V diesel generator to supply emergency power.

Mattagami Water Pollution Control Plant, Upgrade to Secondary Treatment*, City of Timmins, Ontario (Senior Electrical engineer)
Kavoos was responsible for designing the electrical upgrades at an existing primary treatment facility and a new electrical system for a secondary treatment facility. His design included a 13.8-kV substation, a 600-V power distribution system, main switchgears, a diesel generator, a transfer switch, a PLC-controlled interlocking and switching system, MCCs, variable frequency drives, control schematics, and local control panels for both treatment facilities.

** denotes projects completed with other firms*

Stantec

Stantec Consulting Services Inc.
300 N Lake Ave #400 Pasadena, CA 91101

April 5, 2019

Attention: Brett Dingman, P.E.
Las Virgenes Municipal Water District (LVMWD)
4232 Las Virgenes Road
Calabasas, CA 91302

Reference: Fee Proposal for Tapia Water Reclamation Facility Summer Season Waste Load Allocation Compliance Design and Services During Construction Project

Dear Mr. Dingman,

Stantec Consulting Services Inc. (Stantec) has prepared a cost estimate to perform engineering services pursuant to the Tapia Water Reclamation Facility Summer Season Waste Load Allocation Compliance Design and Services During Construction Project. The level of effort and estimated fee are presented in the following table. Costs are itemized by subtask as defined in the Scope of Work and include other direct costs. Our estimated cost to perform the scope of work is $191,437. We have also identified optional services for consideration by the JPA; the total estimated cost for the optional services is $46,931. The costs presented herein are based on our understanding of the scope of work as provided in the Request for Proposal; we are available to discuss our fee and assumptions further and make any adjustments necessary to meet the needs of the JPA. A Schedule of Hourly Rates is also provided by staff classification. Stantec proposes to conduct this work on an hourly rate basis.

If you have any questions, please contact Zakir Hirani at (626) 568 6093.

Sincerely,

Stantec Consulting Services Inc.

Zakir Hirani, PE
Project Manager (626) 568-6093
zakir.hirani@stantec.com

James Borchardt, PE
Principal-in-Charge (626) 568-6283
james.borchardt@stantec.com

SCHEDULE OF BILLING RATES – 2019

Billing Level	Hourly Rate	Description
3 4 5	$102 $107 $121	**Junior Level position** ❑ Independently carries out assignments of limited scope using standard procedures, methods and techniques ❑ Assists senior staff in carrying out more advanced procedures ❑ Completed work is reviewed for feasibility and soundness of judgment ❑ Graduate from an appropriate post-secondary program or equivalent ❑ Generally, one to three years' experience
6 7 8	$126 $137 $142	**Fully Qualified Professional Position** ❑ Carries out assignments requiring general familiarity within a broad field of the respective profession ❑ Makes decisions by using a combination of standard methods and techniques ❑ Actively participates in planning to ensure the achievement of objectives ❑ Works independently to interpret information and resolve difficulties ❑ Graduate from an appropriate post-secondary program, with credentials or equivalent ❑ Generally, three to six years' experience
9 10 11	$152 $158 $168	**First Level Supervisor or first complete Level of Specialization** ❑ Provides applied professional knowledge and initiative in planning and coordinating work programs ❑ Adapts established guidelines as necessary to address unusual issues ❑ Decisions accepted as technically accurate, however may on occasion be reviewed for soundness of judgment ❑ Graduate from an appropriate post-secondary program, with credentials or equivalent ❑ Generally, five to nine years' experience
12 13 14	$177 $185 $201	**Highly Specialized Technical Professional or Supervisor of groups of professionals** ❑ Provides multi-discipline knowledge to deliver innovative solutions in related field of expertise ❑ Participates in short and long range planning to ensure the achievement of objectives ❑ Makes responsible decisions on all matters, including policy recommendations, work methods, and financial controls associated with large expenditures ❑ Reviews and evaluates technical work ❑ Graduate from an appropriate post-secondary program, with credentials or equivalent ❑ Generally, ten to fifteen years' experience with extensive, broad experience
15 16 17	$211 $225 $234	**Senior Level Consultant or Management** ❑ Recognized as an authority in a specific field with qualifications of significant value ❑ Provides multi-discipline knowledge to deliver innovative solutions in related field of expertise ❑ Independently conceives programs and problems for investigation ❑ Participates in discussions to ensure the achievement of program and/or project objectives ❑ Makes responsible decisions on expenditures, including large sums or implementation of major programs and/or projects ❑ Graduate from an appropriate post-secondary program, with credentials or equivalent ❑ Generally, more than twelve years' experience with extensive experience
18 19 20 22	$237 $245 $255 $300	**Senior Level Management under review by Vice President or higher** ❑ Recognized as an authority in a specific field with qualifications of significant value ❑ Responsible for long range planning within a specific area of practice or region ❑ Makes decisions which are far reaching and limited only by objectives and policies of the organization ❑ Plans/approves projects requiring significant human resources or capital investment ❑ Graduate from an appropriate post-secondary program, with credentials or equivalent ❑ Generally, fifteen years' experience with extensive professional and management experience

Survey Crews	Crew Size	Regular Rate	Overtime Rate
	1-Person	$190	$220
	2-Person	$285	$375
	3-Person	$375	$500

T-3 2019

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:
   - Living and traveling expenses including mileage of employees when away from the home office on business connected with the services;
   - Mileage will be charged at the prevailing IRS rates;
   - 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 5 percent to cover overhead, administration, other indirect costs and profit.
3. Payment shall be due within 21 days after date of monthly invoice describing the work performed and expenses incurred during the preceding month.
4. Above rates are valid for the year 2019. A 3% fee escalation will be applied to the above hourly rates on January 1st of each consecutive contract year.
5. Stantec reserves the right to adjust rates based on changes in compensation for project team members.

Las Virgenes - Triunfo JPA - Tapia WRF Summer Season Waste Load Allocation Compliance Design and Services During Construction																
		$300/hr	$300/hr	$245/hr	$225/hr	$211/hr	$185/hr	$158/hr	$137/hr	$121/hr	$102/hr					
Task	Activity Description	Principal-in-Charge	Technical Advisor	Supervising Engineer - I	Supervising Engineer - II	Professional Engineer - I	Professional Engineer - II	Associate Engineer - I	Associate Engineer - II	Junior Engineer	Admin Assistant	TOTAL HOURS	Labor Charge	Other Direct Costs (ODCs)	Subcontractor	Total Charge
		$300.00	$300.00	$245.00	$225.00	$211.00	$185.00	$158.00	$137.00	$121.00	$102.00					
1	Project Management			26				28			8	62	$11,610	$525		$12,135
2	Data Collection and Review				8	8	12		4			32	$6,256			$6,256
3	Detailed Design	12	24		28	128	102	40	336	160	8	838	$135,506			$135,506
4	Bid Phase Support				4	4	8	12	12			40	$6,764			$6,764
5	Engineering Services During Construction				4			34	60	40		138	$19,332			$19,332
6	Permitting			16		12		12	12	12		64	$11,444			$11,444
	TOTAL	**12**	**24**	**42**	**44**	**152**	**122**	**126**	**424**	**212**	**16**	**1174**	**$190,912**	**$525**	**$0**	**$191,437**
	OPTIONAL TASKS															
7	Utility Research and Mapping						8					8	$1,480		$15,000	$16,480
8	Parshall Flume Removal				8		8			32		48	$7,152			$7,152
9	Detailed Permitting Support			20		40		26		6		92	$18,174	525		$18,699
10	Update of Operations and Maintenance Manuals			2					30			32	$4,600			$4,600
	OPTIONAL TASKS SUBTOTAL	**0**	**0**	**22**	**8**	**40**	**16**	**26**	**30**	**38**	**0**	**180**	**$31,406**	**$525**	**$15,000**	**$46,931**

TOTAL W/ OPTIONAL TASKS	**$238,368**

April 29, 2019 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : Rancho Las Virgenes Centrate Storage Tank Project Takeover Agreement: Final Acceptance

SUMMARY:

On June 20, 2018, the JPA executed a Takeover Agreement with Travelers Casualty and Surety Company of America (Travelers) for the completion of construction of the Rancho Las Virgenes Centrate Storage Tank Project. The agreement provided a means of completing the project based on a negotiated scope of work that was performed by a completing contractor, CSI Electrical Contractors, Inc. The work outlined within the agreement has been completed, and there are no outstanding issues to prevent acceptance of the subject work and release of payments pursuant to the terms of the agreement.

Based on the terms of the Takeover Agreement, acceptance of the work obligates the JPA to pay the remaining estimated general contract amount of $176,925.28, less any amounts that must be withheld, to Travelers. Further, the agreement provides that Travelers must defend, hold harmless and indemnify the JPA from any loss that may arise as a result of "claims, stop notices, liens, suits and demands." Stop notices totaling $47,568.32 have been filed against the project. This amount must be released to Travelers pursuant to the terms of the agreement.

However, the Department of Industrial Relations (DIR) has instructed the JPA to withhold a Civil Wage and Penalty Assessment, in the amount of $118,152.48. The Takeover Agreement does not expressly provide for the release of these encumbered funds, nor does it obligate Travelers to provide indemnification to the JPA for the same. As a result, staff recommends that the JPA continue to withhold $118,152.48 per DIR instructions.
The remaining funds, in the amount of $58,772.80, are recommended for release.

RECOMMENDATION(S):

Accept the work completed under the Takeover Agreement with Travelers Casualty and Surety Company of America; authorize the Administrating Agent/General Manager to execute a Notice of Cessation of Labor and have the same recorded; withhold a Civil Wage and Penalty Assessment, in the amount of $118,152.4, per Department of Industrial Relations instructions; and release the remaining funds, in the amount of $58,772.80, within 30 calendar days after filing the Notice of Cessation of Labor for the Rancho Las Virgenes Centrate Storage Tank Project.

FISCAL IMPACT:

No

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

There is no financial impact associated with final acceptance of the work performed pursuant to the Takeover Agreement and filing a Notice of Cessation of Labor for the project.

Prepared by: Eric Schlageter, P.E., Senior Engineer

April 29, 2019 JPA Board Meeting

TO: JPA Board of Directors

FROM: Resource Conservation & Public Outreach

Subject : Pure Water Demonstration Project: Service Agreement for Visitor Experience Elements

SUMMARY:

The visitor experience is a key component of the Pure Water Demonstration Project, which will serve to educate the JPA's customers on the future full-scale Pure Water Project Las Virgenes-Triunfo. Astound Group (Astound) completed the conceptual plans for the visitor experience elements of the Pure Water Demonstration Project. The attached agreement is for all remaining design efforts, fabrication and the installation of graphics, signs and related items associated with the visitor experience.

RECOMMENDATION(S):

Authorize the Administering Agent/General Manager to execute a service agreement with Astound Group, in the amount of $159,397, plus applicable sales tax, for the design, fabrication and installation of graphics, signs ad related items associated with the visitor experience for the Pure Water Demonstration Project.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

The cost of the work will be $159,397, plus applicable sales tax. Sufficient funds are available for this work in the adopted Fiscal Year 2018-19 JPA Budget.

DISCUSSION:

On March 4, 2019, the conceptual design for the visitor experience portion of the Pure Water Demonstration Project was presented to the JPA Board. Staff received feedback from the Board, including the placement of signage on the front of the building, which has been

incorporated into the plans. Attached is a copy of the revised renderings for the building signage. The next phase of work consists of developing detailed designs, fabricating and installing customized graphics, signs and related items that are key components of the visitor experience that will be important to educate the JPA's customers.

The type of work for this project is highly specialized and does not lend itself to the traditional design, bid and build process. The majority of the effort with this type of work is the design and off-site fabrication. Only a very small amount of the cost is for actual on-site installation. Since Astound has already completed the conceptual design and is familiar with the project, staff believes it would be appropriate and most efficient to have them continue the work effort for the visitor experience. In accordance with the terms of the proposed Service Agreement, all of the work is to be completed by November 15, 2019. The architectural work and building improvements for the Pure Water Demonstration Project, as well as the demonstration garden are being competitively bid under separate contracts.

Astound is an award-winning design and fabrication company that specializes in the delivery of state-of-the-art exhibits, events and environments around the world. The company consists of a multi-disciplinary team of architects, designers, fabricators, installers and project managers with the knowledge and ability to deliver these types of projects. Astound has been very responsive to requests made by staff during the conceptual design phase and has demonstrated that they can provide high quality work in a timely and cost effective manner.

Prepared by: Joe McDermott, Director of Resource Conservation and Public Outreach

ATTACHMENTS:

Proposed Service Agreement
Pure Water Demonstration Project - Revised Building Signage

AGREEMENT FOR SERVICES

This Agreement is entered into this _____ day of _____, 20__, by and between the LAS VIRGENES MUNICIPAL WATER DISTRICT ("DISTRICT"), and ASTOUND GROUP ("CONTRACTOR"). Hereinafter, DISTRICT and CONTRACTOR are referred to collectively as "Parties."

1. **Scope of Work.** This agreement sets forth the terms under which CONTRACTOR shall, in good workmanlike and professional manner, perform the services described in Exhibit "A" for DISTRICT.

2. **Term.**

☒This agreement shall commence on the date above written, and shall continue until completion of the services described above.

☐The term of this Agreement shall be for a period of approximately [days, weeks, months, years,] commencing on [date] and concluding [date].

3. **Labor and Equipment.** CONTRACTOR will furnish labor, equipment, and materials necessary to perform the work, except equipment and materials to be provided by DISTRICT, as set forth in Exhibit "B".

CONTRACTOR may use the equipment or materials provided by DISTRICT necessary for the performance of the work and should the equipment or materials be lost, damaged, or destroyed, CONTRACTOR will reimburse DISTRICT with equipment and materials of equal value, and for costs and expenses incident to the replacement.

4. **Time of Work.** CONTRACTOR will perform CONTRACTOR'S duties described in the Agreement during the hours of 7:30 am to 5:00 pm, Monday through Friday and not including legal holidays for on-site work activity unless otherwise approved by DISTRICT. In any event, CONTRACTOR will perform CONTRACTOR'S duties in a manner to avoid inconvenience to the users of the DISTRICT'S premises and to avoid interference with DISTRICT'S operations.

5. **Compensation and Reimbursement.** DISTRICT shall compensate and reimburse CONTRACTOR, including all reimbursable expenses, as provided in Exhibit "C" entitled "Fee Schedule" attached hereto and made a part hereof. CONTRACTOR shall submit invoices no more frequently than monthly and no less than every quarter. Payment shall be made by the District within 30 days of receipt of an accurate invoice.

6. **Termination.**

(a) The DISTRICT may terminate or cancel this Agreement, in whole or in part, without liability to the DISTRICT, if CONTRACTOR fails to perform in accordance with the requirements of Section 1 – Scope of Work of this Agreement, or in the event of a substantial breach of any of the other terms or conditions hereof.

(b) Either party may terminate this agreement on thirty (30) days' written notice for any reason. If this contract is terminated by District without cause, District shall pay

Contractor for work performed prior to the date the notice of termination is received by contractor. If the contract is terminated by Contractor without cause, Contractor shall reimburse Agency for additional costs to be incurred by Agency in obtaining the work from another consultant.

7. **No Subcontracts or Assignments.** Neither any part nor all of this Agreement may be assigned or subcontracted, except as otherwise specifically provided herein, or to which DISTRICT, in its sole discretion, consents to in advance thereof in writing. Any assignment or subcontracting in violation of this provision shall be void.

8. **Maintenance of Records.** CONTRACTOR shall maintain all books, documents, papers, employee time sheets, accounting records, and other evidence pertaining to fees and costs incurred for each assignment and shall make such materials available at its office at all reasonable times for three (3) years from the date of the close of each individual assignment under this Agreement, for inspection by DISTRICT and copies thereof shall be furnished, if requested.

9. **Independent Contractor.** At all times during the term of this Agreement, CONTRACTOR shall be an independent contractor and shall not be an employee of the DISTRICT. DISTRICT shall have the right to control CONTRACTOR only insofar as the results of CONTRACTOR'S services rendered pursuant to this Agreement; however, DISTRICT shall not have the right to control the means by which CONTRACTOR accomplishes such services. Except as DISTRICT may specify in writing, CONTRACTOR shall have no authority, expressed or implied, to act on behalf of DISTRICT in any capacity whatsoever as an agent. CONTRACTOR shall have no authority, expressed or implied, pursuant to this Agreement to bind DISTRICT to any obligation whatsoever.

10. **Compliance with Applicable Law.**

(a) CONTRACTOR agrees to comply with all federal, state, county, and local laws, ordinances, and regulations applicable to the work to be done under this contract.

(b) CONTRACTOR and sub-consultants will not pay less than the prevailing rates of wages. A determination of the general prevailing rates of per diem wages and holiday and overtime work where the work is to be performed is on file at the DISTRICT's offices. Should the prevailing wage rules apply to any of the work described in Exhibit A, CONTRACTOR will post one copy of the prevailing rates of wages at the job site. CONTRACTOR shall comply with all prevailing wage requirements under the California Labor Code and CONTRACTOR shall forfeit as penalty to the DISTRICT a sum of not more than $200.00 for each calendar day, or portion thereof, for each worker paid less than the prevailing rates. This penalty shall be in addition to any shortfall in wages paid.

11. **Eligibility for Employment in the United States.** CONTRACTOR shall complete and keep on file, as appropriate, the Immigration and Naturalization Service Employment Eligibility Form (I-9). This form shall be used by CONTRACTOR to verify that persons employed by CONTRACTOR are eligible to work in the United States.

12. Licenses, Permits, Etc. CONTRACTOR represents and declares to DISTRICT that it has all licenses, permits, qualifications, and approvals of whatever nature that are legally required to practice its profession. CONTRACTOR represents and warrants to DISTRICT that CONTRACTOR shall, at its sole cost and expense, keep in effect at all times during the term of this Agreement, any license, permit, or approval which is legally required for CONTRACTOR to practice its profession.

13. Time of the Essence. Time is of the essence as to each and every provision of this Agreement.

14. Insurance.

(a) Policies: CONTRACTOR shall obtain and maintain during the entire term of this Agreement the following insurance policies from companies authorized to issue insurance in the State of California:

(1) Comprehensive General Liability, including premises-operations, products/completed, broad form property damage, bodily injury, and blanket contractual liability with the following coverages:

General Liability	$1,000,000 per person per occurrence $2,000,000 annual aggregate combined $1,000,000 property damage or bodily injury per occurrence Cross-liability exclusions prohibited

(2) Automobile Liability, including owned, hired, and non-owned vehicles with the following coverages:

Auto Liability	$1,000,000 combined single limit

(3) Workers' Compensation insurance in amounts in accordance with statutory requirements.

(b) CONTRACTOR shall provide DISTRICT with certificates of insurance reflecting the insurance coverages described in the paragraphs above, upon request.

(c) The insurance policies required above shall contain or be endorsed to contain all of the following specific provisions:

(1) Commercial general liability and automobile liability:

(i) Agency and its Board members, officers, employees, agents and volunteers shall be added as additional insureds.

(ii) Consultant's insurance shall be primary insurance as respects the Agency, its Board members, officers, employees, agents, and volunteers and any insurance or self-insurance maintained by Agency shall be in excess of Consultant's insurance and shall not contribute to it.

(iii) Any failure to comply with the claim reporting provisions

of the policies or any breach of a policy warranty shall not affect coverage under the policy provided to Agency, its Board members, officers, employees, agents and volunteers.

(iv) The policies shall contain a waiver of transfer rights of recovery ("waiver of subrogation") against Agency, its Board members, officers, employees, agents, and volunteers, for any claims arising out of the work of Consultant.

(v) The policies may provide coverage that contains deductible or self-insured retentions. Such deductible and/or self-insured retentions shall not be applicable with respect to the coverage provided to Agency under such policies. Consultant shall be solely responsible for deductible and/or self-insured retention and Agency, at its option, may require Consultant to secure the payment of such deductible or self-insured retentions by a surety bond or an irrevocable and unconditional letter of credit. The insurance policies that contain deductibles or self-insured retentions in excess of $25,000 per occurrence shall not be acceptable without the prior approval of Agency.

(vi) Prior to start of work under this Agreement, Consultant shall file with Agency evidence of insurance as required above from an insurer or insurers certifying to the required coverage. The coverage shall be evidenced on a certificate of insurance signed by an authorized representative of the insurer(s). Should the required coverage be furnished under more than one policy of insurance, Consultant may submit as many certificates of insurance as needed to provide the required amounts.

(2) Each policy required by this section shall contain a policy cancellation clause that provides the policy shall not be cancelled or otherwise terminated by the insurer or the Consultant, or reduced in coverage or in limits, except after thirty (30) days written notice by certified mail, return receipt requested, has been given to the Agency, Attention: Director of Finance & Administration.

(d) Insurance required by this Agreement shall be placed with insurers licensed by the State of California to transact insurance business of the types required herein. Each insurer shall have a current Best Insurance Guide rating of not less than A: VII unless prior approval is secured from the Agency as to the use of such insurer.

(e) Consultant shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein. Consultant shall maintain evidence of compliance with the insurance requirements by the subcontractors at the job site and make them available for review by Agency.

15. Notices. All notices, billings, and payments which are required or permitted to be made hereunder shall be in writing and shall be sent by personal delivery, first-class mail, return receipt requested, overnight or express mail service, or facsimile. Notices shall be deemed to have been received: upon delivery if personally delivered; seventy-two (72) hours after deposit in the U.S. Mail; or on the day of transmission via facsimile, unless sent after business hours, and in that event, on the next business day. Notices may be sent to the following addresses. The parties may deliver notice of change of address or delivery information in the manner outlined in this paragraph 15.

DISTRICT: Las Virgenes Municipal Water District
4232 Las Virgenes Road

Calabasas, CA 91302
Attn: Joe McDermott

CONTRACTOR: Astound Group
Tack Roberts, Director
245 Main St., Suite 301
Racine, WI 53403

16. Arbitration and Waiver of Jury Trial. If a dispute arises between the Parties it shall be resolved by arbitration conducted by the American Arbitration Association in accordance with the Commercial Arbitration Rules of the American Arbitration Association, as then in effect. Such arbitration shall be conducted at a location within Los Angeles County, California agreeable to both Parties before three (3) arbitrators who shall be selected by mutual agreement of the Parties. If agreement is not reached on the selection of arbitrators within fifteen days, then each of the Parties shall select an arbitrator and the two (2) arbitrators so selected shall select a third. The provisions of the Commercial Arbitration Rules of the American Arbitration Association shall apply and govern such arbitration except that the prevailing party shall be entitled to recover from the other party its attorney's fees and costs actually incurred in such amount as may be determined by the arbitrators.

17. Ownership of Data, Reports, and Documents. CONTRACTOR shall deliver to DISTRICT notes of surveys made, all reports of tests made, studies, reports, plans, a copy of electronic and digital files, and other materials and documents which shall be the property of the DISTRICT. CONTRACTOR is released from responsibility to third parties for the use by DISTRICT of data, reports, and documents on other projects. CONTRACTOR may retain copies of such documents for its own use. The DISTRICT may use or reuse the materials prepared by CONTRACTOR without additional compensation to CONTRACTOR.

18. Invalidity of Part Shall Not Invalidate the Whole. The invalidity or partial invalidity of any portion of this Agreement will not affect the validity of any other provision. In the event that any provision of this Agreement is held to be invalid, the remaining provisions shall be deemed to be in full force and effect as if they had been executed by both Parties subsequent to the expungement or judicial modification of the invalid provision.

19. Integration. This Agreement states the entire agreement of the Parties with respect to the subject matter hereof. This Agreement supersedes all prior discussions and understandings with respect to the subject matter hereof. There are no representations, warranties, promises, or covenants as to the subject matter hereof except as expressly set forth herein. This Agreement may not be modified or altered except in writing, signed by both parties.

20. Indemnity. CONTRACTOR shall hold harmless, defend at its own expense, and indemnify DISTRICT, its officers, employees, and agents against any and all liability, claims, losses, damages, or expenses, including reasonable attorneys' fees, arising from all acts or omissions to act of CONTRACTOR or its officers, agents, or employees in rendering services under this agreement, excluding, however, such liability, claims, losses, damages, or expenses

arising solely from DISTRICT'S active negligence or willful acts. This indemnity section of the Agreement shall survive the termination of this Agreement and/or the completion of the terms set forth in the Agreement.

21. Attorneys' Fees. If an action at law or in equity is brought to enforce any provision of this Agreement, the prevailing party shall be entitled, in addition to such other relief as may be granted to an award in the same or a subsequent proceeding, to reasonable attorneys' fees and costs.

22. Governing Law. This Agreement shall be interpreted and construed under, and the rights of the parties will be governed by, the laws of the State of California.

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement on the date first above written.

LAS VIRGENES MUNICIPAL WATER DISTRICT	**ASTOUND GROUP**
_____	By:_____
David W. Pedersen	Printed Name:_____
General Manager	Title:_____

EXHIBIT A

SCOPE OF SERVICES

CONTRACTOR shall perform the following specific services on the premises described in Section 1:

Detailed design, fabrication, purchase and installation of signage, graphics, and related items for the Pure Water Project Las Virgenes - Triunfo; Demonstration Facility Visitor Experience.

Specific items to be provided and Schedule of Phases under this Agreement are listed on Proposal dated 4/17/2019, attached hereto.

The actual dates for on-site installation activity (Phase 3) shall be mutually agreed upon by both Parties at least 30 calendar days in advance of the work. To ensure that the Demonstration Facility Visitor Experience is complete and ready for tours by the public, Contractor shall plan to have all services under this Agreement completed by no later than November 15, 2019 unless an extension is granted in writing by the District.

