LAS VIRGENES MUNICIPAL WATER DISTRICT

4232 Las Virgenes Road, Calabasas, CA 91302

AGENDA
REGULAR MEETING
April 6, 2021, 9:00 AM

Public Participation for Meetings of Las Virgenes Municipal Water District Board of Directors in Response to COVID-19

On March 4, 2020, Governor Newsom proclaimed a State of Emergency in California as a result of the threat of COVID-19. On March 17, 2020, Governor Newsom issued Executive Order N-29-20 (superseding the Brown Act-related provisions of Executive Order N-25-20 issued on March 12, 2020), which allows a local legislative body to hold public meetings via teleconferencing and to make public meetings accessible telephonically or otherwise electronically to all members of the public seeking to observe and to address the local legislative body. Pursuant to Executive Order N-29-20, please be advised that members of the Las Virgenes Municipal Water District Board of Directors will participate in meetings via teleconferencing.

PUBLIC PARTICIPATION: Pursuant to Executive Order N-29-20 and given the current health concerns, this meeting is being conducted via Zoom Webinar and all attendees are muted by default. To join via computer, please use the following Zoom Webinar ID:

Webinar ID: https://us06web.zoom.us/j/84517396334
To join by telephone, please dial (669) 900-6833 or (346) 248-7799 and enter Webinar ID: 845 1739 6334

For members of the public wishing to address the Board during Public Comment or during a specific agenda item, please press "Raise Hand" if you are joining via computer, or press *9 if you are joining via phone.

Members of the public can also access and request to speak at meetings live on-line, with audio and limited video, at www.LVMWD.com/LiveStream. In addition, members of the public can submit written comments electronically for consideration at www.LVMWD.com/LiveStream. To ensure distribution to the members of the Las Virgenes Municipal Water District Board of Directors prior to consideration of the agenda, please submit comments 24 hours prior to the day of the meeting. Those comments, as well as any comments received during the meeting, will be distributed to the members of the Board of Directors and will be made part of the official public record of the meeting. Contact Josie Guzman, Executive Assistant/Clerk of the Board, at (818) 251-2123 or jguzman@lvmwd.com with any questions.

ACCESSIBILITY: If requested, the agenda and backup materials will be made available in appropriate alternative formats to persons with a disability, as required by Section 202 of the Americans with Disabilities Act of 1990 (42 U.S.C. Sec. 12132), and the federal rules and regulations adopted in implementation thereof. Any person who requires a disability-related modification or accommodation, in order to observe and/or offer public comment may request such reasonable modification, accommodation, aid, or service by contacting the Executive Assistant/Clerk of the Board by telephone at (818) 251-2123 or via email to jguzman@lvmwd.com no later than 9:00 AM on the day before the scheduled meeting.

Members of the public wishing to address the 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. A live webcast of the meeting will be available at LVMWD.com. Also, a web-based version of the speaker card is available for those who would like to submit written comments electronically or request to make public comment by telephone during the meeting.

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 District 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 District 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.

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 **List of Demands: April 6, 2021 (Pg. 5)**
Receive and File

B **Minutes: Regular Meeting of March 16, 2021 and Special Meeting of March 23, 2021 (Pg. 56)**
Approve

C **Water Supply Conditions Update (Pg. 69)**

Receive and File

D **Response to Coronavirus (COVID-19) Pandemic: Continuation of Emergency (Pg. 74)**

Approve the continuation of an emergency declaration for response to the coronavirus (COVID-19) pandemic.

E **Monthly Cash and Investment Report: January 2021 (Pg. 76)**

Receive and file the Monthly Cash and Investment Report for January 2021.

F **Supply and Delivery of Bulk Woodchip Compost Amendment: Change Order (Pg. 86)**

Authorize the General Manager to approve a change order with Recycled Wood Products, in the amount of $26,300, for the supply and delivery of bulk woodchip compost amendment.

G **Las Virgenes Reservoir Watershed Sanitary Survey and Raw Water Quality Evaluation: Receive and File (Pg. 88)**

Receive and file the 2020 Las Virgenes Reservoir Watershed Sanitary Survey and Raw Water Quality Evaluation.

5 **ILLUSTRATIVE AND/OR VERBAL PRESENTATION AGENDA ITEMS**

A **Legislative and Regulatory Updates**

6 **TREASURER**

7 **FINANCE AND ADMINISTRATION**

A **Claim by Shad Rezai (Pg. 166)**

Deny the claim by Shad Rezai.

8 **ENGINEERING AND EXTERNAL AFFAIRS**

A **Installation of Flow Restriction Devices and Discontinuation of Water Service on Specified Delinquent Accounts (Pg. 174)**

Authorize the installation of flow restriction devices on delinquent accounts for customers with water usage at 150% or more of their water budgets during at least two of the past 12 months who refuse to pay the past due amount on their account, agree to a flexible payment plan or adhere to the terms of an existing payment plan; and authorize the discontinuation of water service for delinquent accounts for recycled water or irrigation customers who refuse to pay the past due balance on their account, agree to a flexible payment plan or adhere to the terms of an existing payment plan.

B **Standard Plans and Specification Update: Award (Pg. 176)**

Accept the proposal from MKN & Associates, Inc., and authorize the General Manager to execute a professional services agreement, in the amount of $107,958, to update the District's standard plans and specifications.

C **Mullholland Highway Bridge over Triunfo Creek Water Main Replacement Project: Change Order No. 1 (Pg. 239)**

Authorize the General Manager to approve Change Order No. 1 with Unified Field Services Corporation, in the amount of $30,092.65, for the Mulholland Highway over Triunfo Creek Water Main Replacement Project.

D **Woolsey Fire Facility Repair Project No. 2, Westlake Filtration Plant: Construction Award (Pg. 250)**

Award a construction contract to SBS Corporation, in the amount of $1,211,702.61, and reject all remaining bids upon receipt of the duly executed contract documents for the Woolsey Fire Facilities Repair Project No. 2, Westlake Filtration Plant.

9 **INFORMATION ITEMS**

A **Reconciliation of Capacity and Developer Fee Deposits (Pg. 253)**

B **GFOA Distinguished Budget Presentation Award (Pg. 256)**

10 **NON-ACTION ITEMS**

A **Organization Reports**

B **Director's Reports on Outside Meetings**

C **General Manager Reports**

(1) General Business

(2) Follow-Up Items

D **Director's Comments**

11 **FUTURE AGENDA ITEMS**

12 **PUBLIC COMMENTS**

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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 MUNICIPAL WATER DISTRICT

To: LYNDA LO-HILL, TREASURER

Payments for Board Meeting of : April 6, 2021

Deputy Treasurer has verified that all checks and wire transfers were issued in conformance with LVMWD Administrative Code Section 2-6.203.

Wells Fargo Bank A/C No. 4806-994448

Checks Nos. 100742 through 100915 were issued less voids/stop payments in the total amount of		$	**3,070,183.93**

Payments through wire transfers as follows:

3/30/2021	Metropolitian Water District	Payment for water deliveries in the month of January 2021	$	1,442,266.70
		Sub-Total Wires	**$**	**1,442,266.70**
		Total Payments	**$**	**4,512,450.63**

(Reference is hereby to these demands on file in the District's Check Register and by this reference the same is incorporated herein and made a part hereof.)

CHECK LISTING FOR BOARD MEETING
04/06/21

Company Name	Company No.	Check No. 100742 thru 100795 03/16/21 Amount	Check No. 100796 thru 100869 03/23/21 Amount	Check No. 100870 thru 100915 03/30/21 Amount	Total
Potable Water Operations	101	9,783.87	41,373.24	111,742.09	162,899.20
Recycled Water Operations	102			1,055.99	1,055.99
Sanitation Operations	130	5,352.39	83,810.00	70,820.60	159,982.99
Potable Water Construction	201	8,747.00	617.50	34,759.50	44,124.00
Water Conservation Construction	203				-
Sani- Construction	230				-
Potable Water Replacement	301	294,576.37	1,073,275.23	1,842.76	1,369,694.36
Reclaimed Water Replace	302				-
Sanitation Replacement	330		7,262.50	10,675.00	17,937.50
Internal Service	701	47,532.75	111,408.04	80,120.92	239,061.71
JPA Operations	751	75,048.78	138,391.52	304,734.45	518,174.75
JPA Construction	752				-
JPA Replacement	754	365,054.23	193,944.54		558,998.77
	Total Printed	**806,095.39**	**1,650,082.57**	**615,751.31**	**3,071,929.27**
Voided Checks/payment stopped:					
Check #86294	701	(1,745.34)			(1,745.34)
	Total Voids	**(1,745.34)**			**(1,745.34)**
	Net Total	**804,350.05**	**1,650,082.57**	**615,751.31**	**3,070,183.93**

MWD

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA
700 North Alameda Street
Los Angeles, CA, 90012-2944

INVOICE

Billed To:

Las Virgenes Municipal Water District

Service Address

4232 Las Virgenes Road
Calabasas, CA 91302

January 2021	Page No. 1 of 1
Mailed: 02/10/2021	**Due Date: 03/30/2021**
Invoice Number: 10325	Revision: 0

NOTICE

The MWD Administrative Code Section 4507 and 4508 require that payment must be made in "**Good Funds**" by the due date or the payment will be considered delinquent and an additional charge shall be assessed.

DELIVERIES	Volume (AF)
Total Water Treated Delivered	1,164.3 ✓
Total Water Untreated Delivered	

SALES	Type	Volume (AF)	Rate ($ /AF)	Total ($)
Full Service	Tier 1 Supply Rate	1,164.3	$243.00	$282,924.90
	System Access Rate	1,164.3	$373.00	$434,283.90
	System Power Rate	1,164.3	$161.00	$187,452.30
	Treatment Surcharge	1,164.3	$327.00	$380,726.10
	SUBTOTAL			$1,285,387.20

OTHER CHARGES AND CREDITS	Rate ($ /AF)	
Capacity Charge(Payment Schedule: M)		$40,927.50
Readiness To Serve Charge(Payment Schedule: M)		$115,952.00
SUBTOTAL		$156,879.50

ADDITIONAL INFORMATION	Volume (AF)	Tier1 %	Peak Day	Flow (CFS)
Capacity Charge			8/9/2018	45.9
Purchase Order Firm Delivery To Date (Jan 2015 to Dec 2024)	118,266.4			
Tier 1 Annual Limit (For Current Calendar Year)	24,359.0			
Tier 1 YTD Deliveries (For Current Calendar Year)	1,164.3	4.8		
Tier 1 Current Month Deliveries	1,164.3			
Purchase Order Commitment (Jan 2015 to Dec 2024)	162,390.0			

	Volume AF	Amount Now Due
INVOICE TOTAL	**1,164.3**	**$1,442,266.70**

Approved for Payment:

John Zhao 2/11/21
John Zhao Date

Approved for Payment
David W. Pedersen, P.E. 02/21/21

PAID
Wired 3/30/21 JC

Las Virgenes Municipal Water District

A/P CASH DISBURSEMENTS JOURNAL

CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
100742	03/16/2021	PRTD	2317	ACORN NEWSPAPER	164686	2766	02/25/2021		031621	815.00
	Invoice: 164686						AD-COMPOST 2/25/21			
					815.00 751840 660400		Public Education Programs			
							CHECK	100742 TOTAL:		815.00
100743	03/16/2021	PRTD	8680	ADS, LLC	22085.22-1220	2781	12/31/2020		031621	2,980.00
	Invoice: 22085.22-1220						DEC'20-FLOW MONITORING			
					745.00 130100 551500		Outside Services			
					2,235.00 751800 551500		Outside Services			
					22085.22-0121	2782	01/23/2021		031621	3,060.00
	Invoice: 22085.22-0121						JAN'21-FLOW MONITORING			
					765.00 130100 551500		Outside Services			
					2,295.00 751800 551500		Outside Services			
					22085.22-0221	2833	02/20/2021		031621	3,060.00
	Invoice: 22085.22-0221						FEB'21-FLOW MONITORING			
					765.00 130100 551500		Outside Services			
					2,295.00 751800 551500		Outside Services			
							CHECK	100743 TOTAL:		9,100.00
100744	03/16/2021	PRTD	21660	ADVANCED INDUSTRIAL	10671/PMT#4	2784	02/28/2021		031621	243,532.50
	Invoice: 10671/PMT#4						PMT#4-SDL PEAK TNK REHAB P/E 2/28/21			
					243,532.50					
					E CIP10671 .NON-LABOR . .					
					301440 900000		Capital Asset Expenses			
							CHECK	100744 TOTAL:		243,532.50
100745	03/16/2021	PRTD	18652	ADWESTEAST	21-5161	2746	02/19/2021	22100045	031621	866.85
	Invoice: 21-5161						30 PADFOLIOS			
					866.85 701410 620000		Forms, Supplies And Postage			
							CHECK	100745 TOTAL:		866.85
100746	03/16/2021	PRTD	3077	AIRGAS USA, LLC	9110149673	2823	02/18/2021	22100066	031621	1,221.25
	Invoice: 9110149673						GLOVES			
					1,221.25 701 132000		Storeroom & Truck Inventory			
							CHECK	100746 TOTAL:		1,221.25
100747	03/16/2021	PRTD	16224	ASBURY ENVIRONMENTAL	I500-00680981	2804	02/24/2021		031621	160.00
	Invoice: I500-00680981						WASTE OIL DISPOSAL AT TAPIA			
					160.00 751810 551500		Outside Services			

A/P CASH DISBURSEMENTS JOURNAL

CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
					I500-00681156	2805	02/24/2021		031621	160.00
				Invoice: I500-00681156		WASTE OIL DISPOSAL AT HQ				
					160.00 701321	551500 Outside Services				
					I500-00680580	2806	02/23/2021		031621	565.52
				Invoice: I500-00680580		SERVICE HQ OIL TRAPS				
					565.52 701321	551500 Outside Services				
								CHECK	100747 TOTAL:	885.52
100748	03/16/2021	PRTD	20695	AT&T A/C -0051	0051-030521-01	2930	03/05/2021		031621	107.08
				Invoice: 0051-030521-01		SRV 3/5/21~4/4/21@WLK FLT P/S				
					107.08 101600	540520 Telephone				
					0051-030521-02	2931	03/05/2021		031621	51.58
				Invoice: 0051-030521-02		SRV 3/5/21~4/4/21@LIFT STA#1				
					51.58 130100	540520 Telephone				
					0051-030521-03	2932	03/05/2021		031621	65.94
				Invoice: 0051-030521-03		SRV 3/5/21~4/4/21@LIFT STA#2				
					65.94 130100	540520 Telephone				
					0051-030521-04	2933	03/05/2021		031621	773.64
				Invoice: 0051-030521-04		SRV 3/5/21~4/4/21@WSTWTR TRMT				
					773.64 751810	540520 Telephone				
					0051-030531-05	2934	03/05/2021		031621	692.45
				Invoice: 0051-030531-05		SRV 3/5/21~4/4/21@BLD#2 FIRE PNL				
					692.45 701002	540520 Telephone				
					0051-030531-06	2935	03/05/2021		031621	54.41
				Invoice: 0051-030531-06		SRV 3/5/21~4/4/21@BLDG MNT-MISC				
					54.41 701001	540520 Telephone				
					0051-030531-07	2936	03/05/2021		031621	51.54
				Invoice: 0051-030531-07		SRV 3/5/21~4/4/21@RANCH FIRE PNL				
					51.54 751820	540520 Telephone				
					0051-030531-08	2937	03/05/2021		031621	51.54
				Invoice: 0051-030531-08		SRV 3/5/21~4/4/21@LV-2 P/S				
					51.54 101107	540520 Telephone				
					0051-030531-09	2938	03/05/2021		031621	51.54
				Invoice: 0051-030531-09		SRV 3/5/21~4/4/21@LV2 PS&CAL FLW				
					51.54 101107	540520 Telephone				
					0051-030531-10	2939	03/05/2021		031621	51.54
				Invoice: 0051-030531-10		SRV 3/5/21~4/4/21@STUNT RD P/S				
					51.54 101104	540520 Telephone				
					0051-030531-11	2940	03/05/2021		031621	51.54

A/P CASH DISBURSEMENTS JOURNAL

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
				Invoice: 0051-030531-11	0051-030531-11	2941	03/05/2021		031621	51.54
					SRV 3/5/21~4/4/21@JED SMITH P/S					
					51.54 101108 540520 Telephone					
				Invoice: 0051-030531-12	0051-030531-12	2941	03/05/2021		031621	51.54
					SRV 3/5/21~4/4/21@MTN GATE P/S					
					51.54 101117 540520 Telephone					
				Invoice: 0051-030531-13	0051-030531-13	2942	03/05/2021		031621	215.69
					SRV 3/5/21~4/4/21@CORNELL P/S					
					215.69 101110 540520 Telephone					
				Invoice: 0051-030531-14	0051-030531-14	2943	03/05/2021		031621	51.54
					SRV 3/5/21~4/4/21@RANCHVIEW P/S					
					51.54 101121 540520 Telephone					
				Invoice: 0051-030531-15	0051-030531-15	2944	03/05/2021		031621	25.77
					SRV 3/5/21~4/4/21@LOWR OAKS P/S					
					25.77 101123 540520 Telephone					
				Invoice: 0051-030531-16	0051-030531-16	2945	03/05/2021		031621	25.77
					SRV 3/5/21~4/4/21@UPPR OAKS P/S					
					25.77 101124 540520 Telephone					
								CHECK	100748 TOTAL:	2,373.11
100749	03/16/2021	PRTD	9631	AT&T LONG DISTANCE	806368136/030421	2882	03/04/2021		031621	12.77
				Invoice: 806368136/030421	LONG DIST 2/1/21-3/1/21					
					2.99 701002 540520 Telephone					
					9.78 751810 540520 Telephone					
								CHECK	100749 TOTAL:	12.77
100750	03/16/2021	PRTD	21056	BATTERY SYSTEMS INC	6436783	2794	02/25/2021		031621	302.42
				Invoice: 6436783	BATTERIES-#870 & 722					
					302.42 701325 551000 Supplies/Material					
								CHECK	100750 TOTAL:	302.42
100751	03/16/2021	PRTD	18080	BOOT BARN INC.	INV00094403	2773	02/26/2021		031621	880.95
				Invoice: INV00094403	SAFETY FOOTWEAR-V.B,R.V,T.G,S.V					
					225.00 701321 623000 Safety Equip					
					440.46 701222 623000 Safety Equipment					
					215.49 701326 623000 Safety Equip					
								CHECK	100751 TOTAL:	880.95

A/P CASH DISBURSEMENTS JOURNAL

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
100752	03/16/2021	PRTD	30008	CAL SIERRA CONSTRUCT	10665/PMT#4	2785	02/28/2021		031621	174,040.00
	Invoice: 10665/PMT#4						PMT#4-CORDILLER TNK REHAB PE 2/28/21			
					174,040.00 E CIP10665 .NON-LABOR . .					
					754440 900000 Capital Asset Expenses					
							CHECK	100752 TOTAL:		174,040.00
100753	03/16/2021	PRTD	6777	JOHN DEERE FINANCIAL	675027	2878	02/17/2021		031621	3,105.74
	Invoice: 675027						TRACTOR REPAIR			
					3,105.74 751810 678800 District Sprayfield					
							CHECK	100753 TOTAL:		3,105.74
100754	03/16/2021	PRTD	2964	CALIFORNIA DEPT OF T	97-817885/FEB'21	2929	02/28/2021		031621	3,032.00
	Invoice: 97-817885/FEB'21						SALES/USE TAXES - FEB 2021			
					2,949.77 751 206000 Use Tax Liability					
					82.35 701 206000 Use Tax Liability					
					-.12 751 206000 Use Tax Liability					
							CHECK	100754 TOTAL:		3,032.00
100755	03/16/2021	PRTD	2547	COUNTY SANITATION DI	48892/022821	2898	02/28/2021		031621	1,210.68
	Invoice: 48892/022821						TAPIA GRIT HAULING FEB'21			
					1,210.68 751810 541500 Outside Services					
							CHECK	100755 TOTAL:		1,210.68
100756	03/16/2021	PRTD	16364	D&H WATER SYSTEMS IN	I2021-0200	2748	02/23/2021		031621	2,408.21
	Invoice: I2021-0200						SAMPLE & REAGENT TUBES			
					2,408.21 751810 541000 Supplies/Material					
							CHECK	100756 TOTAL:		2,408.21
100757	03/16/2021	PRTD	19033	DENOVO VENTURES, LLC	71514	2809	03/01/2021		031621	4,938.00
	Invoice: 71514						APR'21 DIST RECOVERY			
					4,938.00 701420 621500 Equip Maintenance					
							CHECK	100757 TOTAL:		4,938.00
100758	03/16/2021	PRTD	20685	DOCUMENT SYSTEMS INC	156602	2826	02/22/2021		031621	79.45
	Invoice: 156602						1/24-2/23 CANON MAINT			
					79.45 701420 621500 Equip Maintenance					

A/P CASH DISBURSEMENTS JOURNAL

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
							CHECK	100758 TOTAL:		79.45
100759	03/16/2021	PRTD	2638	ENVIRONMENTAL RESOUR	962211	2749	02/22/2021		031621	155.07
	Invoice: 962211					MINERALS QC				
					155.07 701341	551000	Supplies/Material			
							CHECK	100759 TOTAL:		155.07
100760	03/16/2021	PRTD	18815	FASTENAL COMPANY	CAGOV3681	2814	02/26/2021		031621	213.92
	Invoice: CAGOV3681					SANDING DISCS/ARBORS FOR TAPIA				
					213.92 751810	551000	Supplies/Material			
							CHECK	100760 TOTAL:		213.92
100761	03/16/2021	PRTD	2658	FEDERAL EXPRESS CORP	7-304-53455	2920	03/12/2021		031621	101.93
	Invoice: 7-304-53455					PCKG DELIVERED 3/3/21				
					101.93 701341	551500	Outside Services			
							CHECK	100761 TOTAL:		101.93
100762	03/16/2021	PRTD	2655	FERGUSON ENTERPRISES	0747670	2834	02/23/2021	22100049	031621	9,134.48
	Invoice: 0747670					COMPOUND METERS				
					9,134.48 701224	551000	Supplies/Material			
							CHECK	100762 TOTAL:		9,134.48
100763	03/16/2021	PRTD	21055	FIRESTONE COMPLETE A	196974	2791	02/09/2021		031621	21.99
	Invoice: 196974					TPMS RESET-VEH#916				
					21.99 701325	551500	Outside Services			
					196994	2792	02/16/2021		031621	352.37
	Invoice: 196994					REPLACE SENSOR-VEH #872				
					352.37 701325	551500	Outside Services			
					195140	2844	10/19/2020		031621	839.44
	Invoice: 195140					(4) TIRES/ALIGN-#877				
					839.44 701	200500	Accrued Accounts Payable			
					195275	2845	10/15/2020		031621	905.90
	Invoice: 195275					(4) TIRES/ALIGN-#895				
					905.90 701	200500	Accrued Accounts Payable			
							CHECK	100763 TOTAL:		2,119.70

A/P CASH DISBURSEMENTS JOURNAL

CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
100764	03/16/2021	PRTD	19397	FIRST CHOICE SERVICE	400942	2828	02/24/2021		031621	53.00
	Invoice: 400942				2/21 COFFEE SRV-HQ					
					53.00 701410 620000 Forms, Supplies And Postage					
					400943	2829	02/24/2021		031621	60.53
	Invoice: 400943				2/21 COFFEE SRV-OPS					
					60.53 701410 620000 Forms, Supplies And Postage					
					400944	2830	02/24/2021		031621	57.16
	Invoice: 400944				2/21 COFFEE SRV-RLV					
					57.16 701410 620000 Forms, Supplies And Postage					
					400945	2831	02/24/2021		031621	73.63
	Invoice: 400945				2/21 COFFEE SRV-TAPIA					
					73.63 701410 620000 Forms, Supplies And Postage					
							CHECK	100764 TOTAL:		244.32
100765	03/16/2021	PRTD	6770	G.I. INDUSTRIES	2534043-0283-3	2786	03/01/2021		031621	530.35
	Invoice: 2534043-0283-3				2/16-2/28 TAPIA RAGS DISP					
					530.35 751810 541500 Outside Services					
					2534007-0283-8	2811	03/01/2021		031621	680.40
	Invoice: 2534007-0283-8				3/21 DISP-TAPIA GRIT					
					680.40 751810 541500 Outside Services					
					2534006-0283-0	2812	03/01/2021		031621	756.34
	Invoice: 2534006-0283-0				3/21 DISP-TAPIA					
					756.34 751810 551800 Building Maintenance					
					2499533-0283-6	2813	03/01/2021		031621	241.13
	Invoice: 2499533-0283-6				3/21 DISP-WLK					
					241.13 101600 551800 Building Maintenance					
							CHECK	100765 TOTAL:		2,208.22
100766	03/16/2021	PRTD	18679	GSE CONSTRUCTION, IN	10680/PMT#9	2818	02/26/2021		031621	36,100.00
	Invoice: 10680/PMT#9				PMT#9-DIGSTR#2 REHAB PE 022621					
					36,100.00 E CIP10680 .NON-LABOR . .					
					754440 900000 Capital Asset Expenses					
							CHECK	100766 TOTAL:		36,100.00
100767	03/16/2021	PRTD	9008	INTEGRA CHEMICAL COM	0136501-IN	2808	02/23/2021	22100071	031621	2,737.50
	Invoice: 0136501-IN				CHLORINE TABLETS					
					2,737.50 701 132000 Storeroom & Truck Inventory					

A/P CASH DISBURSEMENTS JOURNAL

CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
								CHECK	100767 TOTAL:	2,737.50
100768	03/16/2021	PRTD	20856	INTERNATIONAL PRINTI	22532	2835	02/26/2021		031621	175.20
	Invoice: 22532						CONTRACT COPIES-RLV CENTRATE TRTMNT			
					175.20 701410 620000		Forms, Supplies And Postage			
								CHECK	100768 TOTAL:	175.20
100769	03/16/2021	PRTD	21609	IWATER, INC.	9022	2753	02/23/2021		031621	960.00
	Invoice: 9022						IWATER TRAINING			
					960.00 701331 683000		Training & Professional Devel			
								CHECK	100769 TOTAL:	960.00
100770	03/16/2021	PRTD	21201	JAMES C. CUSHMAN, IN	10720/PMT#3	2779	01/26/2021		031621	154,831.77
	Invoice: 10720/PMT#3						PMT#3-TAPIA HYPCHLRT TNK/PIPG PE 022621			
					154,831.77					
					E CIP10720 .NON-LABOR . .					
					754440 900000		Capital Asset Expenses			
								CHECK	100770 TOTAL:	154,831.77
100771	03/16/2021	PRTD	2745	JOEY M'S UPHOLSTERER	1422A	2765	02/25/2021		031621	277.20
	Invoice: 1422A						RECOVER BUCKET SEAT #909			
					277.20 701325 551500		Outside Services			
								CHECK	100771 TOTAL:	277.20
100772	03/16/2021	PRTD	17447	KONECRANES INC.	154411470	2780	12/28/2020		031621	2,722.00
	Invoice: 154411470						LOAD TEST-MOBILE CRANE #945			
					2,722.00 701325 551500		Outside Services			
					154432270	2832	02/09/2021		031621	3,016.67
	Invoice: 154432270						QTRLY CRANE/HOISE INSPCTN			
					706.03 701325 551500		Outside Services			
					898.59 751820 551500		Outside Services			
					962.76 751810 551500		Outside Services			
					64.18 101600 551500		Outside Services			
					64.18 130100 551500		Outside Services			
					320.93 101100 551500		Outside Services			
								CHECK	100772 TOTAL:	5,738.67
100773	03/16/2021	PRTD	3352	LAS VIRGENES MUNICIP	0909/030321	2767	03/03/2021		031621	315.63
	Invoice: 0909/030321						WLK FLT 1/26/21-2/25/21			
					315.63 101600 540540		Water			

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CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
					0907/030321	2768	03/03/2021		031621	304.80
				Invoice: 0907/030321		WLK FLT 1/26/21-2/25/21				
					304.80 101600 540540	Water				
					9793/030321	2770	03/03/2021		031621	82.46
				Invoice: 9793/030321		RLV SOLAR 1/29/21-2/26/21				
					82.46					
					E CIP10688 .NON-LABOR . .					
					754440 900000	Capital Asset Expenses				
					2646/030321	2867	03/03/2021		031621	248.22
				Invoice: 2646/030321		BD#8/RECL 1/27/21-2/24/21				
					248.22 701001 540540	Water				
					2652/030321	2868	03/03/2021		031621	192.60
				Invoice: 2652/030321		BD#8/RW 1/27/21-2/24/21				
					192.60 701001 540540	Water				
					2645/030321	2869	03/03/2021		031621	203.93
				Invoice: 2645/030321		RWPS 1/27/21-2/24/21				
					203.93 701001 540540	Water				
					2655/030321	2870	03/03/2021		031621	241.90
				Invoice: 2655/030321		BD#7/RW 1/27/21-2/24/21				
					241.90 701002 540540	Water				
					0558/030321	2871	03/03/2021		031621	33.72
				Invoice: 0558/030321		IND HILLS 1/28/21-2/25/21				
					33.72 751223 540540	Water				
					0331/030321	2873	03/03/2021		031621	33.72
				Invoice: 0331/030321		MORRSN 1/28/21-2/25/21				
					33.72 751125 540540	Water				
							CHECK	100773 TOTAL:		1,656.98
100774	03/16/2021	PRTD	21463	LOREN BRUGGER WELDIN	05678	2774	03/04/2021		031621	625.00
				Invoice: 05678		WELDING SRV-F/H 25100 CALABASAS RD				
					625.00 101700 551500	Outside Services				
							CHECK	100774 TOTAL:		625.00
100775	03/16/2021	PRTD	14322	MILES CHEMICAL COMPA	618366	2744	02/24/2021		031621	993.85
				Invoice: 618366		SULFURIC ACID/HYPOCHLORITE				
					993.85 751750 541000	Supplies				
							CHECK	100775 TOTAL:		993.85

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CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
100776	03/16/2021	PRTD	2839	MOTION INDUSTRIES, I	CA22-702792	2793	02/18/2021		031621	1,018.40
Invoice: CA22-702792					ROLLER BEARING UNIT					
					1,018.40 701325 551000 Supplies/Material					
							CHECK	100776 TOTAL:		1,018.40
100777	03/16/2021	PRTD	21071	VIKTOR NIKOLAJEVS	1123900000138644576	2815	03/04/2021		031621	1,999.00
Invoice: 1123900000138644576					REIMB-EC COUNCIL TRAING-1 YR					
					1,999.00 701420 683000 Training & Professional Devel					
							CHECK	100777 TOTAL:		1,999.00
100778	03/16/2021	PRTD	15469	OLYMPIC PAINTING CO.	15032	2771	02/23/2021		031621	900.00
Invoice: 15032					PAINT RLV REACTOR BLDG OFC					
					900.00 751820 551500 Outside Services					
							CHECK	100778 TOTAL:		900.00
100779	03/16/2021	PRTD	21659	ONTARIO REFRIGERATIO	GW19158	2894	02/28/2021		031621	830.32
Invoice: GW19158					RECHARGE LIFT STATION 1 A/C SYS					
					830.32 130100 551500 Outside Services					
							CHECK	100779 TOTAL:		830.32
100780	03/16/2021	PRTD	3110	GLEN PETERSON	27	2820	03/01/2021		031621	2,200.00
Invoice: 27					MWD REP FEE-FEB'21					
					2,200.00 701112 651600 Other Professional Serv					
							CHECK	100780 TOTAL:		2,200.00
100781	03/16/2021	PRTD	20412	SHRED-IT USA LLC	8181504683	2821	02/22/2021		031621	201.87
Invoice: 8181504683					JAN'21 DOC SHREDDING SRV					
					201.87 701121 623500 Records Management					
							CHECK	100781 TOTAL:		201.87
100782	03/16/2021	PRTD	2949	SNAP ON TOOLS	02242180615	2772	02/24/2021		031621	82.67
Invoice: 02242180615					ARTICULATING DETAIL LIGHT					
					82.67 701325 551000 Supplies/Material					
							CHECK	100782 TOTAL:		82.67

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CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
100783	03/16/2021	PRTD	2956	SOUTH COAST AIR QUAL	3774509	2775	02/16/2021		031621	136.40
	Invoice: 3774509					ID#63250 L/S#1 EMSN FY20-21				
					136.40 130100	542000 Permits and Fees				
					3773267	2776	02/16/2021		031621	1,928.97
	Invoice: 3773267					ICE & CRBN DRM L/S#1 ID63250				
					1,928.97 130100	542000 Permits and Fees				
							CHECK	100783 TOTAL:		2,065.37
100784	03/16/2021	PRTD	2957	SOUTHERN CALIFORNIA	4500-42/031121	2866	03/11/2021		031621	33,234.83
	Invoice: 4500-42/031121					RW P/S 2/1~3/3/21 NEM 161065KH				
					16,617.41 751127	540510 Energy				
					16,617.42 751128	540510 Energy				
							CHECK	100784 TOTAL:		33,234.83
100785	03/16/2021	PRTD	2958	SOUTHERN CALIFORNIA	9400/030121	2842	03/05/2021		031621	38.87
	Invoice: 9400/030121					WLK P/S 2/1-3/1/21 17 THERMS				
					38.87 101600	540530 Gas				
					1200/030821	2843	03/08/2021		031621	16.27
	Invoice: 1200/030821					JBR P/S 2/2-3/4/21 1 THERM				
					16.27 101109	540530 Gas				
					4200/031021	2883	03/10/2021		031621	341.66
	Invoice: 4200/031021					RANCHO 2/4-3/8/21 210 THERMS				
					341.66 751820	540530 Gas				
					0400/031021	2884	03/10/2021		031621	17.26
	Invoice: 0400/031021					CORNELL 2/4-3/8/21 1 THERM				
					17.26 101110	540530 Gas				
					4000/031021	2885	03/10/2021		031621	1,846.90
	Invoice: 4000/031021					TAPIA 2/4-3/8/21 1,663 THERMS				
					1,846.90 751810	540530 Gas				
					3600/031021	2886	03/10/2021		031621	3,188.32
	Invoice: 3600/031021					HQ & OPS 2/4-3/8/21 2,959 THERMS				
					2,391.24 701001	540530 Gas				
					797.08 701002	540530 Gas				
							CHECK	100785 TOTAL:		5,449.28
100786	03/16/2021	PRTD	8645	SOUTHERN CALIFORNIA	020116-21	2747	02/25/2021		031621	240.36
	Invoice: 020116-21					EE ANNIVERSARY GIFT				
					240.36 701430	681500 Empl Recognition Functions				