ASTOUND

address:	5675 E. Ann Road Las Vegas, Nevada 89115, USA	**quote valid until:**	May 15, 2019
		version #:	2A
		job #:	1722099
phone:	(702) 462-9718		
fax:	(905) 465-2910	**account director:**	Tack Roberts
		email:	troberts@astoundgroup.com
client:	Las Virgenes Municipal Water District	**phone:**	(702) 666-1345
address:	4232 Las Virgenes Road, Calabasas, California 91302-1994, UNITED STATES	**mobile:**	847-815-6219
		event manager:	Rick Giesbrecht
		email:	rick@astoundgroup.com
contact:	Joe McDermott	**phone:**	(905) 465-0474
email:	jmcdermott@lvmwd.com	**mobile:**	
phone:	(818) 251-2130		

LVMWD Visitor Center 2019
LVMWD
Calabassas, .
30-Aug-2019

PURCHASE PROPERTIES

Wayfinding Signage-Area 2 — $7,500
- (4) 4 sided powder coated aluminum sheet Box (sleeve)
- Approx. 24" X 5" X 36" tall
- Includes Aluminum frame to accept sleeve, concrete for base, wood frame to pour concrete, and hardware
- Custom Printed Acrylic captured in Graphics Area

Garden Signage-Area 2 Large 5 sided sign — $12,141
- (5) Sided powder coated aluminum sign stand with aluminum sheet to mount graphics on each side
- Approx. 48" X 48" X 72" tall
- Includes concrete for base, wood frame to pour concrete, and hardware to mount
- Custom Printed Acrylic captured in Graphics Area

Garden Signage-Area 2 Smaller Signs — $20,274
- (15) Powder coated aluminum sign stands
- Approx. 24" X 24" X 24" tall
- Includes legs for mounting
- Custom Printed Acrylic captured in Graphics.

Process Building Dimensional Letters with Large Drop — $16,029
- (34) UL Rated Can lit letters
- 9-9.5" Tall letters
- 50" X 70" Drop

Process Building Dimensional Letters Tagline — $10,566
- (26) UL Rated Can lit letters
- 12 3/8" tall letters 300" Total length

Process Building Area 3 Station Identifier — $5,444
- (2) double sided laminated millworks panels with area for 42" flush mount Monitor
- Approx. 48" X 4" X 108" tall
- Includes monitor and Mini-PC
- Includes allowance for content

- Sintra and Vinyl graphics captured in Graphics Area

Process Building Area 6, 7, and 8 Reader Rail Kiosk - (3) laminated millworks kiosks with (3) doors each and wire management internally - Approx. 60" X 24" X 40" tall - Includes 20" touchscreen, mimi PC, and 42" slave monitor - Includes allowance for content - Vinyl graphics captured in Graphics Area	$30,349
Process Building Area 9 Content - Purchase of Mini PC and 42" display with content - Vinyl copy option captured in Graphics Area	$2,388
Crating	$589
SUBTOTAL | PURCHASE PROPERTIES:	$105,281

GRAPHICS PURCHASE

Please have all graphics files to ASTOUND by August 10, 2019. Additional charges may apply after this date.

Admin Building-Area 1 Graphics - Area 1 (2) Custom printed SEG Fabric Panels 48" X 60" - Includes F-track	$999
Wayfinding-Area 2 Vinyl Graphics - (8) 36" X 36" printed Vinyl Copy (booth sides of sign)	$1,480
Garden Area 2 Graphics - (5) Graphics printed on 48" X 72" X 1/4" thick acrylic	$3,193
Garden Area 2 Graphics Continued - (15) Graphics printed on 24" X 24" X 1/4" thick acrylic	$1,703
Process Building-Area 3 Graphics - (3) Graphics printed on 18" X 9" X 1/4" thick acrylic	$283
Process Building-Area 3 Graphics - (1) Direct print on 12" X 16" X 1/4" Sintra - (1) Direct print on 48" X 14" X 1/4" Sintra	$131
Process Building-Area 4 Graphics - (1) 251" X 108" Printed SEG - Includes f-track	$3,974
Process Building-Area 5 Graphics - 16' X 8' custom printed unpasted vinyl wallcovering	$2,034
Process Building-Area 6, 7, and 8 Graphics - (3) 60" X 24" X 1/4" custom printed acrylic - (6) 12" X 12" X 1/4" printed acrylic overlays	$1,064
Process Building-Area 10a Graphics - (1) 72" X 48" X 1/4" printed Dibond	$600

Process Building-Area 10b Graphics - (1) 48" X 30" X 1/4" printed Dibond		$273
	SUBTOTAL | GRAPHICS PURCHASE**:	$15,732

ASTOUND SERVICES

Project Management

Design and Detailing

Pull, Prep & Warehousing

Transportation to / from venue (ASTOUND properties only)
- (1) trailer from LV to LA

ASTOUND Supervision for I/D (Including Travel Expenses)
(5) Days for Astound Supervisor including travel

	SUBTOTAL | ASTOUND SERVICES:	$16,636

ESTIMATED SITE SERVICES

Installation and Dismantle Labor (ASTOUND Properties Only) - (4) days Install - (4) men 8 ST hours per day		$19,448
Electrical Labour & Electrical Order (ASTOUND Properties Only) - (2) men 8 ST hours install lit letters		$2,300
	SUBTOTAL | ESTIMATED SITE SERVICES***:	$21,748
	TOTAL (USD):	**$159,397**

Schedule of Phases

Phase 1 - Detailing - Allow 30 days upon approval of propsal to complete and deliver detail drawings for constructed elements

Phase 2 - Production - Allow 60 days upon approval of detail drawings to complete prefab and construction of all above elements

Phase 3 - Shipping and Installation - Allow 21 days for delivery. Load in and assemby of all elements

TOTAL | LVMWD Pure Water Center Production and Install (USD):	$159,397

ASTOUND Group Quote Validation:

Signature: _____

Quote Valid Until: May 15, 2019

Client Approval:

Signature: _____

Name: _____

Date: _____

EXHIBIT B

MATERIALS AND EQUIPMENT

DISTRICT shall provide the following equipment and material to be stored on the premises described in Section 1, for the use of CONTRACTOR in performance of CONTRACTOR'S duties under the Agreement:

120v, 15 amp electrical power from available outlets

Potable water for clean-up

EXHIBIT C

FEE SCHEDULE

I. Services

Costs to be paid by District for specific items provided under this Agreement are listed on Proposal dated 4/17/2019, attached hereto.

District shall compensate Contractor, contingent on satisfactory performance of the work. The aggregate payments under this Agreement shall not exceed $159,397.00 (Total Cost) plus applicable sales tax.

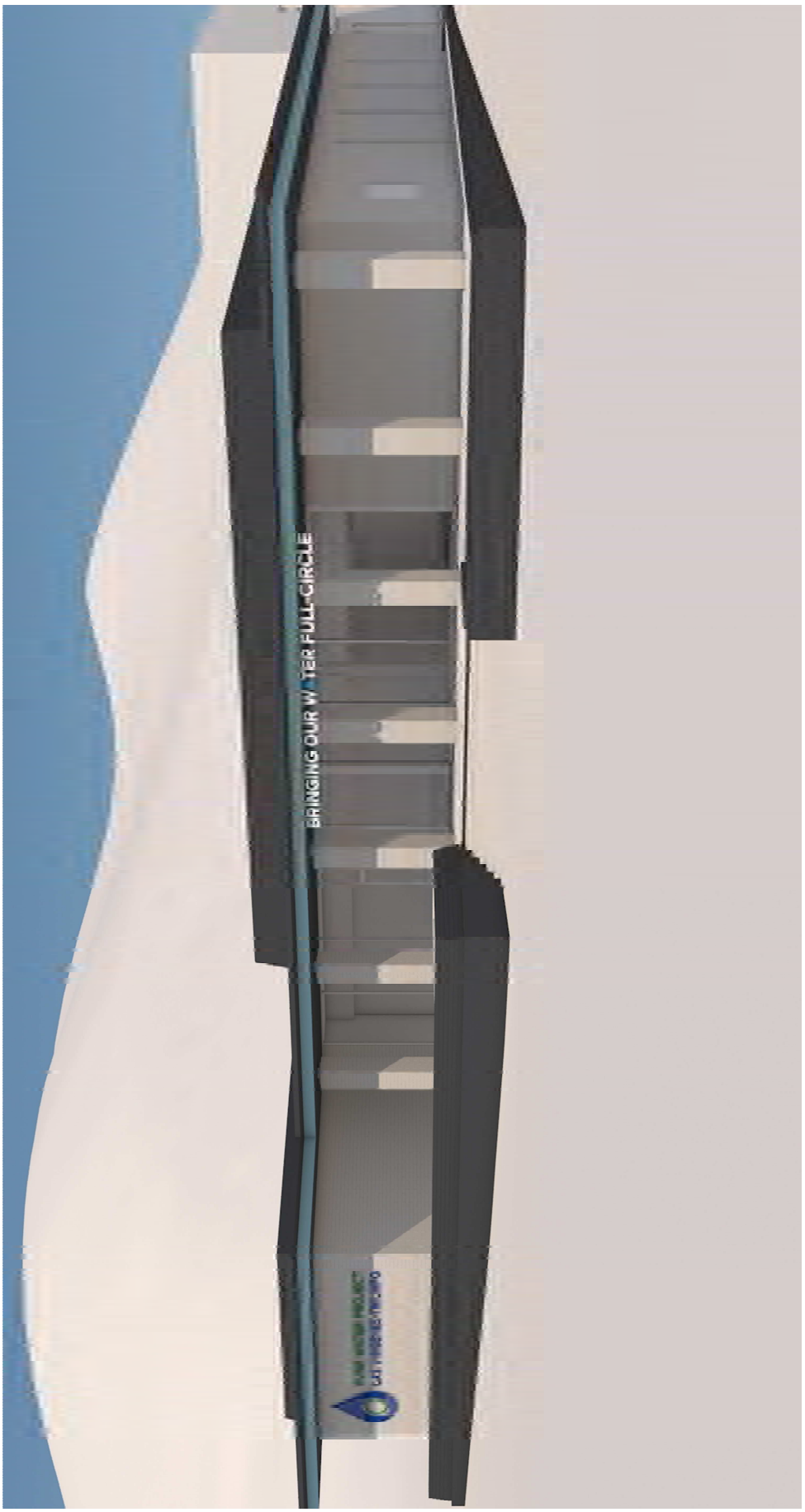
Progress payments shall be made upon the approval of invoices submitted by Contractor and upon completion of each phase as follows:

Phase 1- Detailing: 30% of Total Cost
Phase 2 - Production: 30% of Total Cost
Phase 3- Shipping and Installation: 40% of Total Cost

II. Reimbursable Expenses

All reimbursable expenses are included in the Total Cost

Pure Water Demonstration Facility – Revised Building Signage



Pure Water Demonstration Facility – Revised Building Signage

April 29, 2019 JPA Board Meeting

TO: JPA Board of Directors

FROM: Resource Conservation & Public Outreach

Subject : Pure Water Demonstration Project: Agreement for Visitor Experience Orientation Video

SUMMARY:

The visitor experience orientation video for the Pure Water Demonstration Project will provide important context for the role of the future full-scale Pure Water Project Las Virgenes-Triunfo in the future of the JPA's service area. The high-quality video will provide historical, current and future perspectives on the significance of water to life and illustrate the value of this innovative project to the region. The production will be shown to all visitors at the beginning of tours of the demonstration facility and create an emotional connection to the importance of water. Also, the video will be placed on the website for the Pure Water Project Las Virgenes-Triunfo.

RECOMMENDATION(S):

Accept the proposal from Global Visions and Associates, Inc., and authorize the Administering Agent/General Manager to execute a professional services agreement, in the amount of $39,750, for production of a visitor experience orientation video for the Pure Water Demonstration Project.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

The total cost of this work is $39,750. Sufficient funds for the work are available in the adopted Fiscal Year 2018-19 JPA Budget.

DISCUSSION:

Global Visions and Associates, Inc., provides high-quality video production services for

organizations seeking to academically, emotionally and creatively inform the public about environmental issues, including water, sustainable investing and poverty solutions. Global Visions has a track record of international successes through their film and production endeavors due to their inventive and creative staff and approach to connect global and local intersecting stories. They are very familiar with California water issues and have performed video work for agencies developing other potable reuse projects.

Attached is a draft professional services agreement with a proposed video script that is intended to form the basis of the scope of work.

Prepared by: Mike McNutt, Public Affairs and Communications Manager

ATTACHMENTS:

Draft Professional Services Agreement and Proposed Video Script

CONSULTANT AGREEMENT

As of 4/29/2019, Las Virgenes Municipal Water District, hereinafter called "Agency," and Global Visions and Associates, Inc., hereinafter called "Consultant," agree as follows:

1. Purpose.

Under this Agreement, Consultant shall provide a video production of the Agency's water story, the need for locally-sourcing water and the lead up to the Pure Water Las Virgenes – Triunfo Demonstration Project.

2. Services.

The Consultant shall, in good workmanlike and professional manner, furnish the services as set forth in Exhibit "A" of this Agreement.

3. Consideration.

(a) The Agency shall compensate Consultant on a time-and-material basis, contingent on satisfactory performance of the work. The aggregate payments under this Agreement shall not exceed $39,750.00, as more fully described on Exhibit "A."

(b) The Consultant shall complete and submit invoices showing the dates of work, description of work performed, and amount of the invoice together with any supporting documentation. The Agency shall pay the Consultant within thirty (30) days of the receipt of an invoice.

4. Term.

(a) This Agreement shall commence on the date above written, and shall continue until completion of the services described above. The Agency may terminate or cancel this Agreement without liability to the Agency, if Consultant fails to perform or commits a substantial breach of the terms hereof.

(b) Either party may terminate this agreement on thirty (30) days written notice for any reason. If this contract is terminated by Agency without cause, Agency shall pay Consultant for work performed prior to the date the notice of termination is received by contractor. If the contract is terminated by Consultant without cause, Consultant shall reimburse Agency for additional costs to be incurred by Agency in obtaining the work from another consultant.

5. Ownership of Data, Reports, and Documents.

The Consultant shall deliver to Agency on demand or completion of the project, notes of surveys made, reports of tests made, studies, reports, plans, and other materials and documents which shall be the property of the Agency. If the Agency uses any of the data, reports, and documents furnished or prepared by the Consultant for projects other than the project shown on Exhibit "A," the Consultant shall be released from responsibility to third parties concerning the use of the data, reports, and documents. The Consultant may retain copies of the materials. The Agency may use

or reuse the materials prepared by Consultant without additional compensation to Consultant.

6. Subcontracts and Assignments.

The Consultant shall not subcontract or assign responsibility for performance of any portion of this Agreement without the prior written consent of the Agency. Except as otherwise specifically approved by Agency, Consultant shall include appropriate provisions of this Agreement in subcontracts so rights conferred to Agency by this Agreement shall not be affected or diminished by subcontract. There shall be no contractual relationship intended, implied, or created between Agency and any subcontractor with respect to services under this Agreement.

Neither party hereto shall assign, sublet, or transfer interests hereunder without first obtaining written consent from the other party.

7. Independent Contractor.

The Consultant is an independent contractor and not an employee of Agency. Except as Agency may specify in writing, Consultant shall have no authority, expressed or implied, to act on behalf of Agency in any capacity whatsoever as an agent. Consultant shall have no authority, expressed or implied, pursuant to this Agreement to bind Agency to any obligation whatsoever.

8. Licensing. Consultant represents and declares to Agency that it has all licenses, permits, qualifications, and approvals of whatever nature that is legally required to practice its profession. Consultant represents and warrants to Agency that Consultant shall, at its sole cost and expense, keep in effect at all times during the term of this Agreement, any license, permit, or approval, which is legally required for Consultant to practice its profession.

9. Indemnification.

Consultant shall defend, indemnify, and hold harmless Agency, its officers, employees and agents, from and against loss, injury, liability, or damages arising from any act or omission to act, including any negligent act or omission to act by Consultant or Consultant's officers, employees, or agents in rendering services under this Agreement. Consultant's duty to indemnify and defend does not extend to the damages or liability caused by the agency's sole negligence, active negligence, or willful misconduct.

10. Compliance with Applicable Law.

(a) Consultant agrees to comply with all federal, state, county, and local laws, ordinances, and regulations applicable to the work under this Agreement.

(b) Consultant shall pay prevailing wages to the extent required by law, including Labor Code Section 1720.

(1) A determination of the general prevailing rates of per diem wages and holiday and overtime work where the work is to be performed is on file at the Agency's offices. Should the prevailing wage rules apply to any of the work described in Exhibit A, Consultant shall post one copy of the prevailing rates of wages

at the job site, and Consultant shall forfeit, as penalty to the Agency, a sum of not more than $200.00 for each calendar day, or portion thereof, for each worker paid less than the prevailing rates. This penalty shall be in addition to any shortfall in wages paid.

11. Insurance.

(a) Consultant shall procure and maintain, for the duration of this Agreement, insurance against claims for injuries to persons or damages to property arising from, or in connection with, the performance of the work hereunder by the Consultant, officers, agents, employees, or volunteers.

(b) Consultant shall provide the following coverages:

(1) Commercial general liability insurance written on an occurrence basis, in the amount of $1,000,000 combined single limit per occurrence for bodily injury, personal injury, and property damage. The insurance policy shall be amended to provide that the general aggregate limit applies separately to the work under this Agreement, or the general aggregate limit shall be twice the required per occurrence limit.

(2) Business automobile liability insurance shall be provided for all owned, non-owned, and hired automobiles, in the amount of $1,000,000 combined single limit per accident for bodily injury and property damage.

(3) Workers' Compensation insurance as required by the Labor Code of the State of California with the statutory limits required by the Labor Code and Employers Liability for $1,000,000 per accident for bodily injury or disease. Consultant and subcontractors shall cover or insure their employees working on or about the site, regardless of whether such coverage or insurance is mandatory or merely elective under the law.

(4) Professional liability insurance covering loss resulting from errors or omissions of Consultant with a liability limit of at least $1,000,000 per occurrence.

(c) The insurance policies required above shall contain or be endorsed to contain all of the following specific provisions:

(1) Commercial general liability and automobile liability:

(i) Agency and its Board members, officers, employees, agents and volunteers shall be added as additional insureds.

(ii) Consultant's insurance shall be primary insurance as respects the Agency, its Board members, officers, employees, agents, and volunteers and any insurance or self-insurance maintained by Agency shall be in excess of Consultant's insurance and shall not contribute to it.

(iii) Any failure to comply with the claim reporting provisions of the policies or any breach of a policy warranty shall not affect coverage under the policy provided to Agency, its Board members, officers, employees, agents and volunteers.

(iv) The policies shall contain a waiver of transfer rights of recovery ("waiver of subrogation") against Agency, its Board members, officers, employees, agents, and volunteers, for any claims arising out of the work of Consultant.

(v) The policies may provide coverage that contains deductible or self-insured retentions. Such deductible and/or self-insured retentions

shall not be applicable with respect to the coverage provided to Agency under such policies. Consultant shall be solely responsible for deductible and/or self-insured retention and Agency, at its option, may require Consultant to secure the payment of such deductible or self-insured retentions by a surety bond or an irrevocable and unconditional letter of credit. The insurance policies that contain deductibles or self-insured retentions in excess of $25,000 per occurrence shall not be acceptable without the prior approval of Agency.

(vi) Prior to start of work under this Agreement, Consultant shall file with Agency evidence of insurance as required above from an insurer or insurers certifying to the required coverage. The coverage shall be evidenced on a certificate of insurance signed by an authorized representative of the insurer(s). Should the required coverage be furnished under more than one policy of insurance, Consultant may submit as many certificates of insurance as needed to provide the required amounts.

(2) Each policy required by this section shall contain a policy cancellation clause that provides the policy shall not be cancelled or otherwise terminated by the insurer or the Consultant, or reduced in coverage or in limits, except after thirty (30) days written notice by certified mail, return receipt requested, has been given to the Agency, Attention: Director of Finance & Administration.

(d) Insurance required by this Agreement shall be placed with insurers licensed by the State of California to transact insurance business of the types required herein. Each insurer shall have a current Best Insurance Guide rating of not less than A: VII unless prior approval is secured from the Agency as to the use of such insurer.

(e) Consultant shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein. Consultant shall maintain evidence of compliance with the insurance requirements by the subcontractors at the job site and make them available for review by Agency.

12. Notices.

Notices shall be deemed received when deposited in the U. S. Mail with postage prepaid and registered or certified addressed as follows, unless advising in writing to the contrary:

Las Virgenes Municipal Water District
ATTN: General Manager
4232 Las Virgenes Road
Calabasas, CA 91302

Global Visions and Associates Inc.
ATTN: Peter Swanson
3 Meadow Lane
Leicester, MA 01524

13. Invalidity of Part Shall Not Invalidate the Whole.

The invalidity or partial invalidity of any portion of this Agreement will not affect the validity of any other provision. In the event that any provision of this Agreement is held to be invalid, the remaining provisions shall be deemed to be in full force and effect as if they had been executed by both Parties subsequent to the expungement or judicial modification of the invalid provision.

14. Attorneys' Fees.

If an action at law or in equity is brought to enforce any provision of this Agreement, the prevailing party shall be entitled, in addition to such other relief as may be granted to an award in the same or a subsequent proceeding, to reasonable attorneys' fees and costs.

15. Integration.

This Agreement represents the entire understanding of Agency and Consultant as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder. This Agreement may not be modified or altered, except in writing, signed by both parties.

16. Arbitration and Waiver of Jury Trial.

Consultant and Agency further agree as follows: In the event any dispute shall arise between the Parties to this Agreement, the same shall be resolved by arbitration conducted by the American Arbitration Association in accordance with the Commercial Arbitration Rules of the American Arbitration Association, as then in effect. Such arbitration shall be conducted at a location within Los Angeles County, California agreeable to both Parties before three (3) arbitrators who shall be selected by mutual agreement of the Parties; if agreement is not reached on the selection of arbitrators within fifteen (15) days, then each of the Parties shall select an arbitrator and the two (2) arbitrators so selected shall select a third. The provisions of the Commercial Arbitration Rules of the American Arbitration Association shall apply and govern such arbitration except that the prevailing party shall be entitled to recover from the other party its attorney's fees and costs actually incurred in such amount as may be determined by the arbitrators.

17. Governing Law.

This Agreement shall be interpreted and construed under, and the rights of the parties will be governed by, the laws of the State of California.

IN WITNESS WHEREOF, the parties hereby have caused this Agreement to be executed the date first above written.

APPROVED:	APPROVED:
Las Virgenes Municipal Water District	**Global Visions and Associates Inc.**
By:_____	By:_____
Name:_____	Name:_____
Its:_____	Its:_____

Services

The Consultant shall provide, produce and finish the Pure Water Project Las Virgenes – Triunfo; Demonstration Facility Visitor Experience Orientation Video as described below. The final product shall be of "professional" quality, include narration, appropriate music and shall be between 5 – 7 minutes in length from beginning to end.

A draft/initial version of the video shall be submitted to the District for review and comment by no later than July 31, 2019. To ensure that the video is ready for tours by the public, Consultant shall plan to have the video completed by no later than November 15, 2019 unless an extension is granted in writing by the District.

Las Virgenes – Triunfo Pure Water Demonstration Project

Orientation Video Script

Video	Audio
1. Fade up on the earth from space, a shining, small blue marble spinning slowly against a backdrop of stars.	**Narrator:** For billions of years the same water has been cycling around the Earth.
2. Gradually the camera moves closer to the earth.	**Narrator:** From this perspective it is hard to imagine that there can be any kind of water shortage on this beautiful, blue planet.
3. We see a graphic representation of this 97 percent superimposed over the planet.	**Narrator:** Yet almost 97 percent of this water is salt water.
4. Graphically the percentage of usable water is getting smaller and smaller.	**Narrator:** Of the 3 percent that is fresh water, most of that is locked away in glaciers and ice bergs.
5. The graphic is still shrinking until just a tiny sliver of the globe's water is visible.	**Narrator:** That leaves just 1 percent of the planet's water that is accessible and available to meet the needs of an exploding human population.
6. We do a hard cut to a fast-paced montage of people all over the world interacting with water. We see rich and poor, urban and rural, villages and mega-cities with vast numbers of people on the move.	**Narrator:** This 1 percent must quench the thirst of seven and a half billion people today and nearly 10 billion by 2050.
7. After a series of shots of water use in farms and factories we begin a set of images of everyday items with graphics about how much water is used to create them.	**Narrator:** And it is not just water for human consumption. From generating power, to making automobiles, water is involved in the creation of almost everything we enjoy.
8. We see things like: 9. Hamburger – 660 Gallons of Water 10. Car – 39000 Gallons 11. A computer – 7300 Gallons 12. Power a light for one hour -175 gallons	**Narrator:** This is the hidden use of water, the water we don't see, that makes our modern life possible.

Video	Audio
13. The mood shifts to a darker, more ominous tone as we begin scenes of water problems. We see things like soapy water going down a drain, pollution form a variety of sources, algae growing in the creek.	**Narrator:** As water passes through our cities and towns, farms and factories, and over natural rock formations, it picks up a host of contaminants that affect its quality.
14. Scenes of drought and floods.	**Narrator:** In addition, because water is not evenly distributed around the world, droughts and floods add additional pressure to water stressed communities.
15. Some drone shots over the region.	**Narrator:** Within the communities served by the Joint Powers Authority, there is currently no local supply of drinking water that can meet our needs.
16. From shots of the high Sierras we follow water through streams and into the reservoirs of Northern California.	**Narrator:** This means that all of our water must be imported, mostly from Northern California through the State Water Project, and this water has its origins in the snow covered Sierra Nevada mountains.
17. Scenes of various parts of the State Water Project.	**Narrator:** In this system the water travels over 400 miles, passing through numerous rivers, reservoirs, power stations and pumping plants, which must lift the water over mountains as high as 2000 feet.
18. Scenes of various parts of the State Water Project.	**Narrator:** While this water has great value to our community, there is a significant cost and use of energy to transport it from the far north to our region.
19. More shots of the State Water Project, featuring the machinery needed to move water over great distances.	**Narrator:** In addition, drought, a strained Delta ecosystem, impacts from a changing climate and competition among water users, mean that we cannot count on a

Video	Audio
	consistent supply from the State Water Project.
20. Scenes of Las Virgenes Reservoir.	**Narrator:** One of the ways in which we deal with these variations in supply is by storing imported water in Las Virgenes Reservoir.
21. Scenes of Las Virgenes Reservoir.	**Narrator:** It is good to think of the reservoir as our "Water Savings Account," which can hold enough water to meet our needs for six months in an emergency.
22. More scenes of the reservoir, some perhaps from a drone.	**Narrator:** During the summer, we draw water from the reservoir and treat it at the Westlake Filtration plant, which can process up to 18 million gallons per day.
23. Scenes of domestic water use, cooking, cleaning, brushing teeth watering lawns and gardens.	**Narrator:** Too often we think the amazing journey of water ends at our homes and businesses, where we use it for cooking, cleaning, gardening and more.
24. Water flowing down domestic and business drains.	**Narrator:** Once we flush it down the drain, we don't think of it any more as something that has value**.** In fact, our homes and businesses are only the halfway point in our local water cycle.
25. Drone shot flying over the landscape revealing the Tapia plant.	**Narrator:** Tapia Water Reclamation Facility is the next stop in this cycle. This is where our used water gets cleaned and "recycled" so we can use it again.
26. Scenes of the processes in action at Tapia.	**Narrator:** This recycled water provides great value to Malibu Creek by supporting endangered fish during the summer months when the creek has very low natural flows.

Video	Audio
27. Images of the purple pipe network as well as parks and golf courses being irrigated.	**Narrator:** Some of Tapia's water is returned to the community via our purple pipe network, where it is used in irrigating our parks, golf courses, schools, cemeteries and greenbelts that add value to our region.
28. Shots of water flowing through various point along Malibu Creek.	**Narrator:** In the wintertime, however, when demand is not as high, much of the recycled water is released into the creek and eventually ends up in Santa Monica Bay.
29. Overhead shots of water entering Santa Monica Bay.	**Narrator:** This precious water, in which we have invested so much to transport and clean, is basically wasted. But does it have to be this way?
30. The image suddenly stops and begins to run backwards. We see water flowing from the bay back into the creek.	**Narrator:** If we thought of this water as a valuable resource instead of a waste, we open up a whole new world of possibilities.
31. We see shots of water flowing backwards up the creek and back into Tapia.	**Narrator:** While the water from Tapia has always met EPA standards, new government regulations are now requiring us to clean the water to levels higher than drinking water standards before sending into the creek. With this new reality, it is time to rethink releasing this water downstream and losing it to the Pacific Ocean.
32. As the water enters back into Tapia, the motion slows and the water begins to move forward again. We switch to a graphic that shows a pipe that transports water to the future advanced water treatment facility.	**Narrator:** We now have an opportunity to get even more value out of our local water. Our Pure Water Project will add an additional level of treatment on top of what happens at Tapia, so that this water is ready for "potable reuse"…. which means we can drink it!

Video	Audio
33. Scenes in and around the facility, or renderings of what the facility will look like.	**Narrator:** The three new treatment processes, Micro-filtration, Reverse Osmosis and Ultra Violet Disinfection, have been used for years in places like Orange County to help replenish their groundwater systems, and mimic what nature has done for billions of years.
34. Shots of water recycling plants in other parts of the world.	**Narrator:** In fact, Orange County has inspired communities in other countries like Australia, Belgium and Singapore to develop similar systems to help recycle their own water. This is extremely safe technology and the City of Windhoek, Namibia has been recycling water for drinking for over 50 Years.
35. Samples of the process animations followed by scenes of Orange County and the GWRS.	**Narrator:** In our case, we will send the water back to our "Water Savings Account" at Las Virgenes Reservoir.
36. More shots of the reservoir.	**Narrator:** Having come full circle, the water will blend with water in the reservoir, and after additional treatment at the Westlake Filter Plant be ready to be used again and again in our communities.
37. Water flowing around the reservoir. Perhaps some underwater shots with a Go-pro.	**Narrator:** Eventually the Pure Water Project will provide up to 15 percent of our water supply.
38. Drone shot rising up from the reservoir revealing the community.	**Narrator:** The benefits of this will be immense to our region and beyond. First, that will be 15% less water that we have to import from the far north.
39. Scenes of the State Water Project.	**Narrator:** Financially and environmentally there will be great savings in the cost and energy that was needed to transport that water over such a great distance.

Video	Audio
40. More shots of the heavy equipment needed to move water in the State Water Project.	**Narrator:** It also creates our own local, sustainable supply of water that provides stability as our communities grow and prosper.
41. Shots of purple pies, gardens and golf courses along with the composting facility.	**Narrator:** The Pure Water Project is just another example of the Joint Powers Authority's leadership in innovation and sustainability. In working to close the "Sustainability Loop," for years we have been using recycled water for our parks, golf courses, schools greenbelts, as well as reclaiming bio-solids and converting them to a nutrient-rich soil amendment.
42. Shots of the solar fam.	**Narrator:** In addition, we have a million-watt solar farm that is providing huge savings in electrical costs, while reducing greenhouse gas emissions.
43. Shots of people conserving water. Include before after pictures of landscape conversion	**Narrator:** As we do our part in saving precious natural resources, we ask that you do your part in protecting and conserving the most precious of them all; water.
44. Dissolve to from a slow motion shot of a drop of water to the earth in space.	**Narrator:** By bringing water full circle and using it over and over again, we are helping to sustain global water supply by getting the most value possible out of every drop we use…and reuse it again and again.

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW

Memorandum

To: Las Virgenes-Triunfo JPA
From: Syrus Devers, Best Best & Krieger
Date: April, 2019
Re: Monthly State Political Report

Legislative Report

In General

The committee agendas peak this week and the last week of April following the recess from the 15th to the 19th. The next stop for the overwhelming majority of bill are the Appropriations Committees, which are already holding all-day hearings. The following summarizes BB&K's recent activity.

SB 134 (Hertzberg), which would prevent double jeopardy for failing to meet water conservation standards, was heard on the 9th in the Senate Natural Resources and Water Committee. The purpose of the bill is to uphold the compromises made last year in the "Conservation As A Way of Life" legislative package (SB 606 and AB 1668), and not allow separate fines for failing to meet water loss standards from prior legislation. The bill passed unanimously without requiring Hertzberg to commit to any specific amendment. BB&K staff was directly involved in last year's negotiations on behalf of the JPA and gave supportive testimony without stating that the JPA had a position on the bill.

WaterFix

AB 1154 (Frazier), the latest in a long line of bills by this author to stop the tunnels, was in the Assembly Water, Parks & Wildlife Committee on the 9th, and it was easily the highpoint of the week. This bill sought to pack the Delta Stewardship Commission with in-Delta interests. The bill didn't just fail; it didn't even get to a vote. It was given a courtesy motion but failed for lack of a second which rendered it ineligible.

Tax on Water (Safe Drinking Water Fund)

AB 217 (E. Garcia), the main Assembly bill on safe drinking water, advanced out of Assembly Environmental Safety and Toxics Materials Committee on a party-line vote with the tax provisions in the bill. The current language is not specific as to the form of the tax and leaves it up to the SWRCB to implement. Not having an explicit tax on customers does make it more difficult to lobby against the bill, but the opposition remains optimistic that momentum is swinging away from any form of tax. Since the bill was amended the week before the hearing no one had a formal position on the bill, but BB&K testified in opposition to the tax provisions of the bill on principal and in light of prior JPA positions. The bill is now in Assembly Appropriations where it will likely receive the most scrutiny it will get in the Assembly. No hearing date had been set as of the day this report was prepared.

SB 669 (Caballero), the ACWA/CMUA sponsored bill on safe drinking water, was set for its first policy committee hearing in Senate Environmental Quality the day after this report was prepared. BB&K will give an update at the PAL Committee hearing. The bill is also referred to Senate Governmental Organizations Committee and it must pass that committee before April 26th.

SB 414 (Caballero) on small systems consolidations is sailing along and passed both of its policy committee hearing with unanimous support.

AB 134 (Bloom) also addresses safe drinking water but does not include a tax. It's focused on the programmatic aspects of a safe drinking water program. BB&K participated in a small group organized by the Assembly Speaker's office to discuss what issues need to be addressed. The Speaker's staff got to hear that no matter how complicated it may have appeared to him going into the meeting, the reality is even more complicated. BB&K focused on the lack of a comprehensive needs assessment.

Budget Subcommittees: both subcommittees took extensive testimony on the Governor's **Trailer Bill Language** (TBL) to implement the safe drinking water fund, which includes the language placing the tax on customer's bills. The proponents targeted the Assembly committee for testimony from community representatives, which resulted in the hearing extending into the afternoon. The Senate committee, although also lengthy, was more substantive. The Senate staff analysis was excellent and expertly summarized the issues. Both committees held the TBL in committee for further discussion.

Las Virgenes-Triunfo JPA

Bill Matrix

Prepared by Best Best & Krieger, April 11, 2019

Updates by J. Mc April 19, 2019

A. Priority Support/Oppose

Measure	Author	Topic	Status	Brief Summary	Position	Priority	Notes 1
Budget Trailor Bll	Newsom	Safe, clean, affordable drinking water	heard in budget subcommittees of both houses on 3/20 & 3/21	Would state findings and declarations relating to the intent of the Legislature to adopt policies to ensure that every Californian has the right to safe, clean, affordable, and accessible drinking water.	Oppose	A. Priority Support/ Oppose	Letter to Assembly Budget Subcommittee on 3/20/19. Oral testimony to Senate Commitee from BBK on 3/21/19.
AB 134	Bloom D	Safe, clean, affordable, and accessible drinking water.	3/27/2019-From committee: Do pass and re-refer to Com. on APPR. (Ayes 6. Noes 0.) (March 26). Re-referred to Com. on APPR.	Would state findings and declarations relating to the intent of the Legislature to adopt policies to ensure that every Californian has the right to safe, clean, affordable, and accessible drinking water. The bill would require, if a Safe Drinking Water Fund or Safe and Affordable Drinking Water Fund is established, the funding to be displayed in the annual Governor's budget, as prescribed, and, at least every 5 years, would require the Legislative Analyst's Office to provide an assessment of the effectiveness of expenditures from the fund.	Out for Analysis	A. Priority Support/ Oppose	Lower priority- the bill as currently written does not specify funding mechanism
AB 217	Garcia, Eduardo D	Safe Drinking Water for All Act.	4/1/2019-Re-referred to Com. on APPR.	Would enact the Safe Drinking Water for All Act and would establish the Safe and Affordable Drinking Water Fund in the State Treasury and would provide that moneys in the fund are continuously appropriated to the board to provide a source of funding to secure access to safe drinking water for all Californians, while also ensuring the long-term sustainability of drinking water service and infrastructure.	Out for analysis	A. Priority Support/ Oppose	Recently amended. Includes portfolio approach with funding from General Fund, Fees from Water Agencies and Ag/Dairy/Fertilizer sales.
AB 223	Stone, Mark D	California Safe Drinking Water Act: microplastics.	2/25/2019-In committee: Set, first hearing. Hearing canceled at the	The California Safe Drinking Water Act requires the State Water Resources Control Board to administer provisions relating to the regulation of drinking	Out for Analysis	A. Priority Support/ Oppose	

			request of author.	*water to protect public health. Current law requires the state board, on or before July 1, 2020, to adopt a definition of microplastics in drinking water and, on or before July 1, 2021, to adopt a standard methodology to be used in the testing of drinking water for microplastics and requirements for 4 years of testing and reporting of microplastics in drinking water, including public disclosure of those results. This bill would require the state board, to the extent possible, and where feasible and cost effective, to work with the State Department of Public Health in complying with those requirements.*			
AB 292	*Quirk D*	*Recycled water: raw water and groundwater augmentation.*	*4/9/2019-Action From W.,P. & W.: Do pass.To APPR..*	*Current law requires the State Water Resources Control Board, on or before December 31, 2023, to adopt uniform water recycling criteria for direct potable reuse through raw water augmentation, as specified. Current law defines "direct potable reuse" and "indirect potable reuse for groundwater recharge" for these purposes. This bill would eliminate the definition of "direct potable reuse" and instead would substitute the term "groundwater augmentation" for "indirect potable reuse for groundwater recharge" in these definitions. The bill would revise the definition of "treated drinking water augmentation."*	*Support*	*A. Priority Support/ Oppose*	*Sent letter to Quirk and members of the Environmental Safety and Toxic Materials Committee on 3/5/19.*
AB 533	*Holden D*	*Income taxes: exclusion: turf removal water conservation program.*	*4/8/2019-Re-referred to Com. on REV. & TAX.*	*Current law, for taxable years beginning on or after January 1, 2014, and before January 1, 2019, excludes from gross income under both laws any amount received as a rebate, voucher, or other financial incentive issued by a local water agency or supplier for participation in a turf removal water conservation program. Current law limits the collection and use of taxpayer information and provides that any unauthorized use of this information is punishable as a misdemeanor. This bill would extend the operative date of the provisions excluding from gross income specified amounts received in a turf removal water conservation program to taxable years beginning before January 1, 2024.*	*Support*	*A. Priority Support/ Oppose*	*Signed onto Met coalition letter*

AB 756	*Garcia, Cristina D*	*Public water systems: contaminants.*	*3/27/2019-From committee: Do pass and re-refer to Com. on APPR. (Ayes 6. Noes 0.) (March 26). Re-referred to Com. on APPR.*	*Would require a public water system to monitor for perfluoroalkyl and polyfluoroalkyl substances. The bill would additionally require a public water system to publish and keep current on its internet website water quality information relating to regulated contaminants and to notify each customer on the customer's next water bill and through email, as prescribed, of confirmed detections of specified excess contaminants.*	*Out for Analysis*	*A. Priority Support/ Oppose*	
AB 1180	*Friedman D*	*Recycled Water*	*4/28/2019-Referred to Com. On Approps.*	*This bill would require the state board, on or before January 1, 2023, as specified, to update the uniform statewide criteria for nonpotable recycled water uses.*	*Support*	*A. Priority Support*	*Sent letter to Assemblymember Friedman and Quirk, Chair of the Environmental Safety and Toxic Materials Committee on 3/19/19*
AB 1194	*Frazier D*	*Sacramento-San Joaquin Delta: Delta Stewardship Council.*	*3/11/2019-Referred to Com. on W., P., & W. Held in Committee.*	*Would increase the membership of the Delta Stewardship Council to 13 members, including 11 voting members and 2 nonvoting members, as specified. By imposing new duties upon local officials to appoint new members to the council, the bill would impose a state-mandated local program.*	*Oppose*	*A. Priority Support/ Oppose*	*Signed onto coalition letter via Metropolitan on 3/27/19*
AB 1672	*Bloom D*	*Solid waste*	*4/23/2019-Referred to Jud. Com.*	*This bill would, among other things, prohibit a covered entity, as defined, from labeling a covered product as safe to flush, safe for sewer systems, or safe for septic systems, unless the product is a flushable wipe that meets certain performance standards. The bill would require nonflushable products to be labeled clearly and conspicuously to communicate that they should not be flushed, as specified.*	*Support*	*A. Priority Support/ Oppose*	*Sent letter of support to Bloom on 3/8/19 and Environmental Safety and Toxic Materials Committee on 4/2/19*
ACA 3	*Mathis R*	*Clean Water for All Act.*	*3/21/2019-Re-referred to Com. on W., P., & W. Measure version as amended on March 20 corrected.*	*This measure, the Clean Water for All Act, would additionally require, commencing with the 2021–22 fiscal year, not less than 2% of specified state revenues to be set apart for the payment of principal and interest on bonds authorized pursuant to the Water Quality, Supply, and Infrastructure Improvement Act of 2014; water supply, delivery, and quality projects administered*	*Out for Analysis*	*A. Priority Support/ Oppose*	

				by the department, and water quality projects administered by the state board, as provided.			
SB 134	*Hertzberg D*	*Water conservation: water loss performance standards: enforcement.*	*3/13/2019-Set for hearing April 9.*	*Current law authorizes the State Water Resources Control Board to issue information orders, written notices, and conservation orders to an urban retail water supplier that does not meet its urban water use objective, and existing law authorizes the board to impose civil liability for a violation of an order or regulation issued pursuant to these provisions, as specified. Current law requires the board, no earlier than January 1, 2019, and no later than July 1, 2020, to adopt rules requiring urban retail water suppliers to meet performance standards for the volume of water losses. This bill would prohibit the board from imposing liability for a violation of the performance standards for the volume of water losses except as part of the enforcement of an urban water use objective.*	*Support*	*A. Priority Support/ Oppose*	*Via BBK testimony – no letter from LV or JPA*
SB 200	*Monning D*	*Safe and Affordable Drinking Water Fund.*	*3/22/2019-Set for hearing April 23.*	*Would establish the Safe and Affordable Drinking Water Fund in the State Treasury and would provide that moneys in the fund are continuously appropriated to the State Water Resources Control Board. The bill would require the board to administer the fund to provide a stable source of funding to secure access to safe drinking water for all Californians, while also ensuring the long-term sustainability of drinking water service and infrastructure. The bill would authorize the board to provide for the deposit into the fund of federal contributions, voluntary contributions, gifts, grants, and bequests. The bill would require the board to expend moneys in the fund for grants, loans, contracts, or services to assist eligible applicants with projects relating to the provision of safe and affordable drinking water.*	*Out for Analysis*	*A. Priority Support/ Oppose*	*Likely oppose*
SB 204	*Dodd D*	*State Water Project: contracts.*	*4/5/2019-Set for hearing April 22.*	*Would require the Department of Water Resources to provide at least 10 days' notice to the Joint Legislative Budget Committee and relevant policy and fiscal committees of the Legislature before holding public sessions to negotiate any potential*	*Oppose*	*A. Priority Support/ Oppose*	*Signed onto coalition letter to the Natural Resources and Water Committee 3/6/19. Updated*

				amendment of a long-term water supply contract that is of projectwide significance with substantially similar terms intended to be offered to all contractors. The bill would require the department, before the execution of a specified proposed amendment to a long-term water supply contract and at least 60 days before final approval of such an amendment, to submit to the Joint Legislative Budget Committee and relevant policy and fiscal committees of the Legislature certain information regarding the terms and conditions of a proposed amendment of a long-term water supply contract and to submit a copy of the long-term contract as it is proposed to be amended.			*opposition letter on 3/20/19.*
SB-205	***Hertzberg D***	***Business licenses: stormwater discharge compliance.***	***4/5/2019-Set for hearing April 22.***	***Would require, when applying to a city or a county for an initial business license or business license renewal, a person who conducts a business operation that is a regulated industry to demonstrate compliance with the National Pollutant Discharge Elimination System (NPDES) permit program by providing specified information, under penalty of perjury, on the application, including, among other things, the Standard Industrial Classification code for the business. The bill would apply to all applications for initial business licenses and business license renewals submitted on and after January 1, 2020.***	***Out for Analysis***	***A. Priority Support/ Oppose***	
SB 332	***Hertzberg D***	***Wastewater treatment: recycled water.***	***4/5/2019-Set for hearing April 23.***	***Would declare, except in compliance with the bill's provisions, that the discharge of treated wastewater from ocean outfalls is a waste and unreasonable use of water. The bill would require each wastewater treatment facility that discharges through an ocean outfall and affiliated water suppliers to reduce the facility's annual flow as compared to the average annual wastewater discharge baseline volume, as prescribed, by at least 50% on or before January 1, 2030, and by at least 95% on or before January 1, 2040. The bill would subject the owner or operator of a wastewater treatment facility, as well as the affiliated water suppliers, to a civil penalty of***	***Oppose***	***A. Priority Support/ Oppose***	***No formal letter from JPA or LV. CASA and ReUse have taken formal positions to oppose or oppose unless amended***

				$2,000 per acre-foot of water above the required reduction in overall volume discharge for the failure to meet these deadlines.			
SB 414	*Caballero D*	*Small System Water Authority Act of 2019.*	*4/4/2019-Read second time and amended. Re-referred to Com. on APPR.*	*Would create the Small System Water Authority Act of 2019 and state legislative findings and declarations relating to authorizing the creation of small system water authorities that will have powers to absorb, improve, and competently operate noncompliant public water systems. The bill, no later than March 1, 2020, would require the state board to provide written notice to cure to all public agencies, private water companies, or mutual water companies that operate a public water system that has either less than 3,000 service connections or that serves less than 10,000 people, and are not in compliance, for the period from July 1, 2018, through December 31, 2019, with one or more state or federal primary drinking water standard maximum contaminant levels, as specified.*	*Support*	*A. Priority Support/ Oppose*	*Sent letters to Caballero, Eastern Municipal WD (sponsor) and Senator Allen, Chair of the Environmental Quality Committee on 3/19/19*
SB 669	*Caballero D*	*Water quality: Safe Drinking Water Fund.*	*3/19/2019-Hearing April 10 and passed on unanimous consent.*	*Would establish the Safe Drinking Water Fund in the State Treasury and would provide that moneys in the fund are continuously appropriated to the State Water Resources Control Board. The bill would require the state board to administer the fund to assist community water systems in disadvantaged communities that are chronically noncompliant relative to the federal and state drinking water standards and do not have the financial capacity to pay for operation and maintenance costs to comply with those standards, as specified.*	*Support*	*A. Priority Support/ Oppose*	*Sent letter to Committee Chair Senator Allen and Caballero on 3/7/19*

B. Watch

Measure	*Author*	*Topic*	*Status*	*Brief Summary*	*Position*	*Priority*	*Notes 1*
AB 68	*Ting D*	*Land use: accessory dwelling units*	*Referred to Coms. on H. & C.D. and L. GOV*	*Makes changes to existing laws intended to facilitate the development of accessory dwelling units – the bill as written could result in the inability for utilities to collect certain fees*	*Out for Analysis*	*B. Watch*	
AB 129	*Bloom D*	*Microfiber pollution.*	*3/26/2019-Re-referred to Com. on E.S. & T.M.*	*Would require the State Water Resources Control Board to take specified actions relating to microfiber pollution on or before*	*Out for Analysis*	*B. Watch*	

				July 1, 2020, and would require the state board to identify best practices for clothing manufacturers to reduce the amount of microfibers released into the environment. The bill would require, on or before January 1, 2020, a public entity that uses a laundry system, and a private entity that contracts with a state agency for laundry services, to install a filtration system to capture microfibers that are shed during washing.			
AB 231	*Mathis R*	*California Environmental Quality Act: exemption: recycled water.*	*3/25/2019-In committee: Set, first hearing. Failed passage.*	*Would exempt from CEQA a project to construct or expand a recycled water pipeline for the purpose of mitigating drought conditions for which a state of emergency was proclaimed by the Governor if the project meets specified criteria. Because a lead agency would be required to determine if a project qualifies for this exemption, this bill would impose a state-mandated local program. The bill would also exempt from CEQA the development and approval of building standards by state agencies for recycled water systems.*	*Watch*	*B. Watch*	
AB 405	*Rubio, Blanca D*	*Sales and use taxes: exemption: water treatment.*	*3/11/2019-In committee: Hearing for testimony only.*	*Would exempt from Sales and Use Tax the gross receipts from the sale in this state of, and the storage, use, or other consumption in this state of, chemicals used to treat water, recycled water, or wastewater regardless of whether those chemicals or other agents become a component part thereof and regardless of whether the treatment takes place before or after the delivery to consumers.*	*Watch*	*B. Watch*	*Tax levy—deadlines do not apply*
AB 441	*Eggman D*	*Water: underground storage.*	*3/28/2019-Re-referred to Com. on APPR.*	*Under current law, the right to water or to the use of water is limited to that amount of water that may be reasonably required for the beneficial use to be served. Current law provides for the reversion of water rights to which a person is entitled when the person fails to beneficially use the water for a period of 5 years. Current law declares that the storing of water underground, and related diversions for that purpose, constitute a beneficial use of water if the stored water is thereafter applied to the beneficial purposes for which the*	*Watch*	*B. Watch*	

				appropriation for storage was made. This bill would instead provide that any diversion of water to underground storage constitutes a diversion of water for beneficial use for which an appropriation may be made if the diverted water is put to beneficial use, as specified.			
AB 591	*Garcia, Cristina D*	*Central Basin Municipal Water District: board of directors.*	*3/12/2019-Re-referred to Com. on L. GOV.*	*Current law requires the board of directors of the Central Basin Municipal Water District to be composed of 8 directors until the directors elected at the November 8, 2022, election take office, when the board would be composed of 7 directors, as prescribed. Current law requires the 3 directors appointed by the water purveyors, as specified, to live or work within the district and requires the term of an appointed director to be terminated if the appointed director no longer is employed by or a representative of the appointing entity.This bill would define representative for these purposes to be a consultant or contractor of an entity, or a board member of an entity that is a mutual water company.*	*Watch*	*B. Watch*	*Watch for potential amendments relating to membership allocation on MWD*
AB 636	*Gray D*	*State Water Resources Control Board: water quality objectives.*	*3/14/2019-Referred to Com. on E.S. & T.M.*	*Would prohibit the State Water Resources Control Board from implementing water quality objectives for which the state board makes a certain finding relating to environmental quality until it has submitted the water quality objectives and a statement of that finding to the appropriate policy committees of the Legislature and each committee has held a hearing on these matters.*	*Watch*	*B. Watch*	
AB 637	*Gray D*	*State Water Resources Control Board: minority and low-income communities: drinking water.*	*3/26/2019-In committee: Set, first hearing. Hearing canceled at the request of author.*	*Would require the State Water Resources Control Board, before taking actions that impact drinking water, to identify potential adverse human health effects that the proposed action may have on minority and low-income populations and to seek to reduce those effects to the greatest extent practicable.*	*Watch*	*B. Watch*	
AB 638	*Gray D*	*Department of Water Resources: water storage capacity.*	*3/26/2019-From committee: Do pass and re-refer to Com. on APPR. (Ayes 14. Noes 0.) (March 26). Re-referred to Com. on*	*Current law requires the Department of Water Resources to update every 5 years the plan for the orderly and coordinated control, protection, conservation, development, and use of the water resources of the state, which is known as The*	*Watch*	*B. Watch*	