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CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
							CHECK	100786 TOTAL:		240.36
100787	03/16/2021	PRTD	14479	STEPHEN'S VIDEO PROD	2-25-21	2816	02/25/2021		031621	1,000.00
	Invoice: 2-25-21					VIDEO SRV-JPA MEETINGS-FEB'21				
					1,000.00 751840	651600 Other Professional Serv				
					2-24-21	2817	02/24/2021		031621	1,400.00
	Invoice: 2-24-21					VIDEO SRV-LV MEETINGS-FEB'21				
					1,400.00 701112	651600 Other Professional Serv				
							CHECK	100787 TOTAL:		2,400.00
100788	03/16/2021	PRTD	20950	TERRAVERDE ENERGY LL	880	2819	02/28/2021		031621	21,468.75
	Invoice: 880					P/E 2/28 BESS FEASIBILITY STUDY				
					7,156.25 101100	541500 Outside Services				
					14,312.50 751840	651600 Other Professional Serv				
							CHECK	100788 TOTAL:		21,468.75
100789	03/16/2021	PRTD	20971	THOUSAND OAKS PLUMBI	39461191	2810	02/22/2021		031621	2,747.20
	Invoice: 39461191					SUPPLY & INSTL REBULD SHWR FAUCET/TOILETS				
					2,747.20 701002	551500 Outside Services				
							CHECK	100789 TOTAL:		2,747.20
100790	03/16/2021	PRTD	18651	TOYOTA-LIFT OF LOS A	PSI-0230152	2758	02/25/2021		031621	395.50
	Invoice: PSI-0230152					SERVICE UNIT 305				
					395.50 701325	551500 Outside Services				
					PSI-0230106	2759	02/25/2021		031621	1,348.16
	Invoice: PSI-0230106					SERVICE UNIT 723				
					1,348.16 701325	551500 Outside Services				
					PSI-0229527	2762	02/22/2021		031621	150.75
	Invoice: PSI-0229527					SERVICE UNIT 306				
					150.75 701325	551500 Outside Services				
					PSI-0229511	2763	02/22/2021		031621	84.00
	Invoice: PSI-0229511					SERVICE UNIT 708				
					84.00 701325	551500 Outside Services				
					PSI-0229526	2764	02/22/2021		031621	150.75
	Invoice: PSI-0229526					SERVICE UNIT 304				
					150.75 701325	551500 Outside Services				
							CHECK	100790 TOTAL:		2,129.16

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CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
100791	03/16/2021	PRTD	30055	U.S. BANK NATIONAL A	RTN#1-10556	2799	02/05/2021		031621	8,747.00
	Invoice: RTN#1-10556						RTN#1-SULLY MILLER A/C 267520000			
					8,747.00 201 201000		Contract Retainage			
							CHECK	100791 TOTAL:		8,747.00
100792	03/16/2021	PRTD	21626	UNIFIED FIELD SERVIC	10700/PMT#2	2783	02/28/2021		031621	51,043.87
	Invoice: 10700/PMT#2						PMT2-T CPK BRDG/MH HWY MW 2/28			
					51,043.87 E CIP10700 .NON-LABOR . .					
					301440 900000		Capital Asset Expenses			
							CHECK	100792 TOTAL:		51,043.87
100793	03/16/2021	PRTD	21295	VERTICAL ELEVATOR SO	8988	2795	03/01/2021		031621	290.00
	Invoice: 8988						FEB'21 ELEVATOR SERVICE			
					145.00 701001 551500		Outside Services			
					145.00 701002 551500		Outside Services			
							CHECK	100793 TOTAL:		290.00
100794	03/16/2021	PRTD	2436	VINCE BARNES AUTOMOT	024926	2777	11/23/2020		031621	135.00
	Invoice: 024926						CLEAN NEST FROM MOTOR-#836			
					135.00 701325 551500		Outside Services			
					025037	2787	02/12/2021		031621	1,402.78
	Invoice: 025037						REPLACE BRAKES & ROTORS-#894			
					1,402.78 701325 551500		Outside Services			
					025044	2788	02/17/2021		031621	72.87
	Invoice: 025044						OIL & FILTER-#932			
					72.87 701325 551500		Outside Services			
					025045	2789	02/17/2021		031621	97.62
	Invoice: 025045						OIL & FILTER-#899			
					97.62 701325 551500		Outside Services			
					025050	2790	02/19/2021		031621	97.62
	Invoice: 025050						OIL & FILTERS-#919			
					97.62 701325 551500		Outside Services			
							CHECK	100794 TOTAL:		1,805.89
100795	03/16/2021	PRTD	8510	WORK BOOT WAREHOUSE	1-1-1002208	2807	02/19/2021		031621	163.16
	Invoice: 1-1-1002208						SAFETY FOOTWEAR-J. MEREDITH			
					163.16 701321 623000		Safety Equip			

		CHECK 100795 TOTAL:	163.16
NUMBER OF CHECKS	54	*** CASH ACCOUNT TOTAL ***	806,095.39

	COUNT	AMOUNT
TOTAL PRINTED CHECKS	54	806,095.39

*** GRAND TOTAL *** 806,095.39

Las Virgenes Municipal Water District

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CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
						INVOICE DTL DESC				
100796	03/23/2021	PRTD	8560	ADVANCED UTILITY SYS	XT00170190	2872	02/28/2021		032321	2,730.00
	Invoice: XT00170190					INTERFACE IMPORTS AMI				
					2,730.00 E CIP10660 .NON-LABOR . .					
					301440 900000 Capital Asset Expenses					
							CHECK	100796 TOTAL:		2,730.00
100797	03/23/2021	PRTD	3077	AIRGAS USA, LLC	9978142966	2891	02/28/2021		032321	247.50
	Invoice: 9978142966					FEB'21 CYLINDER RENT				
					247.50 701002 551500 Outside Services					
							CHECK	100797 TOTAL:		247.50
100798	03/23/2021	PRTD	2869	AT&T	0124/030721	2987	03/07/2021		032321	33.34
	Invoice: 0124/030721					SVCS 3/7-4/6/21				
					33.34 101207 540520 Telephone					
	Invoice: 0123/030721				0123/030721	2988	03/07/2021		032321	67.70
						SVCS 3/7-4/6/21				
					67.70 101300 540520 Telephone					
	Invoice: 2045/030721				2045/030721	2989	03/07/2021		032321	202.66
						SVCS 3/7-4/6/21				
					202.66 101100 540520 Telephone					
	Invoice: 2043/030721				2043/030721	2990	03/07/2021		032321	409.41
						SVCS 3/7-4/6/21				
					409.41 101100 540520 Telephone					
							CHECK	100798 TOTAL:		713.11
100799	03/23/2021	PRTD	16253	AT&T MOBILITY	992789332X03112021	3066	03/03/2021		032321	4,271.04
	Invoice: 992789332X03112021					SRV 2/4/21-3/3/21				
					43.23 101300 540520 Telephone					
					143.50 701122 540520 Telephone					
					141.22 701221 540520 Telephone					
					344.25 701222 540520 Telephone					
					48.20 701223 540520 Telephone					
					86.46 701230 540520 Telephone					
					33.01 701320 540520 Telephone					
					43.08 701321 540520 Telephone					
					228.14 701322 540520 Telephone					
					622.62 701224 540520 Telephone					
					36.43 701325 540520 Telephone					
					77.49 701326 540520 Telephone					
					43.23 701330 540520 Telephone					
					642.59 701331 540520 Telephone					
					33.01 701340 540520 Telephone					

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CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
					151.22 701350	540520	Telephone			
					43.23 701410	540520	Telephone			
					1,311.64 701420	540520	Telephone			
					43.23 751750	540520	Telephone			
					77.41 751810	540520	Telephone			
					77.85 751820	540520	Telephone			
							CHECK	100799 TOTAL:		4,271.04
100800	03/23/2021	PRTD	5625	ASSOC. OF WATER AGEN	06-13196	3015	02/24/2021		032321	25.00
Invoice: 06-13196							REG-CCWUC TRNG 2/24 S.TRIPLETT			
					25.00 701321	683000	Training & Professional Devel			
							CHECK	100800 TOTAL:		25.00
100801	03/23/2021	PRTD	2443	BENNER & CARPENTER	14467	2852	03/01/2021		032321	4,370.00
Invoice: 14467							P/E 2/28 SURVEYING SERVICES			
					4,370.00 101200	541500	Outside Services			
							CHECK	100801 TOTAL:		4,370.00
100802	03/23/2021	PRTD	21426	BRIGHTVIEW LANDSCAPE	7203768	2865	02/28/2021		032321	14,195.42
Invoice: 7203768							LANDSCAPE SRV-FEB'21			
					3,149.67 701001	551500	Outside Services			
					3,692.00 751810	551800	Building Maintenance			
					1,781.08 751820	551800	Building Maintenance			
					4,023.00 101600	551800	Building Maintenance			
					459.67 101200	551500	Outside Services			
					1,090.00 130100	551500	Outside Services			
							CHECK	100802 TOTAL:		14,195.42
100803	03/23/2021	PRTD	5405	CALOLYMPIC SAFETY	391743	3008	03/01/2021	22100069	032321	313.07
Invoice: 391743							IGLOO COOLERS			
					52.24 101900	572500	Genl Supplies/Small Tools			
					120.03 701	132000	Storeroom & Truck Inventory			
					140.80 701	132000	Storeroom & Truck Inventory			
					391750	3009	03/05/2021	22100069	032321	523.12
Invoice: 391750							RESPIRATOR CARTRIDGES			
					15.86 101900	572500	Genl Supplies/Small Tools			
					507.26 701	132000	Storeroom & Truck Inventory			
					391742	3013	03/09/2021	22100069	032321	3,128.95
Invoice: 391742							PERSONAL PROTECTIVE EQUIPMENT			
					55.60 101900	572500	Genl Supplies/Small Tools			
					111.14 701	132000	Storeroom & Truck Inventory			
					123.52 701	132000	Storeroom & Truck Inventory			

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CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
									INVOICE DTL DESC	
					48.31 701	132000	Storeroom & Truck Inventory			
					123.52 701	132000	Storeroom & Truck Inventory			
					123.52 701	132000	Storeroom & Truck Inventory			
					61.76 701	132000	Storeroom & Truck Inventory			
					1,455.04 701	132000	Storeroom & Truck Inventory			
					483.99 701	132000	Storeroom & Truck Inventory			
					276.10 701	132000	Storeroom & Truck Inventory			
					228.31 701	132000	Storeroom & Truck Inventory			
					38.14 701	132000	Storeroom & Truck Inventory			
								CHECK	100803 TOTAL:	3,965.14
100804	03/23/2021	PRTD	20655	CANNON CORPORATION	75575	2876	03/04/2021	032321		1,704.00
Invoice: 75575						P/E 2/28 TANK REHAB-CORD/SDDL				
					852.00 E CIP10665 .NON-LABOR . .					
					754440 900000 Capital Asset Expenses					
					852.00 E CIP10671 .NON-LABOR . .					
					301440 900000 Capital Asset Expenses					
								CHECK	100804 TOTAL:	1,704.00
100805	03/23/2021	PRTD	18992	CDW GOVERNMENT	8642486	2900	02/26/2021	032321		78.42
Invoice: 8642486						LOGICTECH KEYBOARD/MOUSE				
					78.42 701420 543000 Capital Outlay					
					8662584	2901	03/01/2021	032321		63.12
Invoice: 8662584						BELKIN 3M FIBER JUMPERS				
					63.12 701420 543000 Capital Outlay					
					8816981	2912	03/03/2021	032321		262.61
Invoice: 8816981						FAX MACHINE & HDMI CABLE				
					262.61 701420 543000 Capital Outlay					
								CHECK	100805 TOTAL:	404.15
100806	03/23/2021	PRTD	18860	CHEMTREAT, INC.	CIN010114286	2949	03/01/2021	032321		739.86
Invoice: CIN010114286						MAR'21 WATER TREATMENT				
					739.86 701001 551000 Supplies/Material					
								CHECK	100806 TOTAL:	739.86
100807	03/23/2021	PRTD	2536	CITY OF LOS ANGELES	74WP210000055#5	2927	11/25/2020	032321		46,352.00
Invoice: 74WP210000055#5						ASSSC 20/21 O&M-PMT#5				
					46,352.00 130100 574000 Purch Svc-City Of LA					
					74WP210000056#5	2928	11/25/2020	032321		33,393.00

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CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
	Invoice: 74WP210000056#5				ASSSC 20/21 CAP-PMT#5					
					33,393.00 130100 574000 Purch Svc-City Of LA					
								CHECK	100807 TOTAL:	79,745.00
100808	03/23/2021	PRTD	30057	BONNIE CIVALLERI	071822	2837	03/08/2021		032321	35.03
	Invoice: 071822				REFUND BAL-CLOSED A/C					
					35.03 101 230500 Deposit Refd Clearing-Billing					
								CHECK	100808 TOTAL:	35.03
100809	03/23/2021	PRTD	16821	CLEAN SWEEP SUPPLY C	591073,479&CM591478	2986	03/01/2021	22100078	032321	2,346.87
	Invoice: 591073,479&CM591478				JANITORIAL SUPPLIES					
					2,346.87 701 132000 Storeroom & Truck Inventory					
								CHECK	100809 TOTAL:	2,346.87
100810	03/23/2021	PRTD	30006	COMPOST TEANA'S ORGA	2591	3000	03/10/2021		032321	2,710.00
	Invoice: 2591				HQ GARDEN COMPOST TEA					
					2,710.00 701001 551500 Outside Services					
								CHECK	100810 TOTAL:	2,710.00
100811	03/23/2021	PRTD	20624	CONTRACTOR COMPLIANC	14061	2877	02/28/2021		032321	617.50
	Invoice: 14061				COMPLIANCE MONITORING					
					617.50					
					E CIP10556 .NON-LABOR . .					
					201440 900000 Capital Asset Expenses					
								CHECK	100811 TOTAL:	617.50
100812	03/23/2021	PRTD	20643	CSI SERVICES, INC.	10365	2875	03/03/2021		032321	9,963.00
	Invoice: 10365				SDDL PEAK COATING INSPC 1/7-2/12					
					9,963.00					
					E CIP10671 .NON-LABOR . .					
					301440 900000 Capital Asset Expenses					
								CHECK	100812 TOTAL:	9,963.00
100813	03/23/2021	PRTD	2601	DELL COMPUTER CORP.	10470456313	2899	03/08/2021		032321	1,035.29
	Invoice: 10470456313				SCADA SRVR WRNTY EXT FEB'21~FEB'24					
					1,035.29 101600 570000 SCADA Services					
								CHECK	100813 TOTAL:	1,035.29

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
100814	03/23/2021	PRTD	18111	ELECSYS INTERNATIONA	SIP-E130994	2879	02/28/2021		032321	310.00
Invoice: SIP-E130994						FEB'21-MTR DVC MAINT				
					310.00 701224	541500	Outside Services			
							CHECK	100814 TOTAL:		310.00
100815	03/23/2021	PRTD	8923	ENVIRONMENTAL EXPRES	1000638619	2923	03/01/2021		032321	428.10
Invoice: 1000638619						OIL & GREASE STANDARDS				
					428.10 701341	551000	Supplies/Material			
					1000638652	2924	03/01/2021		032321	437.54
Invoice: 1000638652						DRYING CARTRIDGES				
					437.54 701341	551000	Supplies/Material			
							CHECK	100815 TOTAL:		865.64
100816	03/23/2021	PRTD	18965	ePOWER NETWORK, INC.	28686	3001	03/02/2021		032321	1,192.36
Invoice: 28686						UPS & BTTRY PM-BLDG 8				
					1,192.36 701001	551500	Outside Services			
					28687	3002	03/02/2021		032321	561.60
Invoice: 28687						UPS & BTTRY PM-RLV				
					561.60 751820	551500	Outside Services			
					28688	3003	03/02/2021		032321	898.56
Invoice: 28688						UPS & BTTRY PM-TAPIA				
					898.56 751810	551000	Supplies/Material			
					28689	3020	03/02/2021		032321	898.56
Invoice: 28689						UPS & BTTRY PM-WLK				
					898.56 101600	551500	Outside Services			
							CHECK	100816 TOTAL:		3,551.08
100817	03/23/2021	PRTD	2655	FERGUSON ENTERPRISES	0738505	2969	12/09/2020		032321	6,765.20
Invoice: 0738505						6"MACH-10 METER FOR WESTLAKE GOLF				
					6,765.20 701224	551000	Supplies/Material			
					0748777	2985	03/04/2021	22100067	032321	1,061.31
Invoice: 0748777						HYDRANT ADAPTERS & PARTS				
					1,061.31 701	132000	Storeroom & Truck Inventory			
							CHECK	100817 TOTAL:		7,826.51
100818	03/23/2021	PRTD	2655	FERGUSON ENTERPRISES	10660/PMT#5	2992	02/17/2021		032321	1,057,385.92
Invoice: 10660/PMT#5						PMT#5-AMR/AMI PRJ. P/E 1/31/21				
					1,057,385.92					

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
					E CIP10660 .NON-LABOR . .					
					301440 900000 Capital Asset Expenses					
							CHECK	100818 TOTAL:		1,057,385.92
100819	03/23/2021	PRTD	2660	FISHER SCIENTIFIC	5304368	3022	03/01/2021		032321	70.50
	Invoice: 5304368				TUBING					
					70.50 701341 551000 Supplies/Material					
							CHECK	100819 TOTAL:		70.50
100820	03/23/2021	PRTD	20970	GARDA CL WEST, INC.	10625930	2906	03/01/2021		032321	340.58
	Invoice: 10625930				ARMORED TRANSPORT-MAR'21					
					340.58 701410 622000 Outside Services					
							CHECK	100820 TOTAL:		340.58
100821	03/23/2021	PRTD	2701	GRAINGER	9809234363	2862	02/17/2021		032321	79.93
	Invoice: 9809234363				PIPE FLANGE					
					79.93 701002 551000 Supplies/Material					
					9810721705	2863	02/18/2021		032321	645.70
	Invoice: 9810721705				HANDHELD LED LIGHT					
					645.70 751820 551000 Supplies/Material					
					9811258335	2995	02/18/2021		032321	1,008.80
	Invoice: 9811258335				TAPE/BATTERIES/CUTOFF WHEELS					
					1,008.80 101900 572500 Genl Supplies/Small Tools					
					9811258343	2996	02/18/2021		032321	351.30
	Invoice: 9811258343				SILICONE/LUBRICANT					
					351.30 101900 572500 Genl Supplies/Small Tools					
					9812945716	2997	02/22/2021		032321	73.42
	Invoice: 9812945716				SILICONE					
					73.42 101900 572500 Genl Supplies/Small Tools					
					9821185411	3004	03/01/2021		032321	398.23
	Invoice: 9821185411				BRUSHES/TRASH BAGS/HAND CLNR					
					398.23 101900 572500 Genl Supplies/Small Tools					
							CHECK	100821 TOTAL:		2,557.38
100822	03/23/2021	PRTD	19548	GRM INFORMATION MANA	0423639	2896	02/28/2021		032321	106.76
	Invoice: 0423639				FEB'21 RECORDS STORAGE					
					106.76 701121 623500 Records Management					
					0423640	2897	02/28/2021		032321	310.92

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
	Invoice: 0423640				FEB'21 RECORDS STORAGE					
					310.92 701121 623500 Records Management					
								CHECK	100822 TOTAL:	417.68
100823	03/23/2021	PRTD	20708	HAMPTON TEDDER ELECT	33020	2998	02/17/2021	22100087	032321	4,280.00
	Invoice: 33020				BUSS REPAIR-TAPIA					
					4,280.00 751810 551500 Outside Services					
								CHECK	100823 TOTAL:	4,280.00
100824	03/23/2021	PRTD	4409	HARRIS & ASSOCIATES,	47614	2919	02/24/2021		032321	2,344.31
	Invoice: 47614				STANDBY CHARGES 1/3-1/30					
					2,344.31 301001 713100 Standby Chg-Outside Svc					
								CHECK	100824 TOTAL:	2,344.31
100825	03/23/2021	PRTD	20823	INVOICE CLOUD INC.	964-2021_2	2864	02/28/2021		032321	6,020.50
	Invoice: 964-2021_2				INVOICE CLOUD FEES-FEB'21					
					6,020.50 701221 622000 Outside Services					
								CHECK	100825 TOTAL:	6,020.50
100826	03/23/2021	PRTD	21197	JACOBS ENGINEERING G	W9Y31200-002 REVISED	2917	03/02/2021		032321	176,913.34
	Invoice: W9Y31200-002 REVISED				P/E 1/29-PWP ADVISOR/MGR SRVS					
					176,913.34					
					E CIP10635 .NON-LABOR . .					
					754440 900000 Capital Asset Expenses					
								CHECK	100826 TOTAL:	176,913.34
100827	03/23/2021	PRTD	20584	KAMBRIAN CORPORATION	KINV6885	2893	03/02/2021	22100064	032321	2,040.60
	Invoice: KINV6885				ADD'TL OFFICE 365 LICENSES					
					2,040.60 701420 543000 Capital Outlay					
								CHECK	100827 TOTAL:	2,040.60
100828	03/23/2021	PRTD	30058	RICHARD KRAMER	3-23-21	2841	03/08/2021		032321	472.05
	Invoice: 3-23-21				REFUND BAL-CLOSED A/C					
					472.05 101 230500 Deposit Refd Clearing-Billing					
								CHECK	100828 TOTAL:	472.05

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
100829	03/23/2021	PRTD	2611	LA DWP	875698/031021	3038	03/10/2021		032321	10,172.24
	Invoice: 875698/031021					TWIN LAKES P/S 1/14/21-2/19/21				
					10,172.24 101106	540510 Energy				
							CHECK	100829 TOTAL:		10,172.24
100830	03/23/2021	PRTD	21190	MALIBU SOLSTICE INC.	10000171	2836	03/08/2021		032321	939.58
	Invoice: 10000171					REFUND BAL-CLOSED A/C				
					939.58 101	230500 Deposit Refd Clearing-Billing				
							CHECK	100830 TOTAL:		939.58
100831	03/23/2021	PRTD	2814	MCMASTER-CARR SUPPLY	54032320	2921	03/01/2021		032321	397.73
	Invoice: 54032320					LOCKOUT ACCESSORIES				
					397.73 751810	551000 Supplies/Material				
					54466046	3065	03/08/2021		032321	341.11
	Invoice: 54466046					SHAFT COLLARS FOR TAPIA EQUIP				
					341.11 751810	551000 Supplies/Material				
							CHECK	100831 TOTAL:		738.84
100832	03/23/2021	PRTD	21407	MESA WATER DISTRICT	SALES2209	3053	03/08/2021		032321	653.12
	Invoice: SALES2209					MAR'21 FEE SHARE				
					653.12 701122	710500 Dues, Subsc & Memberships				
							CHECK	100832 TOTAL:		653.12
100833	03/23/2021	PRTD	3755	MICROWEST SOFTWARE S	26429	2849	11/01/2020	22100080	032321	13,995.00
	Invoice: 26429					AMMS HOSTING/MAINT-2021				
					13,995.00 701420	621500 Equip Maintenance				
							CHECK	100833 TOTAL:		13,995.00
100834	03/23/2021	PRTD	14322	MILES CHEMICAL COMPA	607960	2846	10/14/2020		032321	221.21
	Invoice: 607960					53 GAL HYPOCHLORITE				
					221.21 751750	541000 Supplies				
					615022	2847	01/14/2021		032321	5,822.76
	Invoice: 615022					8.45 TONS FERRIC CHLORIDE				
					5,822.76 751810	541050 Ferrous Chloride				
					618902	2973	03/03/2021		032321	619.88
	Invoice: 618902					6-51 LB PAILS CITRIC ACID				
					619.88 751750	541000 Supplies				

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
								CHECK	100834 TOTAL:	6,663.85
100835	03/23/2021	PRTD	21558	MKN-MICHAEL K NUNLEY	8743	2880	03/04/2021		032321	1,083.56
	Invoice: 8743					P/E 2/27-CNTRT VALVE DSGN				
					1,083.56 E CIP10695 .NON-LABOR . .					
					754440 900000 Capital Asset Expenses					
					8744	2881	03/01/2021		032321	100.94
	Invoice: 8744					P/E 2/27-TP OUTFALL REHAB				
					100.94 E CIP10695 .NON-LABOR . .					
					754440 900000 Capital Asset Expenses					
								CHECK	100835 TOTAL:	1,184.50
100836	03/23/2021	PRTD	19052	MORRISON RANCH ESTAT	10000401	2839	03/08/2021		032321	870.70
	Invoice: 10000401					REFUND BAL-CLOSED A/C				
					870.70 101 230500 Deposit Refd Clearing-Billing					
								CHECK	100836 TOTAL:	870.70
100837	03/23/2021	PRTD	2846	NATIONAL PLANT SERVI	16570	2858	02/25/2021		032321	3,850.00
	Invoice: 16570					CLEAN SEWER-SAILVIEW LN-2/17				
					3,850.00 751800 551500 Outside Services					
					16612	2860	03/08/2021		032321	2,975.00
	Invoice: 16612					CLEAN SEWER-OLD TOPANGA-2/23				
					2,975.00 130100 551500 Outside Services					
					16368	2918	01/18/2021		032321	2,550.00
	Invoice: 16368					CLEAN SEWER-PRADO PAJAROS/CIERVOS				
					2,550.00 751200 541500 Outside Services					
								CHECK	100837 TOTAL:	9,375.00
100838	03/23/2021	PRTD	16754	NATURAL SURROUNDINGS	7637	2903	03/01/2021		032321	235.00
	Invoice: 7637					MAR'21 FLORAL MAINT				
					235.00 701001 551500 Outside Services					
								CHECK	100838 TOTAL:	235.00
100839	03/23/2021	PRTD	2302	OFFICE DEPOT	157492256001	2888	02/27/2021		032321	55.81
	Invoice: 157492256001					CERT HOLDERS				
					55.81 701410 620000 Forms, Supplies And Postage					
					159088601001	2889	02/23/2021		032321	35.01

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
				Invoice: 159088601001	159089718001	2890	02/23/2021		032321	262.75
					35.01 701410	620000	INK CARTRIDGE Forms, Supplies And Postage			
				Invoice: 159089718001	157502469001	2905	03/01/2021		032321	397.64
					262.75 701410	620000	FILE POCKETS Forms, Supplies And Postage			
				Invoice: 157502469001						
					397.64 701410	620000	TONER CARTRIDGES Forms, Supplies And Postage			
							CHECK	100839 TOTAL:		751.21
100840	03/23/2021	PRTD	16372	OLIN CORPORATION	2941520	2950	03/06/2021		032321	4,081.94
				Invoice: 2941520	4,081.94 751810	541014	4,676 GAL HYPOCHLORITE Sodium Hypochlorite			
					2942858	2951	03/10/2021		032321	4,223.36
				Invoice: 2942858	4,223.36 751810	541014	4,838 GAL HYPOCHLORITE Sodium Hypochlorite			
					2942859	2952	03/10/2021		032321	4,317.64
				Invoice: 2942859	4,317.64 751810	541014	4,946 GAL HYPOCHLORITE Sodium Hypochlorite			
							CHECK	100840 TOTAL:		12,622.94
100841	03/23/2021	PRTD	20728	OLIVAREZ MADRUGA LEM	140-FEB'21	2993	02/28/2021		032321	15,903.89
				Invoice: 140-FEB'21	7,772.00 701121	650000	LEGAL SERVICES-FEB'21 Legal Services			
					2,557.99 701122	687200	Outside Services			
					5,573.90 701430	650000	Legal Services			
							CHECK	100841 TOTAL:		15,903.89
100842	03/23/2021	PRTD	13586	ORACLE AMERICA, INC.	44875033	2887	02/22/2021		032321	19,220.44
				Invoice: 44875033	19,220.44 701	200500	JDE MAINT 11/23/20-2/22/21 Accrued Accounts Payable			
							CHECK	100842 TOTAL:		19,220.44
100843	03/23/2021	PRTD	2871	PACIFIC COAST BOLT	2080866	2948	03/03/2021	22100076	032321	1,359.06
				Invoice: 2080866	1,359.06 101900	572500	NUTS AND BOLTS Genl Supplies/Small Tools			
							CHECK	100843 TOTAL:		1,359.06

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
100844	03/23/2021	PRTD	18157	PARAMOUNT GASKET & M	620241	3061	03/02/2021		032321	873.30
Invoice: 620241						GASKETS @ CORDILLERA TANK				
					873.30 751200	541000 Supplies/Material				
						CHECK	100844 TOTAL:			873.30
100845	03/23/2021	PRTD	12954	POLYDYNE INC.	1519767	3018	02/16/2021		032321	52,150.14
Invoice: 1519767						44,510 LB. CLARIFLOC				
					52,150.14 751820	541070 Polymer				
						CHECK	100845 TOTAL:			52,150.14
100846	03/23/2021	PRTD	8484	PRAXAIR DISTRIBUTION	62270025	3021	03/05/2021		032321	369.70
Invoice: 62270025						(6) AIR BREATHING K RENTALS				
					369.70 101100	541000 Supplies/Material				
						CHECK	100846 TOTAL:			369.70
100847	03/23/2021	PRTD	20334	PRUDENTIAL OVERALL S	172045273	2954	02/05/2021		032321	125.57
Invoice: 172045273						2/21 UNIFORMS/MATS/TOWELS				
					61.87 751810	551000 Supplies/Material				
					63.70 701999	731600 Uniforms				
					172046581	2955	02/12/2021		032321	120.77
Invoice: 172046581						2/21 UNIFORMS/MATS/TOWELS				
					61.87 751810	551000 Supplies/Material				
					58.90 701999	731600 Uniforms				
					172047930	2956	02/19/2021		032321	120.77
Invoice: 172047930						2/21 UNIFORMS/MATS/TOWELS				
					61.87 751810	551000 Supplies/Material				
					58.90 701999	731600 Uniforms				
					172049247	2957	02/26/2021		032321	120.77
Invoice: 172049247						2/21 UNIFORMS/MATS/TOWELS				
					61.87 751810	551000 Supplies/Material				
					58.90 701999	731600 Uniforms				
					172045438	2958	02/08/2021		032321	35.04
Invoice: 172045438						2/21 UNIFORMS/MATS/TOWELS				
					21.44 101600	551000 Supplies/Material				
					13.60 701999	731600 Uniforms				
					172046742	2959	02/15/2021		032321	35.04
Invoice: 172046742						2/21 UNIFORMS/MATS/TOWELS				
					21.44 101600	551000 Supplies/Material				
					13.60 701999	731600 Uniforms				

A/P CASH DISBURSEMENTS JOURNAL

CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
					172048101	2960	02/22/2021		032321	35.04
				Invoice: 172048101		2/21 UNIFORMS/MATS/TOWELS				
					21.44 101600	551000	Supplies/Material			
					13.60 701999	731600	Uniforms			
					172045275	2961	02/05/2021		032321	371.88
				Invoice: 172045275		2/21 UNIFORMS/MATS/TOWELS				
					63.28 701002	551000	Supplies/Material			
					308.60 701999	731600	Uniforms			
					172046583	2962	02/12/2021		032321	305.03
				Invoice: 172046583		2/21 UNIFORMS/MATS/TOWELS				
					63.28 701002	551000	Supplies/Material			
					241.75 701999	731600	Uniforms			
					172047932	2963	02/19/2021		032321	309.53
				Invoice: 172047932		2/21 UNIFORMS/MATS/TOWELS				
					63.28 701002	551000	Supplies/Material			
					246.25 701999	731600	Uniforms			
					172049249	2964	02/26/2021		032321	309.53
				Invoice: 172049249		2/21 UNIFORMS/MATS/TOWELS				
					63.28 701002	551000	Supplies/Material			
					246.25 701999	731600	Uniforms			
					172045274	2965	02/05/2021		032321	63.83
				Invoice: 172045274		2/21 UNIFORMS/MATS/TOWELS				
					30.83 751820	551000	Supplies/Material			
					33.00 701999	731600	Uniforms			
					172046582	2966	02/12/2021		032321	63.83
				Invoice: 172046582		2/21 UNIFORMS/MATS/TOWELS				
					30.83 751820	551000	Supplies/Material			
					33.00 701999	731600	Uniforms			
					172047931	2967	02/19/2021		032321	63.83
				Invoice: 172047931		2/21 UNIFORMS/MATS/TOWELS				
					30.83 751820	551000	Supplies/Material			
					33.00 701999	731600	Uniforms			
					172049248	2968	02/26/2021		032321	63.83
				Invoice: 172049248		2/21 UNIFORMS/MATS/TOWELS				
					30.83 751820	551000	Supplies/Material			
					33.00 701999	731600	Uniforms			
								CHECK	100847 TOTAL:	2,144.29
100848	03/23/2021	PRTD	30019	ROCKTHORN LLC	INV-001221	2850	01/28/2021	22100023	032321	5,798.36
				Invoice: INV-001221		GENTAC LAPTOP				
					5,798.36 701420	543000	Capital Outlay			