			APPR.	*California Water Plan. This bill would require the department, on or before January 1, 2021, with updates every 2 years thereafter, to identify the statewide water storage capacity, the adverse impacts to the capacity from the effects of climate change, and the mitigation strategies for anticipated adverse impacts.*			
AB 658	*Garcia, Eduardo D*	*Water rights: water management.*	*4/3/2019-Re-referred to Com. on APPR.*	*Would authorize a groundwater sustainability agency or local agency to apply for, and the State Water Resources Control Board to issue, a conditional temporary permit for diversion of surface water to underground storage for beneficial use that advances the sustainability goal of a groundwater basin, as specified.*	*Watch*	*B. Watch*	
AB 841	*Ting D*	*Drinking water: contaminants: perfluoroalkyl and polyfluoroalkyl substances.*	*3/27/2019-From committee: Do pass and re-refer to Com. on APPR. (Ayes 8. Noes 0.) (March 26). Re-referred to Com. on APPR.*	*Would require the Office of Environmental Health Hazard Assessment to adopt and complete a work plan within prescribed timeframes to assess which substances in the class of perfluoroalkyl and polyfluoroalkyl substances should be identified as a potential risk to human health, as provided. The bill would require the office, as part of those assessments, to determine which of the substances are appropriate candidates for notification levels to be adopted by the state board. The bill would require the Office of Environmental Health Hazard Assessment, by January 1, 2022, to provide to the Legislature an update on the assessment.*	*Watch*	*B. Watch*	
AB 955	*Gipson D*	*Water replenishment districts: water system needs assessment program.*	*4/9/2019-Action From W.,P. & W.: Do pass.To APPR..*	*Would require a water replenishment district to offer to conduct a needs assessment program for water systems serving disadvantaged communities within the district, as specified. The bill would make a water system's participation in the program voluntary. The bill would require the district, upon completion of the needs assessment, to develop and evaluate options to address the findings and recommendations in the needs assessment and prepare an implementation plan for recommendation to the water system.*	*Watch*	*B. Watch*	
AB 1204	*Rubio, Blanca D*	*Public water systems: primary drinking water*	*3/26/2019-In committee: Set, first hearing. Hearing*	*Would require the adoption or amendment of a primary drinking water standard for a contaminant in drinking water*	*Watch*	*B. Watch*	*2-yr bill*

		standards: implementation date.	*canceled at the request of author.*	*not regulated by a federal primary drinking water standard or that is more stringent than a federal primary drinking water standard to take effect 3 years after the date on which the state board adopts or amends the primary drinking water standard. The bill would authorize the state board to delay the effective date of the primary drinking water standard adoption or amendment by no more than 2 additional years as necessary for capital improvements to comply with a maximum contaminant level or treatment technique.*			
AB 1220	*Garcia, Cristina D*	*Metropolitan water districts.*	*4/1/2019-Re-referred to Com. on L. GOV.*	*Under the Metropolitan Water District Act, the board of a metropolitan water district is required to consist of at least one representative from each member public agency, as prescribed. The act authorizes each member public agency to appoint additional representatives not exceeding one additional representative for each 5% of the assessed valuation of property taxable for district purposes within the entire district that is within the boundaries of that member public agency. This bill would prohibit a member public agency from having fewer than the number of representatives it had as of January 1, 2019.*	*Watch*	*B. Watch*	
AB 1414	*Friedman D*	*Urban retail water suppliers: reporting.*	*4/9/2019-Action From W.,P. & W.: Do pass.To APPR..*	*Would require each urban retail water supplier on or before January 1 of each year until January 1, 2024, to submit a completed and validated water loss audit report as prescribed by the Department of Water Resources. The bill would require on or before January 1, 2024, and on or before January 1 of each year thereafter, each urban retail water supplier to submit a completed and validated water loss audit report for the previous calendar year or previous fiscal year as part of an existing report relating to its urban water use.*	*Watch*	*B. Watch*	
AB 1588	*Gloria D*	*Drinking water and wastewater operator certification programs.*	*4/3/2019-Re-referred to Com. on E.S. & T.M.*	*Current law requires a person who operates a nonexempt wastewater treatment plant to possess a valid, unexpired wastewater certificate or water treatment operator certificate of the appropriate grade. This bill, when applying for certification by the board as a water treatment*	*Watch*	*B. Watch*	

				operator, distribution system operator, or wastewater operator, would require operators of complex industrial facilities, including members of the military and military service veterans, to receive full equivalent experience credit and education credit for work and tasks performed that are directly related to the operation of water or wastewater facilities, as specified.			
SB 1	***Atkins* D**	*California Environmental, Public Health, and Workers Defense Act of 2019.*	*3/22/2019-Set for hearing April 9.*	*Current state law regulates the discharge of air pollutants into the atmosphere. The Porter-Cologne Water Quality Control Act regulates the discharge of pollutants into the waters of the state. The California Safe Drinking Water Act establishes standards for drinking water and regulates drinking water systems. The California Endangered Species Act requires the Fish and Game Commission to establish a list of endangered species and a list of threatened species, and generally prohibits the taking of those species. This bill would require specified agencies to take prescribed actions regarding certain federal requirements and standards pertaining to air, water, and protected species, as specified.*	*Out for Analysis*	*B. Watch*	*Letter of support/opposition pending ACWA's analysis*
SB 1	***Dodd* D**	*Water resources: stream gages.*	*4/8/2019-April 8 hearing: Placed on APPR. suspense file.*	*Would require the Department of Water Resources and the State Water Resources Control Board, upon an appropriation of funds by the Legislature, to develop a plan to deploy a network of stream gages that includes a determination of funding needs and opportunities for modernizing and reactivating existing gages and deploying new gages, as specified. The bill would require the department and the board, in consultation with the Department of Fish and Wildlife, the Department of Conservation, the Central Valley Flood Protection Board, interested stakeholders, and, to the extent they wish to consult, local agencies, to develop the plan to address significant gaps in information necessary for water management and the conservation of freshwater species.*	*Out for Analysis*	*B. Watch*	
SB 45	***Allen* D**	*Wildfire,*	*4/4/2019-Read*	*Would enact the Wildfire,*	*Out for*	*B.*	

		Drought, and Flood Protection Bond Act of 2020.	*second time and amended. Re-referred to Com. on GOV. & F.*	*Drought, and Flood Protection Bond Act of 2020, which, if approved by the voters, would authorize the issuance of bonds in the amount of $4,300,000,000 pursuant to the State General Obligation Bond Law to finance projects to restore fire damaged areas, reduce wildfire risk, create healthy forest and watersheds, reduce climate impacts on urban areas and vulnerable populations, protect water supply and water quality, protect rivers, lakes, and streams, reduce flood risk, protect fish and wildlife from climate impacts, improve climate resilience of agricultural lands, and protect coastal lands and resources.*	*Analysis*	*Watch*	
SB 307	*Roth D*	*Water conveyance: use of facility with unused capacity.*	*4/9/2019-Action From N.R. & W.: Do pass as amended.To APPR..*	*Current law prohibits the state or a regional or local public agency from denying a bona fide transferor of water from using a water conveyance facility that has unused capacity for the period of time for which that capacity is available, if fair compensation is paid for that use and other requirements are met. This bill would, notwithstanding that provision, prohibit a transferor of water from using a water conveyance facility that has unused capacity to transfer water from a groundwater basin underlying desert lands, as defined, that is in the vicinity of specified federal lands or state lands to outside of the groundwater basin unless the State Lands Commission, in consultation with the Department of Fish and Wildlife, finds that the transfer of the water will not adversely affect the natural or cultural resources of those federal and state lands.*		*B. Watch*	*In PAL Committee for consideration*
SB 474	*Stern D*	*Department of Water Resources: appropriations of water.*	*Introduced 2/21/2019. Set for hearing April 9 and delayed to April 23 at request of author*	*Under existing law, the Department of Water Resources is required to make and file with the State Water Resources Control Board applications for the appropriation of any water that, in the department's judgment, is or may be required in the development and completion of all or part of a general or coordinated plan for the development, utilization, or conservation of the water resources of the state. Existing law gives those applications priority, as of the date of filing*	*Out for Analysis*	*B. Watch*	

				the application, over any subsequent application and exempts certain water rights diligence provisions from generally applying to the applications. ***This bill would eliminate the exemption from the application of the diligence provisions as of January 1, 2021.***			

Total Measures: 39

Total Tracking Forms: 39

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW

To: Las Virgenes – Triunfo JPA Board of Directors
From: John Freshman and Ana Schwab
Date: April 22, 2019
RE: Federal Report

Clean Water Act

On April 15, the EPA issued guidance clarifying its application of the Clean Water Act permitting requirements to groundwater. The conclusion is that releases of pollutants to groundwater are excluded from the Clean Water Act's permitting requirements, regardless of whether that groundwater is hydrologically connected to surface water.

This statement by the EPA counters what is commonly referred to as the groundwater conduit theory – a theory that discharges into groundwater that eventually make their way to navigable water could be subject to the Clean Water Act's NPDES permitting program.

This issue will be before the Supreme Court in the fall term in the *County of Maui, Hawaii v. Hawai'I Wildlife Fund* (9th Circuit).

Department of the Interior

David Bernhardt was confirmed as the Secretary of the Department of the Interior. Secretary Bernhardt's confirmation received bipartisan support from Senators Manchin (WV), Heinrich (NM), Sinema (AZ), and King (ME).

Colorado River States Reach Drought Contingency Plan

The Drought Contingency Plan was passed by the House and the Senate and was signed into law by the President on April 16, 2019 – after the legislation was fast-tracked with bipartisan support in Congress. The Imperial Irrigation District has filed a suit to put a hold on the entire plan until an environmental assessment can be done on the Salton Sea.

The Imperial Irrigation District, the largest user of the Colorado River, objected to the Plan over concerns that the plan would adversely impact the Salton Sea. The states agreed to the plan without Imperial – Met came in and offered the necessary allocation to allow the plan to go forward.

WIFIA

The EPA announced a new round of funding through the WIFIA Program. It is estimated to provide $6 billion in loans in the 2019 year. Letters of interest are due by July 5, 2019.

LAS VIRGENES-TRIUNFO - HIGH PRIORITY LEGISLATION IN THE 116TH CONGRESS THROUGH APRIL 22, 2019

Legislation	Summary	Status	Position
H.R. 34 Energy and Water Research Integration Act of 2019	To ensure consideration of water intensity in the Department of Energy's energy research, development, and demonstration programs to help guarantee efficient, reliable, and sustainable delivery of energy and clean water resources.	Introduced by Rep Eddie Bernice Johnson (D-TX) – January 3, 2019 Voted out of Subcommittee – March 27, 2019	
S. 40 Bureau of Reclamation Transparency Act	To require the Secretary of the Interior to submit to Congress a report on the efforts of the Bureau of Reclamation to manage its infrastructure assets.	Introduced by Sen. John Barrasso (R-WY) – January8, 2019	
S. 47 Natural Resources Management Act	This bill sets forth provisions regarding various programs, projects, activities, and studies for the management and conservation of natural resources on federal lands. Specifically, the bill addresses, among other matters • land conveyances, exchanges, acquisitions, withdrawals, and transfers; • national parks, monuments, memorials, wilderness areas, wild and scenic rivers, historic and heritage sites, and other conservation and recreation areas; • wildlife conservation; • helium extraction; • small miner waivers of claim maintenance fees; • wildland fire operations; • the release of certain federal reversionary land interests; • boundary adjustments; • the Denali National Park and Preserve natural gas pipeline; • fees for medical services in units of the National Park System; • funding for the Land and Water Conservation Fund; • recreational activities on federal or nonfederal lands; • a national volcano early warning and monitoring system; • federal reclamation projects; and • search-and recovery-missions.	Introduced by Sen. Lisa Murkowski (R-AK) – January 8, 2019 Signed into law on March 12, 2019	

	In addition, the bill reauthorizes the National Cooperative Geologic Mapping Program		
Legislation	**Summary**	**Status**	**Position**
H.R. 357 Sacramento-San Joaquin Delta National Heritage Area Act	To establish the Sacramento-San Joaquin Delta National Heritage Area. The boundaries of the Heritage Area shall be in the counties of Contra Costa, Sacramento, San Joaquin, Solano, and Yolo in the State of California, as generally depicted on the map entitled "Sacramento-San Joaquin Delta National Heritage Area Proposed Boundary", numbered T27/105,030, and dated October 2012.	Introduced by Rep. John Garamendi (D-CA) – January 9, 2019 Signed into law on March 12, 2019 as part of S. 47 – Natural Resources Management Act	
H.R. 579 To prohibit the conditioning of any permit, lease, or other use agreement on the transfer of any water right to the United States by the Secretaries of the Interior and Agriculture, and for other purposes.	To prohibit the conditioning of any permit, lease, or other use agreement on the transfer of any water right to the United States by the Secretaries of the Interior and Agriculture, and for other purposes.	Introduced by Rep. Scott Tipton (R-CO) – January 15, 2019	
H.R. 664 To protect the right of individuals to bear arms at water resources development projects administered by the Secretary of the Army, and for other purposes	To protect the right of individuals to bear arms at water resources development projects administered by the Secretary of the Army, and for other purposes	Introduced by Rep. Bob Gibbs (D-OH) – January 17, 2019	

Legislation	Summary	Status	Position
H.R. 667 To repeal the Waters of the United States rule and amend the Federal Water Pollution Control Act definition of navigable waters, and for other purposes.	To repeal the Waters of the United States rule and amend the Federal Water Pollution Control Act	Introduced by Rep. Jamie Herrera Beutler (R-WA) – January 17, 2019	
H.R. 658 National Infrastructure Development Bank Act of 2019	To facilitate efficient investments and financing of infrastructure projects and new job creation through the establishment of a National Infrastructure Development Bank, and for other purposes. Highlighting environmental infrastructure projects which include drinking water, waste water treatment facility, and stormwater management system.	Introduced by Rep. Rosa DeLauro (D-CT) – January 17, 2019	
H.R. 807 Water and Agriculture Tax Reform Act of 2019	To amend the Internal Revenue Code of 1986 to facilitate water leasing and water transfers to promote conservation and efficiency.	Introduced by Rep. Ken Buck (R-CO) – January 28, 2019	

Legislation	Summary	Status	Position
H.R. 843 To amend the Federal Water Pollution Control Act to clarify when the Administrator of the Environmental Protection Agency has the authority to prohibit the specification of a defined area, or deny or restrict the use of a defined area for specification, as a disposal site under section 404 of such Act, and for other purposes.	To amend the Federal Water Pollution Control Act to clarify when the Administrator of the Environmental Protection Agency has the authority to prohibit the specification of a defined area, or deny or restrict the use of a defined area for specification, as a disposal site under section 404 of such Act, and for other purposes.	Introduced by Rep. Bob Gibbs (R-OH) – January 29, 2019	
H.R. 855 STRONG Act	To minimize the economic and social costs resulting from losses of life, property, well-being, business activity, and economic growth associated with extreme weather events by ensuring that the United States is more resilient to the impacts of extreme weather events in the short- and long-term, and for other purposes. Key sectors shall include water management, including supply and treatment; infrastructure, including natural and built forms of water and wastewater services;	Introduced by Rep. Scott Peters (D-CA) – January 29, 2019	

Legislation	Summary	Status	Position
S. 308 A bill to direct the Secretary of the Interior to convey certain Federal lands in San Bernardino County, California, to the San Bernardino Valley Water Conservation District, and to accept in return certain non-Federal lands, and for other purposes	A bill to direct the Secretary of the Interior to convey certain Federal lands in San Bernardino County, California, to the San Bernardino Valley Water Conservation District, and to accept in return certain non-Federal lands, and for other purposes	Introduced by Sen. Dianne Feinstein (D-CA) – January 31, 2019	
S. 361 Water and Agriculture Tax Reform Act of 2019	A bill to amend the Internal Revenue Code of 1986 to facilitate water leasing and water transfers to promote conservation and efficiency.	Introduced by Sen. Cory Gardner (R-CO) – February 6, 2019	
H.R. 1067 To direct the Secretary of the Interior to convey certain Federal lands in San Bernardino County, California, to the San Bernardino Valley Water Conservation District, and to accept in return certain non-Federal lands, and for other purposes.	To direct the Secretary of the Interior to convey certain Federal lands in San Bernardino County, California, to the San Bernardino Valley Water Conservation District, and to accept in return certain non-Federal lands, and for other purposes.	Introduced by Rep. Pete Aguilar (D-CA) – February 7, 2019	

Legislation	Summary	Status	Position
S. 376 A bill to amend the Federal Water Pollution Control Act to clarify the definition of navigable waters, and for other purposes.	A bill to amend the Federal Water Pollution Control Act to clarify the definition of navigable waters, and for other purposes.	Introduced by Sen. Rand Paul (R-KY) – February 7, 2019	
H.R. 1137 To amend the Water Resources Development Act of 1986 to repeal the authority relating to reprogramming during national emergencies.	To amend the Water Resources Development Act of 1986 to repeal the authority relating to reprogramming during national emergencies.	Introduced by Rep. John Garamendi (D-CA) – February 11, 2019	
H.R. 1162 To establish a grant program for the funding of water recycling and reuse projects, and for other purposes.	To extend the authorization of the Bureau of reclamation's Title XVI competitive grants program, and increases the authorized funding levels from $50 million to $500 million. Further the legislation expands the geographic scope of the program by removing a requirement that projects be located in sustained drought or disaster areas, makes the program truly competitive by removing a requirement that Congress sign off on each selected project, and modernizes the individual program funding cap from $20 million to $30 million.	Introduced by Rep. Grace Napolitano (D-CA) – Introduced February 13, 2019	*Support*
H.R. 1334 To provide grants for projects to acquire land and water for parks and other outdoor recreation purposes and to develop new or renovate existing outdoor recreation facilities.	To provide grants for projects to acquire land and water for parks and other outdoor recreation purposes and to develop new or renovate existing outdoor recreation facilities.	Introduced by Rep. Nanette Barragan (D-CA) – February 25, 2019	

Legislation	Summary	Status	Position
H.R. 1331 Local Water Protection Act	To amend Section 319(j) of the Federal Water Pollution Control Act (33 U.S.C. 1329 (j)) is amended by striking "subsections (h) and (i) not to exceed" and all that follows through "fiscal year 1991" and inserting "subsections (h) and (i) $200,000,000 for each of fiscal years 2020 through 2024".	Introduced by Rep. Annie Craig (D-MN) – February 26, 2019 Passed the House – April 8, 2019	
H.R. 1429 Drinking Water Infrastructure for Job Creation Act	Making supplemental appropriations, of $7,500,000,000, for fiscal year 2019 for the Drinking Water State Revolving Funds, and for other purposes.	Introduced by Rep. Maxine Waters (D-CA) – February 28,2019	
S. 611 Water Affordability, Transparency, Equity, and Reliability Act of 2019	To establish a trust fund, of $34,850,000,000, to provide for adequate funding for water and sewer infrastructure, and for other purposes.	Introduced by Sen. Bernie Sanders (I-VT) – February 28, 2019	
H.R. 1417 Water Affordability, Transparency, Equity, and Reliability Act of 2019	To establish a trust fund, of $34,850,000,000, to provide for adequate funding for water and sewer infrastructure, and for other purposes.	Introduced by Rep. Brenda Lawrence (D-MI) – March 1, 2019	*Support*
H.R. 1497 Water Quality Protection and Job Creation Act of 2019	To amend the Federal Water Pollution Control Act to reauthorize certain water pollution control programs, and for other purposes. The legislation would authorize $120,000,000 for each of fiscal years 2020 through 2024.".	Introduced by Rep. Pete DeFazio (D-OR) – March 6, 2019	

Legislation	Summary	Status	Position
H.R. 1621 To authorize the Secretary of the Interior to coordinate Federal and State permitting processes related to the construction of new surface water storage projects on lands under the jurisdiction of the Secretary of the Interior and the Secretary of Agriculture and to designate the Bureau of Reclamation as the lead agency for permit processing, and for other purposes.	*Text not available yet*	Introduced by Rep. Tom McClintock (R-CA) – March 7, 2019	
H.R. 1764 To amend the Federal Water Pollution Control Act with respect to permitting terms, and for other purposes.	The bill would extend the maximum term for National Pollutant Discharge Elimination System (NPDES) permits issued under the federal Clean Water Act from 5 to 10 years.	Introduced by Rep. John Garamendi (D-CA) – March 15, 2019	*Supporting (with note that passage should have support of Napolitano)*

Legislation	Summary	Status	Position
H.R. 2030 Colorado River Drought Contingency Plan Authorization Act	This bill requires the Department of the Interior to carry out the Colorado River Drought Contingency Plan which was submitted to Congress on March 19, 2019, by Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming. Interior must execute the plan without delay and operate applicable Colorado River System reservoirs accordingly.	Introduced by Rep. Raul Grijalva (D-AZ) – April 2, 2019 Signed into law on April 16, 2019	
S. 1057 Colorado River Drought Contingency Plan Authorization Act	This bill requires the Department of the Interior to carry out the Colorado River Drought Contingency Plan which was submitted to Congress on March 19, 2019, by Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming. Interior must execute the plan without delay and operate applicable Colorado River System reservoirs accordingly	Introduced by Sen. Martha McSally (R-AZ) – April 8, 2019 Passed the Senate on April 9, 2019	
S. 1087 Water Quality Certification Improvement Act of 2019	To amend the Federal Water Pollution Control Act to make changes with respect to water quality certification, and for other purposes.	Introduced by Sen. John Barrasso (R-WY) – April 9, 2019	
H.R. 2205 Water Quality Certification Improvement Act of 2019	To amend the Federal Water Pollution Control Act to make changes with respect to water quality certification, and for other purposes.	Introduced by Rep. David McKinley (R-WV) – April 11, 2019	
H.R. 2287 To clarify the definition of navigable waters, and for other purposes	*Text has not yet been received by the clerk.*	Introduced by Rep. Mac Thornberry (R-TX) – April 11, 2019	

Legislation	Summary	Status	Position
H.R. 2313 To amend the Internal Revenue Code of 1986 to expand the exclusion for certain conservation subsidies to include subsides for water conservation or efficiency measures and storm water management measures	*Text has not yet been received by the clerk.*	Introduced by Rep. Jared Huffman (D-CA) – April 12, 2019	
H.Res. 324 Recognizing the importance of the United States-Israel economic relationship and encouraging new areas of cooperation	(1) affirms that the United States-Israel economic partnership has achieved great tangible and intangible benefits to both countries and is a foundational component of the strong alliance; (2) recognizes that science and technology innovation present promising new frontiers for United States-Israel economic cooperation, particularly in light of widespread drought, cybersecurity attacks, and other major challenges impacting the United States; (3) encourages the President to regularize and expand existing forums of economic dialogue with Israel and foster both public and private sector participation; and (4) expresses support for the President to explore new agreements with Israel, including in the fields of energy, water, agriculture, medicine, neurotechnology, and cybersecurity.	Introduced by Rep. Ted Lieu (D-CA) – April 18, 2019	

ITEM 10B

INFORMATION ONLY

April 29, 2019 JPA Board Meeting

TO: JPA Board of Directors

FROM: Facilities & Operations

Subject : 2018 Bioassessment Monitoring Report: Approval of Purchase Order

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The Las Virgenes-Triunfo Joint Powers Authority (JPA) approved funding for this matter in the Fiscal Year 2018-19 JPA Budget. On April 9, 2019, the LVMWD Board, acting as Administering Agent of the JPA, authorized the General Manager to approve a purchase order to Aquatic Bioassay Consulting Laboratories, Inc., in the amount of $48,866, for the 2018 bioassessment monitoring report.

SUMMARY:

Since 2006, the JPA has submitted an annual bioassessment monitoring report as required by Tapia's NPDES Permit. The report is intended to assess the "eco-health of the stream" by measuring the physical condition of the receiving waters and their biological communities. The work involves sampling and characterizing the habitat potential of the creek, as well as identifying and quantifying the species of benthic macroinvertebrates at eight receiving water stations.

In 2010, new requirements were established for the JPA to conduct sampling and taxonomic identification of algal biomass taken from the substrate. This task is labor intensive and requires the use of specialized consultants and laboratories. As a result, the overall cost of the bioassessment monitoring has increased.

The 2018 bioassessment monitoring report cost is $48,866, which exceeds the $35,000 limit on purchase orders that can be approved by the General Manager. Therefore, the issuance of a purchase order needed to be approved by the Board.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

Sufficient funds are available for this work in the adopted Fiscal Year 2018-19 JPA Budget.

DISCUSSION:

Bioassessment monitoring for Malibu Creek sampling sites is required by Tapia's NPDES Permit. The monitoring consists of creek site sampling and observations, together with laboratory and data analysis for each site under protocols established by the Surface Water Ambient Monitoring Program (SWAMP) and the U.S. EPA estuarine sampling guidance documents for RSW-MC011D (Malibu Lagoon).

Site observations include stream flow measurements and a physical habitat assessment, which evaluates stream bank conditions, potential sediment impairment and canopy cover. It was noted that the stream flows were below average at the time of sampling. Receiving water site RSW-MC009U was not evaluated due to dry conditions. Physical habitat assessments for most sites were suboptimal with RSW-007U and RSW-001D having the lowest (marginal) score due to sediment deposition and channel alteration.

The laboratory analyses of the site samples identified 3,636 benthic macroinvertebrates from 50 different taxa. The majority of the samples were seed shrimp from the Malibu Lagoon. The upstream sample sites included disturbance tolerant species including clams, amphipods, midges, nemertean worms, mayflies and New Zealand mudsnails. New Zealand Mudsnails were found at sites RSW-004D, RSW-003D and RSW-001U in similar numbers to previous bioassessments.

Results from sampling and laboratory analyses were used to determine scores using the Southern California Index of Biological Integrity (SoCA IBI), the California Stream Condition Index (CSCI) and the Southern California Algae Index of Biological Integrity (SoCA Algae IBI). SoCA IBI and CSCI scores are determined by the composition of the benthic macroinvertebrate community, while SoCA Algae IBI scores are determined by the abundances and composition of diatom and soft-bodied algae communities. The SoCA IBI scores for the receiving water stations were all either "non-reference" or "reference," and CSCI scores were either "possibly altered", "likely altered" or "very likely altered."

One of the potential reasons given for the low scores in the bioassessment report was the water quality in Malibu Creek. Because of high sulfate and phosphate concentrations in the water due to the influence of the Monterey Formation, there is a detrimental effect on benthic macroinvertebrates.

Prepared by: Brett Dingman, Water Reclamation Manager

ATTACHMENTS:

Bioassessment Report
Invoice

March 18th, 2019

Brett Dingman, P.E.
Water Reclamation Manager
Las Virgenes Municipal Water District
4232 Las Virgenes Rd.
Calabasas, CA 91302

Dear Mr. Dingman:

In accordance with the agreement between the Las Virgenes Municipal Water District and Aquatic Bioassay and Consulting Laboratories, Inc., we are pleased to present the 2018 Bioassessment Monitoring Report for the Tapia Water Reclamation Facility (MRP No. CI-4760). The enclosed report includes the results for the summer 2018 annual requirements set forth by the California Regional Water Quality Control Board, Los Angeles Region.

Yours very truly,

Scott Johnson
Laboratory Director, Senior Scientist
scott@aquaticbioassay.com · (805) 643-5621 x11
29 north olive · ventura · ca 93001
www.aquaticbioassay.com

Las Virgenes Municipal Water District
Tapia Water Reclamation Facility
2018 Bioassessment Monitoring Report
(NPDES CA0056014)

Submitted to:

Las Virgenes Municipal Water District
731 Malibu Canyon Rd.
Calabasas, CA 91302

Submitted by:

Aquatic Bioassay and Consulting Laboratories
29 N Olive Street
Ventura, CA 93001

March 2019

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Introduction

Watershed Background

The Malibu Creek watershed is located about 30 miles west of Los Angeles, California and drains an area of 109 square miles. The watershed extends from the Santa Monica Mountains and adjacent Simi Hills to the Santa Monica Bay at Malibu State Beach. Malibu Lagoon, currently about 31 acres in size, occupies the area behind the beach at the mouth of Malibu Creek. The entire watershed lies within Level 3 sub-ecoregion 6 (Southern and Central California Chaparral) within aggregate nutrient ecoregion 3 (USEPA, 2000a). The watershed is a predominately chaparral ecosystem with a Mediterranean climate that includes mild, wet winters and hot, dry summers. Annual precipitation ranges from an average of 13.2 inches near the coast to 25.4 inches in the mountains.

Malibu Creek runs 10 miles from Malibu Lake to Malibu Lagoon. The predominant land cover in the Malibu Creek sub-watershed is open land. The Tapia Water Reclamation Facility (TWRF) is in this sub-watershed and contributes significant flow to the Creek in the winter months. Malibu Creek receives flow from Las Virgenes Creek, which runs eleven miles and drains an area of 12,456-acres. Land cover in the Las Virgenes Creek sub-watershed is predominantly open, with some residential and commercial/industrial land. Malibu Lagoon is located at the mouth of Malibu Creek before its discharge to the Pacific Ocean. The wetland acreage includes 2/3 mile of the creek corridor east of the Pacific Coast Highway and 92 acres of wetland habitat. The Lagoon has been the focus of a remediation effort aimed at returning it to a more naturally functioning wetland.

Bioassessments

Major issues facing streams and rivers in California include modification of in-stream and riparian structure (hydromodification), contaminated water, and increases in impervious surfaces that has led to the increased runoff to local creeks, streams and rivers. There have been many studies and reports showing the deleterious effects of land-use activities to macroinvertebrate and fish communities (Jones and Clark 1987; Lenat and Crawford 1994; Weaver and Garman 1994; and Karr 1998). A major focus of freshwater scientists has been the prevention of further degradation and restoration of streams to their more pristine conditions (Karr et al. 2000).

Biological communities act to integrate the effects of water quality conditions in a stream by responding with changes in their population abundances and species composition over time. These populations are sensitive to multiple aspects of water and habitat quality, and provide the public with more familiar expressions of ecological health than the results of chemical and toxicity tests (Gibson 1996). Furthermore, biological assessments, when integrated with physical and chemical assessments, better define the effects of point-source discharges of contaminates and provide a more appropriate means for evaluating discharges of non-chemical substances (e.g. nutrients and sediment).

Water resource monitoring using benthic macroinvertebrates (BMI) is by far the most popular method used throughout the world. BMIs are ubiquitous, relatively stationary, and their large species diversity provides a spectrum of responses to environmental stresses (Rosenberg and Resh 1993). Individual species of BMIs reside in the aquatic environment for a period of months to several years and are sensitive, in varying degrees, to temperature, dissolved oxygen, sedimentation, scouring, nutrient enrichment, and chemical and organic pollution (Resh and Jackson 1993). BMIs represent a significant food source for aquatic and terrestrial animals and provide a wealth of ecological and bio-geographical information (Erman 1996).

Attached algae have also been used as indicators of biological condition extensively in Europe and United States (Komulaynen 2002; Perrin and Richardson 1997; Cascallar, et al. 2003). As indicators, algae tend to respond to different stressors than BMIs, especially nutrients (Marinelarena and Di Giorgi 2001). In addition, the growth and maturation of algal communities is more rapid than BMIs making their assemblages more representative of recent water quality conditions (Nelson and Lieberman 2002; Robinson and Minshall 1998; Suren et al. 2003).

Program Objectives

This report includes the results of bioassessment monitoring (including both benthic macroinvertebrates (BMIs) and attached algae) conducted for the Las Virgenes Municipal Water District (LVMWD) at eight sampling locations in the Malibu Creek Watershed during the summer of 2018. This monitoring program was initiated, at the request of the Los Angeles Regional Water Quality Control Board (LARWQCB), in compliance with the Tapia Water Reclamation Facilities (TWRF) NPDES permit CA0056014 (MRP No. CI-4760).

Bioassessment monitoring followed the protocols established by the State of California's, Surface Water Ambient Monitoring Program (Ode et al. 2016).

In response to this requirement, Aquatic Bioassay and Consulting Laboratories, Inc. (Aquatic Bioassay) was contracted to conduct sampling in the Malibu Creek Watershed. On July 16th through August 3rd, 2018, Aquatic Bioassay scientists conducted the thirteenth year of bioassessment sampling.

The goal of this program is to:

1. Provide a comparison of the macroinvertebrate and attached algae assemblages on the Malibu Creek to assess the aquatic health of locations both upstream and downstream of the TWRF outfall; and,

2. Evaluate the physical/habitat condition of these sampling sites.

This report includes all the physical, chemical, and biological data collected during the summer survey, photographic documentation of each site, QA/QC procedures and documentation followed by biological metrics and the California Stream Condition Index (CSCI), along with interpretation of these results with comparisons between sample locations, and across years. In addition, the most recent update of the TWRF NPDES permit (2017) included a provision that required the collection and analysis of attached algae from each of the sites in conjunction with the macroinvertebrate samples. These data were evaluated using the Southern California Algae Index of Biological Integrity (SoCA Algae IBI).

Materials and Methods

Sampling Site Descriptions

Eight sampling locations were visited in the Malibu Creek Watershed from July 16th through August 3rd, 2018 (Table 1, Figure 1). Station identifiers, as specified in the NPDES permit, are presented in all tables and figures, but are abbreviated in the text to improve readability. Photographs of each site are displayed in Appendix B, Figure 7. Of the eight sites sampled, six are located in Malibu Creek, one is located in Las Virgenes Creek (station R-7), and one is located in Malibu Lagoon (station R-11). When the berm separating Malibu Lagoon from the ocean is breached, station R-11 is subject to tidal flushing and therefore, higher salinities. Stations R-3 and R-4 are located above the Lagoon and below Rindge Dam. Stations R-2 and R-13 are located on Malibu Creek downstream of the TWRF outfall, and stations R-1 and R-9 are located just upstream of the discharge. Station R-7 is located on Las Virgenes Creek in the upper portion of the watershed.

Table 1. Sampling location descriptions in the Malibu Creek Watershed.

Station ID	Sample Date	Name	Watershed	Position From TWRF Outfall	Distance (m) from TWRF Outfall	Latitude (N)	Longitude (W)	Elev. (m)
RSW-MC011D	8/3/2018	Malibu Lagoon	Malibu	Downstream	7470	34.03381	118.68287	1
RSW-MC004D	8/3/2018	Malibu Creek	Malibu	Downstream	6290	34.04382	118.68497	8
RSW-MC003D	8/3/2018	Malibu Creek	Malibu	Downstream	5860	34.04576	118.68776	13
RSW-MC013D	7/16/2018	Malibu Creek	Malibu	Downstream	930	34.07610	118.70278	140
RSW-MC002D	7/16/2018	Malibu Creek	Malibu	Downstream	150	34.08122	118.70463	143
RSW-MC001U	7/17/2018	Malibu Creek	Malibu	Upstream	560	34.08382	118.71141	146
RSW-MC009U	Dry	Malibu Creek	Malibu	Upstream	2500	34.09862	118.72150	151
RSW-MC007D	7/17/2018	Las Virgenes Creek	Malibu	Upper Watershed	7650	34.13389	118.70647	220

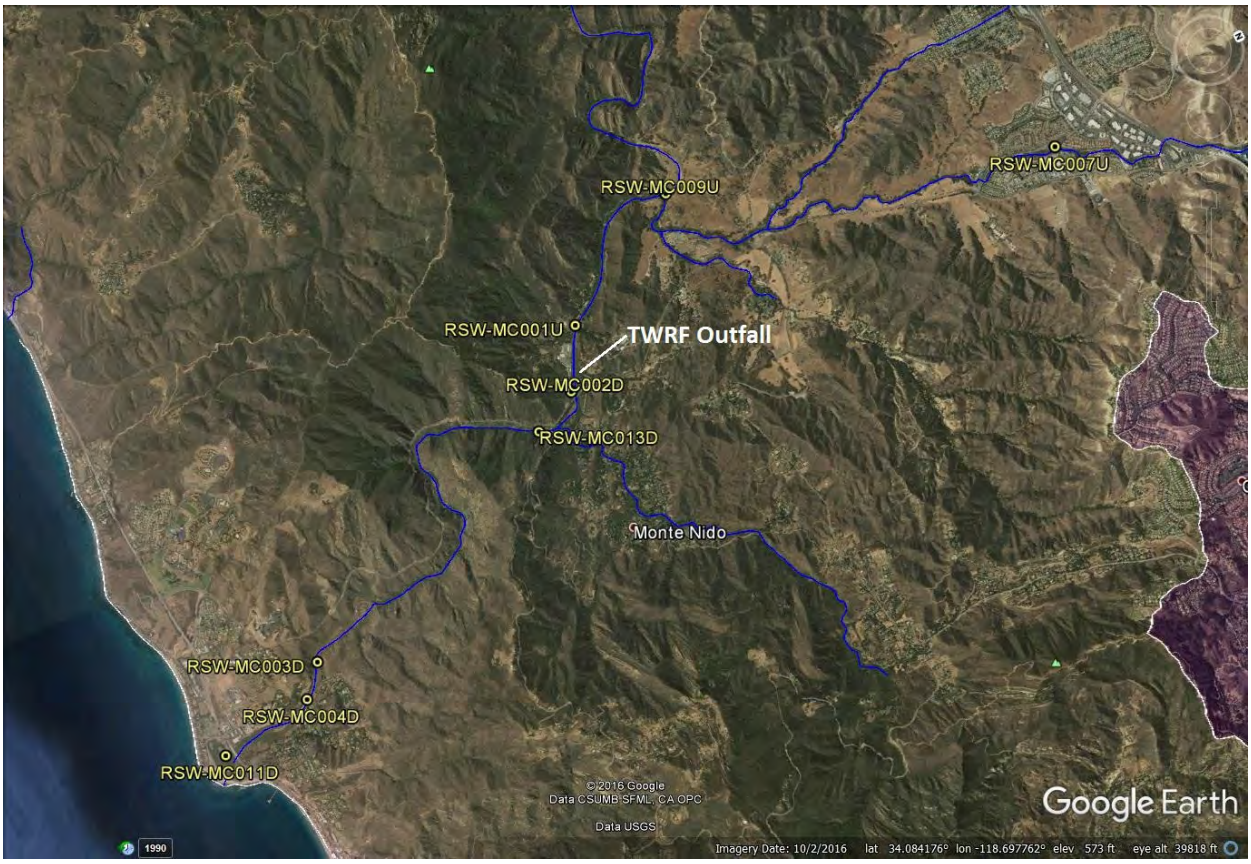


Figure 1. BMI sampling locations in the Malibu Creek Watershed in the vicinity of the Las Virgenes Municipal Water District Tapia Water Reclamation Facilities (LVMWD TWRF) discharge.

Collection of Benthic Macroinvertebrates

Wadeable Streams Protocols:

The field protocols and assessment procedures for collection of BMIs and attached algae followed the Surface Water Ambient Monitoring Program protocols (Ode et al. 2016). Samples were collected in strict adherence to the SWAMP protocols in terms of both sampling methodology and QC procedures. At each station, a 150-meter (m) reach was measured and 11 transects were established equidistance apart from the downstream to upstream end of the reach. If access to the full 150 m reach was not possible due to obstacles (i.e. bridges, or abutments), the total reach length was divided by 11 and transects were established as above. At each site the SWAMP Worksheet was used to collect all of the necessary station information and physical habitat data.

BMI samples were collected, starting with the downstream transect and working upstream, following the Reach Wide Benthos (RWB) sampling protocol:

1. At the most downstream transect, a single location was sampled 25% of the distance from the right wetted width. On the second upstream transect, a sample was collected 50% of the distance from the right wetted width and, on the third transect, 75% of the distance from the right wetted width. This process was repeated until each of the 11 transects had been sampled.

    a) All samples of the benthos were collected within a 0.09 m^2 area upstream of a 0.03 m wide, 0.5 mm mesh D-frame kick-net.

    b) Sampling of the benthos was performed manually by rubbing cobble and boulder substrates in front of the net, followed by disturbing the upper layers of substrate to dislodge any remaining invertebrates.

    c) The duration of sampling ranged from 60-120 seconds, depending on the amount of boulder and cobble-sized substrate that required rubbing by hand; complex substrates require a greater amount of time to process.

2. The 11 samples (per station) were combined into a single composite sample that represented a 0.99 m^2 area of the total reach sampled. The composited samples were transferred into separate two liter wide-mouth plastic jars containing approximately 300 ml of 95% ethanol.

3. Chain of Custody (COC) sheets were completed for samples as each station was completed.

Malibu Lagoon Sampling Protocol (Station R-11):

Station R-11 was located at the lower end of Malibu Creek in the Lagoon. This site is within the tidal prism and is therefore subject to brackish water conditions. As a result, sampling was conducted in adherence to protocols more specific to estuaries (USEPA 2000b). Triplicate benthic samples were collected at station R-11 using a 0.05 m^2 Petite Ponar Grab. Each sample was sieved through a 0.5 mm mesh screen and composited into a two-liter wide-mouth plastic jar containing approximately 300 ml of 95% ethanol.

Collection of Attached Algae

Stream attached algae collection was conducted in strict accordance with SWAMP sampling procedures (Ode et al. 2016) at all stations except R-11 which was in the Malibu Lagoon. Attached algae samples were collected at the same time as the BMI samples. Algae quantitative samples are collected a meter directly above where the BMIs were collected. The collection procedure is variable depending on the substrate found at the collection point but all samples are composited together into a wash bucket for further processing.

1. If the substrate type is removable and is in a depositional habitat (e.g. fine gravel, silt or sand) and has an exposed area of less than 12.6 cm^2, then a PVC delimiter, which is plastic coring device with an internal diameter of 4 cm, is used to collect the loose substrate up to 1 cm deep. Then a metal spatula is placed directly underneath the PVC delimiter to collect the loose material.

2. If the habitat type is erosional (e.g. cobble or a piece of wood) and removable then a rubber delimiter, which is comprised of bicycle tire with a reinforced hole of the desired area, is used to isolate a 12.6 cm^2 area of algae. The delimiter is wrapped around the object collected and a toothbrush is used to scrub the algae from the surface.

3. If the surface substrate cannot be removed (e.g. concrete, bedrock or large boulder), then a “syringe scrubber” is used to collect the algae from the surface underwater. Once the collection area has been scrubbed clean, the syringe plunger is retracted and the scrubber is removed and rinsed into the wash bucket.

Once algae samples from all 11 transects are collected and composited into the wash bucket, they are processed in the field. There are four different indicators targeted at each site, chlorophyll a (Chl-a), ash free dry weight (AFDW), diatoms and soft-bodied algae. For Chl-a and AFDW a 25 mL of composite sample are filtered through glass fiber pre-filters using a hand pump. The filter is placed in a petri dish, covered in aluminum foil and placed on dry ice until analyzed.

Diatom samples were prepared by combining 40 mL of composite water and 10 mL of 10% neutral buffered formalin preservative to a 50 mL centrifuge tube. The tube was covered in foil and placed on wet ice for future identification. Soft-bodied algae samples were prepared by adding 45 mL of composite water and 5 mL of 5% glutaraldehyde solution to a 50 mL centrifuge tube, covered in foil and placed on wet ice for identification.

Diatoms and soft-bodied algae samples were then sent to Rhithron Associates, Inc. in Missoula, MT for identification and enumeration. AFDM and Chl-a were sent to Sierra Environmental in Reno, NV for analysis.

Physical/Habitat Quality Assessment and Water Chemistry

Bioassessment sampling included a measure of the instream physical habitat conditions using a method originally developed by the USEPA and modified by SWAMP (Ode et al. 2016) for use in California. This method focuses on the habitat conditions found in the streambed and banks. The team collected the physical habitat measurements at each station, according to the full method outlined in the SWAMP manual, and recorded the information on the SWAMP worksheets.

Assessment of the P-Hab conditions of a stream reach is necessary to determine the quality of the stream reach as a habitat for BMIs. In many cases, organisms might not be exposed to chemical contaminants, yet their populations indicate that impairment has occurred. These population shifts can be the result of degraded stream bed and/or a degraded riparian habitat. Excess sediment is the leading pollutant in streams and rivers of the United States (Harrington and Born 2000). Sediments fill pools and interstitial areas of the stream substrate, where invertebrates live, and cause invertebrate populations to decline and/or community compositions to be altered. Three important measures of physical habitat quality include epifaunal substrate cover, sediment deposition and channel alteration. A streambed with good epifaunal cover is characterized by a highly irregular and complex habitat composed of cobble, gravel, organic debris, etc. These conditions provide optimum

conditions for BMI organisms. Conversely, when a streambed has little epifaunal cover, a large amount of sediment deposition, or its banks have been altered, conditions for BMIs are generally not as good.

Techniques for measuring physical habitat were as follows:

1. Water temperature, specific conductance, pH, and dissolved oxygen were measured using a hand held YSI 556 MPS water quality meter that was pre-calibrated in the laboratory. A water sample was collected for alkalinity and analyzed using the USEPA's Titrimetric (pH 4.5) 3101 method in the lab.

2. Wetted width, and depth were measured in meters using a stadia rod or measuring tape at each transect.

3. The total length of the stream reach was measured in meters.

4. Substrate size class was measured at five evenly spaced points along each transect to the nearest millimeter.

5. Discharge was measured on a single transect, using a hand held flow meter, following the velocity area method specified in the SWAMP bioassessment protocol.

6. A handheld densitometer was used to measure percent canopy cover.

7. Flow habitat regimes were visually estimated.

8. Stream gradient was measured using either an auto level or clinometer.

Aquatic Bioassay field teams are audited each year for proficiency using the SWAMP protocols by the Southern California Coastal Research Project (SCCWRP) and for the Southern California Stormwater Monitoring Coalition's (SMC) Regional Monitoring Program.

Sample Analysis/Taxonomic Identification of Benthic Macroinvertebrates (BMIs)

Sample sorting and taxonomy were conducted by Aquatic Bioassay in Ventura, California. Identifications were made using standard taxonomic keys (Literature Cited, Taxonomic References) and in most cases, taxa for this study were identified to the species level in adherence with the Standard Taxonomic Effort (STE) Level 2a, specified by the Southwest Association of Freshwater Invertebrate Taxonomists (SAFIT). Chironomids were identified to subfamily. Identifications were rolled up to the appropriate taxonomic level for the

calculation of biological metrics used in the CSCI. Samples entering the lab were processed as follows:

600 organisms were sub-sampled from the composite sample using a Katon tray, and then sorted into major taxonomic groups. All remnants were stored for future reference. The 600 organisms were identified to the genus level for most insects, and order or class for non-insects. As new species to the survey area were identified, examples of each were added to the voucher collection. The voucher collection includes at least one individual of each species collected and ensures that naming conventions can be maintained and changed as necessary into the future.

The taxonomic QA/QC procedures followed for this survey included:

1. Sorting efficiencies were checked on all samples and a minimum required sorting efficiency was 95% (i.e. no more than 5% of the total number of organisms sorted from the grids could be left in the sub-sample) was maintained. At least 10% of all processed material from each sample was inspected by the laboratory supervisor for the aforementioned efficiency. Sorting efficiency results were documented on each station's sample tracking sheet.

2. Once identification work was completed, Aquatic Bioassay taxonomists conduct QC as follows:

    a. Ten percent of all stations sampled were randomly selected for internal QC by another Aquatic Bioassay taxonomist. Samples were checked for both enumeration and identification accuracy, which must both pass a 95% efficiency criterion. Discrepancies were resolved and the database was updated.

    b. Ten percent of all samples (n = 15 QC samples) collected each season in the southern California region (n = ~150 samples) by Aquatic Bioassay are sent to the California Department of Fish and Game (CDFG) offices in Chico California for an external QA/QC check. Samples were sorted by species into individual vials that included an internal label. Any discrepancies in counts or identification found by the CDFG taxonomists were discussed, and then resolved. All data sheets were corrected and, when necessary, bioassessment metrics were updated.

3. It is a requisite of our QC program that all staff members involved in taxonomy belong to SAFIT, an organization dedicated to the standardization of freshwater organism naming conventions.

Sample Analysis/Taxonomic Identification of Attached Algae

Samples for algal analysis were conducted by the Rhithron Associates, Inc. located in Missoula, MT. Laboratory identification procedures for soft algae and diatoms followed SWAMP protocols (Kociolek *et. al* 2011; Stancheva and Sheath, 2011) and are summarized as follows:

Qualitative Soft Algae Analysis

Using a dissecting scope, analysts performed a qualitative scan to identify as many microalga taxa as possible. Specimens were identified to species or lowest practical taxonomic level, and then photos were taken for all determined taxa.

Quantitative Soft Macroalgae Analysis

Using a dissecting scope, analysts processed samples to determine the representative portion of macroalgae (and mosses, vascular plant tissues or roots if present). Bio-volumes were determined by original water displacement. Specimens were identified to species or lowest practical taxonomic resolution.

Quantitative Soft Microalgae Analysis

Using a compound microscope, analysts enumerated 300-500 natural units of soft microalgae. Specimens were identified to species or lowest practical taxonomic resolution. The total bio-volumes of microalgae were calculated using appropriate literature (ie. Hillebrand *et al*. 1999) for measurement designations. Photos were taken of all taxa to compile a synoptic reference collection.

Diatom Analysis

Samples were prepared using the Nitric Acid diatom cleaning method. Cleaned diatom material was diluted to acceptable counting ranges and mounted onto slides. Completed slides were delivered to the processing analyst. Samples were enumerated to 600 valves and identified to the species, or lowest practical taxonomic resolution. Photos were taken of all taxa and a synoptic reference collection was made.

Identification Quality Control

Internal QC protocols included re-identification of the digital synoptic reference collection.

Chlorophyll a and Ash Free Dry Mass of Attached Algae

Chlorophyll a (chl-a) and ash free dry mass (AFDM) analysis was conducted by Sierra Environmental (Reno, NV).

Laboratory	AFDM	Chl a
Silver State Analytical Laboratories	SM 2540	SM 10200

Data Development and Analysis

Benthic Macroinvertebrate Biological Metrics:

As species were identified and counted they were included in an Excel data sheet, checked for errors, and then imported into the Aquatic Bioassay BMI database system. The California Stream Condition Index (CSCI) and metrics were calculated using GIS and the CSCI package 1.1.2 R script (Mazor et al., 2015). The following metrics were calculated and their responses to impaired conditions are listed in Table 2:

- Percent Clinger Taxa is the percent of taxa in a sample that are adapted for attachment to plants or other hard surfaces in flowing water. A higher number of clinger taxa is indicative of a healthier community than if absent.
- Percent Coleoptera Taxa is the percent of taxa in a sample comprised of beetles (Coleoptera). This order is generally sensitive to impairment and when present, are usually indicative of a healthier community than if absent.
- Taxonomic Richness is a measure of the total number of species found at a site. This relatively simple index can provide much information about the integrity of the community. Few taxa at a site indicate that some species are being excluded, while a large number of taxa indicate a healthier community.
- Percent EPT Taxa is the percent of taxa in sample comprised of mayflies (Ephemeroptera), stoneflies (Plecoptera) and caddisflies (Trichoptera). These orders are generally sensitive to impairment and when present, are usually indicative of a healthier community than if any or all are absent.
- Shredder Taxa is the percent of taxa that shreds coarse particulate matter. Functional Feeding Group (FFG) indices provide information regarding the balance of feeding strategies represented in an aquatic assemblage. Shredder taxa are

generally sensitive to disturbance and increased number of taxa generally indicate a healthier community.

- Percent Intolerant Individuals is the percent of organisms in the sample that are highly intolerant to impairment. BMI species are assigned a literature cited tolerance value ranging from 0 (highly intolerant) to 10 (highly tolerant). The percent intolerant individuals have tolerance values ranging from 0 to 2. A site with many intolerant organisms is considered more pristine and indicate a healthier community.

Table 2. Bioassessment metrics used to describe characteristics of the BMI community.

MMI Metric	Description	Response to Impairment
% Clinger Taxa	Percent of taxa that are adapted for attachment to surfaces in flowing water.	Decrease
% Coleoptera Taxa	Percent taxa from the insect order coleoptera.	Decrease
Taxonomic Richness	Total number of individual taxa.	Decrease
% EPT Taxa	Percent taxa in the orders Ephemeroptera (mayfly), Plecoptera (stonefly) and Trichoptera (caddisfly).	Decrease
Shredder Taxa	Number of taxa that shreds coarse particulate matter.	Decrease
% Intolerant Individuals	Percent of organisms in the sample that are highly intolerant to impairment as indicated by a tolerance value of 0, 1, or 2.	Decrease

California Stream Condition Index (CSCI)

The California Stream Condition Index (CSCI) is a new statewide biological scoring tool that translates complex data about benthic macroinvertebrates (BMIs) found living in a stream into an overall measure of stream health (Mazor et al. 2016). The CSCI combines two separate types of indices, each of which provides unique information about the biological condition at a stream: a multi-metric index (MMI) that measures ecological structure and function, and an observed-to-expected (O/E) index that measures taxonomic completeness. Unlike previous MMI or O/E indices that were applicable only on a regional basis or under-represented large portions of the state, the CSCI was built with a statewide dataset (n = 1,985 sites) that represents the broad range of environmental conditions across California.