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CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
								CHECK	100848 TOTAL:	5,798.36
100849	03/23/2021	PRTD	17174	ROTH STAFFING COMPAN	13991590	2892	03/05/2021		032321	1,372.80
	Invoice: 13991590						TEMP SRV 2/22-2/25			
					1,372.80 701430 622000		Outside Services			
								CHECK	100849 TOTAL:	1,372.80
100850	03/23/2021	PRTD	4586	ROYAL INDUSTRIAL SOL	9009-1001915	2857	03/02/2021	22100072	032321	2,343.00
	Invoice: 9009-1001915						ROCKWELL SRV CONTRACT 2/14/21-2/13/22			
					2,343.00 751820 570000		SCADA Services			
					9009-1001764	2946	03/01/2021		032321	- 623.00
	Invoice: 9009-1001764						RELAYS/CONDUIT HUBS			
					623.00 751810 551000		Supplies/Material			
								CHECK	100850 TOTAL:	2,966.00
100851	03/23/2021	PRTD	20583	RT LAWRENCE CORPORAT	44678	2848	03/01/2021		032321	927.14
	Invoice: 44678						LOCKBOX FEES-JAN'21			
					927.14 701221 622000		Outside Services			
								CHECK	100851 TOTAL:	927.14
100852	03/23/2021	PRTD	20898	SDI PRESENCE LLC	6033	2851	01/31/2021		032321	7,262.50
	Invoice: 6033						P/E 1/31-ERP CONSULTANT			
					7,262.50					
					E CIP10663 .NON-LABOR . .					
					330440 900000		Capital Asset Expenses			
								CHECK	100852 TOTAL:	7,262.50
100853	03/23/2021	PRTD	16271	SPOK, INC.	E01430840	2991	03/10/2021		032321	115.76
	Invoice: E01430840						PAGER SRV 3/11-4/10/21			
					43.93 751820 540520		Telephone			
					71.83 701331 540520		Telephone			
								CHECK	100853 TOTAL:	115.76
100854	03/23/2021	PRTD	20648	STANTEC CONSULTING S	1757633	2874	02/23/2021		032321	335.24
	Invoice: 1757633						P/E 2/5-TWRF COMP STUDY			
					335.24					
					E CIP10619 .NON-LABOR . .					
					754440 900000		Capital Asset Expenses			

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CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
							CHECK	100854 TOTAL:		335.24
100855	03/23/2021	PRTD	12149	THATCHER CO. OF CALI	282306	2953	03/01/2021		032321	6,228.93
	Invoice: 282306					3,992.9 GAL SODIUM BISULFITE				
					6,228.93 751810 541011	Sodium Bisulfite				
							CHECK	100855 TOTAL:		6,228.93
100856	03/23/2021	PRTD	17645	TORO ENTERPRISES INC	14310	2778	01/31/2021		032321	14,659.46
	Invoice: 14310					SEP'20 PAVING-PWP DEMO LOT				
					14,659.46					
					E CIP10638 .NON-LABOR . .					
					754440 900000	Capital Asset Expenses				
							CHECK	100856 TOTAL:		14,659.46
100857	03/23/2021	PRTD	3429	UNITED PARCEL SERVIC	000025W020111	3059	03/13/2021		032321	31.39
	Invoice: 000025W020111					SHIPPING CHGES-4 PCKGES @1/26, 1/27 & 2/11				
					31.39 701410 620000	Forms, Supplies And Postage				
							CHECK	100857 TOTAL:		31.39
100858	03/23/2021	PRTD	2325	UNITED RENTALS, INC	190338259-001	2895	02/17/2021	22100036	032321	14,439.11
	Invoice: 190338259-001					PUMP RENT-FLOW COMPLIANCE				
					14,439.11 751810 551500	Outside Services				
							CHECK	100858 TOTAL:		14,439.11
100859	03/23/2021	PRTD	20935	US METRO GROUP, INC.	103545	2861	02/28/2021		032321	13,199.60
	Invoice: 103545					JANITORIAL SRV-FEB'21				
					6,308.86 701001 551500	Outside Services				
					2,725.27 701002 551500	Outside Services				
					1,021.78 751820 551800	Building Maintenance				
					1,520.56 751810 551800	Building Maintenance				
					208.54 101600 551800	Building Maintenance				
					1,414.59 751750 551800	Building Maintenance				
					103762	3017	02/28/2021		032321	5,009.92
	Invoice: 103762					DISINFECT SRV-FEB'21				
					1,878.72 701001 551500	Outside Services				
					626.24 701002 551500	Outside Services				
					1,878.72 751810 551800	Building Maintenance				
					626.24 751820 551800	Building Maintenance				
							CHECK	100859 TOTAL:		18,209.52

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CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
100860	03/23/2021	PRTD	21643	VALLEY SOIL, INC.	26453	2904	03/01/2021		032321	12,218.00
Invoice: 26453					METER INSTALLS 2/5-2/23					
					12,218.00 101800 670900 Res. ET Irrigation Controller					
							CHECK	100860 TOTAL:		12,218.00
100861	03/23/2021	PRTD	30059	ROY VATERLAUS	076597	2840	03/08/2021		032321	65.26
Invoice: 076597					REFUND BAL-CLOSED A/C					
					65.26 101 230500 Deposit Refd Clearing-Billing					
							CHECK	100861 TOTAL:		65.26
100862	03/23/2021	PRTD	3026	VENTURA COUNTY STAR	0003739049	3019	02/28/2021		032321	1,190.00
Invoice: 0003739049					ADS-CMPST 2/4 & 2/11, & DIRECTORY LISTNG					
					1,150.00 751840 660400 Public Education Programs					
					40.00 701230 660400 Public Education Programs					
							CHECK	100862 TOTAL:		1,190.00
100863	03/23/2021	PRTD	18604	VENTURA PEST CONTROL	757277	2947	03/02/2021		032321	575.00
Invoice: 757277					PEST CONTROL-MAR'20					
					90.00 101200 551500 Outside Services					
					45.00 101600 551500 Outside Services					
					50.00 701002 551500 Outside Services					
					37.50 751820 551500 Outside Services					
					50.00 701001 551500 Outside Services					
					87.50 751200 551500 Outside Services					
					100.00 751810 551500 Outside Services					
					40.00 751100 551500 Outside Services					
					75.00 751830 551500 Outside Services					
							CHECK	100863 TOTAL:		575.00
100864	03/23/2021	PRTD	3034	VORTEX INDUSTRIES	01-1492801	3012	03/11/2021		032321	965.45
Invoice: 01-1492801					REPAIR DOORS AT JED SMITH PS					
					965.45 101100 551500 Outside Services					
							CHECK	100864 TOTAL:		965.45
100865	03/23/2021	PRTD	3035	VWR SCIENTIFIC	8803918162	2925	03/01/2021		032321	66.84
Invoice: 8803918162					500ML FLASK BRUSHES					
					66.84 701341 551000 Supplies/Material					
					8803931631	2926	03/02/2021		032321	613.01
Invoice: 8803931631					HEXANE					
					613.01 701341 551000 Supplies/Material					

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CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
							CHECK	100865 TOTAL:		679.85
100866	03/23/2021	PRTD	19685	W. LITTEN INC.	21009	2853	03/01/2021		032321	7,544.00
Invoice: 21009						SPRAYFIELD 2/22-2/26				
					7,544.00 751810	678800	District Sprayfield			
					21010	2902	03/08/2021		032321	7,054.00
Invoice: 21010						SPRAYFIELD 3/1-3/5				
					7,054.00 751810	678800	District Sprayfield			
							CHECK	100866 TOTAL:		14,598.00
100867	03/23/2021	PRTD	8514	WEST COAST IRRIGATIO	10355	2999	02/25/2021		032321	286.36
Invoice: 10355						SPRAYFIELD IRRIGATION PARTS				
					286.36 751810	678800	District Sprayfield			
							CHECK	100867 TOTAL:		286.36
100868	03/23/2021	PRTD	3067	XEROX CORPORATION	012835680	3014	03/03/2021		032321	188.66
Invoice: 012835680						5945 OPS, PMT#60, FEB'21				
					160.02 701	225000	Curr Equip Lease-Computer			
					1.21 701420	625000	Equip Interest Expense			
					15.32 701420	620500	Equip Rental			
					12.11 701420	620000	Forms, Supplies And Postage			
							CHECK	100868 TOTAL:		188.66
100869	03/23/2021	PRTD	21108	ZIP'S AW DIRECT	846783	2922	03/01/2021		032321	1,532.98
Invoice: 846783						VEHICLE LIGHTBARS				
					1,532.98 701325	551000	Supplies/Material			
							CHECK	100869 TOTAL:		1,532.98

NUMBER OF CHECKS 74 *** CASH ACCOUNT TOTAL *** 1,650,082.57

	COUNT	AMOUNT
TOTAL PRINTED CHECKS	74	1,650,082.57

*** GRAND TOTAL *** 1,650,082.57

Las Virgenes Municipal Water District

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CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
						INVOICE DTL DESC				
100870	03/30/2021	PRTD	20389	AIRGAS SPECIALTY PRO	9110135682	3276	03/10/2021		033021	3,100.38
Invoice: 9110135682						31,640 LBS AMMONIUM HYDROXIDE				
					3,100.38 751810	541013 Aqua Ammonia				
								CHECK	100870 TOTAL:	3,100.38
100871	03/30/2021	PRTD	3077	AIRGAS USA, LLC	9110814781	3102	03/09/2021	22100066	033021	732.75
Invoice: 9110814781						GLOVES				
					732.75 701	132000 Storeroom & Truck Inventory				
								CHECK	100871 TOTAL:	732.75
100872	03/30/2021	PRTD	2397	AQUATIC BIOASSAY & C	LVS0321.0193	3279	03/05/2021		033021	900.00
Invoice: LVS0321.0193						CHRONIC BIOASSAYS				
					900.00 751810	571520 Other Laboratory Serv				
								CHECK	100872 TOTAL:	900.00
100873	03/30/2021	PRTD	2869	AT&T	4639/031421	3284	03/14/2021		033021	51.54
Invoice: 4639/031421						SRV 3/14/21-4/13/21				
					51.54 701001	540520 Telephone				
								CHECK	100873 TOTAL:	51.54
100874	03/30/2021	PRTD	20424	AT&T (U-VERSE INTERN	8877/031721	3304	03/17/2021		033021	74.19
Invoice: 8877/031721						BLDG 1 INTERNET 3/18-4/17/21				
					74.19 751750	540520 Telephone				
								CHECK	100874 TOTAL:	74.19
100875	03/30/2021	PRTD	18080	BOOT BARN INC.	INV00049529	3069	06/02/2020		033021	225.00
Invoice: INV00049529						SAFETY FOOTWEAR-J. AMBRIZ				
					225.00 701341	623000 Safety Equip				
								CHECK	100875 TOTAL:	225.00
100876	03/30/2021	PRTD	21426	BRIGHTVIEW LANDSCAPE	7274952	3275	03/08/2021		033021	11,321.69
Invoice: 7274952						EQS BACKFLOW INSTALL				
					11,321.69 701223	551500 Outside Services				
								CHECK	100876 TOTAL:	11,321.69
100877	03/30/2021	PRTD	20655	CANNON CORPORATION	75631	3166	03/08/2021		033021	32,798.75
Invoice: 75631						P/E 2/28 CALLGS/LV INTRCNT				
					32,798.75					

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CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
					E CIP10556 .NON-LABOR . .					
					201440 900000 Capital Asset Expenses					
					75755	3167	03/10/2021		033021	1,823.25
				Invoice: 75755		P/E 2/28 INTRCNT DSGN				
					1,823.25					
					E CIP10556 .NON-LABOR . .					
					201440 900000 Capital Asset Expenses					
					75673	3286	03/08/2021		033021	256.26
				Invoice: 75673		FINAL-J BRIDGER PIPELINE				
					256.26					
					E CIP10708 .NON-LABOR . .					
					301440 900000 Capital Asset Expenses					
								CHECK	100877 TOTAL:	34,878.26
100878	03/30/2021	PRTD	2513	CAPCO ANALYTICAL SER	210356	3079	03/09/2021		033021	365.00
	Invoice: 210356					MAR'21 SAMPLING				
					365.00 751820	571520 Other Laboratory Serv				
					210286	3192	03/08/2021		033021	365.00
				Invoice: 210286		FEB'21 SAMPLING				
					365.00 751820	571520 Other Laboratory Serv				
								CHECK	100878 TOTAL:	730.00
100879	03/30/2021	PRTD	18107	CAROLLO ENGINEERING,	0194083	3072	01/06/2021		033021	11,461.50
	Invoice: 0194083					P/E 12/31/20-PWP FUND GRANT				
					11,461.50 751750	551500 Outside Services				
					0196075	3168	03/05/2021		033021	27,967.87
				Invoice: 0196075		P/E 2/28-PWP TEST/OP SPRT				
					27,967.87 751750	541500 Outside Services				
								CHECK	100879 TOTAL:	39,429.37
100880	03/30/2021	PRTD	18992	CDW GOVERNMENT	8977499	3095	03/05/2021		033021	146.17
	Invoice: 8977499					HP PRINTER TRAY				
					146.17 701420	620000 Forms, Supplies And Postage				
					9367427	3097	03/15/2021		033021	808.50
				Invoice: 9367427		HP COLOR PRINTER				
					808.50 701420	543000 Capital Outlay				
								CHECK	100880 TOTAL:	954.67

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CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
100881	03/30/2021	PRTD	2536	CITY OF LOS ANGELES	74WP210000021	3161	12/31/2020		033021	35,046.37
	Invoice: 74WP210000021					ASSFC EL CANON 4/1/19~3/31/20				
					35,046.37 130100	574000 Purch Svc-City Of LA				
							CHECK	100881 TOTAL:		35,046.37
100882	03/30/2021	PRTD	2539	CITY OF SIMI VALLEY	70294404	3089	03/17/2021		033021	7,696.49
	Invoice: 70294404					PURCH WTR 1/11/21-3/15/21				
					7,696.49 101001	511000 Purch Water-Simi Dist#8				
							CHECK	100882 TOTAL:		7,696.49
100883	03/30/2021	PRTD	2601	DELL COMPUTER CORP.	10468230610	3170	02/27/2021	22100059	033021	9,729.98
	Invoice: 10468230610					DELL LAPTOPS				
					9,729.98 701420	543000 Capital Outlay				
							CHECK	100883 TOTAL:		9,729.98
100884	03/30/2021	PRTD	3498	DEPT. OF WATER & POW	GA80939	3164	03/09/2021		033021	525.00
	Invoice: GA80939					CONDUIT@CHTWRTH 040121~033122				
					525.00 101700	552000 Permits and Fees				
							CHECK	100884 TOTAL:		525.00
100885	03/30/2021	PRTD	3515	DWYER INSTRUMENTS, I	05043001	3064	03/09/2021		033021	417.83
	Invoice: 05043001					0-15 PSI LVL TRANSMITTER @EQUESTRIAN TK				
					417.83 101200	551000 Supplies/Material				
							CHECK	100885 TOTAL:		417.83
100886	03/30/2021	PRTD	2654	FAMCON PIPE	S100047548.001	3098	03/03/2021	22100058	033021	3,208.19
	Invoice: S100047548.001					FORD METER PARTS				
					3,208.19 701	132000 Storeroom & Truck Inventory				
					S100047548.002	3099	03/04/2021	22100058	033021	4,825.71
	Invoice: S100047548.002					FORD METER PARTS				
					4,825.71 701	132000 Storeroom & Truck Inventory				
					S100049151.001	3100	03/18/2021	22100058	033021	199.49
	Invoice: S100049151.001					FORD METER PARTS				
					199.49 701	132000 Storeroom & Truck Inventory				
					S100048423.001	3306	03/04/2021		033021	137.97
	Invoice: S100048423.001					EPDM WASHERS FOR WAREHOUSE				
					137.97 101900	572500 Genl Supplies/Small Tools				

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CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
								CHECK	100886 TOTAL:	8,371.36
100887	03/30/2021	PRTD	2655	FERGUSON ENTERPRISES	0749970	3081	03/09/2021	22100081	033021	703.54
	Invoice: 0749970					GATE VALVES				
					703.54 701	132000	Storeroom & Truck Inventory			
					0749970-1	3082	03/11/2021	22100081	033021	1,634.29
	Invoice: 0749970-1					GATE VALVES				
					1,634.29 701	132000	Storeroom & Truck Inventory			
								CHECK	100887 TOTAL:	2,337.83
100888	03/30/2021	PRTD	21055	FIRESTONE COMPLETE A	197401	3282	03/09/2021		033021	668.29
	Invoice: 197401					4 TIRES/ALIGN-#897				
					668.29 701325	551500	Outside Services			
								CHECK	100888 TOTAL:	668.29
100889	03/30/2021	PRTD	6770	G.I. INDUSTRIES	2981465-0283-6	3068	03/16/2021		033021	877.25
	Invoice: 2981465-0283-6					3/1/21-3/16/21 SHOP BLDG				
					877.25 701002	551500	Outside Services			
					2981466-0283-4	3305	03/16/2021		033021	580.87
	Invoice: 2981466-0283-4					3/1-3/15/21 10YD @RLV				
					580.87 751820	551800	Building Maintenance			
								CHECK	100889 TOTAL:	1,458.12
100890	03/30/2021	PRTD	2701	GRAINGER	9817032098	3187	02/24/2021		033021	74.25
	Invoice: 9817032098					VERTICAL LEVEL SWITCH				
					74.25 751810	551000	Supplies/Material			
					9817032106	3189	02/24/2021		033021	292.15
	Invoice: 9817032106					LABEL TAPE CARTRIDGE				
					292.15 751810	551000	Supplies/Material			
								CHECK	100890 TOTAL:	366.40
100891	03/30/2021	PRTD	2705	HACH COMPANY	12356510	3280	03/05/2021		033021	1,565.86
	Invoice: 12356510					REGENT SETS				
					1,565.86 701341	551000	Supplies/Material			
								CHECK	100891 TOTAL:	1,565.86

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CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
100892	03/30/2021	PRTD	7421	HAMNER, JEWELL AND A	200774	3190	03/08/2021		033021	137.50
Invoice: 200774						P/E 2/28 TWIN LAKES P/S				
					137.50 E CIP10430 .NON-LABOR . .					
					201440 900000 Capital Asset Expenses					
Invoice: 200780					200780	3191	03/08/2021		033021	1,567.50
						P/E 2/28-EMGCY GENERATORS				
					1,567.50 E CIP10672 .NON-LABOR . .					
					301440 900000 Capital Asset Expenses					
							CHECK	100892 TOTAL:		1,705.00
100893	03/30/2021	PRTD	21197	JACOBS ENGINEERING G	W9Y23500-019	3172	12/15/2020		033021	23,763.90
Invoice: W9Y23500-019						P/E 11/27/20-PH2 WT PAPER STUDY				
					23,763.90 701122 651600 Other Professional Serv					
							CHECK	100893 TOTAL:		23,763.90
100894	03/30/2021	PRTD	16807	KARBONOUS, INC	24556	3071	01/25/2021		033021	39,876.90
Invoice: 24556						ODOR CONTROL SRV				
					14,600.50 130100 541700 Odor Control					
					25,276.40 751810 541700 Odor Control					
							CHECK	100894 TOTAL:		39,876.90
100895	03/30/2021	PRTD	21516	KNOWBE4, INC	INV123268	3063	03/08/2021		033021	2,380.50
Invoice: INV123268						SEC AWRNS RNWL 4/21-4/22				
					2,380.50 701420 621500 Equip Maintenance					
							CHECK	100895 TOTAL:		2,380.50
100896	03/30/2021	PRTD	2611	LA DWP	875698/031721	3091	03/17/2021		033021	7,089.55
Invoice: 875698/031721						TWIN LAKES P/S 2/19/21-3/17-21				
					7,089.55 101106 540510 Energy					
Invoice: 017698/031721					017698/031721	3093	03/17/2021		033021	48.33
						RECTIFIER 2/19/21-3/17/21				
					48.33 101700 540510 Energy					
Invoice: 503850/031821					503850/031821	3094	03/18/2021		033021	42.96
						RECTIFIER 2/20/21-3/18/21				
					42.96 101700 540510 Energy					

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
								CHECK	100896 TOTAL:	7,180.84
100897	03/30/2021	PRTD	3352	LAS VIRGENES MUNICIP	0254/031721	3173	03/17/2021		033021	58.14
	Invoice: 0254/031721				58.14 101108	540540	JED SMITH P/S 2/9/21-3/8/21 Water			
	Invoice: 2080/031721				2080/031721	3174	03/17/2021		033021	184.32
					184.32 751830	540540	RLV FARM 2/11/21-3/11/21 Water			
	Invoice: 0570/031721				0570/031721	3175	03/17/2021		033021	58.14
					58.14 130100	540540	L/S #2 2/11/21-3/11/21 Water			
	Invoice: 1775/031721				1775/031721	3176	03/17/2021		033021	58.14
					58.14 130100	540540	L/S #1 2/11/21-3/11/21 Water			
	Invoice: 1760/031721				1760/031721	3177	03/17/2021		033021	526.69
					526.69 751810	540540	TAPIA 2/11/21-3/11/21 Water			
	Invoice: 2090/031721				2090/031721	3178	03/17/2021		033021	392.27
					392.27 751820	540540	RLV 2/11/21-3/11/21 Water			
	Invoice: 2620/031721				2620/031721	3179	03/17/2021		033021	337.91
					337.91 751750	540540	HQ PWP/DEMO 2/11/21-3/11/21 Water			
	Invoice: 2647/031721				2647/031721	3180	03/17/2021		033021	334.25
					334.25 701001	540540	HQ BLDG#8 2/11/21-3/11/21 Water			
	Invoice: 2650/031721				2650/031721	3181	03/17/2021		033021	7.50
					7.50 701001	540540	FIRE PRTCN #8 2/11/21-3/11/21 Water			
	Invoice: 2654/031721				2654/031721	3182	03/17/2021		033021	7.50
					7.50 701002	540540	FIRE PRTCN #7 2/11/21-03/11/21 Water			
	Invoice: 2656/031721				2656/031721	3183	03/17/2021		033021	865.03
					865.03 701002	540540	BLDG #7 2/11/21-3/11/21 Water			
	Invoice: 2658/031721				2658/031721	3186	03/17/2021		033021	373.12
					373.12 701002	540540	BLDG #2 2/11/21-3/11/21 Water			
					2120/031721	3188	03/17/2021		033021	143.76

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
					Invoice: 2120/031721					
					143.76 751820 540540			SOLAR LANDSCAPING 2/11/21-3/11/21 Water		
								CHECK	100897 TOTAL:	3,346.77
100898	03/30/2021	PRTD	11410	LOS ANGELES COUNTY-R	00171952	3163	03/18/2021		033021	19.00
					Invoice: 00171952			BAL DUE-CDP-SMM CSTL-EXEMPT		
					19.00					
						E CIP10672 .NON-LABOR . .				
						301440 900000		Capital Asset Expenses		
								CHECK	100898 TOTAL:	19.00
100899	03/30/2021	PRTD	2590	LOS ANGELES DAILY NE	0011436763	3153	02/01/2021		033021	250.00
					Invoice: 0011436763			DISPLAY AD-COMPOST 02/01/21		
					250.00 751840	660400		Public Education Programs		
					0011436763-1	3154	02/04/2021		033021	250.00
					Invoice: 0011436763-1			DISPLAY AD-COMPOST 02/04/21		
					250.00 751840	660400		Public Education Programs		
					0011436763-2	3155	02/07/2021		033021	250.00
					Invoice: 0011436763-2			DISPLAY AD-COMPOST 02/07/21		
					250.00 751840	660400		Public Education Programs		
					0011436763-3	3156	02/11/2021		033021	250.00
					Invoice: 0011436763-3			DISPLAY AD-COMPOST 02/11/21		
					250.00 751840	660400		Public Education Programs		
					0011442331	3157	02/14/2021		033021	200.00
					Invoice: 0011442331			DISPLAY AD-YEAR OF THE TAP 02/14/21		
					200.00 701230	660400		Public Education Programs		
					0011443143	3158	02/18/2021		033021	175.00
					Invoice: 0011443143			DISPLAY AD-COMPOST 2/18/21		
					175.00 751840	660400		Public Education Programs		
					0011443181	3159	02/21/2021		033021	200.00
					Invoice: 0011443181			DISPLAY AD-YEAR OF THE TAP 2/21/21		
					200.00 701230	660400		Public Education Programs		
					0011444430	3160	02/25/2021		033021	175.00
					Invoice: 0011444430			DISPLAY AD-COMPOST 02/25/21		
					175.00 751840	660400		Public Education Programs		
								CHECK	100899 TOTAL:	1,750.00

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
100900	03/30/2021	PRTD	14322	MILES CHEMICAL COMPA	619547	3277	03/10/2021		033021	5,920.01
Invoice: 619547						8.72 TONS FERRIC CHLORIDE				
					5,920.01 751810	541050 Ferrous Chloride				
							CHECK	100900 TOTAL:		5,920.01
100901	03/30/2021	PRTD	2846	NATIONAL PLANT SERVI	16587	2859	02/26/2021		033021	12,537.50
Invoice: 16587						CLEAN SEWER-BEACHFRONT-2/8-2/12				
					12,537.50 751800	551500 Outside Services				
							CHECK	100901 TOTAL:		12,537.50
100902	03/30/2021	PRTD	17295	QUADIENT LEASING USA	N8765258	3078	03/07/2021		033021	1,069.15
Invoice: N8765258						MAIL MACHINE PMT 1/9-4/8				
					1,069.15 701410	620500 Equip Rental				
							CHECK	100902 TOTAL:		1,069.15
100903	03/30/2021	PRTD	20124	RON'S PORTABLE WELDI	6744	3067	03/18/2021		033021	330.00
Invoice: 6744						WELD SPOOL@23401 PK SORRENTO				
					330.00 701224	551500 Outside Services				
							CHECK	100903 TOTAL:		330.00
100904	03/30/2021	PRTD	4586	ROYAL INDUSTRIAL SOL	9009-1002314	3278	03/10/2021		033021	893.78
Invoice: 9009-1002314						ENCLOSURE PANELS				
					893.78 751810	551000 Supplies/Material				
							CHECK	100904 TOTAL:		893.78
100905	03/30/2021	PRTD	20898	SDI PRESENCE LLC	6236	3193	02/28/2021		033021	5,425.00
Invoice: 6236						P/E 2/28 ERP IMPLEMENTATION				
					5,425.00	E CIP10663 .NON-LABOR . .				
						330440 900000 Capital Asset Expenses				
							CHECK	100905 TOTAL:		5,425.00
100906	03/30/2021	PRTD	19169	SJM INDUSTRIAL RADIO	252834	3283	02/11/2021		033021	1,112.29
Invoice: 252834						INSTALL RADIOS IN UNIT 945 & 946				
					1,112.29 701325	551500 Outside Services				
							CHECK	100906 TOTAL:		1,112.29

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
100907	03/30/2021	PRTD	30020	SOUTHERN CA EDISON	2869-032221-01	3103	03/22/2021		033021	4,886.84
Invoice: 2869-032221-01					4,886.84 130100	540510	L/S #1 02/22-03/21/21 Energy			
Invoice: 2869-032221-02					2869-032221-02	3104	03/22/2021		033021	4,956.40
					4,956.40 101108	540510	JED SMITH P/S 02/22-03/21/21 Energy			
Invoice: 2869-032221-03					2869-032221-03	3105	03/22/2021		033021	7.99
					7.99 101221	540510	UPR OAK TANK 02/19-03/20/21 Energy			
Invoice: 2869-032221-04					2869-032221-04	3106	03/22/2021		033021	7.98
					7.98 102100	540510	PKWY CLBS RW 02/19-03/20/21 Energy			
Invoice: 2869-032221-05					2869-032221-05	3107	03/22/2021		033021	560.73
					560.73 102100	540510	PKWY CLBS TNK 02/19-03/20/21 Energy			
Invoice: 2869-032321-1					2869-032321-1	3194	03/23/2021		033021	3,544.28
					3,544.28 101101	540510	CONDUIT 12/31-02/01/21 Energy			
Invoice: 2869-032321-2					2869-032321-2	3195	03/23/2021		033021	3,561.90
					3,561.90 101101	540510	CONDUIT 02/01-03/03/21 Energy			
Invoice: 2869-032321-3					2869-032321-3	3196	03/23/2021		033021	476.96
					476.96 101112	540510	SADDLETREE 01/13-02/12/21 Energy			
Invoice: 2869-032321-4					2869-032321-4	3197	03/23/2021		033021	463.71
					463.71 101112	540510	SADDLETREE 02/12-03/16/21 Energy			
Invoice: 2869-032321-5					2869-032321-5	3198	03/23/2021		033021	13.71
					13.71 101700	540510	RECTIFIER 02/01-03/03/21 Energy			
Invoice: 2869-032321-6					2869-032321-6	3199	03/23/2021		033021	17.51
					17.51 101211	540510	WOOLSEY TANK 02/01-03/03/21 Energy			
Invoice: 2869-032321-7					2869-032321-7	3200	03/23/2021		033021	15.37
					15.37 101100	540510	BOX CYN 02/01-03/03/21 Energy			
Invoice: 2869-032321-8					2869-032321-8	3201	03/23/2021		033021	4,778.12
					4,778.12 130100	540510	L/S #2 01/19-02/17/21 Energy			

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
				Invoice: 2869-032321-9	2869-032321-9	3202	03/23/2021		033021	5,752.99
					L/S #2 02/17-03/18/21					
					5,752.99 130100	540510	Energy			
				Invoice: 2869-032321-10	2869-032321-10	3203	03/23/2021		033021	5,169.54
					WARNER 02/01-03/03/21					
					5,169.54 101102	540510	Energy			
				Invoice: 2869-032321-11	2869-032321-11	3204	03/23/2021		033021	9,374.76
					CORNELL 02/01-03/03/21					
					9,374.76 101110	540510	Energy			
				Invoice: 2869-032321-12	2869-032321-12	3205	03/23/2021		033021	13.06
					MALIBU SYPHON 01/19-02/17/21					
					13.06 751800	540510	Energy			
				Invoice: 2869-032321-13	2869-032321-13	3206	03/23/2021		033021	14.02
					MALIBU SYPHON 02/17-03/18/21					
					14.02 751800	540510	Energy			
				Invoice: 2869-032321-14	2869-032321-14	3207	03/23/2021		033021	190.19
					JBR P/S 02/01-03/03/21					
					190.19 101109	540510	Energy			
				Invoice: 2869-032321-15	2869-032321-15	3208	03/23/2021		033021	3,585.71
					STUNT RD P/S 01/11-02/09/21					
					3,585.71 101104	540510	Energy			
				Invoice: 2869-032321-16	2869-032321-16	3209	03/23/2021		033021	4,082.44
					STUNT RD P/S 02/09-03/11/21					
					4,082.44 101104	540510	Energy			
				Invoice: 2869-032321-17	2869-032321-17	3210	03/23/2021		033021	1,401.15
					TAPIA PLANT 12/31-01/04/21					
					1,401.15 751126	540510	Energy			
				Invoice: 2869-032321-18	2869-032321-18	3211	03/23/2021		033021	5,604.58
					TAPIA PLANT 12/31-01/04/21					
					5,604.58 751810	540510	Energy			
				Invoice: 2869-032321-19	2869-032321-19	3212	03/23/2021		033021	12,133.14
					TAPIA PLANT 01/04-02/01/21					
					12,133.14 751126	540510	Energy			
				Invoice: 2869-032321-20	2869-032321-20	3213	03/23/2021		033021	48,532.55
					TAPIA PLANT 01/04-02/01/21					
					48,532.55 751810	540510	Energy			
				Invoice: 2869-032321-21	2869-032321-21	3214	03/23/2021		033021	15,501.96
					TAPIA PLANT 02/01-03/03/21					
					15,501.96 751126	540510	Energy			

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
						INVOICE DTL DESC				
				Invoice: 2869-032321-22	2869-032321-22	3215	03/23/2021		033021	62,007.83
					62,007.83 751810	540510	TAPIA PLANT 02/01-03/03/21 Energy			
				Invoice: 2869-032321-23	2869-032321-23	3216	03/23/2021		033021	16.43
					16.43 101110	540510	ARGOS VALVE 02/01-03/03/21 Energy			
				Invoice: 2869-032321-24	2869-032321-24	3217	03/23/2021		033021	532.12
					532.12 101116	540510	3-SPRINGS P/S 01/14-02/12/21 Energy			
				Invoice: 2869-032321-25	2869-032321-25	3218	03/23/2021		033021	665.28
					665.28 101116	540510	3-SPRINGS P/S 02/12-03/16/21 Energy			
				Invoice: 2869-032321-26	2869-032321-26	3219	03/23/2021		033021	725.98
					725.98 101114	540510	KIMBERLY P/S 1/25-02/24/21 Energy			
				Invoice: 2869-032321-27	2869-032321-27	3220	03/23/2021		033021	-88.39
					-88.39 751830	540510	ADJ RLV FARM 12/18-01/20/21 Energy			
				Invoice: 2869-032321-28	2869-032321-28	3221	03/23/2021		033021	5,984.81
					5,984.81 751830	540510	RLV FARM 1/20-02/18/21 Energy			
				Invoice: 2869-032321-29	2869-032321-29	3222	03/23/2021		033021	5,915.45
					5,915.45 751830	540510	RLV FARM 2/18-03/19/21 Energy			
				Invoice: 2869-032321-30	2869-032321-30	3223	03/23/2021		033021	70.36
					70.36 751810	678800	CNTRLCYN P/S1 02/01-03/03/21 District Sprayfield			
				Invoice: 2869-032321-31	2869-032321-31	3224	03/23/2021		033021	3.13
					3.13 751810	678800	N CYN IRR #2 12/02-12/07/20 District Sprayfield			
				Invoice: 2869-032321-32	2869-032321-32	3225	03/23/2021		033021	707.03
					707.03 101115	540510	DARDENNE P/S 01/23-02/22/21 Energy			
				Invoice: 2869-032321-33	2869-032321-33	3226	03/23/2021		033021	1,536.77
					1,536.77 101118	540510	MULWOOD P/S 01/20-02/18/21 Energy			
				Invoice: 2869-032321-34	2869-032321-34	3227	03/23/2021		033021	17.35
					17.35 101209	540510	EQUESTRIAN 02/01-03/03/21 Energy			

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CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
						INVOICE DTL DESC				
				Invoice: 2869-032321-35	2869-032321-35	3228	03/23/2021		033021	301.51
					301.51 101117	540510	MNTN GATE P/S 12/21-01/23/21 Energy			
				Invoice: 2869-032321-36	2869-032321-36	3229	03/23/2021		033021	374.60
					374.60 101117	540510	MNTN GATE P/S 01/23-02/22/21 Energy			
				Invoice: 2869-032321-37	2869-032321-37	3230	03/23/2021		033021	19.17
					19.17 101212	540510	MORRISON TNK 02/01-03/03/21 Energy			
				Invoice: 2869-032321-38	2869-032321-38	3231	03/23/2021		033021	428.15
					428.15 101105	540510	AGOURA P/S 02/01-03/03/21 Energy			
				Invoice: 2869-032321-39	2869-032321-39	3232	03/23/2021		033021	16.74
					16.74 101100	540510	WSTLK P/R STN 02/01-03/03/21 Energy			
				Invoice: 2869-032321-40	2869-032321-40	3233	03/23/2021		033021	7,342.34
					7,342.34 101113	540510	MCCOY P/S 12/18-01/20/21 Energy			
				Invoice: 2869-032321-41	2869-032321-41	3234	03/23/2021		033021	6,486.28
					6,486.28 101113	540510	MCCOY P/S 01/20-02/18/21 Energy			
				Invoice: 2869-032321-42	2869-032321-42	3235	03/23/2021		033021	1,979.80
					1,979.80 101600	540510	WSTLK P/S 12/31-02/01/21 Energy			
				Invoice: 2869-032321-43	2869-032321-43	3236	03/23/2021		033021	2,082.56
					2,082.56 101600	540510	WSTLK P/S 02/01-03/03/21 Energy			
				Invoice: 2869-032321-44	2869-032321-44	3237	03/23/2021		033021	1,781.10
					1,781.10 701002	540510	BLDG 7 01/23-02/23/21 Energy			
				Invoice: 2869-032321-45	2869-032321-45	3238	03/23/2021		033021	180.30
					180.30 130100	540510	ADJ L/S #1 12/21-01/22/21 Energy			
				Invoice: 2869-032321-46	2869-032321-46	3239	03/23/2021		033021	5,092.33
					5,092.33 130100	540510	L/S #1 01/22-02/22/21 Energy			
				Invoice: 2869-032321-47	2869-032321-47	3240	03/23/2021		033021	8,856.21
					8,856.21 101103	540510	SEMINOLE P/S 01/19-02/17/21 Energy			

A/P CASH DISBURSEMENTS JOURNAL

CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
				Invoice: 2869-032321-48	2869-032321-48	3241	03/23/2021		033021	10,502.39
						SEMINOLE P/S 02/17-03/18/21				
					10,502.39 101103	540510 Energy				
				Invoice: 2869-032321-49	2869-032321-49	3242	03/23/2021		033021	3.65
						SEMINOLE P/S 12/17-01/19/21				
					3.65 101103	540510 Energy				
				Invoice: 2869-032321-50	2869-032321-50	3243	03/23/2021		033021	3.65
						SEMINOLE P/S 01/19-02/17/21				
					3.65 101103	540510 Energy				
				Invoice: 2869-032321-51	2869-032321-51	3244	03/23/2021		033021	4,913.96
						JED SMITH P/S 01/22-02/22/21				
					4,913.96 101108	540510 Energy				
				Invoice: 2869-032321-52	2869-032321-52	3245	03/23/2021		033021	88.15
						WELLS 01/15-02/16/21				
					88.15 751224	540510 Energy				
				Invoice: 2869-032321-53	2869-032321-53	3246	03/23/2021		033021	91.10
						WELLS 02/16-03/17/21				
					91.10 751224	540510 Energy				
				Invoice: 2869-032321-54	2869-032321-54	3247	03/23/2021		033021	376.69
						OAKRIDGE P/S 01/20-02/18/21				
					376.69 101119	540510 Energy				
				Invoice: 2869-032321-55	2869-032321-55	3248	03/23/2021		033021	451.10
						OAKRIDGE P/S 02/18-03/19/21				
					451.10 101119	540510 Energy				
				Invoice: 2869-032321-56	2869-032321-56	3249	03/23/2021		033021	15.07
						RLV-CNTRL BLDG 01/25-02/24/21				
					15.07 751820	540510 Energy				
				Invoice: 2869-032321-57	2869-032321-57	3250	03/23/2021		033021	32.99
						RADIO EQPMNT 02/01-03/03/21				
					32.99 701326	622500 Radio Maintenance Expense				
				Invoice: 2869-032321-58	2869-032321-58	3251	03/23/2021		033021	687.71
						HVAC BLDG 02/01-03/03/21				
					687.71 701001	540510 Energy				
				Invoice: 2869-032321-59	2869-032321-59	3252	03/23/2021		033021	67.90
						ADJ HQ CHILLER 12/31-02/01/21				
					67.90 701001	540510 Energy				
				Invoice: 2869-032321-60	2869-032321-60	3253	03/23/2021		033021	1,163.95
						HQ CHILLER 02/01-03/03/21				
					1,163.95 701001	540510 Energy				

A/P CASH DISBURSEMENTS JOURNAL

CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
					2869-032321-61	3254	03/23/2021		033021	3,469.98
				Invoice: 2869-032321-61		MAIN MTR BSMT 01/19-02/17/21				
					3,469.98 701001	540510 Energy				
					2869-032321-62	3255	03/23/2021		033021	3,504.89
				Invoice: 2869-032321-62		MAIN MTR BSMT 02/17-03/18/21				
					3,504.89 701001	540510 Energy				
					2869-032321-63	3256	03/23/2021		033021	13.71
				Invoice: 2869-032321-63		RECTIFIER 02/01-03/03/21				
					13.71 101700	540510 Energy				
					2869-032321-64	3257	03/23/2021		033021	18.24
				Invoice: 2869-032321-64		005 DISCHG 02/01-03/03/21				
					18.24 751810	678900 005 Discharge				
					2869-032321-65	3258	03/23/2021		033021	18.34
				Invoice: 2869-032321-65		MULWOOD P/R ST 02/01-03/03/21				
					18.34 101100	540510 Energy				
					2869-032321-66	3259	03/23/2021		033021	96.08
				Invoice: 2869-032321-66		MORRISON P/S 02/01-03/03/21				
					96.08 751125	540510 Energy				
					2869-032321-67	3260	03/23/2021		033021	23.68
				Invoice: 2869-032321-67		UPR TWIN LK TNK 02/01-03/03/21				
					23.68 101220	540510 Energy				
					2869-032321-68	3261	03/23/2021		033021	744.00
				Invoice: 2869-032321-68		UPR TWIN LK P/S 02/01-03/03/21				
					744.00 101122	540510 Energy				
					2869-032321-69	3262	03/23/2021		033021	7.63
				Invoice: 2869-032321-69		UPR OAK TANK 01/12-02/19/21				
					7.63 101221	540510 Energy				
					2869-032321-70	3263	03/23/2021		033021	7.62
				Invoice: 2869-032321-70		PKWY CLBS RW 01/12-02/19/21				
					7.62 102100	540510 Energy				
					2869-032321-71	3264	03/23/2021		033021	479.66
				Invoice: 2869-032321-71		PKWY CLBS TNK 01/21-02/19/21				
					479.66 102100	540510 Energy				
					2869-032321-72	3265	03/23/2021		033021	29.30
				Invoice: 2869-032321-72		LWR OAKS TNK 02/01-03/03/21				
					29.30 101222	540510 Energy				
					2869-032321-73	3266	03/23/2021		033021	13.69
				Invoice: 2869-032321-73		SEMINOLE 09/09-10/01/20				
					13.69 101202	540510 Energy				

A/P CASH DISBURSEMENTS JOURNAL

CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
					2869-032321-74	3267	03/23/2021		033021	421.05
					RANCHVIEW BST 02/01-03/03/21					
				Invoice: 2869-032321-74	421.05 101121	540510	Energy			
					2869-032321-75	3268	03/23/2021		033021	1,899.70
					TAPIA FAC CHRG 02/01-03/01/21					
				Invoice: 2869-032321-75	1,899.70 751810	540510	Energy			
					2869-032321-76	3269	03/23/2021		033021	216.01
					LWR OAKS BSTR 12/31-02/01/21					
				Invoice: 2869-032321-76	216.01 101123	540510	Energy			
					2869-032321-77	3270	03/23/2021		033021	108.00
					UPR OAKS BSTR 12/31-02/01/21					
				Invoice: 2869-032321-77	108.00 101124	540510	Energy			
					2869-032321-78	3271	03/23/2021		033021	1,901.70
					LWR OAKS BSTR 02/01-03/03/21					
				Invoice: 2869-032321-78	1,901.70 101123	540510	Energy			
					2869-032321-79	3272	03/23/2021		033021	950.71
					LWR OAKS BSTR 02/01-03/03/21					
				Invoice: 2869-032321-79	950.71 101124	540510	Energy			
					2869-032321-80	3273	03/23/2021		033021	4.31
					SEMINOLE 09/09-10/01/20					
				Invoice: 2869-032321-80	4.31 101202	540510	Energy			
					2869-032321-81	3274	03/23/2021		033021	-985.37
					ADJ 2869-020301 LATE PYMT CHG					
				Invoice: 2869-032321-81	-985.37 701001	540510	Energy			
								CHECK	100907 TOTAL:	279,024.07
100908	03/30/2021	PRTD	20648	STANTEC CONSULTING S	1757635	2994	02/23/2021		033021	3,520.00
					P/E 2/5-TTHM STUDY					
				Invoice: 1757635	3,520.00 101600	541500	Outside Services			
								CHECK	100908 TOTAL:	3,520.00
100909	03/30/2021	PRTD	20971	THOUSAND OAKS PLUMBI	39989085	3062	03/17/2021		033021	693.00
					RPLC RANCHO KITCH GARBAGE DISPSOL UNIT					
				Invoice: 39989085	693.00 751820	551500	Outside Services			
								CHECK	100909 TOTAL:	693.00

A/P CASH DISBURSEMENTS JOURNAL

CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
100910	03/30/2021	PRTD	20880	TPX COMMUNICATIONS	141391367-0	3070	03/16/2021		033021	6,936.90
	Invoice: 141391367-0					SRV 3/16-4/15				
					2,767.06 701001 540520	Telephone				
					200.00 101104 540520	Telephone				
					182.87 101107 540520	Telephone				
					166.87 130100 540520	Telephone				
					200.00 101110 540520	Telephone				
					1,123.15 101600 540520	Telephone				
					1,145.95 751820 540520	Telephone				
					200.00 130100 540520	Telephone				
					951.00 751810 540520	Telephone				
							CHECK	100910 TOTAL:		6,936.90
100911	03/30/2021	PRTD	21252	TYLER TECHNOLOGIES,	045-331856	3184	02/28/2021		033021	1,750.00
	Invoice: 045-331856					INVENTORY CONVERSION-50%				
					1,750.00					
					E CIP10663 .NON-LABOR . .					
					330440 900000	Capital Asset Expenses				
					045-332309	3185	02/28/2021		033021	3,500.00
	Invoice: 045-332309					ERP IMPLEMENTATION 2/22-2/24				
					3,500.00					
					E CIP10663 .NON-LABOR . .					
					330440 900000	Capital Asset Expenses				
							CHECK	100911 TOTAL:		5,250.00
100912	03/30/2021	PRTD	21511	URBAN WATER GROUP, I	1450	3083	03/05/2021		033021	3,617.50
	Invoice: 1450					SUSTAINABILITY GARDEN REFRESH				
					3,617.50 751750	551500 Outside Services				
							CHECK	100912 TOTAL:		3,617.50
100913	03/30/2021	PRTD	18914	WECK LABORATORIES, I	W1A0920-LV	3023	01/18/2021		033021	7.43
	Invoice: W1A0920-LV					TAPIA GROUNDWATER-1A12101				
					7.43 751810	571520 Other Laboratory Serv				
					W1A1251-LV	3024	01/21/2021		033021	965.30
	Invoice: W1A1251-LV					MC-DIAZINON-0L09031				
					965.30 751810	571520 Other Laboratory Serv				
					W1A1357-LV	3025	01/22/2021		033021	71.10
	Invoice: W1A1357-LV					DIONIZED WATER-1A12099				
					71.10 701341	551500 Outside Services				
					W1A1468-LV	3026	01/26/2021		033021	840.56
	Invoice: W1A1468-LV					RLV BIOSOLIDS-1A20020				

A/P CASH DISBURSEMENTS JOURNAL

CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
					840.56 751830	571520	Other Laboratory Serv			
					W1B0409-LV	3027	02/08/2021		033021	41.38
				Invoice: W1B0409-LV	41.38 101600	571520	WESTLAKE-1A27031 Other Laboratory Serv			
					W1B0687-LV	3028	02/12/2021		033021	1,103.20
				Invoice: W1B0687-LV	1,103.20 751810	571520	MC-DIAZINON-1A20021 Other Laboratory Serv			
					W1B0688-LV	3029	02/12/2021		033021	10,951.25
				Invoice: W1B0688-LV	10,951.25 751810	571520	MALIBU CREEK-1A12110 Other Laboratory Serv			
					W1B0689-LV	3030	02/12/2021		033021	1,144.27
				Invoice: W1B0689-LV	1,144.27 751810	571520	TAPIA INFLUENT-1A12128 Other Laboratory Serv			
					W1B0761-LV	3031	02/12/2021		033021	4,405.92
				Invoice: W1B0761-LV	4,405.92 751810	571520	TAPIA EFFLUENT-1A12103 Other Laboratory Serv			
					W1B1488-LV	3032	02/24/2021		033021	159.12
				Invoice: W1B1488-LV	159.12 751820	571520	RLV COMPOST-1A12100 Other Laboratory Serv			
					W1B1737-LV	3033	02/26/2021		033021	106.08
				Invoice: W1B1737-LV	106.08 751810	571520	TAPIA INFLUENT-1B09074 Other Laboratory Serv			
					W1B1738-LV	3034	02/26/2021		033021	76.39
				Invoice: W1B1738-LV	76.39 751810	571520	TAPIA GROUNDWATER-1B09075 Other Laboratory Serv			
					W1B1739-LV	3035	02/26/2021		033021	3,466.73
				Invoice: W1B1739-LV	3,466.73 751810	571520	MALIBU CREEK-1B09078 Other Laboratory Serv			
					W1B1740-LV	3036	02/26/2021		033021	193.10
				Invoice: W1B1740-LV	193.10 751810	571520	TAPIA EFFLUENT-1B09077 Other Laboratory Serv			
					W1B1741-LV	3037	02/26/2021		033021	1,273.00
				Invoice: W1B1741-LV	1,273.00 751820	571520	RLV BIOSOLIDS-1A27085 Other Laboratory Serv			
					W0L1306-LV	3039	12/21/2020		033021	106.08
				Invoice: W0L1306-LV	106.08 751810	571520	TAPIA INFLUENT-0L01064 Other Laboratory Serv			
					W0L0291-LV	3040	12/04/2020		033021	806.16
				Invoice: W0L0291-LV			TTHM/HAA5-QTRLY-0K17117			

A/P CASH DISBURSEMENTS JOURNAL

CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
					806.16 101300	571520	Other Laboratory Serv			
					W0L1754-LV	3041	12/30/2020		033021	800.00
				Invoice: W0L1754-LV			TAPIA INFLUENT-0K24058			
					800.00 751810	571520	Other Laboratory Serv			
					W0L1756-LV	3042	12/30/2020		033021	800.00
				Invoice: W0L1756-LV			TAPIA EFFLUENT-0K24059			
					800.00 751810	571520	Other Laboratory Serv			
					W0L1757-LV	3043	12/30/2020		033021	800.00
				Invoice: W0L1757-LV			RLV SLUDGE CAKE-0K24104			
					800.00 751820	571520	Other Laboratory Serv			
					W0L1759-LV	3044	12/30/2020		033021	105.38
				Invoice: W0L1759-LV			WESTLAKE-0L09030			
					105.38 101600	571520	Other Laboratory Serv			
					W0L1760-LV	3045	12/30/2020		033021	372.37
				Invoice: W0L1760-LV			TAPIA EFFLUENT-0L01065			
					372.37 751810	571520	Other Laboratory Serv			
					W0L1761-LV	3046	12/30/2020		033021	2,661.95
				Invoice: W0L1761-LV			MALIBU CREEK-0L01066			
					2,661.95 751810	571520	Other Laboratory Serv			
					W0L1763-LV	3048	12/30/2020		033021	3,840.68
				Invoice: W0L1763-LV			TAPIA EFFLUENT-0K17106			
					3,840.68 751810	571520	Other Laboratory Serv			
					W0L1765-LV	3049	12/30/2020		033021	806.27
				Invoice: W0L1765-LV			TAPIA INFLUENT-0K17118			
					806.27 751810	571520	Other Laboratory Serv			
					W0L1767-LV	3051	12/30/2020		033021	1,248.24
				Invoice: W0L1767-LV			MALIBU CREEK-0L01067			
					1,248.24 751810	571520	Other Laboratory Serv			
					W0L1901-LV	3054	12/31/2020		033021	3,239.78
				Invoice: W0L1901-LV			ANION & NUTRIENT TESTING-0L09033			
					3,239.78 751810	571520	Other Laboratory Serv			
					W0L1766-LV	3058	12/30/2020		033021	6,341.80
				Invoice: W0L1766-LV			MALIBU CREEK-0K17101			
					6,341.80 751810	571520	Other Laboratory Serv			
					W0L1762-LV	3060	12/30/2020		033021	488.36
				Invoice: W0L1762-LV			FAST WATER CT-0K24060			
					488.36 101300	571520	Other Laboratory Serv			
					W1C0313-LV	3281	03/05/2021		033021	806.16
				Invoice: W1C0313-LV			QTRLY TTHM/HAA5-1B17035			

A/P CASH DISBURSEMENTS JOURNAL

CASH ACCOUNT: 999 100100 Cash-General

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	DOCUMENT	INV DATE	PO	CHECK RUN	NET
					INVOICE DTL DESC					
					806.16 101300	571520	Other Laboratory Serv			
							CHECK	100913 TOTAL:		48,028.06
100914	03/30/2021	PRTD	8514	WEST COAST IRRIGATIO	10368	3307	03/09/2021		033021	571.64
	Invoice: 10368					SPRAYFIELD PIPE PARTS				
					571.64 751810	678800	District Sprayfield			
							CHECK	100914 TOTAL:		571.64
100915	03/30/2021	PRTD	3067	XEROX CORPORATION	702472313	3308	03/10/2021		033021	218.12
	Invoice: 702472313					COPIER RENT-FEB'21@TAPIA				
					218.12 701420	620500	Equip Rental			
							CHECK	100915 TOTAL:		218.12
					NUMBER OF CHECKS 46		*** CASH ACCOUNT TOTAL ***			615,751.31

	COUNT	AMOUNT
TOTAL PRINTED CHECKS	46	615,751.31

*** GRAND TOTAL *** 615,751.31

LAS VIRGENES MUNICIPAL WATER DISTRICT
4232 Las Virgenes Road, Calabasas CA 91302

MINUTES
REGULAR MEETING

9:00 AM March 16, 2021

PLEDGE OF ALLEGIANCE

The Pledge of Allegiance to the Flag was led by Josie Guzman.

1. CALL TO ORDER AND ROLL CALL

The meeting was called to order at **9:00 a.m.** by Board President Lewitt via teleconference in the Board Room at Las Virgenes Municipal Water District headquarters at 4232 Las Virgenes Road, Calabasas, CA 91302. The meeting was conducted via teleconference pursuant to the provisions of the Governor's Executive Order, N-29-20, which suspended certain requirements of the Ralph M. Brown Act to support social distancing guidelines associated with response to the coronavirus (COVID-19) outbreak. Josie Guzman, Clerk of the Board, conducted the roll call.

Present:	Directors Charles Caspary, Jay Lewitt, Lynda Lo-Hill, Len Polan, and Lee Renger (connected to the teleconference at 9:09 a.m.)
Absent:	None
Staff Present:	David Pedersen, General Manager Joe McDermott, Director of Engineering and External Affairs Don Patterson, Director of Finance and Administration John Zhao, Director of Facilities and Operations Josie Guzman, Clerk of the Board Keith Lemieux, District Counsel

2. APPROVAL OF AGENDA

Director Polan moved to approve the agenda. Motion seconded by Director Caspary.

Motion carried by the following roll call vote:

AYES: Caspary, Lewitt, Lo-Hill, Polan
NOES: None
ABSTAIN: None
ABSENT: Renger

3. PUBLIC COMMENTS

None.

4. CONSENT CALENDAR

A List of Demands: March 16, 2021: Receive and file

B Minutes: Regular Meeting of March 2, 2021: Approve

C Directors' Per Diem: February 2021: Ratify

D Monthly Investment Report: December 2020

Receive and file the Monthly Investment Report for December 2020.

E Resolution Authorizing Use of Electronic Signature: Correction

Pass, approve, and adopt proposed Resolution No. 2591, authorizing the use of electronic signatures.

RESOLUTION NO. 2591

A RESOLUTION OF THE BOARD OF DIRECTORS OF LAS VIRGENES MUNICIPAL WATER DISTRICT RESCINDING RESOLUTION NO. 2580 AND AMENDING LAS VIRGENES MUNICIPAL WATER DISTRICT CODE AS IT RELATES TO ELECTRONIC SIGNATURES

(Reference is hereby made to Resolution No. 2591 on file in the District's Resolution Book and by this reference the same is incorporated herein.)

F Resolution Authorizing Establishment of a Post Employment Health Plan

Pass, approve, and adopt proposed Resolution No. 2592, authorizing the General Manager to establish an employee-funded post employment health plan for unrepresented employees.

RESOLUTION NO. 2592

A RESOLUTION OF THE BOARD OF DIRECTORS OF LAS VIRGENES MUNICIPAL

WATER DISTRICT AUTHORIZING PARTICIPATION IN A POST EMPLOYMENT HEALTH PLAN (PEHP)

(Reference is hereby made to Resolution No. 2592 on file in the District's Resolution Book and by this reference the same is incorporated herein.)

G Amendments to Agreements for Laboratory Services: Approval

Authorize the General Manager to extend the term of the annual purchase order with Weck Laboratories, Inc., through January 18, 2021, and increase the amount by $6,000; and authorize the General Manager to extend the term of the professional services agreement with Eurofins Eaton Analytical, Inc., through March 15, 2021, and increase the amount by $25,000 for state-certified laboratory services.

Director Caspary moved to approve the Consent Calendar. Motion seconded by Director Lo-Hill. Motion carried by the following roll call vote:

AYES: Caspary, Lewitt, Lo-Hill, Polan
NOES: None
ABSTAIN: None
ABSENT: Renger

5. ILLUSTRATIVE AND/OR VERBAL PRESENTATION AGENDA ITEMS

A MWD Representative Report

Director Renger connected to the teleconference at 9:09 a.m.

Glen Peterson, MWD Representative, reported that the MWD Board inducted new Directors Dennis Erdman, Adan Ortega, and Miguel Luna. He also reported that the MWD Board authorized an agreement with San Bernardino Valley Municipal Water District for access to surplus water supplies and mutual aid during emergencies or outages. He noted that water would be available for member agencies and would not be subject to State Water Project allocations. He also reported that the MWD Board authorized an increase to the contract amount with Shaw Law Group to conduct an independent review of allegations related to equal employment opportunity policies and practices, and authorized filing cross-complaints in the litigation with San Diego County Water Authority. He responded to a question regarding the timetable for MWD to hire its new General Manager by stating that he believed in-person interviews with candidates would be held soon, and the new General Manager should be hired by June.

B Legislative and Regulatory Updates

Joe McDermott, Director of Engineering and External Affairs, reviewed the Legislation and LVMWD/JPA Position Dashboard. He noted that the District sent a letter opposing AB 1434 (Friedman), Urban Water Use Objectives: Indoor Residential Water Use, which

would lower the state's indoor residential water use standards without performing collaborative studies and investigation. He expressed concern that this bill would set water conservation targets to 48 gallons per capita daily and would not allow SB 606 and AB 1668, Water Management Planning, the opportunity to be implemented as originally intended. He also reported that a coalition letter was sent opposing AB 377 (Rivas), Water Quality: Impaired Waters, which would require all California surface waters to be fishable, swimmable, and drinkable by January 1, 2050. He expressed concern that this bill would eliminate due process associated with the issuance of NPDES permits, and noted that the oppose positon was taken through the Association of California Water Agencies (ACWA) and the California Association of Sanitation Agencies (CASA). He also reported that the District sent a letter supporting AB 703 (Rubio), Open Meeting: Local Agencies: Teleconferences, which would modernize open meeting laws to enhance public access to public meetings through teleconferencing. He also reported that letters of support were sent on behalf of the Las Virgenes-Triunfo Joint Powers Authority (JPA) regarding H.R. 1319, the American Rescue Plan Act of 2021, urging support for provisions for the Lower Income Home Energy Assistance Program (LIHEAP), funding for infrastructure for water utilities, and paid sick leave and family leave credits for public agencies. He also reported that the District would be sending a letter supporting S.4129 (Wicker), the Lifting Our Communities through Advance Liquidity for Infrastructure Act, which would restore advanced refunding of municipal bonds and could assist with cost-effective financing of the Pure Water Project Las Virgenes-Triunfo. He also reported that the District sent a letter in support, if amended, of SB 45 (Portantino), the Wildfire Prevention, Safe Drinking Water, Drought Preparation, and Flood Protection Bond Act of 2022, urging the Senate Natural Resource and Water Committee to set aside $1.5 billion for water recycling projects. He noted that there was an effort to request the state to set aside surplus tax revenue to assist customers in paying their delinquent utility bills as a result of financial hardships related to the COVID-19 pandemic.

Director Caspary reported that he attended the ACWA State Legislative Committee meeting on March 12th where they considered taking positions on approximately 50 bills. He noted that ACWA staff had originally proposed being in favor of AB 818 (Bloom), Solid Waste: Pre-moistened Nonwoven Disposable Wipes, which would place restrictions on flushable wipes. He stated that ACWA had changed its position to support the bill. Mr. McDermott stated that staff would send a letter in support of this bill.

Mr. McDermott responded to a question regarding AB 703 by stating that the bill would allow public agencies to follow revised noticing requirements and continue to allow teleconferencing options for public meetings for broader public access, which was currently occurring under Governor Gavin Newsom's Executive Order to suspend certain requirements of the Ralph M. Brown Act to support social distancing guidelines associated with response to the COVID-19 pandemic. General Manager David Pedersen added that there were two other similar bills that would likely be merged; however, those bills would require closed captioning and translation services for public meetings. He stated that ideally the timing of the passage of AB 703 would coordinate with lifting the Governor's Executive Order.

Mr. McDermott reported that staff met with South Coast Air Quality Management District

(AQMD) representatives regarding tentative changes to the regulations for emergency generator runtime. He noted that AQMD staff was in contact with the California Air Resources Board (CARB) to discuss changes to regulations related to increasing runtime for emergency generator maintenance and testing limits to 45 hours every two years, and to allow for running a generator up to 30 hours in any single year as long as the runtime does not exceed 45 hours every two years. He also noted that the District was requesting an additional three hours of runtime before and after each Public Safety Power Shutoff (PSPS) event to warm up and cool down the emergency generators and support smooth transitions to and from backup emergency power sources. These hours would be in addition to those allowed for the duration of the PSPS event. He also reported that staff asked Best Best & Krieger, the District's lobbyist, to schedule teleconference meetings with Congressional Members and/or staff for the first week in April in lieu of an annual Washington D.C. lobbying trip. He stated that participants would include two Board members from the District and two Board members from Triunfo Water & Sanitation District.

C Water Supply Conditions Update

Joe McDermott, Director of Engineering and External Affairs, presented the report and noted that precipitation as measured by the 8-Station Index was 52 percent of normal and snowpack in the Sierras was 65 percent of normal.

Director Lo-Hill mentioned that she contacted Mr. McDermott regarding the water supply conditions, and he provided a copy of the Northern Sierra Precipitation 8-Station Index, which showed the historical total water year precipitation. Mr. McDermott stated that he would email a copy of the 8-Station Index to the Board and share a copy at the next Board meeting.

6. TREASURER

Director Lo-Hill stated that the Treasurer's report was in order.

7. BOARD OF DIRECTORS

A Response to Coronavirus (COVID-19) Pandemic: Continuation of Emergency

Approve the continuation of an emergency declaration for response to the coronavirus (COVID-19) pandemic.

Ursula Bosson, Customer Service Manager, presented the report and provided a comparison of water agencies that have adopted customer e-billing and autopay options. She stated that she would email a copy of the comparison to the Board. She noted that other agencies had contacted the District regarding its policy on installing flow restriction devices.

General Manager David Pedersen reported that recent changes to state guidelines would allow all employees with emergency response functions to be eligible for the COVID-19

vaccine, which would include all District employees. He also reported that the County of Los Angeles was now in the red tier and several restrictions were relaxed. He stated that the District would implement reopening to the public beginning on March 22nd with several restrictions:

- All visitors must wear a facemask and practice social distancing protocols.
- The front counter would be open to the public Monday through Thursday from 8:00 a.m. to 12:00 p.m. for non-cash payments for up to two customers at a time.
- Appointments would be available for the Technical Services Counter.

General Manager David Pedersen stated that the current plan for holding in-person Board meetings would be that meetings could take place once the county is in the orange tier.

Director Lo-Hill moved to approve Item 7A. Motion seconded by Director Caspary.

A discussion ensued regarding publicizing the reopening via the website and social media, including noting that payments could continue to be made by phone or online.

Motion carried unanimously by roll call vote.

8. FINANCE AND ADMINISTRATION

A Water Operations SCADA Servers and Equipment Reconfiguration: Award

Accept the proposal from The Rovisys Company and authorize the General Manager to execute a professional services agreement, in the amount of $128,356, to migrate and reconfigure server and network equipment for the Water Operations SCADA servers and equipment reconfiguration.

Ivo Nkwenji, Information Systems Manager, presented the report.

Director Caspary moved to approve Item 8A. Motion seconded by Director Polan.

Mr. Nkwenji responded to a question regarding security certification from The Rovisys Company (Rovisys) by stating that Rovisys would need to ensure that the system is secure in writing in accordance with the District's security assessment protocol and provide assurance as part of the agreement. He also responded to a question regarding whether artificial intelligence would be used by stating that there would be no artificial intelligence involved as the system feeds into the control panels to the SCADA system. He noted that the District's servers would store the application that control the SCADA system.

Motion carried unanimously by roll call vote.

9. ENGINEERING AND EXTERNAL AFFAIRS

A Jim Bridger and Long Valley Road Water Main Replacement Project: Final Acceptance

Approve an additional appropriation, in the amount of $47,582.57, to reconcile the final project cost; authorize the General Manager to execute a Notice of Completion and have the same recorded; waive liquidated damages associated with delays during construction; and, in the absence of claims from subcontractors and others, release the retention, in the amount of $28,851.40, 30-calendar days after filing the Notice of Completion for the Jim Bridger and Long Valley Water Main Replacement Project.

Oliver Slosser, Senior Engineer, presented the report.

Director Caspary moved to approve Item 9A. Motion seconded by Director Lewitt.

Director Caspary commended District staff and the contractor for working concurrently while the City of Hidden Hills conducted underground work as part of a project with Southern California Edison.

Motion carried unanimously by roll call vote.

B Saddle Peak and Cordillera Tanks Rehabilitation Project: Approval of Scope Change

Authorize the General Manager to approve Scope Change No. 1 with CSI Inspection Services, Inc., in the amount of $27,675, for additional professional coating inspection services associated with the Saddle Peak and Cordillera Tanks Rehabilitation Project.

Veronica Hurtado, Assistant Engineer, presented the report.

Director Polan moved to approve Item 9B. Motion seconded by Director Lo-Hill.