The CSCI was calibrated during its development so that the mean score of reference sites is 1. Scores that approach 0 indicate great departure from reference condition and degradation of biological condition. Scores > 1 can be interpreted to indicate greater taxonomic richness and more complex ecological function than predicted for a site given its natural environmental setting. In practice, CSCI scores observed from nearly 2000 study reaches sampled across California range from about 0.1 to 1.4. Mazor (et al. 2016) and Rhen (2015) suggested that for the purposes of making statewide assessments, three thresholds be established based on the 30th; 10th; and 1st percentiles of CSCI scores at reference sites. These three thresholds divide the CSCI scoring range into 4 categories of biological condition as follows: ≥0.92 = likely intact condition; 0.91 to 0.80 = possibly altered condition; 0.79 to 0.63 = likely altered condition; ≤0.62 = very likely altered condition. While these ranges do not represent regulatory threshold, they provide a useful method for interpreting CSCI results.

Historical Southern California CSCI scores:

To assess the condition of BMI communities at all stations over time, CSCI scores were averaged (± 95% CI) by station for surveys conducted between the 2015 through 2018. This historical data is presented in Figure 5.

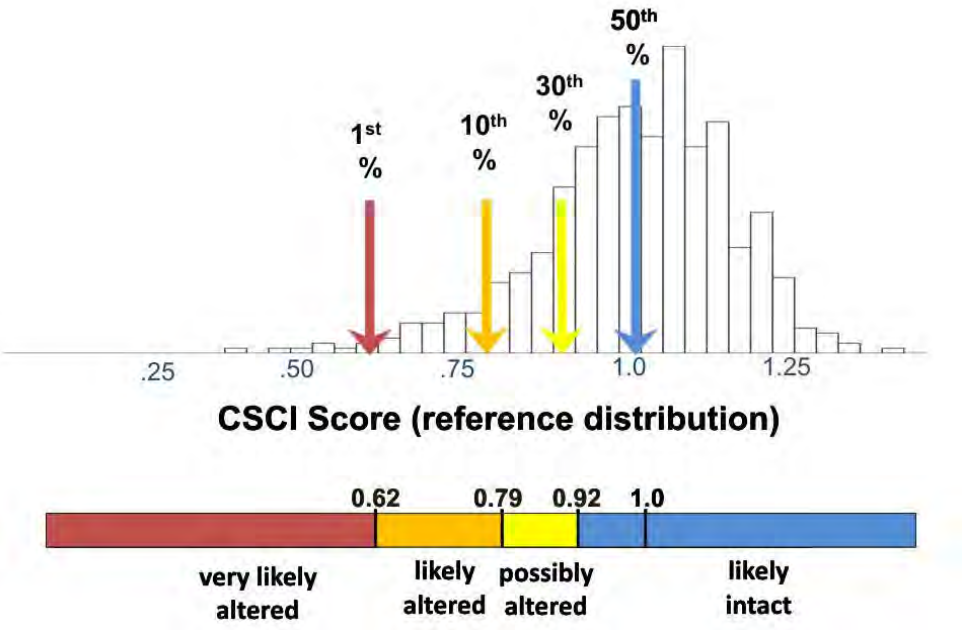


Figure 2. Distribution of CSCI scores at CA reference sites with thresholds and condition categories (Rhen et al., 2015).

Southern California Algae IBI (SoCA Algae IBI)

Soft-bodied algae and diatom community structure can be used to assess many aspects of stream water quality including the effects of nutrient loading and other contaminants (e.g. dissolved metals and organics). The Southern California Coastal Water Research Project (SCCWRP) scientists recently created the Southern California Algae IBI which is similar to the one used for BMIs to assess anthropogenic impacts (Fetscher et al. 2013). Algae samples were collected from 2007 thru 2010 at a total of 451 distinct southern California stream reaches were used to develop the IBI scoring system. The SoCA Algal IBI is composed of three indices; a diatom IBI (D18) is based solely on diatom metrics, a soft algae IBI (S2) is based solely on non-diatom (soft) algae metrics, and a hybrid (H20) of both diatom and soft bodied algae metrics. IBIs are composed of metrics chosen for their ability to differentiate between reference and non-reference stream conditions. Table 3 shows the metrics that were used to calculate the SoCA Algae IBI and their responses to human disturbance.

The boundary chosen to delineate between reference and non-reference condition (57 on a scale from 0 to 100) was based purely on statistical grounds, and was calculated as two standard deviations below the mean distribution of reference sites. As a result, it does not

represent an ecologically meaningful change point in community composition and cannot be used in a regulatory framework (e.g. to evaluate attainment of water body “aquatic life” goals; Fetscher et al. 2013).

Table 3. Diatom and soft bodied algae metrics used in the SoCA Algae IBI (grayed) and their responses to human disturbance.

Metric Category	Metric Theme	Metric	Data Type	Description	Response to Human Disturbance
Diatom					
Autecological Guild	Dissolved Oxygen	Proportion Requiring Nearly 100% DO	Proportion of Valves	Proportion of valves that require nearly 100% DO saturation	Decrease
		Proportion Requiring >50 % DO	Proportion of Valves	Proportion of valves that require at least 50 % DO saturation (sum 50+75+100)	Decrease
	Ionic Strength/Salinity	Proportion Halobiontic	Proportion of Valves	Proportion of valves that are brackish-fresh + brackish (i.e., they have a tolerance of, or requirements for, dissolved salt)	Increase
	Nutrients	Proportion Poly- & Eutrophic	Proportion of Valves	Proportion of valves that are polytrophic + eutrophic	Increase
	Organic Pollution	Proportion Nitrogen Heterotrophs	Proportion of Valves	Proportion of valves that are heterotrophs (includes both obligate and facultative heterotrophs)	Increase
		Proportion Oligo- & Beta-mesosaprobic	Proportion of Valves	Proportion of valves that are oligosaprobous + (beta-mesosapprobus)	Decrease
Morphologic Guild	Sedimentation	Proportion of Highly Motile	Proportion of Valves	Proportion of valves that are highly motile	increase
		Proportion of Sediment Tolerant (highly motile)	Proportion of Valves	Proportion of valves for which there is information that are highly motile (NOT moderately) + all planktonic	increase
Taxonomic Group	A. minutissimum	Proportion A. minutissimum	Proportion of Valves	Proportion of the valves that are Achnanthidium minutissimum	Decrease
Tolerance/Sensitivity	Nitrogen	Proportion of Low TN Indicators	Proportion of Valves	Proportion of valves that are indicators for high TN levels (>3 mg/L)	Decrease
	Phosphorous	Proportion of Low TP Indicators	Proportion of Valves	Portion of valves that are indicators for high TP levels (>0.1 mg/L)	Decrease
Soft Algae					
Relationship to Reference	Reference	Proportion of "non-reference" Indicators (Biovolume)	Relative Biovolumes	Proportion of total micro + macro biovolume composed of indicators of "non-reference" sites	Increase
		Proportion "non-reference" Indicators (Species)	Relative Species Numbers	Proportion of total species richness composed of indicators of "non-reference" sites	Increase
Taxonomic Group	Chlorphyta	Proportion Chlorophyta	Relative Biovolumes	Proportion of total micro + macro biovolume composed of Chlorophyta	Increase
		Proportion of green algae belonging to CRUS	Relative Biovolumes	Proportion of green algae (Chlorophyta + Charophyta) micro + macro biovolume composed of Cladophora golmerata, Rhizoclonium hieroglyphicum, Ulva flexosa, and Stigeoclonium sp.	Increase
	ZygnHeteroRhod	Proportion ZHR (Mean)	Relative Species Number and Biovolumes	Mean of scores for the corresponding species number and biovolume metrics	Decrease
		Proportion ZHR (Biovolume)	Relative Biovolumes	Zygnemataceae + Heterocystous Cyanobacteria + Rhodopyta	Decrease
Tolerance/Sensitivity	Copper	Proportion of High Cu Indicators	Relative Species Numbers	Proportion of total species richness composed of high copper (dissolved) indicators	Increase
	Organic Pollution	Proportion High DOC Indicators (Biovolume)	Relative Biovolumes	Proportion of total micro + macro biovolume composed of indicators of high DOC	Increase
		Proportion High DOC Indicators (Species)	Relative Species Numbers	Proportion of total species richness composed of high DOC indicators	Increase
	Phosphorous	Proportion of Low TP Indicators	Relative Species Numbers	Proportion of total species richness composed of low TP indicators	Decrease

Results

Physical Habitat Characteristics and Water Chemistry

Malibu Creek Watershed above Malibu Lagoon

General Physical Habitat Characteristics

The physical characteristics of the reaches sampled in Malibu Creek during the summer 2018 survey are presented in Table 5.

- The reach length was a maximum 150 m at each site, except at R-9 where the reach was dry. The average wetted width was greatest at R-2 (10.6 m) and least at R-7 (3.2 m). Average depth was greatest at R-1 (26.7 cm) and least at R-3 (5.4 cm). Stream discharge was low at all sites ranging from < 0.01 m^3/s (R-4, R-3 and R-7) to 0.07 m^3/s at R-1. The slope of all stations ranged from 0.02% (R-1) to 2.0% (R-3).
- Vegetative canopy cover was relatively high at all sites ranging from 92% at R-7 on Las Virgenes Creek, to 21% at R-4. The average thickness of microalgae was low across sites, ranging from 0.01 to 0.05 mm. The presence of macroalgae was greatest at R-4 (21%) and least at R-7 (2%). The presence of macrophytes ranged from 2% at R-13 to 21% at R-7.
- Bank stability is the observed potential of a bank to erode. All the stations sampled were considered vulnerable to erosion (9% to 95%), with stations R-3, R-13, R-2 and R-7 considered stable (91%, 59%, 23% and 5%, respectively). Banks were eroded (5% to 32%) at stations sampled except R-3 (0%).
- Flow habitats were represented by combinations of riffles, glides and pools. Glides (43% to 94%) were the most predominant flow habitats. Riffle habitats ranged from 3% at stations R-4 and R-1 to 33% at R-13. Pool habitat ranged from 1% at downstream station R-4 to 24% upstream at stations R-2.
- The substrate class size is another indicator of available benthic invertebrate habitat. Stations R-4, R-3, R-13 and R-2 had relatively even mixtures of boulders (15% to 38%), cobble (3% to 25%), gravel (17% to 40%) and sand (4% to 32%). Stations R-1, and R-7 were mostly gravel (35% and 42% respectively), sand (29% and 20% respectively) and other (roots; 29% and 25% respectively), and lacked the percentages of boulders found at the downstream sites.

Water Quality Measures

Water quality measures were within ranges typical of southern California streams (Table 5).

- Water temperatures ranged from 20.5 °C at R-3 to 25.2 °C at R-2.
- pH was similar across sites ranging from 7.5 to 7.9
- Alkalinity ranged from 145 mg/L at R-2 to 350 mg/L at R-7, the most upstream site.
- Dissolved oxygen concentrations ranged from 4.2 mg/L at R-1 to 12.9 mg/L at R-7.
- Specific conductance ranged from 1,258 µS/cm, at station R-2, to 3,470 µS/cm at station R-7 on Las Virgenes Creek.
- Salinities were elevated compared to most freshwater stream systems (≤ 0.5 ppt) and ranged from 0.63 ppt at R-2 to 1.83 ppt at R-7.

Algal Biomass

- Ash free dry mass (AFDM) and chlorophyll-a were also measured at all freshwater stations to estimate algal biomass. The AFDM ranged from 4.8 mg/cm² at R-2 to 290 mg/cm² at R-1. Chlorophyll-a was least at R-1 (16.0 µg/cm²) and greatest at R-4 (79.0 µg/cm²).

Physical/Habitat (P-Hab) Scores

Out of a total possible score of 60, the physical habitat scores for most stations were in the suboptimal range. Stations R-1 and R-7 were in the marginal range (25 and 27 respectively) mostly due to increased amounts of historic channel alteration and sediment deposition (Table 5 and Figure 3).

Malibu Lagoon (Station R-11)

General Physical Habitat Characteristics

Malibu Lagoon Station R-11 represents an estuary habitat that cannot be directly compared to the riparian habitats found at the upstream stations. This site is subject to highly variable conditions including freshwater inundation periods when the berm at the mouth of Lagoon is closed, shallow brackish water periods when the berm is open and large shifts in salinity depending on the status of the berm in conjunction with tidal fluctuations. The organisms

that reside under these conditions are different than those found in freshwater stream systems and are generally adapted to these rapidly changing conditions.

Water Chemistry

The water level during the sampling event was relatively shallow and there was no vegetative canopy cover, which likely contributed to the elevated water temperature (26.9 °C). Water quality conditions were typical of estuary conditions (pH = 8.5), with the salinity (6.57 ppt) indicating some tidal influence at the time of the sampling event. The dissolved oxygen was normal during sampling (9.5 mg/L).

Table 4. Physical habitat scores and characteristics for reaches in the Malibu Creek Watershed.

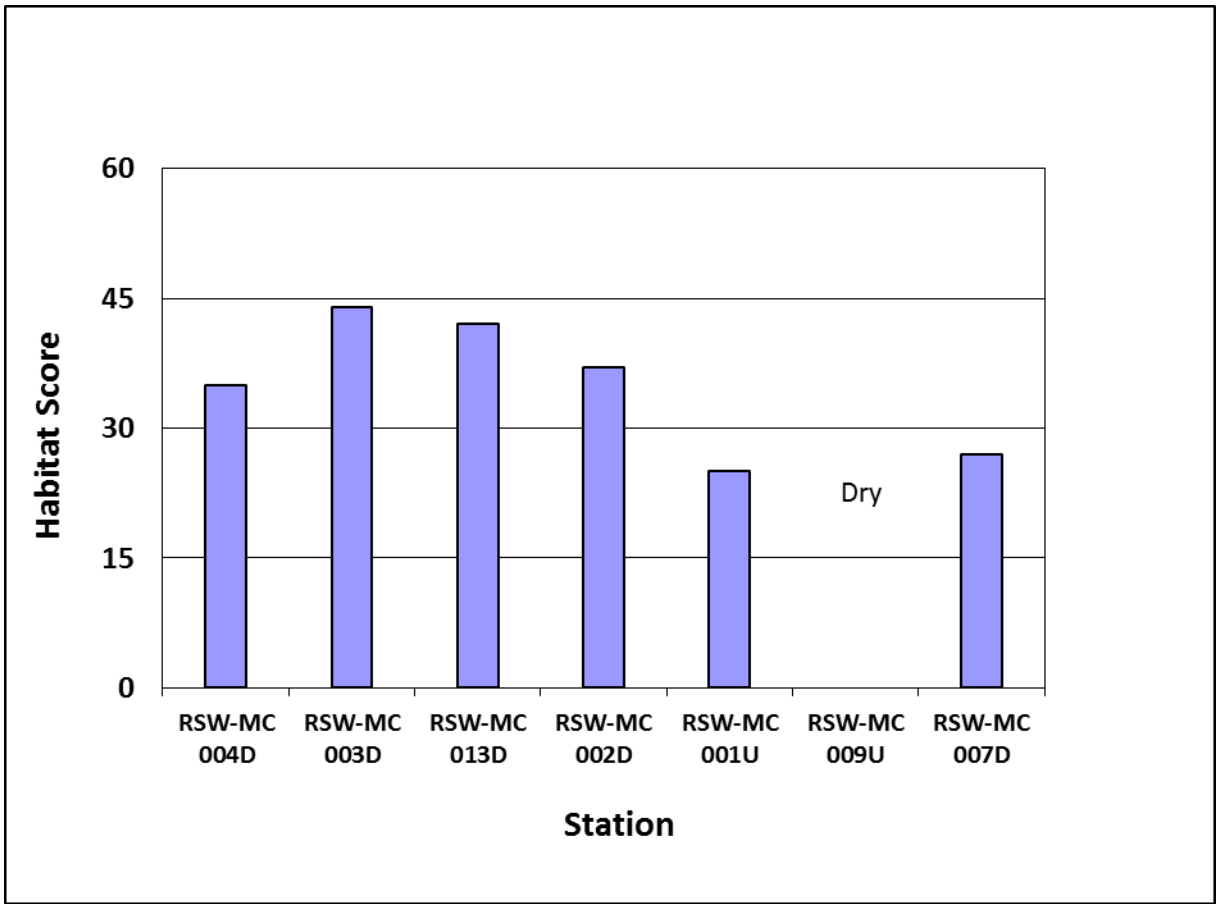
Station	RSW-MC 011D	RSW-MC 004D	RSW-MC 003D	RSW-MC 013D	RSW-MC 002D	RSW-MC 001U	RSW-MC 009U	RSW-MC 007D
Physical Habitat Characteristics								
Reach Length (m)	NA	150	150	150	150	150	Dry	150
Average Wetted Width (m)	NA	7.1	5.2	5.4	10.6	6.0		3.2
Average Depth (cm)	0.8	7.9	5.4	18.3	23.4	26.7		15.0
Average Velocity (ft/s)	NA	<0.03	<0.03	0.1	0.1	0.1[1.]		<0.03
Discharge (m^3/s)	NA	<0.01	<0.01	0.04	0.04	0.07[1.]		<0.01
Slope (%)	NA	0.88	2.00	1.50	0.70	0.02		0.70
Vegetative Canopy Cover (%)	NA	21	77	47	87	74		92
Microalgae Mean Thickness (mm)	NA	0.04	0.05	0.04	0.03	0.01		0.05
Macroalgae Presence (%)	NA	24	12	21	5	3		2
Macrophyte Presence (%)	NA	17	8	2	4	6		21
Bank Stability (%):								
Stable	NA	0	91	59	23	0		5
Vulnerable	NA	95	9	36	45	77		64
Eroded	NA	5	0	5	32	23		32
Flow Habitats (%):								
Cascade/Fall	NA	0	0	0	0	0		0
Rapid	NA	0	0	0	0	0		0
Riffle	NA	3	14	33	12	3		8
Run	NA	0	0	2	0	0		0
Glide	NA	94	82	43	65	75		73
Pool	NA	1	2	23	24	23		20
Dry	NA	2	3	0	0	0		0
Substrate Size (%):								
Bedrock	NA	0	0	13	1	0		0
Boulder	NA	20	38	32	15	1		2
Cobble	NA	10	25	3	12	3		3
Gravel	NA	40	17	22	23	35		42
Sand	NA	24	4	24	32	29		20
Fines	NA	0	8	1	1	2		2
Hardpan	NA	2	0	0	0	0		1
Wood	NA	0	0	1	3	2		6
Other	NA	5	9	5	13	29		25
Water Quality Measures								
Water Temperature (C°)	26.9	21.0	20.5	21.0	25.2	23.9		20.8
pH	8.5	7.9	7.9	7.5	7.6	7.8		7.6
Alkalinity	NA	258	290	226	145	346		350
DO	9.5	8.1	8.7	8.5	5.0	4.2		12.9
Specific Conductance (µS/cm)	111567	2139	2126	1836	1258	3035		3470
Salinity (ppt)	6.57	1.1	1.09	0.93	0.63	1.58		1.83
Ash Free Dry Mass (mg/cm^2)	NA	23.0	9.2	7.9	4.8	290.0		170.0
Chlorophyll a ($\mu g/cm^2$)	NA	79.0	63.0	64.0	28.0	16.0		21.0

1. Calculated using buoyant object method (Ode *et al.,* 2016)

Table 5. Physical habitat assessment for the Malibu Creek Watershed above Malibu Lagoon.

Habitat Parameter	RSW-MC 004D	RSW-MC 003D	RSW-MC 013D	RSW-MC 002D	RSW-MC 001U	RSW-MC 009U	RSW-MC 007D
1. Instream Cover	12	15	16	13	10	Dry	8
2. Sediment Deposition	12	13	11	11	5		9
3. Channel Alteration	11	16	15	13	10		10
Reach Total	35	44	42	37	25		27
Condition Category	Suboptimal	Suboptimal	Suboptimal	Suboptimal	Marginal		Marginal

Figure 3. Physical habitat assessment scores for the Malibu Creek Watershed above Malibu Lagoon.



Biological Condition

Benthic Macroinvertebrate (BMI) Community Condition

A complete BMI taxa list including raw abundances, tolerance values, and functional feeding groups are presented by site for the summer 2018 survey in Appendix A, Table 12. The ranked abundances of all taxa at each site are presented in Table 6. New Zealand mud snail abundances from 2007 to 2018 are presented in Table 7. The CSCI scores, including their derivative metrics, are presented in Table 8 and Figure 4.

Community Composition

A combined total of 3,636 BMIs was identified from 50 different taxa at the seven stations sampled during the summer 2018 survey. A total of five organisms were collected at station R-11 in Malibu Lagoon, including segmented worms (Oligochaeta), polycaete worms (Polychaeta), midges (Chironominae and Orthocladiinae) and dragon flies (Libelluidae) (Table 6). Combinations of disturbance tolerant organisms represented the majority of the abundance at each site, and three to eight taxa represented over 80% of the abundances. The most abundant taxa included clams (*Corbicula sp*.), amphipods (*Hyalella sp.)*, midges (Chironominae), nemertean worms (*Prostoma sp*.), mayflies (*Baetis sp*.) and New Zealand mud snails (NZMS, *Potamopyrgus antipodarum*).

The NZMS were found at R-4 (n = 8) and R-3 (n = 38), and R-1 (n=313) in 2018 (Table 7). This pattern is similar to surveys prior to 2018 when the abundances of NZMS ranged from 0 to 394. Abundances remained elevated at R-7 (average = 162) since 2010, until this year when no NZMS were collected at the site.

CSCI Score

The CSCI scores, along with its component MMI and O/E scores are presented in Table 8 and Figure 4. CSCI category rankings for all sites were either “possibly altered” (R-13), “likely altered” (R-4, R-3, R-2, and R-1) and “very likely altered” (R-7). CSCI scores were greatest at stations just above the TWRF outfall (R-1 = 0.73), and just below (R-2 = 0.76) indicating that the outfall is not impacting biotic conditions.

The CSCI percentile scores provide a way to determine how the CSCI score at a given site compares with the reference pool. For example, the CSCI score at station R-13 is comparable to 0.27 (27%) of the reference sites. The CSCI score at station R-7 does not compare with the reference sites (0%).

The two component indices of the CSCI are the MMI and O/E scores (Table 8 and Figure 4). The MMI scores across sites were low (range = 0.47 to 0.73) and were not similar to the reference pool (MMI percentiles = 0.00 to 0.07). This is indicative of streams where the ecological structure of the system has been disturbed. In contrast, the O/E scores ranged from lowest at R-7 (0.63) to greatest at R-13 (1.08). Stations R-13 and R-2 compared with 66% and 50% of reference sites, respectively. In contrast, station R-7 compared with only 3% of reference sites. These results indicate that while taxonomic completeness at some of the sites is relatively good, the ecological structure and function of the sites is disturbed.

2015 to 2018 (Historical Data)

CSCI results from 2015 to 2018 for the Malibu Creek Watershed are presented in Figure 5. During the three years, the average score across sites fell below 0.79 indicating they are "likely altered". On average the CSCI scores during the period were slightly better at stations near the TWRP outfall.

Malibu Creek Lagoon (R-11)

Only five taxa, were collected at R-11 in the Malibu Creek Lagoon (Table 9). The most abundant (87%) was represented by segmented worms (Oligochaeta).

Attached Algae Community Condition

Below we present the results for the attached algae community analysis for each site. Each of the metrics used to calculate the diatom (D18), soft bodied algae (S2) and hybrid (H2O) IBI scores are presented in Table 10 (Fetscher et al. 2013). Table 11 shows the rank scores and adjusted IBI score for each metric by station, while

Figure 6 graphically depicts the SoCA Algae IBI (H2O) and its component scores for soft algae (S2) and diatoms (D18).

Diatom Biological Metrics and IBI (D18)

Diatoms include mostly unicellular species that are housed in a silica frustule and live as phytoplankton or as a film on the surface of rocks and other hard substrates. A total of 77 diatom taxa were collected from the survey area in 2018 (Appendix A, Table 13). Of these, three classes were represented; 66 taxa in the class Bacillariophyceae, 5 in the class Coscinodiscophyceae, and 6 in the Fragilariophyceae.

The diatom metrics used in the IBI were lower in the upper watershed and greatest in the lower watershed, below the TWRP discharge (Table 10 and Table 11). The proportion of diatoms requiring >50% dissolved oxygen and nitrogen heterotrophs (indicate organic

enrichment) were similar at all stations (8 to 10). Halobiontic diatoms, which increase due to elevated dissolved salts, were similar at all stations (8 to 10) with the exception of R-7 (0). Sediment tolerant diatoms (indicate erosion and deposition) were found in low proportions at stations R-4 and R-3 (10) at high proportions at station R-7 (0). The adjusted D18 IBI scores were greatest at R-4 and R-3 (80) and least at R-4 (30) (

Figure 6).

Soft-bodied Algae Community Composition

The soft-bodied algae (macroalgae) are composed of filamentous forms that make up large volumes of a sample and are those species that are generally easily seen as filamentous mats in the streambed. In 2018 a total of 44 taxa from 16 different classes were enumerated (Appendix A, Table 14). In contrast to the D18 index, the adjusted soft bodied algae IBI (S2) was low at all sites (range = 7 to 50) (Table 10 and Table 11).

SoCA Algae IBI

The SoCA Algae IBI scores for each site are presented in Table 11 and

Figure 6. The individual metric scores for this hybrid IBI are presented above. The greatest adjusted IBI scores were at stations R-3 (69) and R-4 (64) and were above the reference threshold (57). The other site scores were below the reference threshold and ranged from 24 to 51. Scores above (51) and below (44) the TWRF outfall were similar. The biological condition of the algae communities in this reach of Malibu Creek was poor with no clear evidence that the TWRP outfall is contributing to this condition.

Table 6. Ranked taxonomic abundance of organisms collected during BMI surveys at each station within the Malibu Creek watershed.