Ms. Hurtado responded to a question regarding the rebid of the project and working with two separate contractors by stating that the project was rebid because only one viable bid was initially received at twice the budgeted amount. She noted that the project was rebid with the schedules separated, which allowed awarding the project to two separate bidders.

Motion carried unanimously by roll call vote.

10. NON-ACTION ITEMS

A Organization Reports

Director Polan reported that he was participating in the ongoing WateReuse Virtual Symposium, where the importance of education and holding tours of facilities were

discussed. He inquired whether the District had reached out to the medical community to seek their support of potable water reuse. General Manager David Pedersen responded that this topic could be discussed at a future Board meeting.

B Director's Reports on Outside Meetings

Director Caspary noted that he provided his report on the ACWA State Legislative Committee Meeting during Legislative and Regulatory Updates.

Board President Lewitt reported that he participated in the ACWA Virtual Legislative Symposium on March 11th. He noted that Senator Bill Dodd spoke regarding concerns with taking water for granted. He also noted that AB 222, the Water Affordability Assistance Program, focused on providing assistance to low income residents in the state, and it was not likely that the District would receive assistance for local residents who experienced financial hardship due to the COVID-19 pandemic.

Director Lo-Hill reported that she was participating in the ongoing WateReuse Virtual Symposium. She also reported that she participated in the District's Annual International Women's Day Program on March 10th.

C General Manager Reports

(1) General Business

General Manager David Pedersen noted that the Las Virgenes-Triunfo Joint Powers Authority (JPA) would be recognized during the WateReuse Symposium on March 22nd. He also reminded the Board of the Special Board Meeting scheduled on March 23rd from 9:00 a.m. to 1:00 p.m. for Board training. He noted that he would join the meeting at 10:00 a.m. as he would be providing a presentation for the American Water Works Association regarding the Woolsey Fire. He also reminded the Board that a Special JPA Board Meeting would be held on March 30th from 10:00 a.m. to 12:00 p.m. for a workshop regarding the Pure Water Project Las Virgenes-Triunfo Alternate Delivery Methods. He also reported that 0.15 inches of rain was recently recorded at the Tapia Water Reclamation Facility. He noted that District staff was working with Southern California Edison (SCE) for reimbursement of District's costs related to the previous year's power grid shortages in the state. He noted that Governor Newsom had asked utilities to lower demands, and the District complied by operating emergency back-up generators. He also noted that SCE expressed support in incentivizing the District.

(2) Follow-Up Items

None.

D Directors' Comments

Director Lo-Hill commended Board President Lewitt on his opinion letter regarding lessons learned from Texas' recent water emergency, which was published in *The Acorn*. Board President Lewitt acknowledged Mike McNutt, Public Affairs and Communications

Manager, for his assistance in preparing the opinion letter.

Board President Lewitt also acknowledged General Manager David Pedersen for taking a proactive approach to having the COVID-19 vaccine available to District employees.

11. FUTURE AGENDA ITEMS

None.

12. PUBLIC COMMENTS

None.

13. CLOSED SESSION

A Conference with Labor Negotiators (Government Code Section 54957.6):

Agency Designated Representatives: David W. Pedersen, General Manager; and Donald Patterson, Director of Finance and Administration

Employee Organizations: General and Office Units represented by the Service Employees International Union Local 721

B Conference with Labor Negotiators (Government Code Section 54957.6):

Agency Designated Representatives: David W. Pedersen, General Manager; and Donald Patterson, Director of Finance and Administration

Employee Organizations: Las Virgenes Manager, Supervisor, Professional, and Confidential Employees Association

The Board recessed to Closed Session at **10:35 a.m.** and reconvened to Open Session at **11:08 a.m.**

Keith Lemieux, District Counsel, announced that the Board received a report in Closed Session and authorized the General Manager to negotiate parameters related to employees' vacation accrual, and if agreed to by the employee organizations, staff is to bring back an Information Item at a future Board meeting.

14. OPEN SESSION AND ADJOURNMENT

Seeing no further business to come before the Board, the meeting was duly adjourned at **11:09 a.m.**

Jay Lewitt, President
Board of Directors
Las Virgenes Municipal Water District

ATTEST:

Lee Renger, Secretary
Board of Directors
Las Virgenes Municipal Water District

(SEAL)

LAS VIRGENES MUNICIPAL WATER DISTRICT
4232 Las Virgenes Road, Calabasas CA 91302

MINUTES
SPECIAL MEETING

9:00 AM March 23, 2021

PLEDGE OF ALLEGIANCE

The Pledge of Allegiance to the Flag was led by John Zhao.

1. CALL TO ORDER AND ROLL CALL

The meeting was called to order at **9:00 a.m.** by Board President Lewitt via teleconference in the Board Room at Las Virgenes Municipal Water District headquarters at 4232 Las Virgenes Road, Calabasas, CA 91302. The meeting was conducted via teleconference pursuant to the provisions of the Governor's Executive Order, N-29-20, which suspended certain requirements of the Ralph M. Brown Act to support social distancing guidelines associated with response to the coronavirus (COVID-19) outbreak. Josie Guzman, Clerk of the Board, conducted the roll call.

Present:	Directors Charles Caspary, Jay Lewitt, Lynda Lo-Hill, Len Polan, and Lee Renger
Absent:	None
Staff Present:	David Pedersen, General Manager (connected to the teleconference at 9:59 a.m.)
	Joe McDermott, Director of Engineering and External Affairs
	John Zhao, Director of Facilities and Operations
	Josie Guzman, Clerk of the Board
	Wayne Lemieux, District Counsel
	Elana Rivkin-Haas, District Counsel
Attendees:	Kyle Blades, City of Ridgecrest
	Scott Hayman, City of Ridgecrest
	Mary Mendoza, City of San Fernando

Cindy Montañez, City of San Fernando
Janna Orkney, Triunfo Water & Sanitation District (connected to the teleconference at 10:00 a.m.)
Leon Shapiro, Triunfo Water & Sanitation District
James Wall, Triunfo Water & Sanitation District (connected to the teleconference at 10:00 a.m.)

2. AB 1234 ETHICS TRAINING, RULES OF ORDER, BROWN ACT, CONFLICT OF INTEREST, AND CUSTOMER PRIVACY ISSUES

The Board of Directors, staff, and attendees participated in a training session presented by Wayne Lemieux on the subjects of AB 1234 Ethics, rules of order, the Ralph M. Brown Act, conflict of Interest, public records, and customer privacy issues.

No actions were taken by the Board.

3. AB 1661 SEXUAL HARASSMENT PREVENTION TRAINING

The Board of Directors and staff participated in a training session presented by Elana Rivkin-Haas on the subject of AB 1661 Sexual Harassment Prevention.

No actions were taken by the Board.

4. ADJOURNMENT

Seeing no further business to come before the Board, the meeting was duly adjourned at **1:02 p.m.**

Jay Lewitt, President
Board of Directors
Las Virgenes Municipal Water District

ATTEST:

Lee Renger, Secretary
Board of Directors
Las Virgenes Municipal Water District

(SEAL)

Water Supply Conditions Report

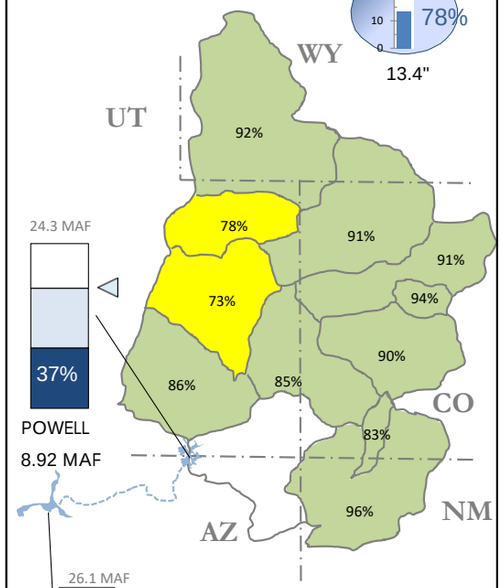
As of: 03/25/2021

2021 Colorado River

1,069,000 AF
Projected CRA Diversions

Upper Colorado River Basin
88%

78%
13.4"



24.3 MAF
37%
POWELL
8.92 MAF

26.1 MAF
40%
MEAD
10.38 MAF
1084.37 FT

Peak Snowpack % of Normal April 1

Snow Water Equivalent (% of Normal)
- No Data
- Less than 50
- 50 - 80
- 81 - 120
- 121 - 150
- Greater than 150

Turn page for more CRA Data

Flip Over for SWP Data

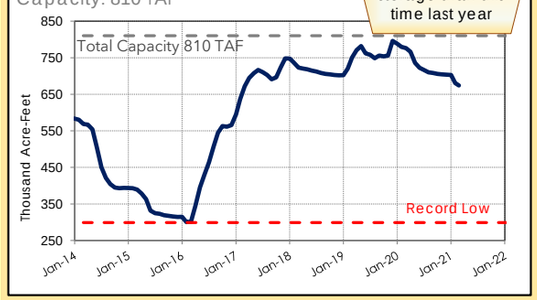
Highlights

- Snowpack in the Sierra is at 64% of normal
- Precipitation at the 8 Station Index is at 53% of normal
- Snowpack in the Upper Colorado is at 88% of normal
- Precipitation in the Upper Colorado is at 78% of normal

Diamond Valley Lake Storage

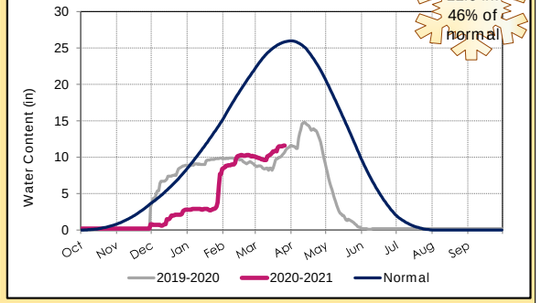
Capacity: 810 TAF

102 TAF less in storage than this time last year

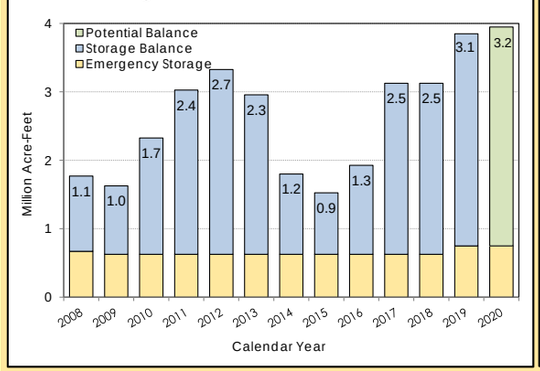


Southern Sierra Snowpack

11.6 in.
46% of normal



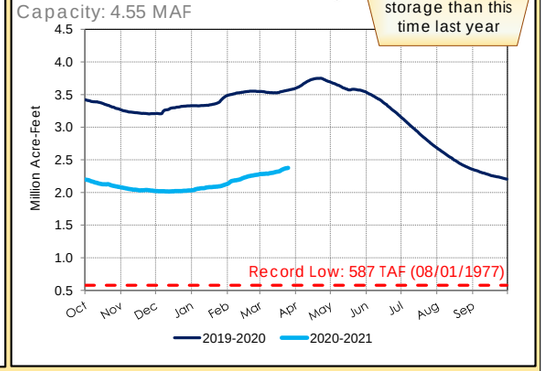
MWD Storage Reserve Levels



Lake Shasta Reservoir Storage

Capacity: 4.55 MAF

1.19 MAF less in storage than this time last year

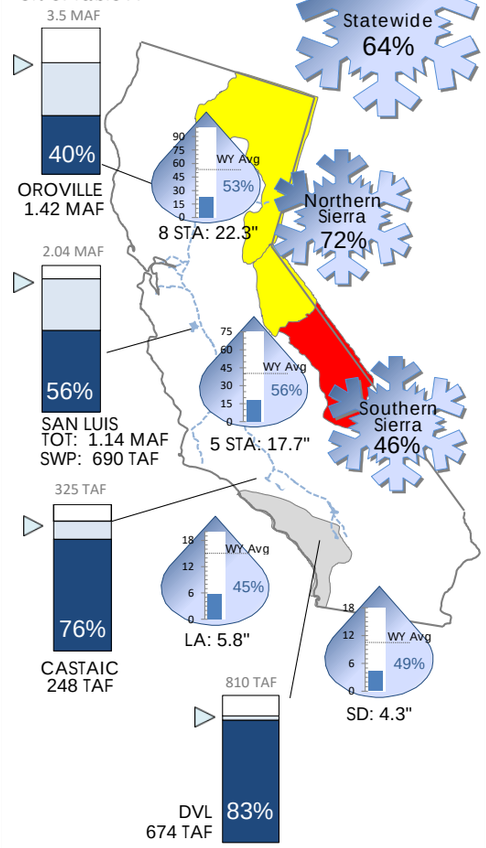


Water Supply Conditions Report

As of: 03/25/2021

2021 SWP Allocation

95,575 AF
5% of Table A



WY Avg
% Normal
Rainfall to Date (in)

Capacity
Average EOM
Current Storage

Flip Over for CRA Data

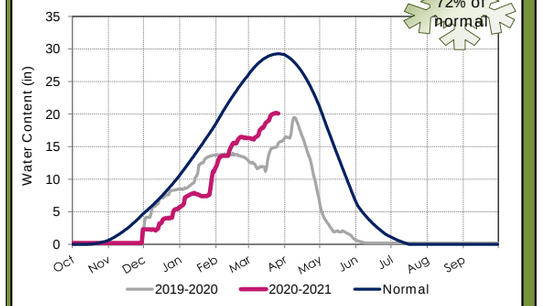
Turn page for more SWP Data

State Water Project Resources

As of: 03/25/2021

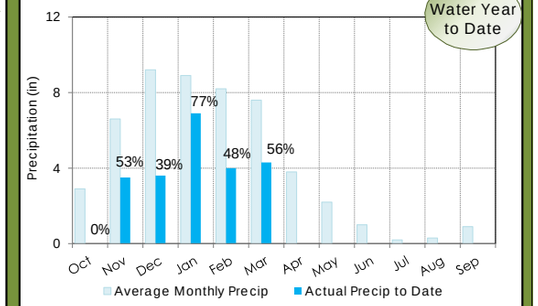
Northern Sierra Snowpack

20.1 in.
72% of normal



8 Station Index Precip

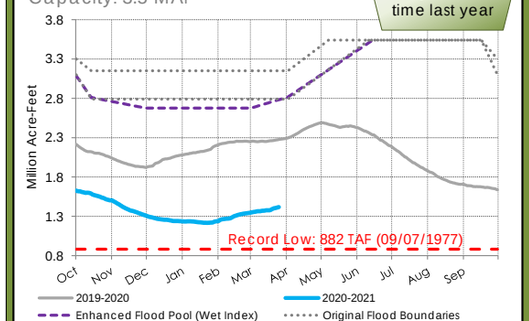
22.3 in.
Water Year to Date



Oroville Reservoir Storage

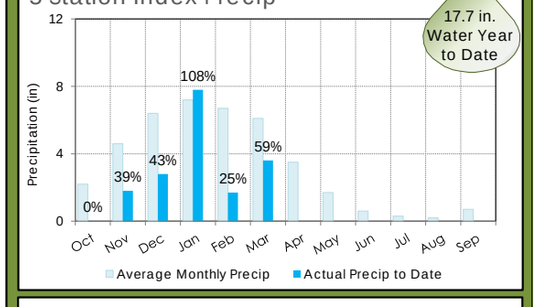
Capacity: 3.5 MAF

862 TAF less in storage than this time last year



5 Station Index Precip

17.7 in.
Water Year to Date



Other SWP Contract Supplies

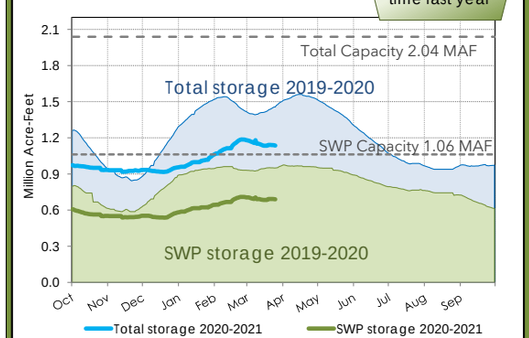
Calendar Year 2021

Carryover	Transfer Supplies
207,000 AF	TBD

San Luis Reservoir Storage

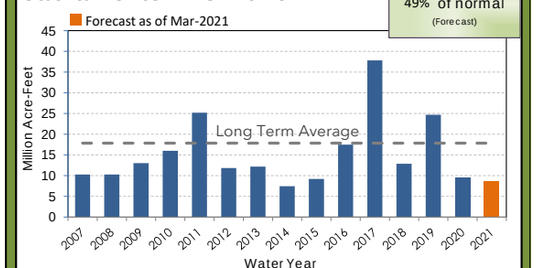
Capacity: 2.04 MAF

261 TAF less in SWP storage than this time last year



Sacramento River Runoff

WY 2021
49% of normal
(Forecast)

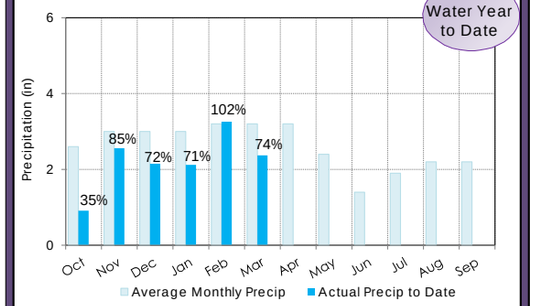


Colorado River Resources

As of: 03/25/2021

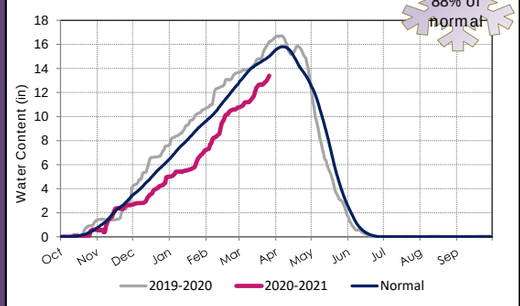
Upper Colorado Basin Precip

13.4 in.
Water Year to Date

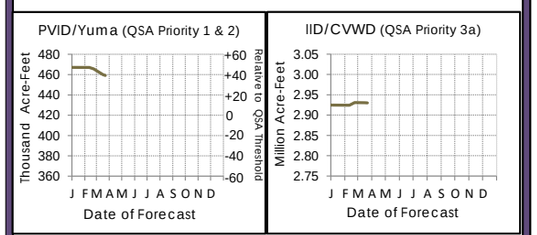


Upper Colorado Basin Snowpack

13.4 in
88% of normal



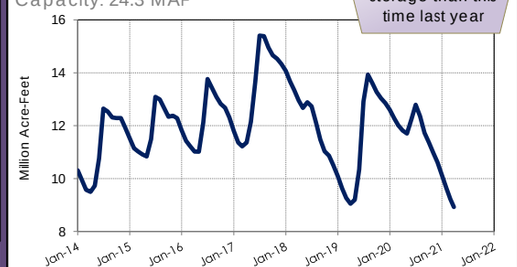
2021 Colorado River Ag Use Forecast



Lake Powell Storage

Capacity: 24.3 MAF

2.93 MAF less in storage than this time last year



Lake Mead Shortage/Surplus Outlook

	2021	2022	2023	2024	2025
Shortage	0%	60%	82%	75%	73%
Surplus	0%	0%	0%	2%	5%

Likelihood based on results from the January 2021 MTOM/CRSS model run. Includes DCP Contributions.

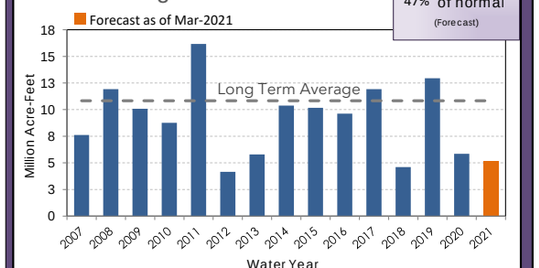
Projected Lake Mead ICS

Calendar Year 2021

Put (+)/Take(-)
-54,000 AF

Powell Unregulated Inflow

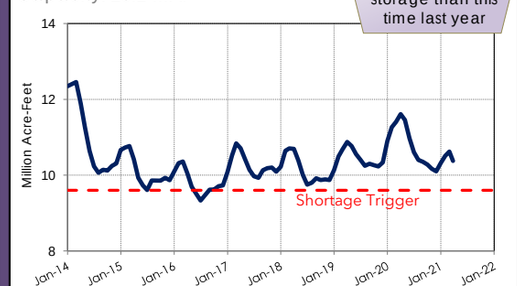
WY 2021
47% of normal
(Forecast)



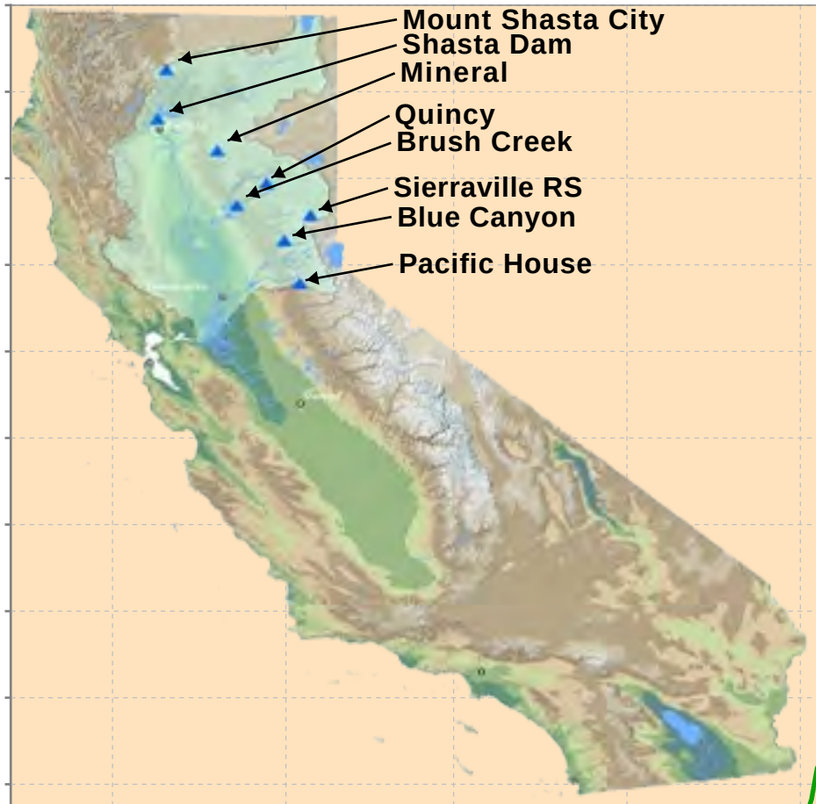
Lake Mead Storage

Capacity: 26.1 MAF

1.20 MAF less in storage than this time last year



Northern Sierra Precipitation: 8-Station Index, March 31, 2021



Percent of Average for this Date: 51%

2016-2017 Daily Precip (wettest) 94.7

1982-1983 (2nd wettest) 88.5

2018-2019 Daily Precip 70.7

Average (1966-2015) 51.8

2017-2018 Daily Precip 41.0

2014-2015 Daily Precip 37.2

2019-2020 Daily Precip 31.7

Current: 22.4

1976-1977(2nd driest & driest thru Aug) 19.0

Cumulative Daily/Monthly Precipitation (inches)

Total Water Year Precipitation

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

Oct 1 Nov 1 Dec 1 Jan 1 Feb 1 Mar 1 Apr 1 May 1 Jun 1 Jul 1 Aug 1 Sep 1 Oct 1

Water Year (October 1 - September 30)

The Metropolitan Water District of Southern California

NEWS RELEASE

P. O. Box 54153, Los Angeles, California 90054-0153 • (213) 217-6485 • www.mwdh2o.com

Contacts: Rebecca Kimitch, (213) 217-6450; (202) 821-5253, cell; rkimitch@mwdh2o.com
Maritza Fairfield, (213) 217-6853; (909) 816-7722, cell; mfairfield@mwdh2o.com

Note: Video clips of General Manager Jeffrey Kightlinger and b-roll footage are available here.

March 31, 2021

SOUTHERN CALIFORNIA PREPARED FOR DROUGHT WITH METROPOLITAN INVESTMENTS IN STORAGE, CONSERVATION, DIVERSE SUPPLIES

State snow survey tomorrow expected to further illustrate critical drought conditions

Despite critically dry conditions across the state, Southern California can count on a reliable water supply thanks to residents' enduring conservation efforts and the Metropolitan Water District's investments in storage and diverse supplies, agency officials announced today in advance of tomorrow's state snow survey.

The state Department of Water Resources snow survey is expected to provide the latest evidence that precipitation totals this year in the Sierra Nevada are far below average. The survey comes on the heels of DWR last week dropping the State Water Project water supply allocation from 10 percent to just 5 percent of contracted amounts, matching the record-low allocation recorded just six years ago.

The supply cut means Metropolitan will likely receive less than one month's usual supply of water this year from the state project, which on average provides about 30 percent of Southern California's water supply, Metropolitan General Manager Jeffrey Kightlinger said.

"In the long term, this is an alarming trend. And it's what we have expected from climate change," Kightlinger said. "The droughts are going to be drier. The peak storms are going to be stronger. The whole weather system is going to be flashier, much more volatile."

Metropolitan is managing through such volatility by taking advantage of wet years, like 2017 and 2019, to move as much water into storage as possible. The agency has increased its total storage capacity by 13 times since 1990, investing in surface and groundwater storage across the southwest.

Not only has Metropolitan built vital infrastructure, such as Diamond Valley Lake and the Inland Feeder pipeline, which allow surplus water to quickly be stored in local reservoirs, it also has forged partnerships with water agencies across California for groundwater banking and exchanges. And it collaborated with partners along the Colorado River to establish a program to store water in Lake Mead, known as Intentionally Created Surplus, to enable Metropolitan to provide a full Colorado River Aqueduct supply in dry years like 2021.

Taken together, Metropolitan now has more water in these storage accounts than it ever has before – a total of 3.2 million acre-feet. An acre-foot is the amount used by three typical Southland households in a year.

Kightlinger said this record reserve has been made possible, in part, because of reduced water use across the region that has continued since the 2014-2016 drought. During that drought, widespread conservation initiatives encouraged Southern Californians to make conservation a way of life. Residents replaced water-thirsty grass with California native and California Friendly™ plants, installed water-efficient devices and appliances, and embraced a water-conservation ethic that endures. Per capita potable water consumption dropped from more than 150 gallons a day in the years before the drought to an average of about 120 gallons a day last year.

Metropolitan's diverse water supply mix also means that when the Sierra Nevada is critically dry and SWP supplies are slashed, the agency can turn to its Colorado River supplies to help make up the difference. However, while the Colorado River can provide immediate relief, its long-term water supply outlook is also becoming significantly more constrained by the impacts of climate change and drought conditions that have stretched beyond 20 years.

"The good news is, we have enough water to get through this critically dry year. We've been preparing for droughts like this. We have sufficient water in storage, Southern Californians have done a great job conserving, and the Colorado River provides a sort of insurance," Kightlinger said. "But in the long run, we have to do much more to get prepared for the impacts of climate change. All of California's sources of water are facing serious long-term challenges."

Statewide, more investment is needed in projects to capture and store water when it is available, such as the Delta Conveyance Project, which would more sustainably move water across the Sacramento San Joaquin Bay-Delta. Such efforts are critical to help the state adapt to the emerging impacts of climate change, where average snowpack will be dramatically reduced and precipitation will fall in increasing large rainstorms, Kightlinger said.

Greater investment is also needed to drought-proof local water supplies, such as Metropolitan's Regional Recycled Water Program, he added.

And on the Colorado River, the Basin-states and water agencies must continue to work collaboratively to ensure the river's long-term sustainability as they begin their next round of negotiations to develop new guidelines and agreements later this year, he said.

###

The Metropolitan Water District of Southern California is a state-established cooperative that, along with its 26 cities and retail suppliers, provide water for 19 million people in six counties. The district imports water from the Colorado River and Northern California to supplement local supplies, and helps its members to develop increased water conservation, recycling, storage and other resource-management programs.

April 6, 2021 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: General Manager

Subject : Response to Coronavirus (COVID-19) Pandemic: Continuation of Emergency

SUMMARY:

On March 24, 2020, the Board adopted Resolution No. 2572, declaring a state of emergency for the District's service area due to the coronavirus (COVID-19) pandemic and authorizing actions to support the response and recovery effort. On April 21, 2020, the Board adopted Resolution No. 2574, amending and reenacting the declaration of a local state of emergency and authorizing interest-free flexible payments plans for up to 24 months. On May 19, 2020, the Board adopted Resolution No. 2576, amending and reenacting the declaration of a local state of emergency and authorizing a waiver of service initiation fees for commercial customers who temporarily closed their accounts due to hardships associated with COVID-19. Subsequently, on June 16, 2020, the Board adopted Resolution No. 2578, amending and reenacting the declaration of a local state of emergency and authorizing a partial credit to commercial hotel customers for fixed sewer charges for the months of April and May 2020 with a maximum 50 percent reduction of the charges.

Section 2-6.402 of the Las Virgenes Municipal Water District Code requires that once the Board has declared an emergency, it must determine by a 4/5's vote at each subsequent regular Board meeting whether to continue or terminate the authorization for emergency. Staff recommends that the emergency declaration be continued.

RECOMMENDATION(S):

Approve the continuation of an emergency declaration for response to the coronavirus (COVID-19) pandemic.

FISCAL IMPACT:

No

ITEM BUDGETED:

No

DISCUSSION:

Resolution Nos. 2572, 2574, 2576, and 2578 authorized and directed the General Manager to temporarily grant relief to District customers, as follows:

- Avoid shutting off water service for non-payment;
- Discontinue the issuance of door tags and associated fees for non-payment;
- Waive late charges for past due water and wastewater bills; and
- Authorize interest-free flexible payment plans for up to 24 months.
- Authorize waiving service initiation fees for commercial customers who temporarily closed their accounts due to hardship associated with COVID-19
- Authorize a partial credit to commercial hotel customers for fixed sewer charges for the months of April and May 2020 with a maximum 50 percent reduction of the charges.

GOALS:

Provide Safe and Quality Water with Reliable Services

Prepared by: David W. Pedersen, General Manager

April 6, 2021 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Finance & Administration

Subject : Monthly Cash and Investment Report: January 2021

SUMMARY:

During the month of January 2021, the value of the District's investment portfolio decreased from $110,539,676, held on December 31, 2020, to $110,212,348. One investment was called, one investment matured and two investments were purchased in January, decreasing the book value to $58,410,470. The value of the District's Local Agency Investment Fund (LAIF) account decreased to $40,652,986, and the District's CAMP account increased to $11,109,736.

RECOMMENDATION(S):

Receive and file the Monthly Cash and Investment Report for January 2021.

FISCAL IMPACT:

No

ITEM BUDGETED:

No

DISCUSSION:

As of January 31, 2021, the District held $110,212,348, up 20.97% year-over-year. The portfolio was down 0.30% from the previous month's total of $110,539,676. The majority of the funds were held in the District's self-managed investment account, which had a January 31st book value of $58,410,470. LAIF held the majority of the remaining funds, in the amount of $40,652,986. CAMP held $11,109,736, and the remaining portion was held in a money market account. The annualized yield on the District's investment portfolio was 1.52% in January 2021, down from 1.55% in December 2020. The annualized yield on the District's LAIF funds was 0.46% in January, down from December's 0.54%. The annualized yield on the District's CAMP funds was 0.11% in January, down from 0.12% in December. The

combined total yield on the District's accounts was 0.99%, down from 2.03% year-over-year.

One investment was called and one investment matured during January 2021:

- FHLMC callable agency, in the amount of $1,000,000, with an original maturity of 01/06/25 was called on 01/06/20; YTM 1.95%.
- Merrick Bank insured CD, in the amount of $245,000, matured on 01/11/2021; YTM 2.20%

The following investments were purchased during January 2021:

- JP Morgan insured CD, in the amount of $245,000, with a maturity of 01/06/25; YTM 0.50%.
- FAMCA agency non-callable bond, in the amount of $1,000,000, maturing on 01/15/26; YTM 0.48%.

The following transactions occurred in the District's LAIF account:

- 01/07/21 – Deposit in the amount of $800,000.
- 01/14/21 – Interest deposit in the amount of $63,803.09.
- 01/25/21 – Withdraw in the amount of $730,000.
- 01/28/21 – Withdraw in the amount of $460,000.

The District's investments are in compliance with the adopted Investment Policy, and the District has sufficient funds to meet expenditures during the next six months from funds held in LAIF.

Cash Analysis:

On December 1, 2020, the District transitioned to a new Enterprise Resource Planning (ERP) system. As of March 31, 2021, staff is completing the transfer of data to the new ERP system. Cash reporting will resume in spring 2021.

GOALS:

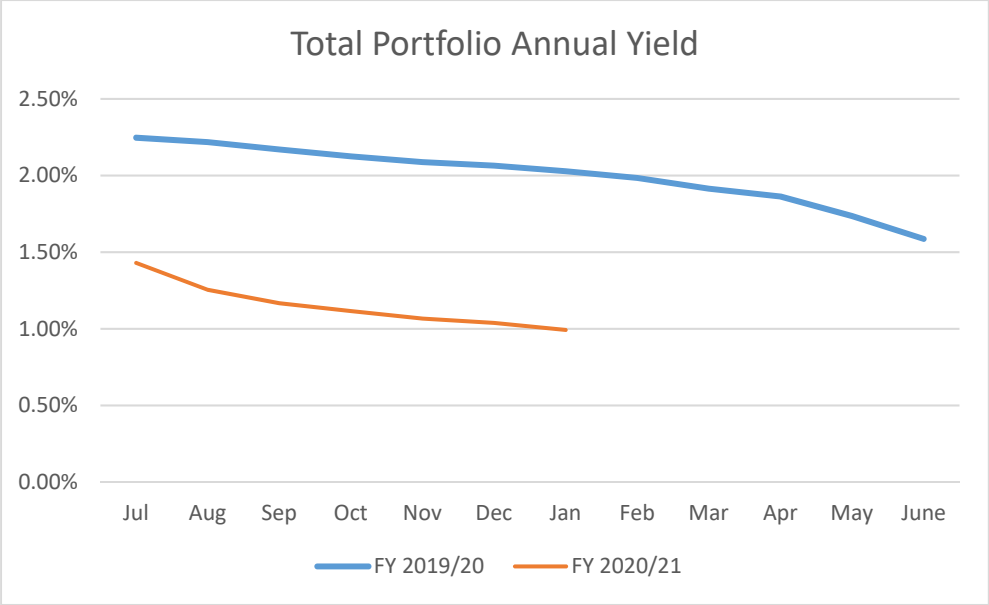
Ensure Effective Utilization of the Public's Assets and Money

Prepared by: Donald Patterson, Director of Finance and Administration

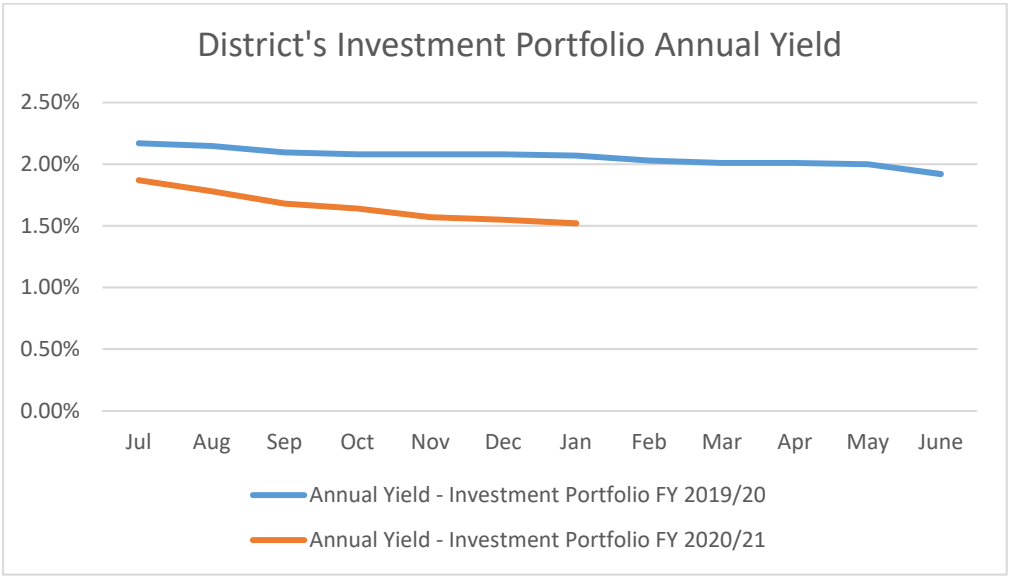
ATTACHMENTS:

January Charts
January Investment Report
Definitions

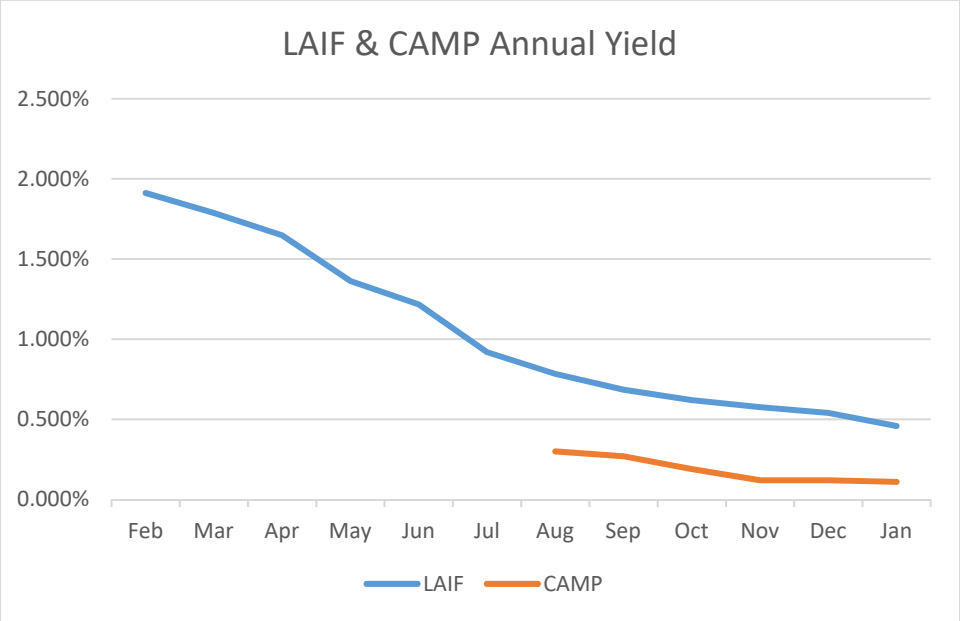
As of January 2021, at Book Value, LAIF held 36.89% of the District's portfolio, CAMP held 10.08%, and the investment portfolio held 52.99%, with the majority of the remaining funds held in a money market account. As can be seen in the chart below, the total annualized yield in January 2021 was 0.99%, down five basis points from December and down from 2.03% one year ago.



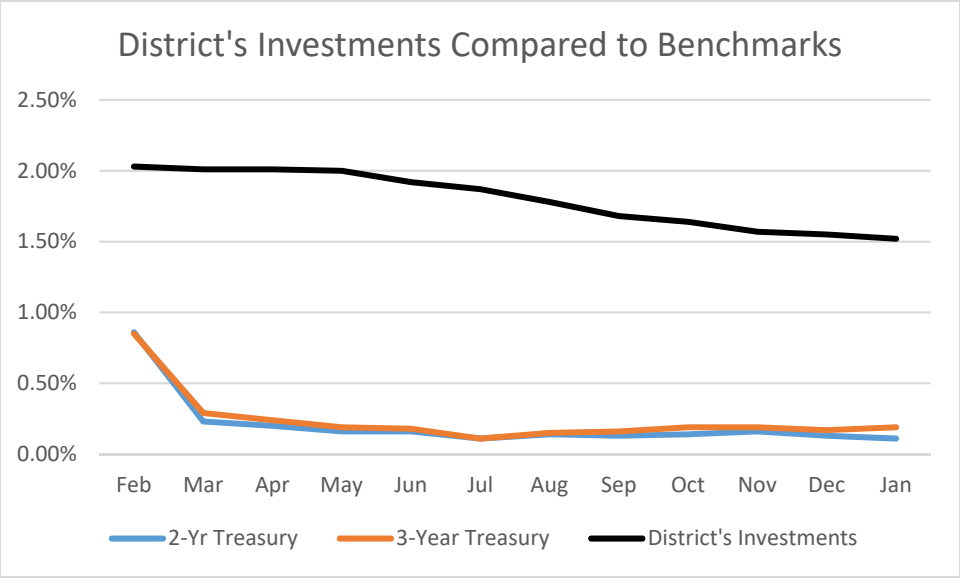
In January, the annualized yield for the District's Investment Portfolio was down three basis points from December at 1.52% and down from 2.07% a year ago. The chart below shows annualized monthly yield of the current fiscal year compared with the same monthly yield over the previous year.



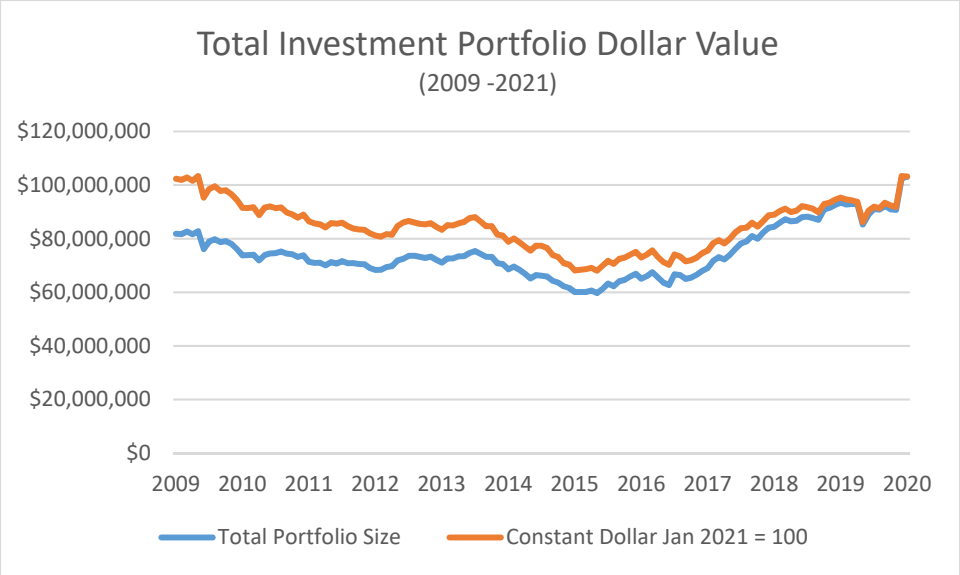
The following chart shows the average annualized LAIF and CAMP yields over the past twelve months. In January, the LAIF yield was 0.46%, down from December's 0.54% and down from 1.97% a year ago. The CAMP yield was down one basis point from December at 0.11%.



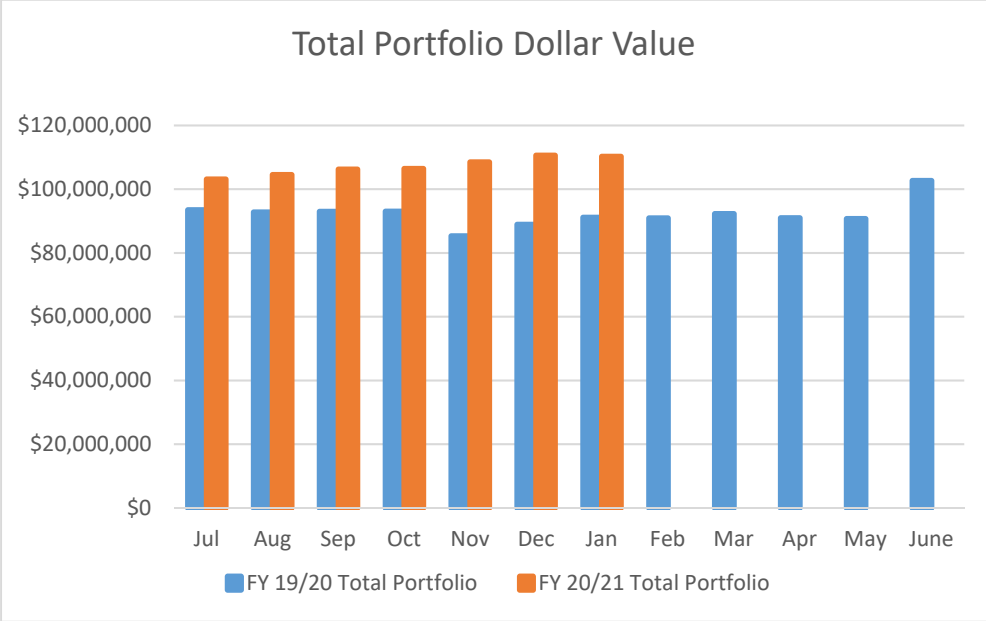
In order to benchmark how the District's portfolio is performing, it is useful to compare its investment portfolio with a comparable index. The District has historically compared its investment portfolio returns to the 2-Year and 3-Year Treasury notes. Because the District buys and holds its investments, the average portfolio yield should generally be flatter and trail the 2 and 3-year Treasuries.



Equally important to monitoring performance is to monitor total portfolio value that includes the District's Investment Portfolio and LAIF accounts. The chart below shows the total portfolio value between 2009 and 2021. In January 2021, the District's portfolio decreased 0.30% from December to $110,212,348. $10 million of this represents loan proceeds for the AMR/AMI project.



The chart below compares total portfolio value in the current Fiscal Year, compared to the same period in the previous fiscal year.



The chart below shows the value of the District's Investment and LAIF portfolios over the past twelve-month period. The District's Investment Policy requires an amount equal to 6 months of operating budget to be kept in liquid funds, such as LAIF or CAMP, which is $28.6 million.

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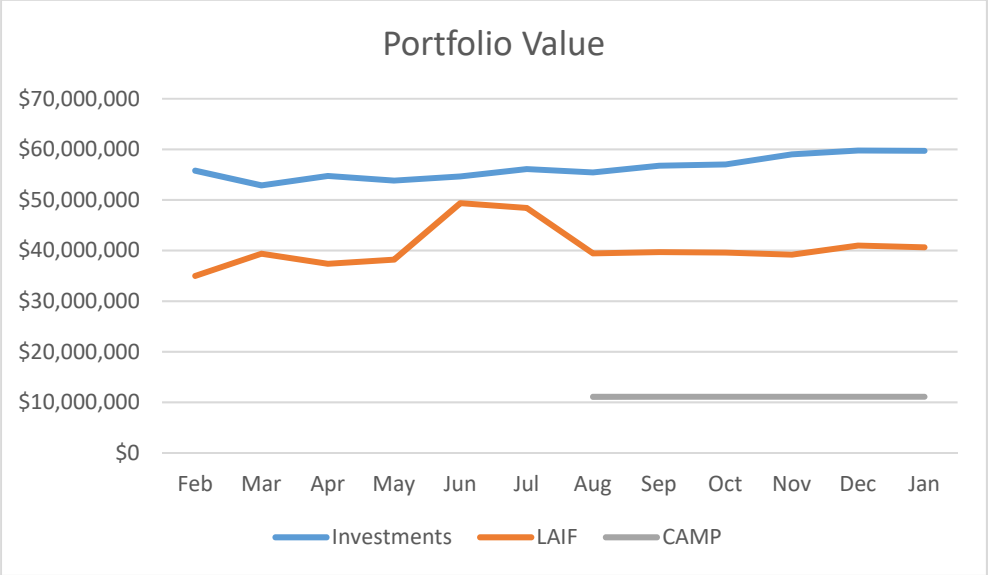


Date: April 6, 2021

To: David W. Pedersen, General Manager

From: Finance and Administration Department

Subject: Investment Report for the Month of January 2021

Summary of Investments

Investments Maturing Within Six Months:

Disc./Cpn Rate	Yield To Maturity	Yield To Call	Investment Type	Date Invested	Next Call Date	Date Matures	Book Value	Par Value	Market Value	Market Value Source
1.500%	1.500%		CAL ST-MuniBond	04/28/16		04/01/21	1,000,000	1,000,000	1,002,160	Custodian
1.713%	1.713%		CASPWR-Muni Bond	09/28/16		05/01/21	742,142	742,142	744,881	Custodian
2.387%	1.392%		SCVWTR-MuniBond	06/21/16		06/01/21	1,047,370	1,000,000	1,007,340	Custodian
			Sub-Total				2,789,512	2,742,142	2,754,381	
Investments Maturing After Six Months:										
2.000%	2.046%	2.018%	FHLMC-Bullet	01/30/17		01/26/22	997,850	1,000,000	1,018,770	Custodian
2.250%	2.104%		FHLMC-Bullet	08/16/17		06/29/22	1,000,300	1,000,000	1,029,740	Custodian
1.980%	2.810%		FAMCA-Bullet	02/01/19		06/30/22	452,510	465,000	477,164	Custodian
0.180%	0.205%		FFCB-Callable Coupon	09/08/20	03/08/21	09/08/22	999,500	1,000,000	999,630	Custodian
1.750%	1.766%		FFCB-Bullet	09/13/17		09/13/22	999,250	1,000,000	1,026,290	Custodian
2.130%	2.338%		FAMCA-Bullet	01/24/18		01/24/23	990,240	1,000,000	1,039,240	Custodian
2.700%	2.700%		FFCB-Bullet	04/11/18		04/11/23	1,000,000	1,000,000	1,055,580	Custodian
3.250%	2.536%		FHLB-Bullet	02/25/19		06/09/23	1,028,810	1,000,000	1,072,180	Custodian
2.900%	2.980%		FAMCA-Bullet	08/01/18		07/24/23	996,263	1,000,000	1,067,180	Custodian
0.300%	0.300%	0.300%	FHLMC-Callable Coupon	08/13/20	08/10/21	08/10/23	1,000,000	1,000,000	999,080	Custodian
0.300%	0.300%	0.300%	FFCB-Callable Coupon	09/04/20	09/01/21	09/01/23	1,000,000	1,000,000	1,000,710	Custodian
3.375%	2.227%		FHLB-Bullet	03/28/19		09/08/23	1,048,330	1,000,000	1,082,490	Custodian
0.270%	0.282%	0.282%	FFCB-Callable Coupon	10/05/20	10/05/21	10/05/23	999,650	1,000,000	1,000,280	Custodian
2.370%	2.524%		FFCB-Bullet	03/12/19		02/05/24	992,950	1,000,000	1,064,110	Custodian
2.800%	2.800%	2.800%	FHLB-Callable Coupon	02/26/19	02/26/21	02/26/24	1,000,000	1,000,000	1,001,740	Custodian
2.160%	1.865%		FFCB-Bullet	06/28/19		06/03/24	1,013,820	1,000,000	1,062,730	Custodian
1.650%	1.650%	1.650%	FFCB-Callable Coupon	09/09/19	09/09/21	09/09/24	1,000,000	1,000,000	1,007,670	Custodian
1.740%	1.664%		FAMCA-Bullet	09/30/19		09/26/24	1,003,620	1,000,000	1,051,440	Custodian
1.790%	1.804%		FAMCA-Bullet	11/15/19		11/01/24	999,340	1,000,000	1,054,040	Custodian
0.700%	0.700%	0.700%	FHLMC-Callable Coupon	05/18/20	02/18/21	11/18/24	1,000,000	1,000,000	1,000,080	Custodian
1.800%	1.800%	1.800%	FHLMC-Callable Coupon	01/10/20	01/10/22	01/10/25	1,000,000	1,000,000	1,008,550	Custodian
1.125%	1.125%	1.125%	FFCB-Callable Coupon	03/17/20	03/17/21	03/17/25	1,000,000	1,000,000	1,000,990	Custodian
0.750%	0.613%		TVA-Bullet	06/10/20		05/15/25	1,006,060	1,000,000	1,010,980	Custodian
0.700%	0.700%	0.700%	FHLB-Callable Coupon	05/28/20	05/28/21	05/28/25	1,000,000	1,000,000	999,700	Custodian
0.480%	0.531%		FAMCA-Bullet	06/19/20		06/19/25	997,510	1,000,000	1,001,590	Custodian
0.650%	0.650%	0.650%	FHLMC-Callable Coupon	06/30/20	06/30/22	06/30/25	1,000,000	1,000,000	996,420	Custodian
0.625%	0.625%	0.625%	FNMA-Callable Coupon	07/21/20	07/21/22	07/21/25	1,000,000	1,000,000	993,590	Custodian
0.650%	0.650%	0.650%	FNMA-Callable Coupon	08/14/20	02/14/22	08/14/25	1,000,000	1,000,000	997,370	Custodian
0.500%	0.500%	0.500%	FHLMC-Callable Coupon	09/30/20	09/30/22	09/30/25	1,000,000	1,000,000	995,580	Custodian
0.540%	0.540%	0.540%	FNMA-Callable Coupon	10/27/20	10/25/21	10/27/25	1,000,000	1,000,000	997,700	Custodian
0.460%	0.493%		FFCB-Bullet	11/04/20		11/03/25	998,370	1,000,000	996,340	Custodian
0.570%	0.570%	0.570%	FHLMC-Callable Coupon	11/17/20	11/17/22	11/17/25	1,000,000	1,000,000	999,100	Custodian
0.470%	0.470%	0.470%	FFCB-Callable Coupon	12/22/20	12/22/22	12/22/25	1,000,000	1,000,000	997,490	Custodian
0.480%	0.480%		FAMAC-Bullet	01/25/21		01/15/26	999,510	1,000,000	1,000,420	Custodian
1.960%	1.960%	1.960%	MOUSCD-MuniBond	07/14/16		08/01/21	600,000	600,000	602,268	Custodian
2.550%	2.550%		NYSDEV-Muni Bond	12/21/17		03/15/22	1,000,000	1,000,000	1,024,090	Custodian
2.000%	3.063%		CASPWR-Muni Bond	09/24/18		05/01/22	963,980	1,000,000	1,022,110	Custodian
0.373%	0.373%		BEVGEN-Muni Bond	10/15/20		06/01/22	250,000	250,000	250,388	Custodian
1.590%	1.590%		Maryland St.-Muni Bond	08/28/19		08/01/22	1,000,000	1,000,000	1,021,060	Custodian
0.445%	0.445%		ROWSCD-Muni Bond	11/05/20		08/01/22	100,000	100,000	100,186	Custodian
2.500%	2.604%		SFOFAC-Muni Bond	11/09/17		09/01/22	497,650	500,000	510,675	Custodian
0.349%	0.349%		CSU-Muni Bond	09/17/20	Cont. 9/17/20	11/01/22	500,000	500,000	501,135	Custodian
0.405%	0.405%		MRTWTR - Muni Bond	12/17/20		12/01/22	270,000	270,000	270,213	Custodian
3.297%	3.297%	3.297%	UNVHGR-Muni Bond	06/05/18	Cont. 6/5/18	05/15/23	930,000	930,000	992,533	Custodian

LVMWD Investment Report for the Month Ending January 31,2021

Disc./Cpn Rate	Yield To Maturity	Yield To Call	Investment Type	Date Invested	Next Call Date	Date Matures	Book Value	Par Value	Market Value	Market Value Source
Investments Maturing After Six Months (continued):										
2.216%	1.420%		ONTGEN-Muni Bond	05/21/20		06/01/23	1,115,615	1,090,000	1,114,514	Custodian
0.445%	0.445%		ROWSCD-Muni Bond	11/05/20		08/01/23	400,000	400,000	401,368	Custodian
2.250%	3.092%		CAS-Muni Bond	10/31/18		10/01/23	961,850	1,000,000	1,049,950	Custodian
0.432%	0.432%		OKSWTR-Muni Bond	10/01/20		10/01/23	100,000	100,000	100,101	Custodian
3.000%	2.500%		CAS-Muni Bond	05/01/19		04/01/24	1,022,980	1,000,000	1,081,210	Custodian
1.800%	1.800%		PASGEN - Muni Bond	02/26/20		05/01/24	260,000	260,000	270,176	Custodian
2.147%	2.147%		UNIGEN - Muni Bond	08/29/19		06/01/24	1,000,000	1,000,000	1,030,170	Custodian
2.224%	2.224%		SGTUTL - Muni Bond	12/18/19		10/01/24	500,000	500,000	531,520	Custodian
1.646%	1.646%		CASHGR - Muni Bond	02/27/20		11/01/24	400,000	400,000	417,212	Custodian
0.560%	0.560%		CASWTR - Muni Bond	08/06/20	Cont. 8/6/20	12/01/24	250,000	250,000	251,273	Custodian
1.498%	1.498%		ALEUTL - Muni Bond	07/16/20	Cont. 7/16/20	05/01/25	400,000	400,000	413,848	Custodian
0.719%	0.719%		BEVWTR - Muni Bond	08/12/20		06/01/25	500,000	500,000	500,790	Custodian
0.977%	0.977%		SRSUTL - Muni Bond	12/01/20		09/02/25	500,000	500,000	508,080	Custodian
1.550%	1.550%		CAPITAL ONE BANK - CD	08/10/16		08/10/21	245,000	245,000	246,852	Custodian
1.000%	1.000%		CENERSTATE BK -CD	03/20/20		09/20/21	245,000	245,000	246,512	Custodian
0.950%	0.950%		LAKELAND BK -CD	03/27/20		09/27/21	245,000	245,000	246,477	Custodian
1.650%	1.650%		Farmers & Merchants BK-CD	01/15/20		01/18/22	245,000	245,000	248,800	Custodian
1.800%	1.800%		WellsFargo BK West-CD	01/17/20		01/18/22	245,000	245,000	249,158	Custodian
2.350%	2.350%		Goldman Sachs Bank - CD	06/21/17		06/21/22	245,000	245,000	252,772	Custodian
2.350%	2.350%		Sallie Mae Bank/Salt LK-CD	06/21/17		06/21/22	245,000	245,000	252,772	Custodian
0.250%	0.250%		Texas Capital BK NA - CD	08/27/20		08/08/22	245,000	245,000	245,617	Custodian
0.250%	0.250%		BK Hapoalim BM NY - CD	08/26/20		08/26/22	245,000	245,000	245,627	Custodian
2.400%	2.400%		American Express - CD	08/29/17		08/29/22	245,000	245,000	253,644	Custodian
2.400%	2.400%		Capital One NA - CD	08/30/17		08/30/22	245,000	245,000	253,965	Custodian
2.500%	2.500%		Wells Fargo Bank - CD	12/08/17		12/08/22	245,000	245,000	255,917	Custodian
2.650%	2.650%		Morgan Stanley Bank-CD	01/11/18		01/11/23	245,000	245,000	257,145	Custodian
3.150%	3.150%		CitiBank NA - CD	05/11/18		05/11/23	245,000	245,000	261,834	Custodian
2.850%	2.850%		1st MO St Bank - CD	02/13/19		08/14/23	245,000	245,000	261,746	Custodian
1.700%	1.700%		Medallion Bank UT-CD	12/23/19		12/22/23	245,000	245,000	255,711	Custodian
3.350%	3.350%		Morgan Stanley PVT BK-CD	01/10/19		01/10/24	245,000	245,000	267,746	Custodian
3.000%	3.000%		TIAA FSB - CD	02/22/19		02/22/24	245,000	245,000	265,935	Custodian
2.750%	2.750%		Comenity CAP Bank-CD	04/30/19		04/30/24	245,000	245,000	265,070	Custodian
2.650%	2.650%		Bank of New Eng Salem-CD	05/23/19		05/23/24	245,000	245,000	264,617	Custodian
2.150%	2.150%		Enerbank USA - CD	08/07/19		08/07/24	245,000	245,000	261,334	Custodian
1.750%	1.750%		1st Farmers BK7Trust-CD	09/04/19		09/04/24	245,000	245,000	258,108	Custodian
1.800%	1.800%		Kemba Financial CU-CD	01/08/20		01/08/25	245,000	245,000	259,494	Custodian
1.950%	1.950%		Knoxville EE CU - CD	01/16/20		01/16/25	245,000	245,000	261,003	Custodian
1.000%	1.000%		Somerset Trust Co - CD	03/19/20		03/19/25	245,000	245,000	251,909	Custodian
1.000%	1.000%		IBERIABANK - CD	03/20/20		03/20/25	245,000	245,000	251,897	Custodian
1.350%	1.350%		Pacific Western Bank - CD	04/16/20		04/16/25	245,000	245,000	255,506	Custodian
1.500%	1.500%		Celtic BK Salt Lake UT - CD	04/17/20		04/17/25	245,000	245,000	257,061	Custodian
1.350%	1.350%		1st Natl BK McGregor - CD	04/28/20		04/28/25	245,000	245,000	255,569	Custodian
1.050%	1.050%		State BK of India-NY - CD	06/19/20		06/10/25	245,000	245,000	252,487	Custodian
0.500%	0.500%		Minnwest Bank - CD	07/15/20		07/15/25	245,000	245,000	246,553	Custodian
0.500%	0.500%		Preferred Bank - CD	07/17/20		07/17/25	245,000	245,000	246,546	Custodian
0.600%	0.600%		Bank Baroda NY Brh - CD	07/23/20		07/22/25	245,000	245,000	247,619	Custodian
0.600%	0.600%		Flagstar Bank FSB - CD	07/22/20		07/22/25	245,000	245,000	247,619	Custodian
0.500%	0.500%		JP Morgan Chase BK - CD	01/06/21	07/06/21	01/26/26	245,000	245,000	245,510	Custodian
			Sub-Total				55,620,958	55,590,000	56,966,966	

Total Investments	$58,410,470	$58,332,142	$59,721,347

LVMWD Investment Report for the Month Ending January 31,2021

Interest earnings for the month were as followed:

	Amount Earned/Accrued	Current Yield
Investments	75,876	1.520%
Local Agency Investment Fund (LAIF)	15,156	0.458%
California Asset Management Program (CAMP)	1,127	0.110%
Blackrock Liquidity Fund - US Treasury Money Market Fund (Union Bank)	3	0.030%
Sweep Accounts (Wells Fargo Bank)	19	0.010%
Total Earnings	$92,181	

Schedule of Investment Balance Limitations (Per District investment policy)

The source of the market valuation is as followed:	Total Amount Invested	% of Total	Max. Limit Allowed
Investments (Note 1)	$58,410,470	52.99%	no limit
Blackrock Liquidity Fund - US Treasury Money Market Fund (Union Bank)	39,156	0.04%	no limit
Local Agency Investment Fund (LAIF)	40,652,986	36.89%	75,000,000
California Asset Management Program (CAMP)	11,109,736	10.08%	no limit
Total	$110,212,348 (Note 2)	100.00%	

Note 1: The average weighted duration for investments, excluding LAIF, is 1,074 days, which is under the assumption that callable coupons will not be called and will be held until maturity.

Note 2: In December 2020, Joint Powers Authority's participation in investment is $8,900,142.88, of which $5,714,686.90 (or 64.20%) belongs to LV.

Bank Account Balances as of January 31, 2021:

Bank Name	Account Type	Amount
Wells Fargo Bank	Checking	$539,806 (Note 3)
Wells Fargo Bank	Sweep	622,476
	Total	$1,162,282

Note 3: This is bank balance without adjusting for outstanding checks. The total amount of outstanding checks is unavailable at the time of reporting.

"All District investments are included in this report and all investments, except those relating to debt issues and deferred compensation programs funds, conform to District investment policy. All investment transactions within the period covered by this report, except for the exceptions noted above, conform to District investment policy. Deferred compensation program funds are not included in this report; their investment is directed by individual employees participating in the deferred compensation program and not by the District. Debt issue funds are included in this report; their investment is controlled by specific provisions of the issuance documents and not by the District."

"The deposits and investments of the District safeguard the principal and maintain the liquidity needs of the District, providing the District with the ability to meet expenditure requirements for the next six months. The maturity dates are compatible with foreseeable cash flow requirements. The deposits and investments can be easily and rapidly converted into cash without substantial loss of value."

Approved for April 6, 2021 Agenda:

_____

David W. Pedersen, General Manager

I HEREBY CERTIFY THAT THE FOREGOING IS TRUE AND CORRECT

TO THE BEST OF MY KNOWLEDGE

_____

Lynda Lo-Hill, Treasurer

Note: Gov. Agency Coupon Notes will distribute interest every six month.

Monthly Investment Report Definitions

- Disc./Cpn Rate – The yield paid by a fixed income security.
- Yield to Call (YTC) – The rate of return of a security held to call when interest payments, market value and par value are considered.
- Yield to Maturity (YTM) – The rate of return of a security held to maturity when interest payments, market value and par value are considered.
- Bullet – A fixed income security that cannot be redeemed by the issuer until the maturity date.
- Callable – A fixed income security that can be redeemed by the issuer before the maturity date.
- Book Value – The price paid for the security.
- Par Value – The face value of a security.
- Market Value – The current price of a security.
- Sinking Bond – In the case of the CASPWR Bond held by the District, a sinking bond pays a portion of principal on a defined schedule throughout the life of the bond.
- Custodian – The financial institution that holds securities for an investor.

Investment Abbreviations

- FHLB – Federal Home Loan Bank
- FHLMC – Federal Home Loan Mortgage Corporation (Freddie Mac)
- FNMA – Federal National Mortgage Association (Fannie Mae)
- FFCB – Federal Farm Credit Bank
- FAMCA/AGM – Federal Agricultural Mortgage Corporation (Farmer Mac)
- Bonds
    - BEVGEN – City of Beverly Hills Water Revenue
    - CAS – State of California
    - CASHGR/CSU – California State University
    - CASPWR – State of California Department of Water Resources
    - MDS – State of Maryland
    - MOUSCD – Mountain View Unified School District
    - MRTWTR – City of Martinez, CA Water Revenue
    - NYSDEV – New York State Urban Development Revenue
    - OKSWTR – State of Oklahoma Water Resources Board
    - ONTGEN – City of Ontario, CA
    - PASGEN – City of Pasadena, CA
    - SCVWTR – Santa Clara Valley Water District
    - ROWSCD – Rowland Unified School District
    - SFOFAC – City and County of San Francisco Community Facilities District
    - SGTUTL – South Gate Utility District
    - SRSUTL – City of Santa Rosa, CA Wastewater Revenue
    - SRVSCD – San Ramon, CA Unified School District
    - UNIGEN – University of Northern Colorado
    - UNVHGR – University of California

April 6, 2021 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Facilities & Operations

Subject : Supply and Delivery of Bulk Woodchip Compost Amendment: Change Order

This action is recommended to the LVMWD Board, acting as Administering Agent of the Las Virgenes-Triunfo Joint Powers Authority (JPA), in accordance with the terms of the JPA Agreement. Funding for the service is included in the adopted Fiscal Year 2021 JPA Budget.