RSW-MC011D			RSW-MC004D			RSW-MC003D			RSW-MC013D		
Species	% of Total Abund	Cumulative % Abund	Species	% of Total Abund	Cumulative % Abund	Species	% of Total Abund	Cumulative % Abund	Species	% of Total Abund	Cumulative % Abund
Oligochaeta	87.2	87.2	Corbicula	36.2	36.2	Prostoma	27.3	27.3	Baetis	20.7	20.7
Polychaeta	9.9	97.1	Hyalella	21.3	57.5	Corbicula	17.4	44.7	Chironominae	19.0	39.7
Chironominae	1.4	98.5	Physa	10.3	67.8	Ostracoda	8.6	53.3	Hyalella	12.8	52.5
Orthocladiinae	0.7	99.2	Oligochaeta	7.4	75.2	Hyalella	7.4	60.7	Oligochaeta	10.8	63.3
Libellulidae	0.7	100.0	Chironominae	5.2	80.4	Potamopyrgus antipodarum	6.4	67.1	Caloparyphus/Euparyphus	7.1	70.4
			Prostoma	5.2	85.6	Oligochaeta	5.7	72.8	Simulium	5.4	75.8
			Tinodes	2.6	88.2	Hydroptila	5.4	78.2	Hydroptila	5.4	81.2
			Tanypodinae	2.2	90.4	Baetis	4.9	83.1	Ochrotrichia	5.1	86.3
			Potamopyrgus antipodarum	1.6	92.0	Tinodes	2.9	86.0	Ostracoda	2.5	88.8
			Ostracoda	1.4	93.4	Pericoma/Telmatoscopus	1.8	87.8	Tinodes	2.5	91.3
			Orthocladiinae	1.4	94.8	Hydroptilidae	1.7	89.5	Corbicula	1.7	93.0
			Turbellaria	0.8	95.6	Sperchon	1.5	91.0	Bezzia/Palpomyia	1.5	94.5
			Callibaetis	0.6	96.2	Orthocladiinae	1.5	92.5	Baetis adonis	1.0	95.5
			Coenagrionidae	0.6	96.8	Ochrotrichia	1.5	94.0	Pericoma/Telmatoscopus	0.8	96.3
			Mideopsis	0.6	97.4	Argia	1.2	95.2	Fallceon	0.8	97.1
			Lymnaea	0.6	98.0	Libellulidae	0.8	96.0	Orthocladiinae	0.7	97.8
			Bezzia/Palpomyia	0.4	98.4	Caloparyphus/Euparyphus	0.7	96.7	Hemerodromia	0.7	98.5
			Corixidae	0.4	98.8	Lymnaea	0.7	97.4	Hydroptilidae	0.5	99.0
			Caloparyphus/Euparyphus	0.4	99.2	Nemotelus	0.3	97.7	Cheumatopsyche	0.2	99.2
			Lebertia	0.2	99.4	Hemerodromia	0.3	98.0	Hydropsyche	0.2	99.4
			Dolichopodidae	0.2	99.6	Chironominae	0.3	98.3	Tricorythodes explicatus	0.2	99.6
			Petrophila	0.2	99.8	Atrichopogon	0.3	98.6	Sperchon	0.2	99.8
			Sperchon	0.2	99.9	Mideopsis	0.2	98.8	Tanypodinae	0.2	99.9
			Tropisternus	0.2	100.0	Petrophila	0.2	99.0	Hydrobiidae	0.2	100.0
						Fallceon	0.2	99.2			
						Dasyhelea	0.2	99.4			
						Physa	0.2	99.6			
						Baetis adonis	0.2	99.8			
						Tanypodinae	0.2	99.9			
						Atractides	0.2	100.0			
TOTAL	100			100			100			100	

RSW-MC002D			RSW-MC001U			RSW-MC009U			RSW-MC007D		
Species	% of Total Abund	Cumulative % Abund	Species	% of Total Abund	Cumulative % Abund	Species	% of Total Abund	Cumulative % Abund	Species	% of Total Abund	Cumulative % Abund
Chironominae	64.1	64.1	Potamopyrgus antipodarum	53.1	53.1	Dry			Hyalella	32.2	32.2
Oligochaeta	12.9	77.0	Hydroptila	8.3	61.4				Ostracoda	29.7	61.9
Simulium	4.0	81.0	Chironominae	7.5	68.9				Oligochaeta	14.4	76.3
Hyalella	3.8	84.8	Corbicula	5.8	74.7				Hydrobiidae	13.5	89.8
Orthocladiinae	3.1	87.9	Turbellaria	4.8	79.5				Chironominae	3.8	93.6
Ostracoda	2.8	90.7	Oligochaeta	4.4	83.9				Bezzia/Palpomyia	1.7	95.3
Corbicula	1.7	92.4	Hyalella	3.2	87.1				Tanypodinae	1.4	96.7
Prostoma	1.2	93.6	Tanypodinae	2.7	89.8				Enallagma	0.8	97.5
Atrichopogon	1.0	94.6	Coenagrionidae	2.2	92.0				Hydroptilidae	0.5	98.0
Baetis	0.7	95.3	Oxyethira	1.9	93.9				Physa	0.5	98.5
Caloparyphus/Euparyphus	0.7	96.0	Physa	1.4	95.3				Orthocladiinae	0.3	98.8
Bezzia/Palpomyia	0.5	96.5	Procambarus clarkii	1.2	96.5				Turbellaria	0.3	99.1
Hydroptilidae	0.5	97.0	Fallceon	0.7	97.2				Caloparyphus/Euparyphus	0.3	99.4
Tanypodinae	0.5	97.5	Mideopsis	0.7	97.9				Argia	0.2	99.6
Lymnaea	0.5	98.0	Argia	0.5	98.4				Hydroptila	0.2	99.8
Dasyhelea	0.3	98.3	Prostoma	0.3	98.7				Libellulidae	0.2	99.9
Pericoma/Telmatoscopus	0.3	98.6	Sperchon	0.3	99.0				Hydropsychidae	0.2	100.0
Hydroptila	0.3	98.9	Baetis	0.3	99.3						
Fallceon	0.2	99.1	Ochrotrichia	0.2	99.5						
Dina	0.2	99.3	Ephydridae	0.2	99.7						
Oxyethira	0.2	99.5	Dasyhelea	0.2	99.9						
Sperchon	0.2	100.0	Baetis adonis	0.2	100.0						
TOTAL	100			100						100	

Table 7. Abundances of New Zealand mud snails at sites in the Malibu Creek Watershed from 2007 to 2018.

Year	Station							Combined Annual Total
	RSW-MC 004D	RSW-MC 003D	RSW-MC 013D	RSW-MC 002D	RSW-MC 001U	RSW-MC 009U	RSW-MC 007D	
2007	52	15	196	138	122	0	157	680
2008	4	0	0	7	0	0	2	13
2009	42	69	73	201	37	0	23	445
2010	37	18	190	62	371	0	273	951
2011	5	13	12	77	86	6	112	311
2012	110	4	2	57	22	0	110	305
2013	0	0	13	4	7	DRY	346	370
2014	0	0	0	2	5	0	176	183
2015	Dry	3	2	5	20	DRY	394	424
2016	76	77	0	0	193	DRY	177	523
2017	0	2	2	6	65	0	171	246
2018	8	38	0	0	313	Dry	0	359
***average* =**	**30**	**20**	**41**	**47**	**103**	**1**	**162**	**401**

Table 8. The CSCI scores and categories for each site in the Malibu watershed, including scores for the sub-indices (MMI and O/E) which are averaged to generate the CSCI. CSCI, MMI and O/E percentiles show how a site compares with the reference pool of sites. A site with a low percentile score (e.g. 0.03) has a biological condition that compares with very few sites in the reference pool.

	Malibu Creek						Las Virgenes Creek
CSCI	**RSW-MC 004D**	**RSW-MC 003D**	**RSW-MC 013D**	**RSW-MC 002D**	**RSW-MC 001U**	**RSW-MC 009U**	**RSW-MC 007D**
CSCI							
CSCI Score	**0.65**	**0.63**	**0.90**	**0.74**	**0.62**	**Dry**	**0.58**
CSCI Percentile	**0.01**	**0.01**	**0.27**	**0.05**	**0.01**		**0.00**
CSCI Category	**Likely Altered**	**Likely Altered**	**Possibly Altered**	**Likely Altered**	**Likely Altered**		**Very Likely Altered**
MMI Metric							
% Clinger Taxa	11	21	42	19	24		20
% Coleoptera Taxa	5	0	0	0	0		0
Taxonomic Richness	22	25	19	19	19		13
% EPT Taxa	9	19	40	20	26		13
Shredder Taxa	0	0	0	0	1		0
% Intolerant	3	3	3	0	0		0
MMI Score	**0.53**	**0.54**	**0.73**	**0.47**	**0.58**		**0.52**
MMI Percentile	**0.00**	**0.00**	**0.07**	**0.00**	**0.01**		**0.00**
O/E							
Mean Observed Taxa	6.0	5.6	8.4	7.7	5.0		5.6
Expected Taxa	7.7	7.6	7.8	7.7	7.6		8.9
O/E	**0.77**	**0.73**	**1.08**	**1.00**	**0.66**		**0.63**
O/E Percentile	**0.11**	**0.08**	**0.66**	**0.50**	**0.04**		**0.03**

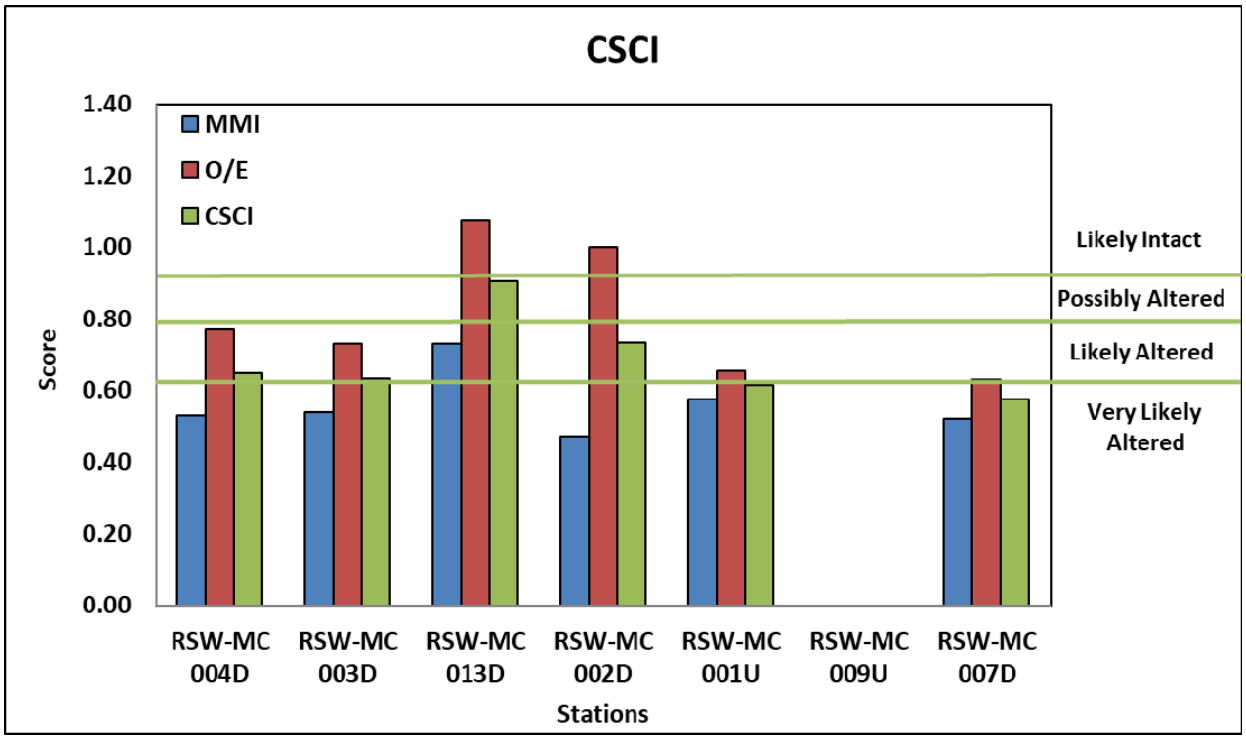


Figure 4. CSCI scores including the MMI and O/E for sites in the Malibu Creek watershed. Horizontal green lines represent the 1st (Very Likely Altered), 10th (Likely Altered), 30th (Likely Intact), and 50th (Likely Intact) percentiles of the reference site distribution for the CSCI scores.

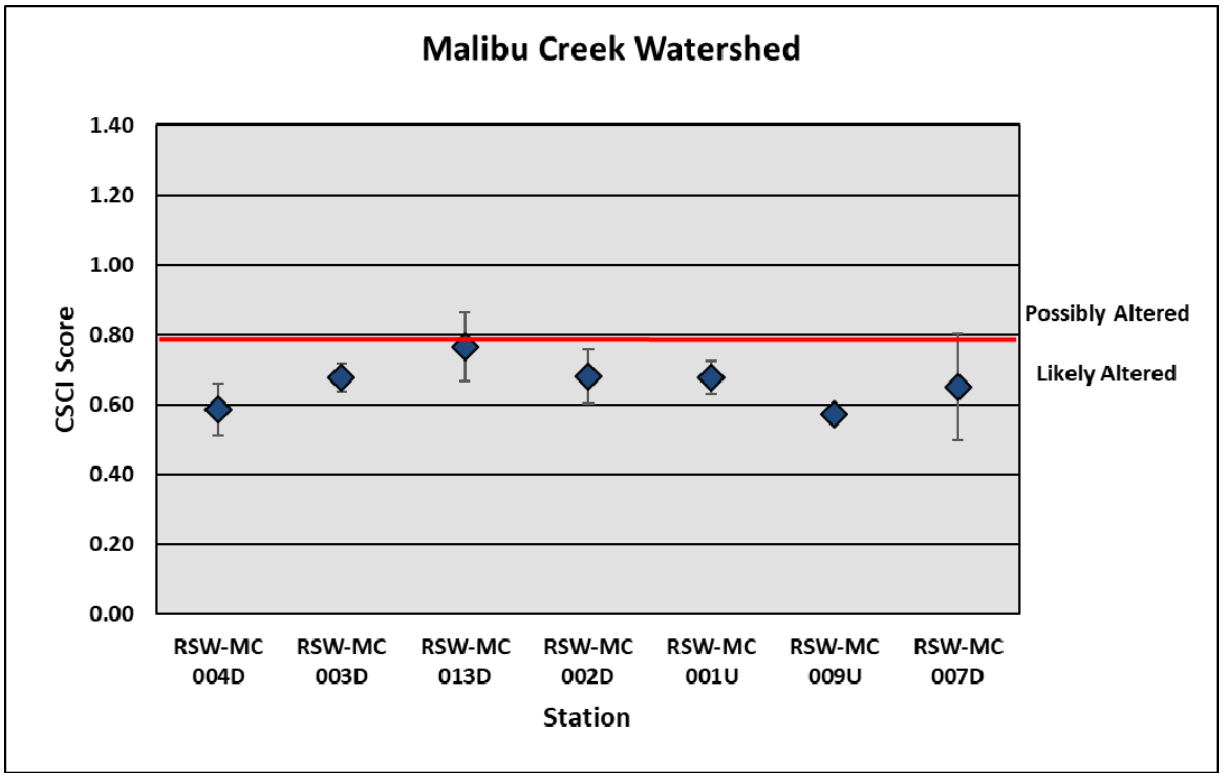


Figure 5. Average (± 95% CI) CSCI scores for stations sampled within the Malibu Creek watershed from 2015 to 2018. Sites are sorted from most downstream (left) to most upstream (right). The red-line denotes the 10th percentile threshold limit (0.79) for the CSCI.

Table 9. Biological metrics measured at station RSW-MC011D in Malibu Lagoon.

Biological Metric	RSW-MC 011D
Total Abundance	141
Taxonomic Richness	5
Shannon Diversity	0.5

Table 10. Diatom and soft bodied algae metrics used to calculate the D18, S2 and H2O index for each of the sample locations in the Malibu watershed. Response to human disturbance indicates whether a metric increases or decreases with anthropogenic stress.

Metric Category/Theme	Metric	RSW-MC 004D	RSW-MC 003D	RSW-MC 013D	RSW-MC 002D	RSW-MC 001U	RSW-MC 009U	RSW-MC 007D	Response to Human Disturbance
Diatom									
Autecological Guild									
Dissolved Oxygen	Proportion Requiring >50 % DO	0.9967	0.995	0.984	0.977	0.933		0.991	Decrease
	Proportion Requiring 100% DO	0.95935	0.950	0.809	0.730	0.625	Dry	0.036	Decrease
Ionic Strength/Salinity	Proportion Halobiontic	0.0049	0.003	0.027	0.037	0.121		0.565	Increase
Nutrients	Proportion Poly- & Eutrophic	0.0359	0.049	0.157	0.208	0.339		0.857	Increase
Organic Pollution	Proportion Nitrogen Heterotrophs	0.0049	0.005	0.026	0.053	0.041		0.053	Increase
	Proportion Oligo- & Beta-mesosaprobic	0.9919	0.994	0.955	0.916	0.845		0.393	Decrease
Morphologic Guild									
Sedimentation	Proportion of Highly Motile	0.0177	0.005	0.106	0.181	0.125		0.640	Increase
	Proportion of Sediment Tolerant (highly motile)	0.0194	0.008	0.112	0.182	0.137		0.640	Increase
Taxonomic Group									
A. minutissium	Proportion A. minutissimum	0.0032	0.000	0.000	0.000	0.003		0.000	Decrease
Tolerance/Sensitivity									
Nitrogen	Proportion of Low TN Indicators	0.7719	0.708	0.245	0.131	0.117		0.000	Decrease
Phosphorous	Proportion of Low TP Indicators	0.0275	0.070	0.119	0.103	0.039		0.000	Decrease
Soft									
Relationship to Reference									
Reference	Proportion "non-reference" Indicators (sp)	0.4000	0.250	0.600	0.800	0.333		0.667	Increase
	Proportion of "non-reference" Indicators (b) [1.]	0.0000	0.097	0.143	0.355	0.000		1.000	Increase
Taxonomic Group									
Chlorphyta	Proportion Chlorophyta (b)	0.9980	0.000	0.171	0.335	0.000		1.000	Increase
	Proportion of Green Algae Belonging to CRUS (b)	0.0000	0.000	0.000	0.000	0.000		1.000	Increase
ZygnHeteroRhod	Proportion ZHR (b)	0.0000	0.000	0.000	0.000	0.998		0.000	Decrease
	Proportion ZHR (m)	0.0333	0.000	0.000	0.000	0.699		0.100	Decrease
Tolerance/Sensitivity									
Copper	Proportion of High Cu Indicators (sp)	0.4000	0.250	0.600	0.800	0.333		0.667	Increase
Organic Pollution	Proportion High DOC Indicators (b)	0.0003	0.097	0.632	0.355	0.000		1.000	Increase
	Proportion High DOC Indicators (sp)	0.6000	0.500	0.800	0.800	0.333		0.667	Increase
Phosphorous	Proportion of Low TP Indicators (sp)	0.0000	0.000	0.000	0.000	0.000		0.000	Decrease

1. Abbreviations are as follows: b- metric based on biovolume; sp- metric based on species presence; m- metric is an average of the "b" and "sp" counterpart metric values; CRUS- Cladophora glomerata + Rhizoclonium hieroglyphicum + Ulva flexuosa + Stigeoclonium sp. ZHR - Zygnemataceae + hetrocystous cyanobacteria + Rhodophyta; Green algae- Taxa within Chlorophyta + Charophyta

Table 11. The SoCA Algae IBI scores for sample locations in the Malibu Creek Watershed. Individual sub-indices for both diatoms (D18) and soft bodied algae (S2) are presented along with the hybrid SoCA Algae IBI score (H2O). Rank scores (0 to 10) are presented for each metric. Each index summation is adjusted to fit on a scale of 0 to 100.

SoCA Algae IBI Metric Score	Stations						
	RSW-MC 004D	RSW-MC 003D	RSW-MC 013D	RSW-MC 002D	RSW-MC 001U	RSW-MC 009U	RSW-MC 007D
Diatoms (D18)							
Proportion Requiring >50 % DO (d)	9	9	9	9	8	**Dry**	9
Proportion Halobiontic (d)	10	10	9	9	8		0
Proportion N Heterotrophs (d)	10	10	9	9	9		9
Proportion of Sediment Tolerant (highly motile; d)	10	10	8	6	7		0
Proportion of Low P Indicators (d)	1	1	2	2	1		0
D18 IBI Total	40	40	37	35	33	--	18
D18 IBI Adjusted (2.0)	**80**	**80**	**74**	**70**	**66**	**--**	**36**
Soft Bodied Algae (S2)							
Proportion "non-reference" Indicators (sp)	2	5	0	0	3		0
Proportion of green algae belonging to CRUS (b)	10	10	10	10	10		1
Proportion ZHR (m)	1	0	0	0	10		2
Proportion of High Cu Indicators (s, sp)	0	3	0	0	1		0
Proportion High DOC Indicators (s, sp)	2	4	0	0	6		1
Proportion of Low TP Indicators (s, sp)	0	0	0	0	0		0
S2 IBI Total	15	22	10	10	30	--	4
S2 IBI Adjusted (1.66667)	**25**	**37**	**17**	**17**	**50**	**--**	**7**
SoCA Algae IBI							
Proportion of High Cu Indicators (s, sp)	0	3	0	0	1		0
Proportion High DOC Indicators (s, sp)	2	4	0	0	6		1
Proportion of Low TP Indicators (s, sp)	0	0	0	0	0		0
Proportion Requiring >50 % DO (d)	9	9	9	9	8		9
Proportion Halobiontic (d)	10	10	9	9	8		0
Proportion N Heterotrophs (d)	10	10	9	9	8		9
Proportion of Sediment Tolerant (highly motile; d)	10	10	8	6	7		0
Proportion of Low TN Indicators (d)	10	9	3	2	2		0
SoCA Algae IBI Total	51	55	38	35	40		19
SoCA Algae IBI Adjusted Total (1.25)	**64**	**69**	**48**	**44**	**51**	--	**24**
SoCA Algae IBI Category	**Ref**	**Ref**	**Non-Ref**	**Non-Ref**	**Non-Ref**	**--**	**Non-Ref**

1. Abbreviations are as follows: d- diatom metric; s- soft algae metric; sp- metric based on species presence

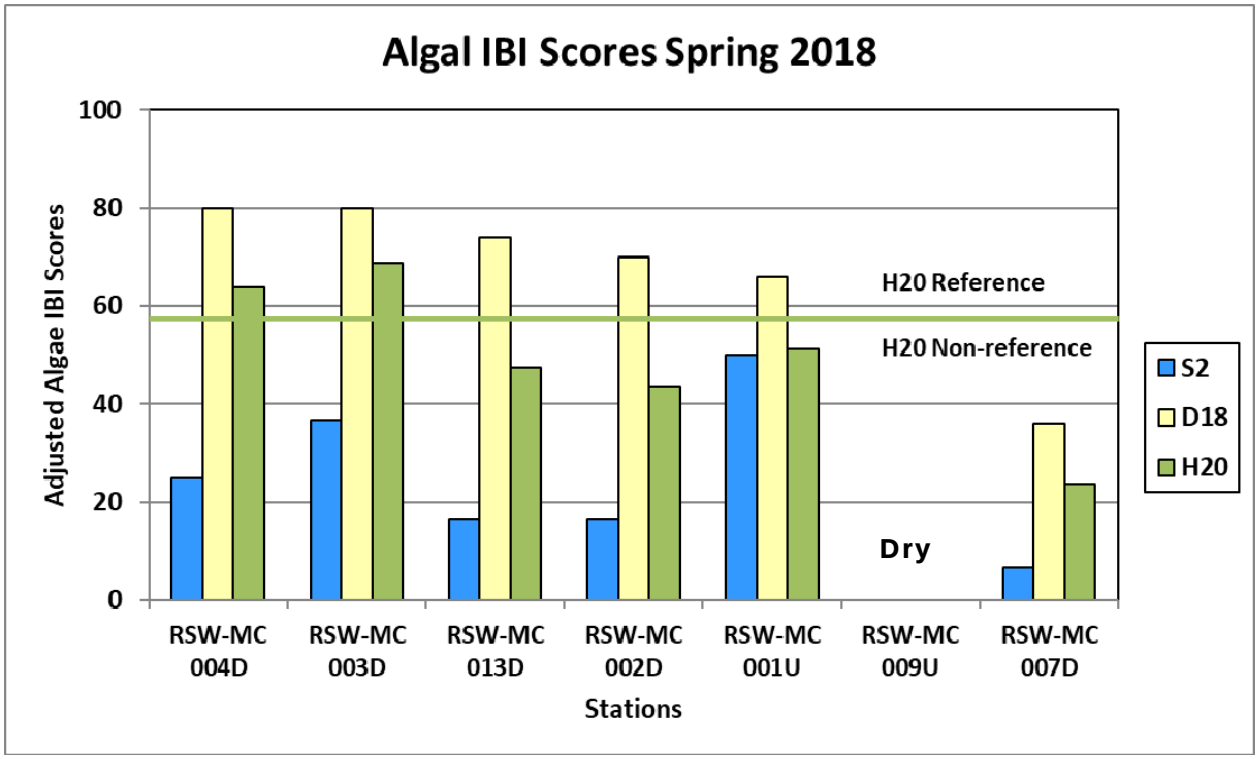


Figure 6. SoCA Algae IBI scores for sites in the Malibu Creek watershed in 2016. The S2 and D18 index is composed of soft body algae metrics and diatom metrics respectively. The H20 is a hybrid of soft body algae and diatom metrics. The green horizontal bar represents the boundary between algae communities in reference vs. non-reference condition for the H20 index.

Summary and Conclusions

A total of eight bioassessment sampling locations were visited in the Malibu Creek Watershed from July 16th through August 3rd, 2018 by Aquatic Bioassay and Consulting Laboratory biologists. All sampling, laboratory analysis, and data analysis were conducted according to SWAMP protocols with the exception of the Malibu Lagoon Station RSW-MC011, which was sampled according to USEPA's estuarine sampling guidance (2000).

The habitat conditions in a stream reach play a key role in the development of a healthy aquatic community. In many cases organisms may not be exposed to chemical contaminants, yet their populations indicate that impairment has occurred. These population shifts can be due to degradation of the streambed and bank habitats. For example, excess sediment caused by bank erosion due to human activities can fill pools and interstitial areas of the stream substrate where fish spawn and invertebrates live, causing their populations to decline or to be altered. Also, loss of vegetative canopy cover and reduced width of the riparian zone can have similar effects on the BMI communities.

P-Hab scores for stations sampled within the Malibu Watershed above Malibu Lagoon were suboptimal below the TWRF outfall and were marginal above the outfall. This was due to sediment deposition, in combination with a high degree of channel alteration, and lack of instream cover. Most sites had embankments that were vulnerable to erosion, but with relatively good vegetative protection and surrounding riparian habitats.