SUMMARY:

On February 16, 2021, the Board authorized the General Manager to execute a one-year agreement with three one-year renewal options with Recycled Wood Products for the supply and delivery of woodchip amendment to the Rancho Las Virgenes Composting Facility. Prior to execution of the new agreement, staff ordered and received additional woodchip amendment required for the composting process under the then-current agreement, which was also with Recycled Wood Products. As a result, staff recommends authorization to approve a change order for the prior agreement, in the amount of $26,300, to process the final invoices for amendment.

RECOMMENDATION(S):

Authorize the General Manager to approve a change order with Recycled Wood Products, in the amount of $26,300, for the supply and delivery of bulk woodchip compost amendment.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

Sufficient funds for the service are available in the adopted Fiscal Year 2020-21 Budget.

DISCUSSION:

On January 25, 2021, the District completed a competitive process to obtain quotations for the supply and delivery of woodchip compost amendment. The Board authorized the General Manager to execute a one-year agreement with three one-year renewal options with Recycled Wood Products for the service on February 16, 2021. Prior to execution of the new agreement, staff ordered and received additional woodchip amendment required for the composting process under the then-current agreement, which was also with Recycled Wood Products. A change order for the prior agreement, in the amount of $26,300, is needed to process the final invoices for amendment and close out the agreement.

GOALS:

Ensure Effective Utilization of the Public's Assets and Money

Prepared by: Doug Anders, Administrative Services Coordinator

April 6, 2021 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Facilities & Operations

Subject : Las Virgenes Reservoir Watershed Sanitary Survey and Raw Water Quality Evaluation: Receive and File

SUMMARY:

The State Water Resources Control Board, Division of Drinking Water (DDW) requires that a sanitary survey of the watershed surrounding Las Virgenes Reservoir be conducted every five years in compliance with the Surface Water Treatment Rule (SWTR). Sanitary surveys provide an opportunity to evaluate monitoring and sampling procedures, review data, conduct physical and hydrogeological observations of the watershed and update DDW on significant changes that have occurred within the watershed since the last survey. The 2020 report includes data from the period of January 2016 through December 2020. Staff recommends that the Board receive and file the 2020 Las Virgenes Reservoir Watershed Sanitary Survey and Raw Water Quality Evaluation, LVMWD Report No. 2799, and authorize staff to submit it to DDW.

RECOMMENDATION(S):

Receive and file the 2020 Las Virgenes Reservoir Watershed Sanitary Survey and Raw Water Quality Evaluation.

FISCAL IMPACT:

No

ITEM BUDGETED:

No

FINANCIAL IMPACT:

There is no financial impact associated with this action.

DISCUSSION:

The District owns and operates the 18-MGD Westlake Filtration Plant that processes water from Las Virgenes Reservoir. The District is required to prepare and submit a watershed sanitary survey in conformance with the California Surface Water Treatment Rule (SWTR) to the State Water Resource Control Board. The purpose of the regulation is to ensure periodic evaluation of the quality of the raw water, level of treatment needed and any sources of contamination in the watershed or reservoir. The SWTR requires domestic water suppliers using surface water sources to conduct a sanitary survey of the watersheds that feed their sources of water supply every five years.

Staff prepared an update to the District's previous report and incorporated data from January 2016 through December 2020. The 2020 Las Virgenes Reservoir Watershed Sanitary Survey and Raw Water Quality Evaluation concludes that the watershed and reservoir are safe from contamination, and the Westlake Filtration Plant is in compliance with federal and state water quality requirements. Construction of the Torchwood Tank and expansion of the Westlake Filtration Plant were addressed in the report. No significant water quality impacts at Las Virgenes Reservoir were noted as a result of the 2018 Woolsey Fire.

Based on the water quality evaluation, the report recommends maintaining the current monitoring program and associated frequencies. The sampling chart was updated to reflect the current monitoring program that includes weekly sampling when the Westlake Filtration Plan is on-line, and monthly or quarterly testing when the plant is off-line.

GOALS:

Provide Safe and Quality Water with Reliable Services

Prepared by: Veronica Hurtado, Assistant Engineer

ATTACHMENTS:

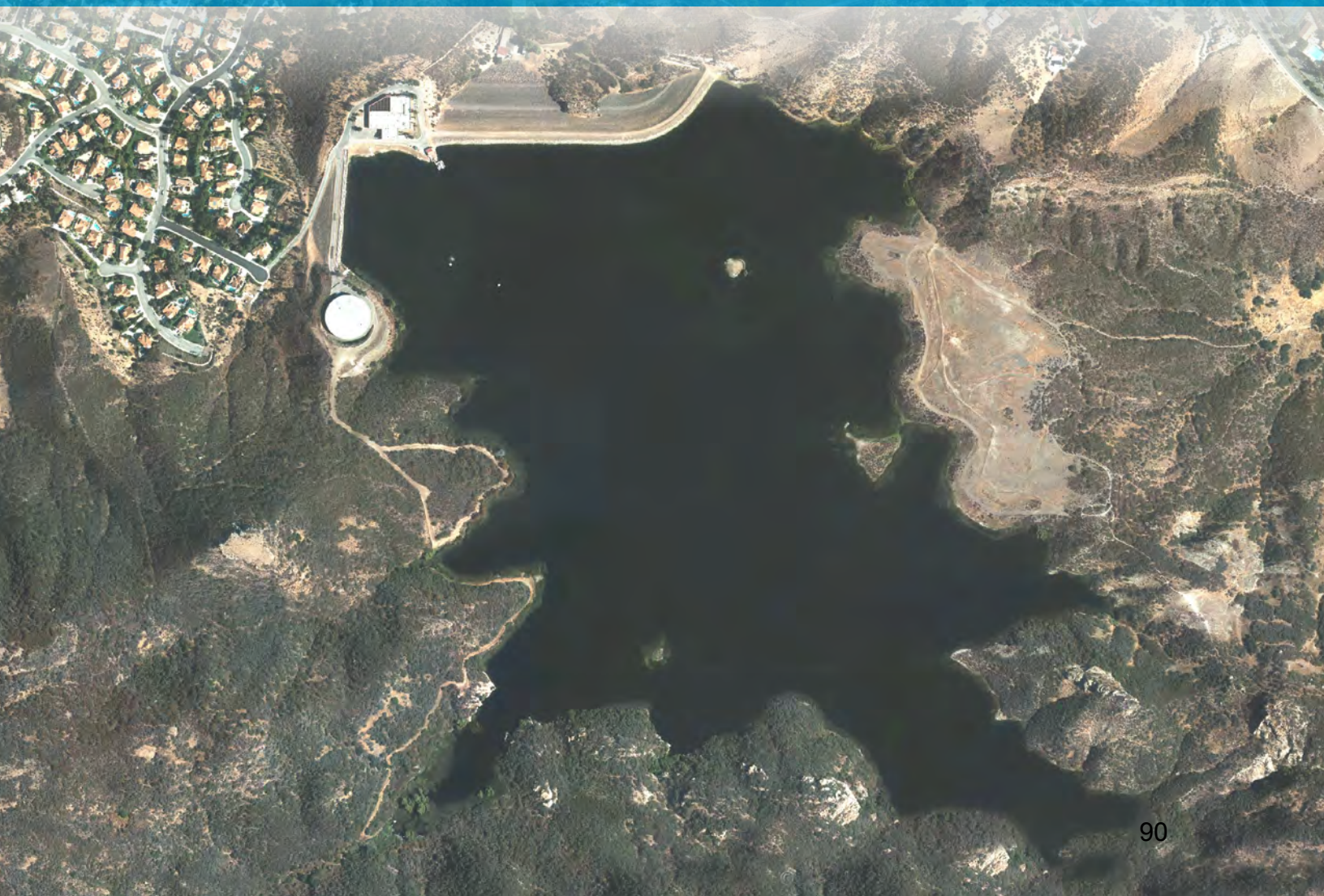
2020 Las Virgenes Reservoir Watershed Sanitary Survey and Raw Water Quality Evaluation

Report No. 2799.00

LAS VIRGENES RESERVOIR WATERSHED SANITARY SURVEY AND RAW WATER QUALITY EVALUATION

LAS VIRGENES MUNICIPAL WATER DISTRICT EST. 1958

DECEMBER 2020



Las Virgenes Reservoir Watershed Sanitary Survey and Raw Water Quality Evaluation

Las Virgenes Municipal Water District

Project Manager Veronica Hurtado, Assistant Engineer

March 2021

4232 Las Virgenes Road, Calabasas, CA 91302-1994

Table of Contents

Section 1
Report Summary

The Las Virgenes Municipal Water District is submitting the following watershed sanitary survey update in conformance with the California Surface Water Treatment Rule (SWTR). The purpose of this regulation is to evaluate the quality of raw water, the level of treatment needed, and any potential sources of contamination in the watershed or reservoir.

This report is organized as follows:

Section 1 Report Summary: Summarizes conclusions and recommendations from the report.

Section 2 Introduction: Brief background description of the existing reservoir and filtration facility, summarizes sanitary survey objectives, and presents survey results.

Section 3 Summary of Comments in Relation to the 1990, 1995, 2001, 2005, 2010, 2015 Report: Summary of statements made in the four previous watershed sanitary survey reports – regarding the watershed, the reservoir, and water quality – that are still applicable today.

Section 4 Summary of Past Report Recommendations: Descriptions of the implementation status of recommendations contained in the previous six reports.

Section 5 Updated Water Quality Information: Update on the quality of the raw water in the reservoir.

Section 6 Filtration Plant Operations: Information on filtration plant operations, treated water quality, treatment plant changes, existing reservoir maintenance practices, and a summary of a recent field reconnaissance survey.

1.1 Conclusions

The following conclusions are contained in this report:

1. The watershed and reservoir continue to receive excellent protection against pollution/contamination concerns.

2. The water processed at the Westlake Filtration Plant is consistently in compliance with federal and state water quality requirements.

3. In 2015, LVWMD completed construction of its twenty-fifth potable water storage tank. Torchwood Tank adds five million gallons of storage capacity for treated water at Las Virgenes Reservoir. This tank was permitted for distribution system use in 2015.

4. In 2017, the Woolsey Fire caused cosmetic damage to the WFP exterior façade. Some structural damage occurred to the roof and building arcade. The only equipment damaged were chemical pumps which were housed in an attached pump room. The plant was offline during the fire and therefore water quality was not affected by the incident. A new chemical pump system was installed to maintain water treatment operations.

   The landscape surrounding the reservoir was severely burned by the fire. Ash fallout from the fire did not significantly impact the extracted reservoir water quality as the ash remained on the surface of the water and was mostly washed onto the reservoir shoreline. A landscaping project at the property immediately adjacent to the treatment facility included repair to burnt irrigation lines and appurtenances, addition decorative rock for future fire protection, and replanting of trees and bushes along the hillside. The remainder landscape surrounding Las Virgenes Reservoir Watershed landscape is recovering naturally.

1.2 Recommendations

1. Maintain the current monitoring program outlined below.

Westlake Reservoir Plant Online Sampling Chart

Constituent**	Water Surface	1036' Above msl *	1018' Above msl	1000' above msl (Pump Station)	982' Above msl	928' Above msl
pH	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly
Color	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly
Odor	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly
Turbidity	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly
Copper Residual	Sample 24 hours after each copper treatment ***					
Temperature	Weekly at 5-foot intervals from the lake surface to the bottom					
Conductivity	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly
Dissolved Oxygen	Weekly at 5-foot intervals from the lake surface to the bottom					
Iron	N/A	N/A	N/A	Quarterly	N/A	Quarterly
Manganese	N/A	N/A	N/A	Monthly	N/A	Monthly
Coliform Bacteria	N/A	N/A	N/A	Weekly	N/A	
E. coli Bacteria	N/A	N/A	N/A	Weekly	N/A	
HPC	N/A	N/A	N/A	Weekly	N/A	
TOC	N/A	N/A	N/A	Monthly	N/A	
Ammonia	N/A	N/A	N/A	Monthly	N/A	Monthly

*1036' above mean sea level (msl) is sampled when lake elevation permits
**When the plant is offline, all weekly testing becomes monthly
***Water Treatment Operators perform this analysis

Section 2
Introduction

2.1 Background and Purpose

The Las Virgenes Municipal Water District (District) owns and operates the 15 million gallon per day (MGD) diatomaceous earth (DE) Westlake Filtration Plant that seasonally and/or operationally processes water from Las Virgenes Reservoir. Las Virgenes Reservoir has an approximate storage capacity of 9,500 acre-feet (AF), a water surface area of about 150 acres, and a tributary watershed of approximately 575 acres. In 2015, completion of the five-million-gallon Torchwood Tank provided additional storage for treated water from the reservoir.

The reservoir is used as a standby water source for the District's customers, whom primarily receive potable water from the District's connections with the Metropolitan Water District of Southern California (MWD). Las Virgenes Reservoir provides storage to meet peaks in seasonal demands, can provide supplemental water during emergency and maintenance work on the MWD connection, and also serves as an emergency storage reservoir. The reservoir could meet the District's needs for as long as six months in the event of an interruption of the water supply from MWD. The filtration plant operates seasonally as needed from May through October, and during MWD shutdowns for maintenance and inspections. These MWD shutdowns, which typically occur in winter, are occurring with greater frequency as that system ages.

A detailed sanitary survey of the Las Virgenes Reservoir Watershed entitled *Westlake Reservoir Watershed Sanitary Survey and Raw Water Quality Evaluation* was completed in October 1990. This survey was updated in December 1995 (1995 Report), in January 2001 (2001 Report), December 2005 (2005 Report), November 2010 (2010 Report) and November 2017 (2015 Report). This report is prepared as a further update to these reports.

2.2 Sanitary Survey Objectives

This update is being submitted for review and approval to the State Water Resources Control Board, Division of Drinking Water in compliance with the California Surface Water Treatment Rule (SWTR). The SWTR requires domestic water suppliers using surface water source(s) to

conduct a sanitary survey of their water supply watersheds and to update that survey every 5 years thereafter. This update will focus upon (1) describing all significant changes that have occurred within the watershed; (2) providing an update of important water quality information during the last five years; (3) summarizing the current status of each raw and treated water recommendation made in the six past reports; and (4) providing additional recommendations where appropriate.

Section 3
Summary of Comments in Relation to the 1990, 1995, 2001, 2005, 2010, 2015 Reports

3.1 Comments from the 1990 Report

Outlined below are comments from the 1990 report that are still applicable:

1. The reservoir is still filled with treated MWD water from the Jensen Filtration Plant and a small amount of local runoff.

2. The MWD water quality into Las Virgenes Reservoir is still excellent and meets all drinking water standards.

3. The entire watershed is still undeveloped. ***Update: In 2015 a 5 million gallon (MG) water storage tank and road to the tank were added within the watershed.***

4. In 1990, parts of the watershed were privately owned. ***Update: Most of the watershed is now publicly owned. See Section 3.2, Note 1 for more details.***

5. The reservoir itself is closed to the public and to District employees.

6. The possible watershed development plans mentioned in the previous reports have not occurred.

7. The possible "limited" recreational development plans for the reservoir have not occurred.

8. There is no logging, mining, or public recreation of any kind on the watershed lands.

9. There are no cattle grazing in the watershed.

10. The watershed is mostly fenced and is protected by natural barriers such as rugged, hilly terrain filled with thick brush.

11. Watershed vegetation is comprised of chaparral and grassland.

12. Significant waterfowl activities are still observed on and around the reservoir.

13. The various sampling programs outlined in the 1990 Report are still maintained today, but at modified frequencies.

14. Runoff during wet weather conditions has not caused any significant rises in turbidity and/or bacteriological quality at the reservoir outlet pipe location and inlet water elevation of 982 feet.

15. The reservoir outlet is most often the 982-foot outlet elevation. Sometimes the 1,000-foot and 1,018-foot elevation outlet is used. The 928-foot outlet elevation is not normally used.

16. The reservoir area around the multiple-depth, 39-inch-diameter lake outlet line is aerated to maintain minimum dissolved oxygen levels in the water withdrawn for treatment. ***Update: The aeration facilities have been improved since 1990.***

17. The water withdrawn from the lake is still being treated by pre-chlorination, DE filtration, and post-chlorination and chloramination.

18. ***Update: Changes that have been made at the Westlake Filtration Plant are as follows***:

    a. ***The clear well was baffled in 1994 to improve the chlorine detention time. Tracer studies have been conducted to identify the actual detention time at various plant flows. This, in turn, has enabled the District to consistently meet its contact time (CT) requirements for adequate and reliable disinfection. Two such studies have shown near-plug-flow conditions.***

    b. ***Aqueous ammonia (19 percent) has been added since June 1998 to make the filtration plant water more compatible with the purchased MWD water and reduce disinfection by-product formation in the District's distribution system.***

3.2 Comments from the 1995 Report

Outlined below are comments contained in the 1995 Report that are still applicable:

1. The District owns the majority of the watershed area and it intends to maintain the area as open space. Some land is still privately owned (approximately 10%). Figure 3-1 shows the reservoir and watershed boundary line and shows the District's property line.

2. In general, the watershed is steeply-sloping terrain accented by rock outcroppings. The majority of slopes exceed 20 percent.

3. The reservoir has a maximum working volume of 7,700 AF and a total storage capacity of 9,500 AF. The minimum lake operating level is at the 950-foot elevation, at which the water surface is only about 30 acres.

4. The only reservoir inflow is from runoff immediately after significant rains. This then occurs for short time periods after it stops raining.

5. The reservoir runoff influent locations (R-1, R-2, R-3, and R-4) shown in Figure 3-2 are located a considerable distance from D-1 (the reservoir outlet pipeline). The water entering the reservoir via runoff has not significantly impacted the D-1 outlet water quality.

6. Watershed land erosion has not significantly impacted reservoir water quality, mainly because of the stability of existing watershed vegetation.

7. The watershed is subject to earthquake activity. The 1994 Northridge earthquake had no noticeable impact on watershed lands in terms of landslides.

8. An environmental checklist was prepared that listed watershed fires are potentially "significant" factors of watershed sanitation.

9. The ash fallout from nearby fires has not significantly impacted the extracted reservoir water quality. The ash floats and is washed mostly onto shorelines. There was a minor fire within the watershed in 1996 on the east side of the reservoir.

Figure 3-1

Reservoir and Watershed Boundary

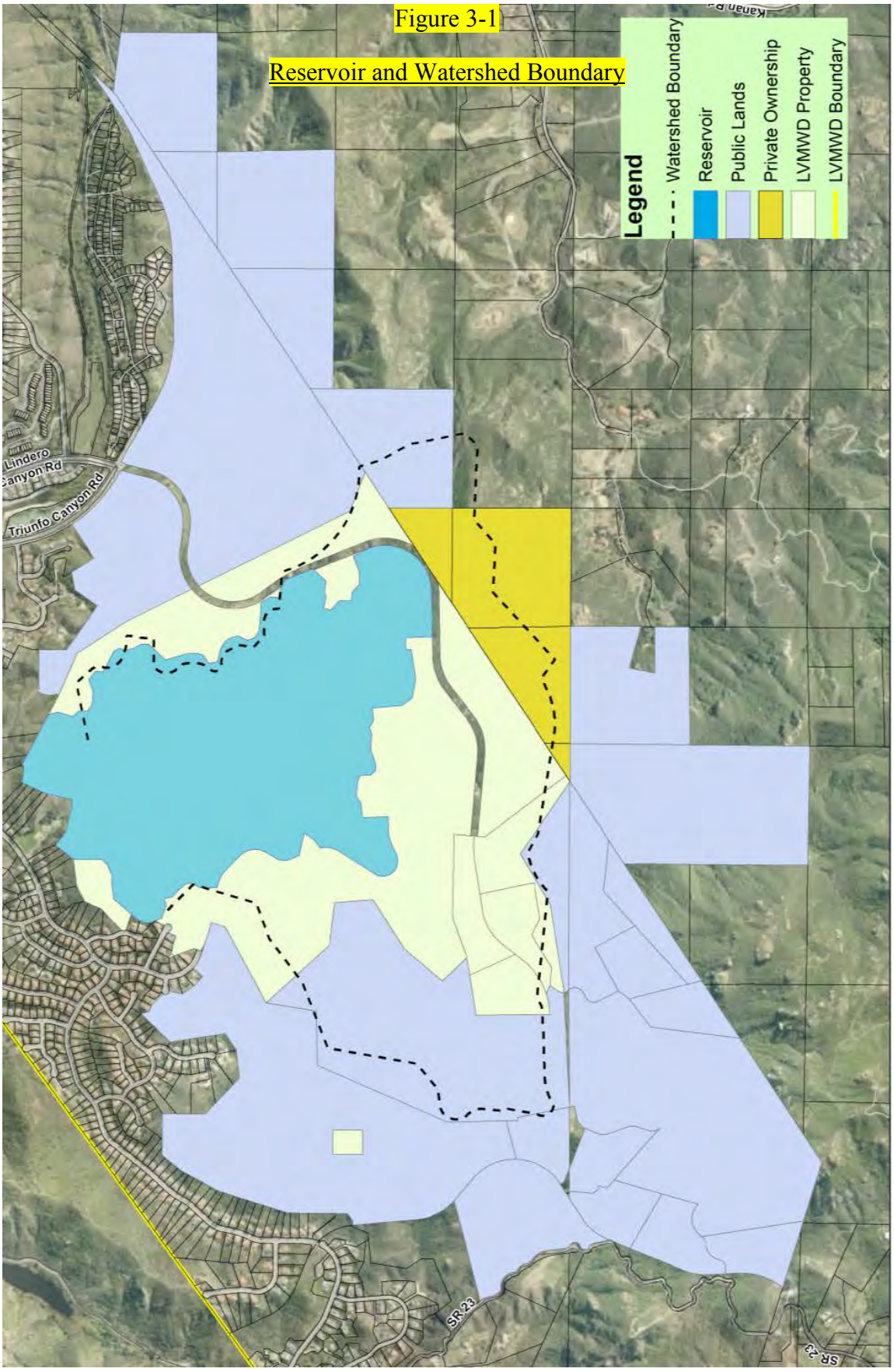
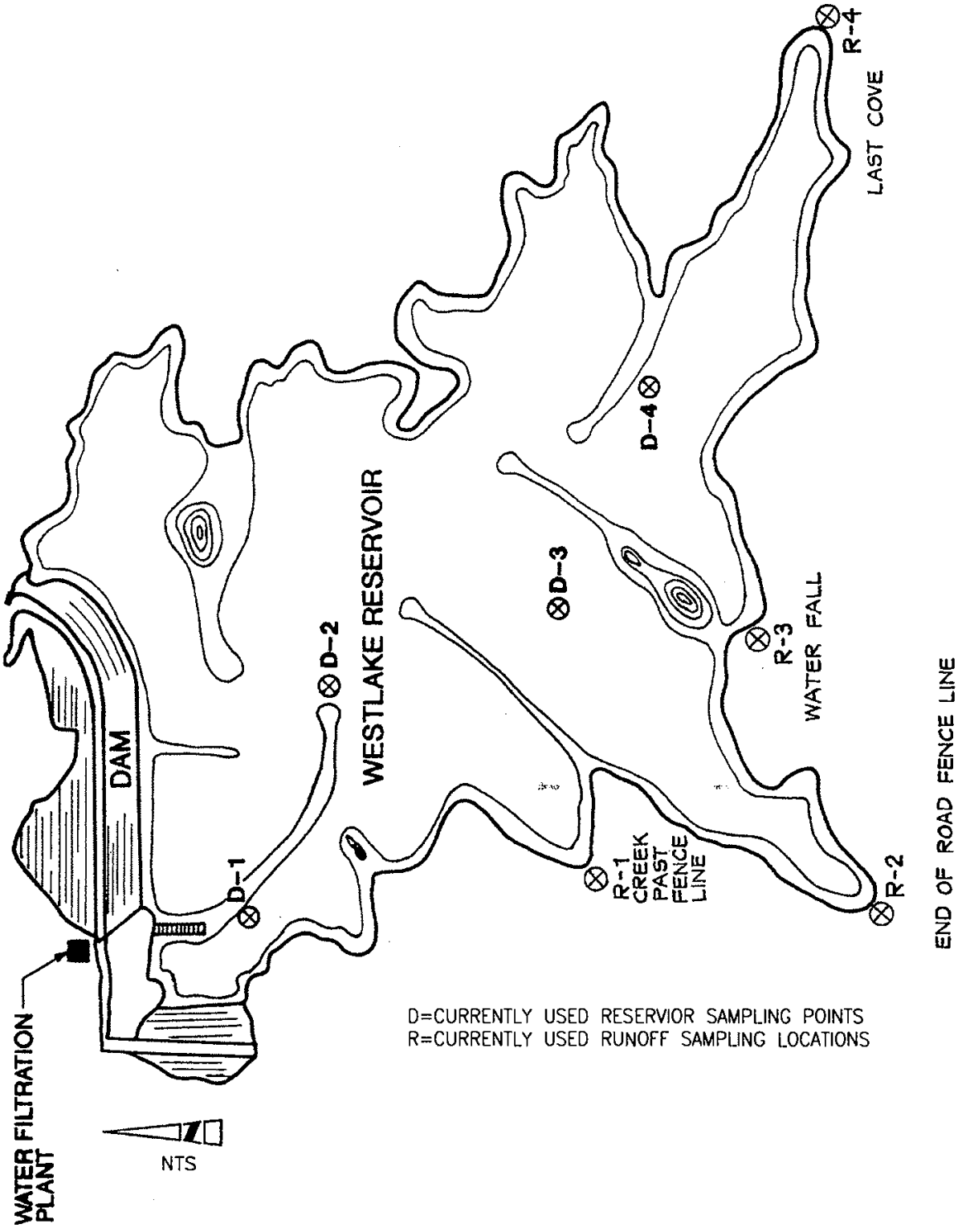


Figure 3-2

Reservoir Sampling Stations



10. The watershed is free of sewage hazards, urban runoff, agriculture, logging, mining, and recreational uses.

11. No herbicide, other than copper sulfate for algae control, is used within the watershed for weed control.

12. The watershed and lake perimeter are patrolled weekly by District staff looking for signs of unauthorized entry. This is done by hiking and by boat.

13. The watershed has signs posted against trespassing. The Los Angeles County Sheriff's Department is available to respond to unauthorized entry into the watershed or the reservoir itself.

14. A security gate prevents unauthorized vehicles from entering the filtration plant and reservoir area.

15. The only constituents of water quality/water treatment concern have been as follows:

    a. Bacteriological/biological
    b. Turbidity/algae
    c. Physical water quality (color, taste, odor)

16. Except for pH the raw water quality does not vary significantly from one year to the next.

17. The presence of organic chemicals has not been detected to date.

18. Nutrient levels in the reservoir (nitrate and phosphate) have been extremely low.

19. The filtration plant can be activated on short notice, when it is offline, in case MWD has unexpected water delivery outages or in the event of an extreme emergency precipitated by natural or other disasters.

20. Water is withdrawn from the reservoir usually during May through October each year. Also, during routine scheduled MWD maintenance or unplanned shutdowns.

21. Each lake intake elevation is equipped with screens to exclude objects larger than 1 square inch from entering the treatment plant. This excludes small fish.

22. The existing filtration plant meets the Surface Water Treatment Rule (SWTR) requirements for Giardia and Virus removal/inactivation as follows:

Constituent	Filtration Removal	Disinfection Inactivation
Giardia	2 log	1 log
Virus	1 log	3 log

23. The filtration plant has a 423,000-gallon raw water storage basin and a 353,000-gallon filtered water clearwell. These values are based on overflow conditions. The plant has a maximum processing capacity of 15 MGD. ***Update: in 2017, the plant processing capacity was expanded to 18MGD. Torchwood Tank became the stand-alone filtered water reservoir. The project combined approx.. 50% of the previous existing filtered water clearwell with the raw water storage to increase raw water storage to 603,000-gallons.***

24. The treatment processes consistently meets turbidity removal requirements and the disinfection CT ratios are in the range of 1.5 to 5.0.

25. Superior baffling, as described in the 1999 EPA Disinfection Profiling and Benchmarking Guidance Manual, was installed in the 353,000-gallon clearwell and the 423,000-gallon raw water reservoir to improve contact time. Later tracer studies confirmed near-plug-flow conditions through this facility.

26. The District maintains an up-to-date Emergency Response Plan that details protocols for taking the filtration plant out of service in case a significant water quality problem occurs (which has not happened to date). **A copy can be found in the August 2018 Plant Operations Plan.**

27. The District maintains an up-to-date CDPH-approved Consumer/CDPH Emergency Notification Plan. **This plan was last updated in the August 2018 Plant Operations Plan.**

28. The reservoir would be used in case of a nearby fire emergency by firefighters but under strict District staff supervision. The use of aerial water withdrawals is not permitted. However, the District cannot stop this option by the firefighting organizations in the event they absolutely need to do this. The District has formally informed the agencies involved that this should not be done for water quality protection purposes. The practice of water tankers removing water from shoreline locations using pumps is allowed.

Note: During the Persian Gulf War in 1991, the District retained a security firm 24 hours/day to guard the reservoir against potential contamination threats/vandalism. Outbreak of war or civil unrest may increase the risk of pollution/contamination hazards.

3.3 Comments from the 2001 Report

1. The watershed and reservoir both continue to receive excellent protection against potential pollution/contamination problems.

2. The Westlake Filtration Plant continues to process water from the reservoir to consumers that meets all treatment and water quality requirements contained in:

   a. The Surface Water Treatment Rule (SWTR)

   b. The Interim Enhanced Surface Water Treatment Rule (IESWTR)

   c. The Stage 1 Disinfectants and Disinfection Byproducts Rule (Stage 1 DBPR)

   d. The Proposed Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2 DBPR) ***Update: Stage 2 DBPR went into effect January 2006.***

   e. Cryptosporidium Action Plan of the California Department of Health Services

3.4 Comments from the 2005 Report

1. On September 14, 2004, MWD divers conducted field reconnaissance and sampling in and around the reservoir. Table 3-1 summarizes the sampling event with the following conclusions that were derived from the field observation:

a. Taste and odor producing blue-green algae were present at all five location points.

b. The predominant alga was an organism called *Oscillatoria limosa* which produces 2-methylisoborneol (MIB). This organism was found growing at a depth of 35 to 45 feet around the entire reservoir.

c. Strong MIB odor was detected in the algae sample collected from the surface elevation at Sampling Station D-1.

d. Moderate MIB odor was detected at all other sampling stations.

e. Geosmin odors were detected in the 982-foot sample at Sampling Station D-5.

2. Modification to MWD's Jensen Filtration Plant included the addition of an ozonation facility. Beginning in July 2005, ozone was used as the primary disinfectant at the plant. This new modification was anticipated to result in lower TTHM concentrations leaving the Jensen Filtration Plant; therefore, the raw water entering the Las Virgenes Reservoir may have a lower TTHM concentration..

3. The District initiated a Giardia/Cryptosporidium cysts program as recommended in the 2001 Report. The 982-foot depth at Sampling Station D-1 and the filtration plant effluent, which is collected at the first distribution sampling point deemed Fastwater Court, are monitored for both parasitic cysts. This monitoring program first began February 2002. As shown on Table 3-2, the reservoir water quality does not appear to be significantly impacted by watershed runoff from the wildlife on land and from the observed waterfowl throughout the reservoir.

4. In 2005, a plant security upgrade was implemented that included installation of a video camera at the security gate.

Table 3-1

Geosmin and MIB Results from MWD Divers Field Observation

Date	Location	Geosmin ng/L	MIB ng/L
9/14/04	980-foot Outlet Elevation (D-1)	2	27
9/14/04	1,000-foot Outlet Elevation (D-1)	5	17
9/14/04	Sampling Station D-5 Water Surface	2	94
9/14/04	Sampling Station D-6 Water Surface	5	20
9/14/04	Sampling Station D-7 Water Surface	5	12
9/14/04	Sampling Station D-8 Water Surface	6	20

Table 3-2

Parasitic Cyst Monitoring Results at Sampling Point D-1 & Fastwater Court from the 2005 Report

Sampling Date	982-foot Elevation		Fastwater Court	
	Giardia (cysts/L)	Cryptosporidium (cysts/L)	Giardia (cysts/L)	Cryptosporidium (cysts/L)
02/20/02	<0.09	<0.09		
06/25/02	<0.09	<0.09	<0.09	<0.09
09/10/02	<0.09	<0.09	<0.1	<0.1
12/17/02	<0.09	<0.09		
03/18/03	<0.1	<0.1		
06/24/03	<0.09	<0.09	<0.09	<0.09

3.5 Comments from the 2010 Report

1. The watershed and reservoir continue to receive excellent protection in regard to controlling pollution/contamination problems.

2. The water processed at the Westlake Filtration Plant is consistently in compliance with federal and state water quality requirements.

3.6 Comments from the 2015 Report

1. The watershed and reservoir continue to receive excellent protection in regard to controlling pollution/contamination problems.

2. The water processed at the Westlake Filtration Plant is consistently in compliance with federal and state water quality requirements.

Section 4
Summary of Past Report Recommendations

4.1 1990 Report Recommendations

Recommendation 1. Both the reservoir and the watershed area are currently extremely well protected against pollution/contamination since the lake is not used for any kind of recreation and the watershed is free of any human habitation, industrial development, public recreation, logging, and domestic cattle grazing. If at all possible, this excellent water quality protection level will be maintained in the future. This could be brought about by acquisition of the watershed lands now privately owned.