Malibu Lagoon Station R-11 represents an estuary habitat that cannot be directly compared to the riparian habitats found at the upstream stations. This site is subject to highly variable conditions including inundation during periods when the berm at the mouth of Lagoon is closed, shallow brackish water periods when the berm is open and large shifts in salinity depending on the status of the berm in conjunction with tidal fluctuations. The organisms that reside under these conditions are different than those found in freshwater stream systems and are generally adapted to these rapidly changing conditions. Likewise, sampling techniques developed for both systems are not comparable.

A combined total of 3,636 BMIs were identified from 50 different taxa at the seven stations where sampling occurred during the summer 2018 survey. Only five taxa, were collected at R-11 in the Malibu Creek Lagoon. The most abundant (87%) was represented by segmented worms (Oligochaeta). Combinations of disturbance tolerant organisms represented the majority of the abundance at each site, and three to eight taxa represented

over 80% of the abundances. The most abundant taxa included clams (*Corbicula sp*.), amphipods (*Hyalella sp.)*, midges (Chironominae), nemertean worms (*Prostoma sp*.), mayflies (*Baetis sp*.) and New Zealand mud snails (NZMS, *Potamopyrgus antipodarum*).

The biotic condition of streams in this survey was assessed using two indexes of biological integrity: the California Stream Condition Index (CSCI) and the Southern California Algae Index of Biological Integrity (SoCA Algae IBI). The CSCI is based on the benthic macroinvertebrate community, while the SoCA Algae IBI is based on the abundances and composition of the diatom and soft bodied algae communities at a site. The inclusion of the SoCA Algae IBI provides a second indicator of stream condition. There have been no regulatory compliance thresholds established for these indexes in the state of California. The statistically derived thresholds presented for each of these indices are included as a way to compare the biotic condition found at a specific site to the biotic condition found at the pool of reference sites used to develop each index. As a result, they do not necessarily represent an ecologically meaningful change point in community composition and should not be used in a regulatory framework.

Each of the three indexes indicated that biological conditions at each of the sites in the survey are below reference site conditions:

1. The CSCI combines two separate types of indices, each of which provides unique information about the biological condition at a stream: a multi-metric index (MMI) that measures ecological structure and function, and an observed-to-expected (O/E) index that measures taxonomic completeness. CSCI category rankings for all sites were “possibly altered” (R-13) “likely altered” (R-4, R-3, R-2, and R-1) to “very likely altered” (R-7). The greatest score was at R-13 (0.90) below the TWRP discharge. This indicates that the TWRF discharge does not negatively impact the BMI community.

2. The SoCA Algal IBI is composed of three indices, a hybrid IBI (H20) composed of both diatoms and soft-algae metrics, a diatom IBI (D18) and soft-algae IBI (S2). IBIs are composed of metrics chosen for their ability to differentiate between reference and non-reference stream conditions. The SoCA H20 IBI rankings for sites R-13, R-2, R-1 and R-7 were in the “non-reference” category. Sites R-4 and R-3 had H20 IBI scores were 64 and 69 respectively and were ranked in the “reference” category. The biological condition of the algae communities in this reach of Malibu Creek was poor at four sites with no clear evidence that the TWRP outfall is contributing to this condition.

The strong association between physical habitat and biological condition (IBI scores) that are typical in southern California watersheds (SGRRMP 2014), are not as clear cut in the Malibu Creek Watershed. Physical habitat conditions in most of the stream reaches where samples were collected are relatively decent with good instream cover, low to moderate sedimentation and little channel alteration. This indicates that degraded biological community conditions may be linked more closely to poor water quality conditions (e.g. elevated nutrients or metals). Staff members of the Las Virgenes Municipal Water District have shown that a potential source of these poor water quality conditions may be the result of local geologic conditions. The terrain in the upper reaches of the watershed is dominated by the Monterey formation. Runoff from this area has very high conductivity (>3,000 uS) and elevated sulfate and phosphate concentrations. EPA sponsored research has shown that elevated background concentrations of these constituents has a detrimental effect on BMIs at levels known to occur naturally in Malibu Creek (Pond *et al.*, 2008).

Station R-11 located in Malibu Lagoon is inundated with brackish water during portions of the year when the berm is breached to the ocean. During this survey only five taxa were present. The lack of diversity found at this Lagoon site may be due to the ever-changing conditions found here. Sudden shifts in salinity and temperature make it difficult for stable benthic communities to become established and only those organisms capable of such extreme shifts in environmental conditions are able to dominate the benthic communities.

The collection of New Zealand mudsnails (NZMS, *Potamopyrgus antipodarum*) in the watershed is of ongoing environmental concern. The snail was first collected in the upper and lower Medea Creek in the spring of 2005. The NZMS were absent or nearly absent at most sites in 2018, except at R-1 (n = 38) and R-7 (n = 313). This pattern is similar to previous surveys where the abundances of NZMS ranged from 0 to 394. Abundances remained elevated at R-7 (average = 162) since 2010, until this year when no NZMS were collected at the site.

Efforts to control NZMS populations are focused on ensuring they are not spread to other locations and there is presently no method available to remove them from a stream reach without damaging the indigenous populations. Aquatic Bioassay scientists and field crews have employed the strict control measures recommended by the State of California to reduce the chance that the NZMS is further spread in the watershed.

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Appendix A: BMI and Attached Algae Taxa Lists

Table 12. 2018 BMI raw taxa list for sites in the Malibu Creek Watershed.

Identified Taxa	Tol Val (TV)	Func Feed Grp	RSW-MC 011D	RSW-MC 004D	RSW-MC 003D	RSW-MC 013D	RSW-MC 002D	RSW-MC 001U	RSW-MC 009U	RSW-MC 007D
Insecta Taxa										
Ephemeroptera										
Baetis	5	cg			29	123	4	2	Dry	
Baetis adonis	5	cg			1	6		1		
Callibaetis	9	cg		3						
Fallceon	4	cg			1	5	1	4		
Tricorythodes explicatus	4	cg				1				
Odonata										
Argia	7	p			7			3		1
Coenagrionidae	9	p		3				13		
Enallagma	9	p								5
Libellulidae	9	p	1		5					1
Hemiptera										
Corixidae	8	p		2						
Trichoptera										
Cheumatopsyche	5	cf				1				
Hydropsyche	4	cf				1				
Hydropsychidae	4	cf								1
Hydroptila	6	ph			32	32	2	49		1
Hydroptilidae	4	ph			10	3	3			3
Ochrotrichia	4	ph			9	30		1		
Oxyethira	3	ph					1	11		
Tinodes	2	sc		13	17	15				
Coleoptera										
Tropisternus	5	p		1						
Diptera										
Atrichopogon	6	cg			2		6			
Bezzia/Palpomyia	6	p		2		9	3			11
Caloparyphus/Euparyphus	8	cg		2	4	42	4			2
Chironominae	6	cg	2	26	2	113	368	44		24
Dasyhelea	6	cg			1		2	1		
Dolichopodidae	4	p		1						
Ephydridae	6							1		
Hemerodromia	6	p			2	4				
Nemotelus	8	cg			2					
Orthocladiinae	5	cg	1	7	9	4	18			2
Pericoma/Telmatoscopus	4	cg			11	5	2			
Simulium	6	cf				32	23			
Tanypodinae	7	p		11	1	1	3	16		9
Lepidoptera										
Petrophila	5	sc		1	1					
Non-Insecta Taxa										
Oligochaeta	5	cg	123	37	34	64	74	26		92
Ostracoda	8	cg		7	51	15	16			190
Polychaeta			14							
Turbellaria	4	p		4				28		2
Amphipoda										
Hyalella	8	cg		107	44	76	22	19		206
Arhynchobdellida										
Dina	8	p					1			
Basommatophora										
Lymnaea	6	sc		3	4		3			
Physa	8	sc		52	1			8		3
Decapoda										
Procambarus clarkii	8	sh						7		
Hoplonemertea										
Prostoma	8	p		26	163		7	2		
Hypsogastropoda										
Hydrobiidae	8	sc				1				86
Potamopyrgus antipodarum	8	sc		8	38			313		
Trombidiformes										
Atractides	8	p			1					
Lebertia	8	p		1						
Mideopsis	5	p		3	1			4		
Sperchon	8	p		1	9	1	1	2		
Veneroida										
Corbicula	8	cf		182	104	10	10	34		
TOTAL			**141**	**503**	**596**	**594**	**574**	**589**	**Dry**	**639**

Table 13. Summer 2018 diatom taxa list for Malibu watershed.

Phylum	Class	Species	Station						
			RSW-MC 004D	RSW-MC 003D	RSW-MC 013D	RSW-MC 002D	RSW-MC 001U	RSW-MC 009U	RSW-MC 007D
Heterokontophyta	Bacillariophyceae	Achnanthes coarctata						Dry	1
		Achnanthidium cf latecephalum	4						3
		Achnanthidium exiguum		2	1				
		Achnanthidium minutissimum	2				2		
		Amphora minutissima		2					
		Amphora ovalis		4	2		1		2
		Amphora pediculus	32	41	37	16	11		62
		Cocconeis pediculus	4	3	4				
		Cocconeis placentula	36	7	14	4	2		19
		Encyonema silesiacum				1			
		Eolimna subminuscula			2	1			
		Epithemia sorex	2			5	1		
		Fallacia sp 1		1					
		Fistulifera saprophila			1				
		Frustulia creuzburgensis			1				
		Geissleria acceptata	2	3			2		
		Gomphonema	2	2					
		Gomphonema micropus	4		1				
		Gomphonema parvulum			4				
		Gomphonema subclavatum			2				
		Halamphora veneta	1	1	1		1		
		Hippodonta capitata			2				
		Navicula antonii	1						
		Navicula caterva							3
		Navicula cryptotenella							2
		Navicula cryptotenelloides	2	4	2				10
		Navicula erifuga	2						5
		Navicula gregaria	28	4	4		1		3
		Navicula recens							2
		Navicula reichardtiana	1						4
		Navicula salinarum			2				
		Navicula tripunctata	1	2					
		Nitzschia	10		10		2		32
		Nitzschia acicularis	1						
		Nitzschia amphibioides		4	8				2
		Nitzschia archibaldii	8			2	2		
		Nitzschia aurariae							2
		Nitzschia dissipata	2	1					2
		Nitzschia dissipata var media	13	10	18	1	2		6
		Nitzschia fonticola	11	16	29		3		54
		Nitzschia frustulum		1	2				
		Nitzschia gracilis	1						
		Nitzschia inconspicua							279
		Nitzschia lacuum	2	3	7				
		Nitzschia liebethruthii	3	16	13				
		Nitzschia microcephala	9	8	18		2		2
		Nitzschia minuta							1
		Nitzschia palea	2	2					
		Nitzschia paleacea							11
		Nitzschia perminuta							5
		Nitzschia recta	6	2	2				

Table 13. Continued

Phylum	Class	Species	Station						
			RSW-MC 004D	RSW-MC 003D	RSW-MC 013D	RSW-MC 002D	RSW-MC 001U	RSW-MC 009U	RSW-MC 007D
		Nitzschia soratensis	12	6	28	6	2	Dry	9
		Planothidium		4					4
		Planothidium daui		3					
		Planothidium delicatulum		3	3				
		Planothidium frequentissimum	12	16	4	1	1		13
		Planothidium lanceolatum	13	5	8				12
		Pleurosigma salinarum	1						
		Psammothidium bioretii							1
		Psammothidium lauenburgianum							2
		Psammothidium subatomoides	2			1			
		Pseudostaurosira brevistriata	18	19	7	57	85		
		Rhoicosphenia abbreviata	10	3	6				51
		Rhopalodia gibba	1						
		Sellaphora nigri		1					
		Tryblionella apiculata	6	2					
	Coscinodiscophyceae	Cyclotella meneghiniana	5	3	1	2	1		
		Discostella pseudostelligera		1					
		Discostella woltereckii	2						
		Ellerbeckia arenaria	1	4	3				
		Melosira varians		1					
	Fragilariophyceae	Fragilaria	1						
		Fragilaria capucina	4	1					
		Staurosira construens		1					
		Staurosira construens var venter	309	410	369	529	501		12
		Synedra acus			1				
		Tabularia fasciculata	25		3				15

Table 14. Summer 2018 soft-algae taxa list for Malibu watershed.

Sample Type	Phylum	Class	Species	Unit	Station						
					RSW-MC 004D	RSW-MC 003D	RSW-MC 013D	RSW-MC 002D	RSW-MC 001U	RSW-MC 009U	RSW-MC 007D
Epiphyte	Chlorophyta	Chlorophyceae	Aphanochaete polychaete	count					25	Dry	
	Cyanobacteria	Cyanophyceae	Heteroleibleinia sp 1	count				98	100		85
			Leptolyngbya foveolarum	count				2			
	Heterokontophyta	Xanthophyceae	Characiopsis minuta	count					5		
			Tribonema minus	count					25		
Macroalgae	Chlorophyta	Ulvophyceae	Cladophora cf fracta	um3/cm2					1.443E+09		
			Cladophora glomerata	um3/cm2							5.714E+09
	Heterokontophyta	Coscinodiscophyceae	Pleurosira laevis	um3/cm2				721500721	1.443E+09		
	Streptophyta	Zygnematophyceae	Spirogyra	um3/cm2							577200
Microalgae	Chlorophyta		Chlorophyta	um3/cm2	2754	792	6898	89089			
		Chlorophyceae	Gongrosira	um3/cm2				320721			
			Scenedesmus	um3/cm2	311	528	520				
			Scenedesmus abundans	um3/cm2		137	1830		1050		
			Scenedesmus communis	um3/cm2					2502		
			Scenedesmus dimorphus	um3/cm2			297		1532		
			Scenedesmus ellipticus	um3/cm2	105	2083	2752		2668		
		Trebouxiophyceae	Oocystis	um3/cm2			318				
	Cryptophyta	Cryptophyceae	Cryptomonas	um3/cm2					6.26E+03		
	Cyanobacteria	Cyanophyceae	Aphanocapsa delicatissima	um3/cm2					6.50E+01		
			Calothrix	um3/cm2	2.94E+05		2.58E+05		5.77E+04		3.63E+04
			Calothrix kossinskajae	um3/cm2				5.28E+07			
			Chroococcus	um3/cm2					1.58E+03		
			Chroococcus minimus	um3/cm2				2.82E+03			
			Heteroleibleinia sp 1	um3/cm2	3.70E+03	2.99E+04	1.30E+04	1.50E+04	1.47E+05		9.18E+04
			Leptolyngbya foveolarum	um3/cm2		7.57E+03			3.98E+05		
			Leptolyngbya tenuis	um3/cm2	1.57E+04	5.71E+03	8.86E+03		2.48E+05		
			Merismopedia tenuissima	um3/cm2				3.04E+02	4.50E+02		
			Microchaete	um3/cm2				6.81E+06			
			Nodularia spumigena	um3/cm2	1.02E+07						
			Nostoc	um3/cm2					2.70E+05		
			Phormidium	um3/cm2			1.84E+03		2.30E+06		1.91E+05
			Pleurocapsa	um3/cm2					5.34E+03		
			Pseudanabaena	um3/cm2					2.50E+03		
			Pseudanabaena sp 1	um3/cm2							4.66E+04
			Spirulina sp 1	um3/cm2					1.56E+02		
			Symploca elegans	um3/cm2				1.79E+06			
	Streptophyta	Zygnematophyceae	Spirogyra	um3/cm2	1.85E+05						
Qualitative	Chlorophyta	Chlorophyceae	Microspora amoena	none			P				
		Ulvophyceae	Cladophora cf fracta	none				P			
			Cladophora cf glomerata	none			P				P
			Cladophora glomerata	none		P					
	Cyanobacteria	Cyanophyceae	Anabaena	none					P		
			Geitlerinema	none					P		
	Heterokontophyta	Coscinodiscophyceae	Pleurosira laevis	none				P			

P= present in sample, but not counted.

Appendix B – Photos of Sampling Sites

RSW-MC011D facing picnic area

RSW-MC011D facing towards the ocean

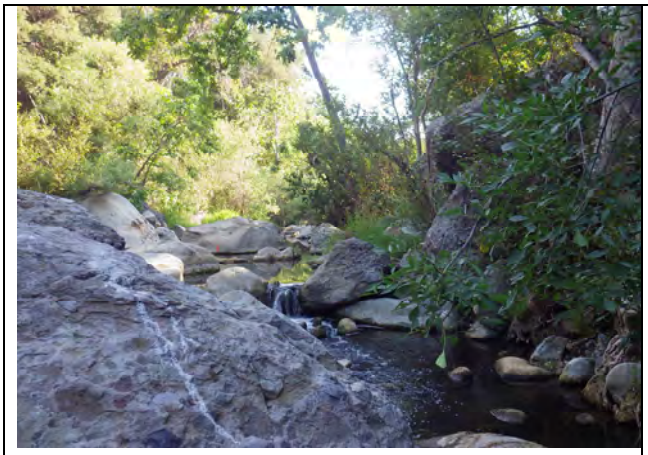
RSW-MC004D facing upstream

RSW-MC004D facing downstream

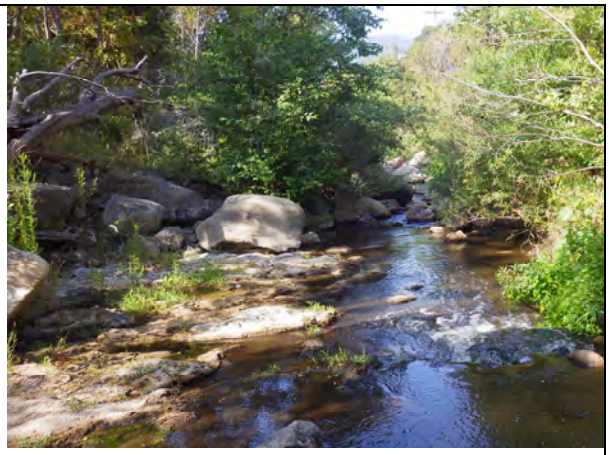
RSW-MC003D facing upstream

RSW-MC003D facing downstream

Figure 7. Sampling location photos of the eight sampling sites within the Malibu Creek watershed.



RSW-MC013D facing upstream



RSW-MC013D facing downstream

RSW-MC002D facing upstream

RSW-MC002D facing downstream

Figure 7. (continued).

RSW-MC001U facing upstream

RSW-MC001U facing downstream

RSW-MC009U facing upstream

RSW-MC009U facing downstream

RSW-MC007U facing upstream

RSW-MC007U facing downstream

Figure 7.

INVOICE NO: LVS0319.0248

TO: **Accounts Payable**
Las Virgenes MWD
731 Malibu Canyon Rd
Calabasas, CA 91302

FROM: **Aquatic Bioassay**
29 North Olive St.
Ventura, CA 93001

PAY THIS AMOUNT: **$48,866**

DATE: **March 27th, 2019**

Invoice for tasks related to bioassessment reporting for spring 2018

Task	Contract Amount	Previous Billing	Current Billing	Billed To Date	Funds Remaining
Sampling					
Mobilization	$682	$0	$682	$682	$0
Bioassessment (8 sites, includes BMIs + attached algae)	$20,184	$0	$20,184	$20,184	$0
Laboratory Analysis					
Benthic Macroinvertebrates (8 sites, 1 field duplicate per event, includes R-11)					
BMI 600 Count (Sorting and ID, SAFIT Level 2)	$8,441	$0	$8,441	$8,441	$0
BMI QC: to DF&W Rancho Cordova (1 sample)	$767	$0	$767	$767	$0
Attached Algae (7 sites, 1 field duplicate per event)					
Diatom/Algae ID & Enumeration	$5,439	$0	$5,439	$5,439	$0
Diatoms & Algae Qualitative	$5,439	$0	$5,439	$5,439	$0
Ash Free Dry Weight (AFDM)	$455	$0	$455	$455	$0
Chlorphyll a	$728	$0	$728	$728	$0
Reporting					
CEDEN/SWAMP Reporting (Biology & Chemistry)	$1,137	$0	$1,137	$1,137	$0
Final Report	$5,593	$0	$5,593	$5,593	$0
Total	**$48,866**	**$0**	**$48,866**	**$48,866**	**$0**

Aquatic Bioassay
29 N. Olive St.
Ventura, CA 93001

ITEM 10C

INFORMATION ONLY

April 29, 2019 JPA Board Meeting

TO: JPA Board of Directors

FROM: Finance & Administration

Subject : Annual Supply and Delivery of Polymer: Award

The Las Virgenes-Triunfo Joint Powers Authority (JPA) approved funding for this matter in the Fiscal Year 2018-19 JPA Budget. On March 26, 2019, the LVMWD Board, acting as Administering Agent of the JPA, authorized the General Manager to accept a bid and approve a purchase order to Polydyne, Inc. for the annual supply and delivery of polymer.

SUMMARY:

On September 9, 2015, the LVMWD Board awarded a one-year contract to Polydyne, Inc., with four one-year renewal options for the annual supply and delivery of polymer. Polymer is used to enhance the separation of liquids and solids during the dewatering process at the Rancho Las Virgenes Composting Facility. LVMWD exercised two of the one-year renewal options; however, the third renewal option was returned with a proposed 26.4% increase over last year's pricing due to increasing costs driving volatility in the chemical market.

To ensure the JPA received the best chemical pricing, the annual supply and delivery of polymer was sent back out to bid in February 2019. The competitive process resulted in an increase in pricing of 26.4% over last year, from $0.87 to $1.10 per pound, resulting in an annual cost of $162,607.50.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

The total estimated annual cost for polymer is $162,607.50, which constitutes an annual cost increase of $31,050 as compared to current pricing. Sufficient funds are available for polymer in the adopted Fiscal Year 2018-19 JPA Budget and will be proposed in future year budgets.

DISCUSSION:

In September 2015, a formal request for bids was issued for the annual supply and delivery of polymer. Three bids were received with Polydyne, Inc. submitting the lowest responsible bid. The General Manager issued an initial one-year purchase order, in the amount of $121,398.75 at $0.825 per pound, with four one-year renewal options.

The first renewal option was exercised with no increase. The second renewal option included a 5.33% increase to $.0869 per pound. During discussion regarding the third renewal option, Polydyne proposed an increase of 26.4% due to increased cost in raw materials and transportation. Given the large proposed increase in cost, staff decided to go back out to bid for polymer.

Over the last few months, the JPA has experienced a noticeable upward trend in its chemical costs. The chemical market has shown volatility due to fluctuating raw material costs, trade restrictions, transportation costs, and the impact of natural disasters.

The competitive bid process resulted in a 26.4% increase in current pricing for polymer, from $0.869 to $1.10 per pound.

The request for bids was posted on the District's website, advertised in *The Acorn,* and sent to six vendors who previously expressed interest in chemical bids. Three responses were received with bids submitted by two of the three firms.

Attached for reference is a copy of the bid from Polydyne, Inc.

Bid Summary:

Following is a summary of the bids received.

Bidder	Unit Price ($/pound)	Bid Total
Polydyne, Inc.	**$1.10**	**$ 162,607.50**
Solenis	$1.55	$ 229,128.75
Univar	No Bid	N/A

Prepared by: Gretchen Bullock, Purchasing Supervisor

ATTACHMENTS:

Polydyne, Inc. Bid

Las Virgenes Municipal Water District
Bid Form-Schedule
Polymer

The undersigned states and declares as follows: that the bidder has carefully read and examined the Bid Documents; Bid Notice; Instruction to Bidders; Bid Specifications including exhibits; Bid Form-Schedule; and that the bidder will comply with the bid terms and conditions. The undersigned agrees to supply and deliver materials in strict conformity with the specifications and instructions enclosed with the Invitation for Bids for the prices set forth below in this bid schedule.

It is understood that this bid shall remain open and shall not be withdrawn for a period of ninety (90) days from the date prescribed for the opening of the bid.

It is further agreed that the materials/services to be furnished under this bid shall be delivered at such time and in such quantities as called for by the Las Virgenes Municipal Water District. The District may extend the term of this contract by written notice to the supplier at the end of the contract period.

CONTRACT TERM as follows: initial contract term shall be good for one (1) year from date of contract execution. Four (4) additional one (1) year renewals may be negotiated at the District's option.

Materials to be furnished under this bid shall be delivered FOB Destination Freight Pre-Paid and Allowed to Las Virgenes Municipal Water District's Rancho Las Virgenes Composting Facility located at 3700 Las Virgenes Road, Calabasas, CA 91302 in the manner set forth in the Bid Scope and Specifications.

All bidders are required to submit the following information with their bid

- Completed Bid Form-Schedule (3 pages)
- Inflation Indicator
- Contact information for three public entities the bidder is currently supplying with Polymer
- Product information/technical data sheet
- Global Harmonized System-Safety Data Sheet (GHS-SDS)

The bidder's authorized officer identified below hereby declares that the representations in this bid are true and correct and of my own personal knowledge, and that these representations are made under penalty of perjury under the laws of the State of California, and that I am duly authorized to bind this bidder to this bid.

>>>continued on next page<<<

Bid Item No.	Quantity	Unit of Measure UOM	Description (Refer to Bid Scope & Specifications for detailed description)	Unit Price	Extended Price
1.	135,000	pounds	Polymer-Clarifloc WE-1295	$ 1.10/Lb.	$148,500.00
			Sales Tax	9.5%	$ 14,107.50
			Total Bid		$162,607.50

Written Total Bid Amount:

One Hundred Sixty-Two Thousand Six Hundred Seven Dollars and Fifty Cents

State Inflation Indicator *(refer to Instructions to Bidders Item 16 for details)*:

Renewals will be based on the Bureau of Labor Producer Price Index.

Notes or Exceptions:

Product will be manufactured at our Riceboro, GA facility.
Active content and viscosity of polymer can be found on the Product Data Sheet.

Addendum Acknowledgement (if applicable):

Addendum #1 ☑ Signed: Boyd Stanley, Vice-President

Addendum #2 ☐ Signed: _____

Addendum #3 ☐ Signed: _____

>>>continued on next page<<<

Bidder:

Polydyne Inc.	3/5/19
Corporate Name of Bidder	Date
By: _____ Authorized Signature	Title: Vice-President
Boyd Stanley	PolyBidDpt@snfhc.com
Print Name	E-mail
	912-880-2035
	Phone
1 Chemical Plant Road, Riceboro, GA 31323	
Address	Mobile