Recommendation 2. The District should implement a water quality monitoring program for the three or four major storm runoff entry points into the reservoir. Such a program was recently suggested to the District by DHS. The sampling should be performed to evaluate the impacts of storm water runoff discharges on reservoir water quality. The following water quality parameters should be included:

Coliform bacteria	pH
Fecal coliform bacteria	Phosphate
Plate count bacteria	Nitrate
Specific conductance	Color
Turbidity	Giardia
Temperature	Cryptosporidium

These sampling operations should be conducted daily whenever significant runoff reaches the reservoir and continue until the discharge has stopped and should be conducted weekly during dry periods. The samples should be collected from the runoff entering the reservoir and from the reservoir water at points approximately 50 to 100 yards offshore from these runoff points. Refer to Figure 3-2 for approximate sampling points of the major watershed runoff locations. Also, fewer sampling constituents and lesser sampling frequencies will be recommended.

Recommendation 3. The aeration treatment processes currently provided at Sampling Stations D-1 and D-2 appear to have been successful in maintaining aerobic water quality conditions at the reservoir outlet elevation of 982 feet at Station D-1. Therefore, this aeration treatment should be continued and refined in the future.

Recommendation 4. The reservoir is treated periodically with copper sulfate to control algae growths. Sufficient copper is fed into the reservoir to maintain copper levels of 0.1 to 0.3 mg/L throughout the reservoir. Copper levels greater than 0.02 mg/L have toxic effects on fish life and on fish propagation. Such treatment must nevertheless be continued to prevent the formation of excessive taste and odor problems that would be extremely difficult and expensive to remedy at the treatment plant with the existing treatment plant facilities.

Recommendation 5. The raw water quality monitoring program for the reservoir currently being practiced should be improved by implementing the sampling program outlined as follows:

Constituent	Depth	May 1 – November 30		December 1 – April 30	
		Site D-1 Frequency	Sites D-2, D-3, and D-4 Frequency	Site D-1 Frequency	Sites D-2, D-3, and D-4 Frequency
Temperature	(1)	4/yr	2/mo	2/mo	1/mo
Dissolved Oxygen	(2)	2/wk	2/mo	2/mo	1/mo
Algae	(2)	2/wk	2/mo	1/wk	1/mo
Color	(2)	2/wk		1/wk	1/mo
Odor	(2)	2/wk		1/wk	
Turbidity	(2)	2/wk		1/wk	
PH	(2)	2/wk		1/wk	
Copper	(2)	1/wk	1/mo	1/wk	1/mo
Giardia/Crypto	(3)	4/yr		Once	
Total Coliform	(3)	1/wk		2/mo	
Fecal Coliform	(3)	1/wk		2/mo	
Plate Count Bacteria	(3)	1/wk		1/2 wks	
Iron	(3)	1/mo		4/yr	
Manganese	(3)	1/mo		4/yr	
Total Organic Carbon	(3)	1/mo		4/yr	
Ammonia	(3)	1/mo		4/yr	
THM potential	(3)	1/mo		4/yr	
Copper	(3)	1/mo		4/yr	

(1) Reservoir surface to reservoir bottom at 5-foot intervals.
(2) Surface and each outlet elevation.
(3) Elevation 982 feet only.

Note: There are no drinking water standards for some of the above water quality constituents. Nevertheless, analyzing for them gives the utility important information whether the "constituent of concern" is present and at what levels (e.g., Giardia and Cryptosporidium cyst densities).

Recommendation 6. Another watershed/raw water quality evaluation should be made in 5 years for purposes of regulatory compliance.

Recommendation 7. Another watershed/raw water quality evaluation should be made as soon as any definitive watershed development plans and/or reservoir recreation plans are about to be implemented.

4.2 1995 Report Recommendations

The 1995 Report contained no additional improvement recommendations.

4.3 2001 Report Recommendations

Recommendation 1. The District should use the algae count data obtained during the filter plant use season to determine when the reservoir is to receive copper sulfate treatment. During 1999 and 2000, it was done before activating the filtration plant. It was not done while the filter plant was in operation. MWD guidance should be obtained to establish an algae count "action level" using specific algae species counts, or by periodically testing the water for significant Geosmin and MIB concentrations—both by-products from algae growths.

Recommendation 2. The current sampling program for Sampling Station D-1 should be reduced to the program as outlined below. Much of the current sampling program has become redundant and is not used for treatment decision-making purposes. The recommended future sampling program is as follows:

Sampling Station D-1
While Filtration Plant is in Service (April 1 through September 30)

Constituent	Water Surface	1018'	1000'	982'	928'
pH	Weekly	Weekly	Weekly	Weekly	Weekly
Color	Weekly	Weekly	Weekly	Weekly	Weekly
Odor	Weekly	Weekly	Weekly	Weekly	Weekly
Turbidity	Weekly	Weekly	Weekly	Weekly	Weekly
Copper Residual	Sample after 24 hours/after each copper treatment				
Temperature	Weekly at 5-foot intervals from the lake surface to the bottom				
Algae Count	Weekly	Weekly	Weekly	Weekly	Weekly
Conductivity	Weekly	Weekly	Weekly	Weekly	Weekly
Dissolved Oxygen	Weekly at 5-foot intervals from the lake surface to the bottom				
Iron[1]	--	--	--	Quarterly	Quarterly
Manganese[1]	--	--	--	Monthly	Monthly
Coliform Bacteria	--	--	--	Weekly	--
Fecal Coliform Bacteria	--	--	--	Weekly	--
TOC[1]	--	--	--	Monthly	
Ammonia[1]	--	--	--	Monthly	Monthly

[1]Because of anaerobic conditions at and near reservoir bottom.

During the off-season, the above weekly sampling frequencies should be relaxed to once every two weeks and monthly/quarterly frequencies should remain the same.

Recommendation 3. The current sampling program for Sampling Stations D-2, D-3, and D-4 should be stopped almost entirely as the data generated to date is repetitive and is not being used for treatment decision-making purposes. The recommended future sampling program is as follows:

Sampling Stations D-2, D-3, and D-4
Throughout the Year (Plant On/Off)

Constituent	Water Surface	1018'	1000'	982'	928'
Algae Count	Monthly	Monthly	Monthly	Monthly	Monthly

Recommendation 4. The District should re-implement the following reservoir runoff sampling program at the R-1, R-2, R-3, and R-4 shoreline sampling locations shown on Figure 3-2:

Constituent	Frequency
Total coliform bacteria	One sample of each runoff event[1]
Fecal coliform bacteria	One sample of each runoff event[1]

[1]Within 24 hours after runoff is known to have started to enter the reservoir based on visual observations from the boat.

These samples should be collected from creek flow, not the reservoir itself. The bacteriological quality should be analyzed using the multiple tube fermentation method using three 10-mL, three 1-mL, and three 0.1-mL tubes to provide more definitive sampling results. This sampling program should be maintained for at least the next three calendar years, beginning July 1, 2001.

Recommendation 5. The District should consider initiating and maintaining a Giardia/Cryptosporidium cyst sampling program for the next two fiscal years beginning June 1, 2001, as shown below:

Sampling Point	Conduct Testing During
Filtration plant effluent at Fastwater Court	June/September
Sampling Station D-1 at elevation 982 feet (before chlorination)	March/June/ September/December

Recommendation 6. After generating at least 3 years of baseline data (monitoring as recommended in this update report), District staff should periodically modify (increase/decrease) the raw water sampling program recommended in this report *as appropriate and with the prior approval from DHS.* The major benefit of this recommendation is to keep unnecessary raw water quality sampling to a minimum but still continue to generate ongoing information needed for making important water diversion and water treatment decisions.

4.4 2005 Report Recommendations

The 2005 Report contained no additional improvement recommendations.

4.5 2010 Report Recommendations

Recommendation 1. The current sampling program when the filtration plant is online, as detailed in the 2005 report, was modified to eliminate algae count sampling and institute sampling for Geosmin and MIB on an as-needed basis because studies indicated that copper sulfate treatment was no longer necessary at the reservoir. Monitoring between 2006 and 2009 indicated that taste and odor issues were not significant; thus corroborating the empirical data which reflect low levels of Geosmin and MIB in the reservoir. This data is provided in Section 5.4. It is recommended that Geosmin and MIB testing be continued on an as-needed basis and that algae count sampling program not be re-implemented.

Recommendation 2. After 3 years of monitoring, District staff should periodically modify (increase/decrease) the frequency of perimeter surveys. The major benefit of this recommendation is to keep trespassing to a minimum and eliminate potential minor contamination concerns created by the general public.

Recommendation 3. A runoff sampling program was implemented from 2001-2005 to test for total coliform and fecal coliform bacteria. Shoreline samples were collected and analyzed after each significant rainfall event. Post-analysis coliform levels were found to be negligible during this sampling period. For this reason, runoff samples were not collected for the period from 2005-2010. It is recommended that the runoff sampling program be discontinued

4.6 2015 Report Recommendations

The 2015 Report contained no additional improvement recommendations.

Section 5
Updated Water Quality Information

This section of the report presents updated raw water quality information. For ease of reading, water quality tables are located at the end of this section. This section discusses and evaluates various water quality parameters and in some cases presents maximum contaminant levels (MCL) for each parameter.

5.1 Physical Raw Water Quality Data for the Reservoir Outlet Pipeline (D-1) at the Normally Used Outlet Elevation of 982 Feet

Table 5-1 summarizes weekly sampling results for turbidity, odor, apparent color, conductivity, pH, copper residual, ammonia and total organic carbon concentrations. The data shown are consistent. At times the raw water exceeds the color and odor MCLs. The provided water treatment processes correct these occasional exceedances. Table 5-1 is summarized as follows:

1. During the time period of January 2016 and December 2020, the average monthly turbidity of the raw water is usually less than 2.0 nephlometric turbidity units (NTU). However, turbidity did reach above 2.0 NTU on occasion. The dates and readings of those exceedences are listed below:

DATE	Turbidity (NTU)	DATE	Turbidity (NTU)
2/4/2016	2.1	2/28/2019	2.6
4/13/2017	2.2	3/7/2019	2.1
7/27/2017	7.3	3/21/2019	2.1
8/2/2017	3.7	9/22/2020	2.1
9/19/2017	22	10/8/2020	2.5
11/15/2018	3.1	12/9/2020	3.0

2. The median threshold odor number (TON) was 6 TON and the range went as high as 200.

3. The average apparent color of the raw water less than 15 cu with a median of 10 cu.

4. Conductivity of raw water ranged from 666 to 847 µmhos.

5. The pH of the raw water ranged from 7.1 to 8.4. This changing pH impacts the filter plant's CT requirements and is taken into account by the plant operators.

Figure 3-2 shows the location of sampling Station D-1. The current weekly frequencies should be continued while the filter plant is in operation. When the filter plant is not operational, sampling is reduced to once a month.

5.2 Raw Water Quality Profile Analyses at Sampling Station D-1 at Miscellaneous Water Depths

Tables 5-2 through 5-5 present detailed water quality information for the following four reservoir elevations, respectively: water surface, 1,018 feet, 1,000 feet and 928 feet. Information is provided for the following water constituents: pH, turbidity, odor, apparent color, conductivity and, at the 1000-foot elevation water temperature. There is no temperature information available at the 1018 or the 928-foot elevations because operations staff takes a temperature reading at the surface, at the 1035-foot elevation and then a reading at 5-foot intervals until they reach the 930-foot elevation. The overall findings in this table are similar to the water quality levels summarized on Table 5-1, except for the following additional information:

1. pH values exceed 7.0 and range as high as 9.0.

2. Poor physical water quality conditions exist at times at the 928-foot level (historically not used to withdraw water).

5.3 Algae Count Test Results at Sampling Points D-2, D-3, and D-4 at Miscellaneous Water Depths

Based on a recommendation in the 2005 sanitary survey, the District eliminated algae testing in the reservoir and no data is available.

5.4 Geosmin and MIB Analyses at Various Sampling Locations

The 2005 sanitary survey report recommended that sampling for Geosmin and MIB (2-methylisoborneol) be conducted on an as-needed basis. Historical data show low levels of

Geosmin and MIB in the reservoir. Taste and odor issues were not significant between 2016 and 2020, therefore no monitoring was conducted for Geosmin and MIB. Table 5-6 was left blank for this reason.

When monitoring is conducted, sampling occurs at the water surface and at various depths at three different locations around the reservoir. These sampling locations are shown in Figure 5-1. Samples are collected as close as possible to those locations but no permanent buoys have been set.

5.5 Raw Water Dissolved Oxygen and Water Temperature

Table 5-7 summarizes dissolved oxygen and water temperature data that is collected at Sampling Station D-1. These samples are collected at selected water depth intervals from the top of the water surface down to near the bottom of the reservoir. Table 5-8 provides aeration information in terms of the number of days aeration was supplied per month. These tables summarize the data generated from January 2016 through December 2020. Tables 5-7 and 5-8 are summarized as folllows:

1. Dissolved oxygen levels are highly variable at the 930-foot elevation, ranging between <0.1 mg/L up to 14 mg/L.

2. Aeration was supplied infrequently between 2016-2020.

3. During the sampling period, dissolved oxygen levels measured at the 980-foot, 1,000-foot and 1,015-foot elevation were typically above 1 mg/L.

Dissolved oxygen and temperature readings are important at Sampling Station D-1, especially at the 980-foot elevation and 1,000-foot outlet elevations normally used to withdraw water. It is also important to periodically monitor the water quality above 1,000 feet and below 982 feet.

5.6 General Mineral Analyses at Sampling Station D-1 at Outlet Elevation 982 Feet and Reservoir Bottom Outlet Elevation

Table 5-9 shows that the overall mineral quality of the water is good and meets all applicable MCLs. The yearly sampling program at both 982-foot and 928-foot elevations is ongoing, however, some portions of the sampling program have been modified since the 2005 report. Testing for bicarbonate, carbonate, total alkalinity, calcium, chloride, copper, fluoride, hardness as CaCO3, magnesium, MBAS, nitrate N, sodium, sulfate, total dissolved solids, and zinc is now conducted post treatment at Fastwater Court

5.7 TOC Test Results for Sampling Station D-1

TOC is analyzed at the intake depth. Table 5-10 shows test results generated between January 2016 and December 2020 for the 982-foot and 1000-foot outlet elevations at Sampling Station D-1. TTHM and MTBE are no longer sampled from the reservoir, these tests are conducted post treatment at Fastwater Court. Table 5-10 is summarized as follows:

1. The TOC of the water at the 982-foot level averaged 3.3 mg/L.

2. The TOC of the water at the 1000-foot level averaged 4.4 mg/L.

5.8 Reservoir Run-off Sampling Results

The 2001 Report recommended re-implementing a watershed runoff sampling program at four locations on the reservoir near the shoreline area, where sporadic runoff from the watershed is entering the reservoir during and after significant rainfall. The suggested sampling program entails monitoring only total coliform bacteria and fecal coliform bacteria at locations R-1, R-2, R-3 and R-4. These sampling locations are shown in Figure 3-2. Post-analysis coliform levels were found to be negligible during this sampling period. For this reason, runoff samples were not collected for the period from 2005-2010. The runoff sampling program has been discontinued. The watershed changed slightly due to the construction of the 5MG Torchwood Storage Tank adjacent to the reservoir in 2015. Roughly 60,000 square feet within the watershed was used to build the tank and impervious pavement, which drains into the reservoir reducing infiltration and increasing runoff.

5.9 Treated MWD Water Quality

Table 5-11 summarizes the water quality produced by MWD's Jensen Filtration Plant. The information shown is from MWD's 2020 Water Quality Report, which includes data collected from January through December 2019. This water typically enters Las Virgenes Reservoir between October and April. The water quality meets all applicable drinking water standards.

5.10 Bacteriological Quality of Raw Water at Sampling Point D-1

Table 5-12 summarizes the bacteriological monitoring results taken from the outlet depths 982-feet and 1000-feet at Sampling Station D-1. Bacteriological test results were collected mostly at a monthly frequency between January 2016 and December 2020. In 2019 the testing method changed from multiple tube fermentation to a substrate method which reacts in a tray (Quanti-tray). Both methods provide results in MPN/100mL. The test results showed the following:

1. Total coliform bacteria levels range from 2 to >4839.2 MPN/100 mL.
2. Fecal coliform bacteria levels range from <1.8 to 920 MPN/100 mL.
3. E. coli coliform bacteria levels range from 2 to 61 MPN/100 mL.

5.11 Iron/Manganese Quality of Raw Water at Sampling Point D-1 at Elevation 928 and 982 Feet

Table 5-13 presents test results for iron and manganese from Sampling Station D-1 from the 982-foot outlet elevation. The data shows that the manganese levels at the 982-foot elevation averages 283 µg/L.

5.12 Parasitic Cyst Monitoring

The District initiated a two year monitoring program for Giardia/Cryptosporidium cysts as recommended in the 2001 Report. This monitoring program first began February 2002 and was discontinued in September 2008. The WFP meets log removal requirements for Giardia, in accordance with the *1999 EPA Disinfection Profiling and Benchmarking Guidance Manual*.

Table 5-1

Sampling Results for Station D-1 (Elevation 982 feet)

January 2016 - December 2020

Date	Turbidity NTU	Odor units	Color units	Conductivity umhos/cm	pH Std Units	Date	Turbidity NTU	Odor units	Color units	Conductivity umhos/cm	pH Std Units
1/7/2016	1.5	1.4	15	736	8.2	4/5/2018	1.1	4	15	799	7.6
1/21/2016	1.4	6	10	747	8	4/11/2018	1.6	6	15	789	7.6
2/4/2016	2.1	2	10	732	8.4	4/18/2018	1.5	1.4	15	847	7.7
2/11/2016	1.9	3	15	730	8.2	4/25/2018	1.6	1.4	15	803	7.9
2/25/2016	0.9	2	10	727	8	5/3/2018	0.8	1	5	809.6	7.8
3/3/2016	1.4	2	15	734	7.8	5/9/2018	0.5	2	10	806	7.5
4/7/2016	1	2	10	726.7	7.7	5/17/2018	0.9	1	5	805	7.9
5/5/2016	1	6	15	730	7.6	5/23/2018	0.6	2	5	717	8
6/14/2016	-0.5	6	5	736	7.4	6/27/2018	0.5	1.4	5	805	8.1
7/14/2016	1.7	6	10	739	7.2	7/19/2018	0.5	3	5	806.1	8.1
8/25/2016	0.9	12	15	742	7.3	8/1/2018	0.6	3	10	800	8.1
9/15/2016	1.1	12	10	737	7.2	9/27/2018	1	8	5	812	7.8
10/27/2016	0.9	12	10	762	8.3	10/11/2018	1.1	8	10	787	7.8
11/3/2016	1.2	6	15	768	8.2	11/15/2018	3.1	12	15	802.9	7.9
12/15/2016	1.2	6	10	770	7.9	12/13/2018	1.7	8	15	761.7	7.8
1/25/2017	0.7	12	10	770	7.9	1/10/2019	1.8	6	15	761	7.6
2/9/2017	0.6	12	5	758	7.3	2/28/2019	2.6	1.4	10	758	8
3/30/2017	1.6	8	15	779	7.5	3/7/2019	2.1	2	15	768.1	8.1
4/13/2017	2.2	8	10	758	7.7	3/13/2019	2	15	15	768.3	8.2
5/18/2017	1.6	8	20	766	7.4	3/21/2019	2.1	1.4	15	771	7.4
6/15/2017	1.1	17	5	745	7.1	3/27/2019	1.7	2	10	772	7.3
7/27/2017	7.3	100	15	765	7.2	4/4/2019	1	2	10	771	8
8/2/2017	3.7	200	10	766	7.2	4/11/2019	0.9	3	10	769.1	7.9
9/19/2017	22	0	10	770	7.2	4/18/2019	0.8	2	5	769	7.7
10/26/2017	1.9	12	25	784	7.6	4/25/2019	0.8	4	10	773	7.6
11/16/2017	1.3	8	15	791	8.1	5/2/2019	0.8	4	10	774	7.4
12/12/2017	1.7	3	20	797.2	7.9	5/9/2019	0.7	6	10	776	7.6
1/18/2018	1.4	17	15	793	7.5	5/16/2019	0.7	4	10	776	7.6
2/22/2018	1.3	4	15	789.5	7.3	5/25/2019	0.9	3	10	774.4	7.6
3/14/2018	0.9	3	10	807	7.6	6/20/2019	1.1	1.4	10	771	8.1
3/20/2018	0.7	6	15	797.6	7.8	7/11/2019	0.8	2	10	695	7.8
3/28/2018	1.1	4	15	792	7.9	8/15/2019	1.5	4	10	759	7.4

Table 5-1
(Continued)

Date	Turbidity NTU	Odor units	Color units	Conductivity umhos/cm	pH Std Units	Date	Turbidity NTU	Odor units	Color units	Conductivity umhos/cm	pH Std Units
9/26/2019	1.5	12	15	772.9	7.3						
10/3/2019	0.8	12	10	775	7.9						
11/21/2019	1	17	10	791	8.2						
12/12/2019	1	17	10	771	8						
1/16/2020	0.8	17	10	770	8						
2/20/2020	0.9	17	10	739.2	8.3						
3/31/2020	0.9	17	5	706	8						
4/29/2020	1.1	8	15	721	7.7						
5/27/2020	1.3	8	10	666	7.6						
6/24/2020	0.8	6	5	723	7.8						
7/22/2020	1.8	12	15	741	7.2						
8/11/2020	1.5	17	5	722	7.1						
9/22/2020	2.1	17	20	761.5	7.7						
9/30/2020	2	12	15	760.8	7.8						
10/8/2020	2.5	4	30	772	7.8						
11/10/2020	2	6	15	778.2	8						
12/9/2020	3	6	10	763.4	8						

Table 5-2

Sampling Results for Station D-1 (Water Surface)

January 2016 - December 2020

Date	pH Std Units	Turbidity NTU	Odor units	Color units	Conductivity umhos/cm	Dissolved Oxygen (field) mg/l	Temperature C
1/7/2016	8.0	1.6	2.0	10	739	7.7	13.6
1/21/2016	8.2	1.1	2.0	10	753	9.7	14.3
2/4/2016	8.5	2.1	1.4	10	734	11.6	13.1
2/11/2016	8.8	1.6	3.0	10	724	14.8	15.5
2/25/2016	8.7	0.5	2.0	5	725	11.1	17.0
3/3/2016	8.7	0.6	2.0	5	729	11.4	18.2
4/7/2016	8.6	1.2	2.0	10	745	11.1	18.7
5/5/2016	8.5	1.5	8.0	10	745	10.2	20.6
6/14/2016	8.3	<0.5	12	10	742	9.0	22.5
7/14/2016	8.1	0.6	17	5	745	8.7	27.5
8/25/2016	8.1	0.6	17	10	762	7.8	26.3
9/15/2016	8.0	1.7	24	10	769	8.1	24.8
10/27/2016	8.3	3.9	24	10	775	8.4	22.2
11/3/2016	8.2	0.9	35	15	760	7.9	21.7
12/15/2016	7.9	1.3	70	10	771	7.7	16.5
1/25/2017	8.0	1.4	8.0	5	767	7.6	13.4
2/9/2017	8.3	4.1	8.0	20	741	15.8	15.7
3/30/2017	9.0	5.7	8.0	20	746	11.8	18.5
4/13/2017	8.5	6.8	12	15	742	11.7	17.7
5/18/2017	8.4	1.6	17	15	751	7.9	19.3
6/15/2017	8.0	1.0	24	10	755	8.6	22.8
7/27/2017	7.7	2.0	50	15	773.2	6.9	26.9
8/2/2017	8.0	0.6	8.0	15	777	7.3	27.6
9/19/2017	7.9	1.0	35	15	787	6.9	25.6
10/26/2017	7.9	1.2	6.0	15	787	8.0	22.4
11/16/2017	8.0	1.2	1.0	20	789	8.8	20.7
12/12/2017	7.9	1.6	8.0	20	796.9	8.2	16.5
1/18/2018	7.6	1.5	1.0	10	791	8.7	15.9
2/22/2018	7.4	1.2	1.0	15	781.4	6.3	14.4
3/8/2018	7.9	1.3	2.0	10	779	8.6	16.0
3/14/2018	7.8	0.8	2.0	5	799	9.8	15.8
3/20/2018	8.5	7.3	6.0	10	796.7	11.0	15.5

Table 5-2
(Continued)

Date	pH Std Units	Turbidity NTU	Odor units	Color units	Conductivity umhos/cm	Dissolved Oxygen (field) mg/l	Temperature C
3/28/2018	8.6	2.9	6.0	5	781	11.0	16.9
4/5/2018	8.3	1.9	6.0	10	788	10.3	17.7
4/11/2018	8.5	3.6	12	10	789	10.0	19.3
4/18/2018	8.2	1.0	2.0	10	842	9.0	17.3
4/25/2018	8.3	0.7	2.0	10	805	9.7	19.6
5/3/2018	8.1	1.2	2.0	<5	808.1	8.3	18.3
5/9/2018	7.9	0.5	6.0	10	806	9.6	20.2
5/17/2018	8.2	1.4	6.0	10	806.2	9.1	20.4
5/23/2018	7.8	0.4	4.0	10	719	19.9	9.2
6/27/2018	8.2	0.4	2.0	5	802	9.1	24.2
7/19/2018	8.6	0.5	4.0	5	800.0	9.4	27.3
8/1/2018	8.5	0.7	4.0	5	801	8.7	20.0
9/27/2018	7.8	1.1	6.0	10	811	7.8	25.7
10/11/2018	7.8	1.2	6.0	5	817	8.0	23.8
11/15/2018	7.8	2.0	12	10	805.8	7.6	19.8
12/13/2018	7.7	1.3	8.0	15	754.8	8.2	16.2
1/10/2019	7.5	1.8	6.0	5	756	7.8	13.9
2/28/2019	8.3	1.3	2.0	10	761	10.2	13.9
3/7/2019	8.5	1.0	3.0	10	752.2	11.2	15.2
3/13/2019	8.7	1.4	10	10	756.7	11.6	14.3
3/21/2019	8.5	2.5	6	15	751	15.5	15.7
3/27/2019	8.9	1.3	8	10	743	15.3	18.2
4/4/2019	9.4	0.7	8	<5	731	13.0	18.5
4/11/2019	9.3	0.8	6	10	732.1	12.0	19.4
4/18/2019	9.4	0.9	4	10	727	12.1	21.1
4/25/2019	9.2	1.0	4	5	724.7	11.1	22.0
5/2/2019	8.6	0.8	3	10	724	10.6	20.7
5/9/2019	9.0	0.8	4	10	733	10.0	20.2
5/16/2019	9.1	0.7	8	5	733	9.8	21.1
5/25/2019	9.1	1.3	12	5	741.7	9.9	20.0
6/20/2019	9.8	32	35	10	714	16.1	23.9
7/11/2019	8.8	13	17	<5	653	3.8	25.3
8/15/2019	8.1	0.6	6	10	760	7.7	27.1
9/26/2019	7.5	1.2	17	15	774.4	4.7	21.3

Table 5-2
(Continued)

Date	pH Std Units	Turbidity NTU	Odor units	Color units	Conductivity umhos/cm	Dissolved Oxygen (field) mg/l	Temperature C
10/3/2019	7.8	0.7	12	10	778	4.7	21.2
11/21/2019	7.9	0.8	17	10	792	7.7	18.0
12/12/2019	7.8	1	17	10	777	7.1	15.7
1/16/2020	7.7	0.6	17	10	772	8.4	13.3
2/20/2020	7.7	0.8	17	5	749.2	11.3	14.0
3/31/2020	8.0	<0.5	17	5	710	10.2	15.5
4/29/2020	8.2	<0.5	12	5	694	9.7	21.7
5/27/2020	8.4	6.2	8	15	709	10.8	24.7
6/24/2020	8.0	1.2	8	5	734	9.4	24.4
7/22/2020	8.1	1.4	8	5	757	7.7	25.1
8/11/2020	7.8	2.2	12	5	758	7.8	26.0
9/22/2020	7.6	1.1	17	10	767.2	7.0	24.9
9/30/2020	7.8	2.4	17	5	767.4	7.0	25.5
10/8/2020	7.8	1.5	17	10	778	7.4	24.5
11/10/2020	7.6	1.6	17	10	779.2	7.4	20.2
12/9/2020	7.8	3.5	12	10	768.1	6.8	16.7

Table 5-3

Sampling Results; Station D-1 (Elevation 1018 feet)

January 2016 - December 2020

Date	pH Std Units	Turbidity NTU	Odor units	Color units	Conductivity umhos/cm
1/7/2016	8.0	1.3	4.0	10	739
1/21/2016	8.0	1.0	2.0	10	756
2/4/2016	8.4	1.9	4.0	15	733
2/11/2016	8.5	1.6	2.0	15	729
2/25/2016	8.4	0.6	3.0	5	729
3/3/2016	8.4	0.7	3.0	10	725
4/7/2016	8.5	1.2	3.0	10	741
5/5/2016	8.5	0.9	12	10	740
6/14/2016	8.4	0.5	6.0	10	742
7/14/2016	8.2	0.5	12	10	743
8/25/2016	8.1	0.8	35	10	764
9/15/2016	8.0	0.8	35	15	768
10/27/2016	8.4	0.7	50	10	770
11/3/2016	8.2	0.9	24	10	769
12/15/2016	7.9	1.2	24	10	766
1/25/2017	7.9	0.8	8.0	10	769
2/9/2017	7.3	0.5	12	10	758
3/30/2017	7.8	0.6	8.0	10	755
4/13/2017	8.5	3.5	8.0	15	741
5/18/2017	8.3	1.4	17	15	752
6/15/2017	7.8	0.8	17	10	754
7/27/2017	7.8	0.9	17	10	772.3
8/2/2017	7.9	0.8	4.0	10	733
9/19/2017	7.9	1.2	8.0	15	786
10/26/2017	7.9	0.9	2.0	10	785
11/16/2017	8.1	1.4	2.0	15	789
12/12/2017	7.8	1.8	12	20	797.0
1/18/2018	7.5	1.5	2.0	15	788
2/22/2018	7.4	1.3	1.4	15	778.3
3/8/2018	7.6	1.7	2.0	15	792
3/14/2018	7.8	1.2	1.4	10	802
3/20/2018	8.2	1.2	1.0	10	794.6
3/28/2018	8.2	2.6	1.0	15	791
4/5/2018	8.3	1.5	2.0	10	791
4/11/2018	8.3	1.7	4.0	10	785
4/18/2018	8.2	1.0	1.0	10	843
4/25/2018	8.3	1.1	1.0	5	805

Table 5-3
(Continued)

Date	pH Std Units	Turbidity NTU	Odor units	Color units	Conductivity umhos/cm
5/3/2018	8.1	0.8	1.0	<5	808.3
5/9/2018	7.8	0.8	3.0	10	807
5/17/2018	8.1	0.6	3.0	5	805.7
5/23/2018	7.9	0.8	2.0	10	716
6/27/2018	8.2	0.4	1.4	5	802
7/19/2018	8.6	0.5	1.4	5	802.3
8/1/2018	8.6	0.8	4.0	10	799
9/27/2018	7.8	1.0	6.0	10	813
10/11/2018	7.8	1.3	8.0	10	819
11/15/2018	7.8	2.3	12	15	804.6
12/13/2018	7.8	1.3	8.0	15	757.6
1/10/2019	7.6	1.6	6.0	5	751
2/28/2019	8.1	1.7	3.0	10	760
3/7/2019	8.1	1.0	2.0	10	767.5
3/13/2019	8.7	1.3	10	10	756.8
3/21/2019	7.4	1.0	2	10	773
3/27/2019	7.8	1.4	3	10	763
4/4/2019	9.0	0.9	3	10	755
4/11/2019	9.0	0.7	2	10	752.9
4/18/2019	8.8	1.2	3	15	752
4/25/2019	8.9	1.1	4	10	749.1
5/2/2019	8.6	0.8	3	10	735
5/9/2019	9.0	0.9	3	10	732
5/16/2019	9.0	0.8	6	10	737
5/25/2019	9.0	1.4	4	5	738.5
6/20/2019	8.7	1.8	2	10	749
7/11/2019	8.1	1.0	3	5	669
8/15/2019	7.9	0.6	4	10	740
9/26/2019	7.4	1.3	12	15	774.6
10/3/2019	7.9	0.8	25	10	776
11/21/2019	8.0	1	8	10	794
12/12/2019	7.9	0.9	8	10	768
1/16/2020	7.8	0.6	12	10	776
2/20/2020	8.3	1.3	6	5	746.4
3/31/2020	8.1	0.8	12	5	708
4/29/2020	8.3	0.5	8	10	693

Table 5-3
(Continued)

Date	pH Std Units	Turbidity NTU	Odor units	Color units	Conductivity umhos/cm
5/27/2020	8.0	0.7	8	5	655
6/24/2020	8.2	1.2	8	5	712
7/22/2020	8.1	1.2	8	5	760
8/11/2020	7.9	2.0	6	5	760
9/22/2020	7.8	1.2	6	10	763.1
9/30/2020	7.9	2.7	6	10	761.8
10/8/2020	8.0	2.0	3	10	774
11/10/2020	7.8	2.0	8	15	779.2
12/9/2020	8.0	2.6	12	10	760.2

Table 5-4

Sampling Results for Station D-1 (Elevation 1000 Feet)

January 2016 - December 2020

Date	pH Std Units	Turbidity NTU	Odor units	Color units	Electrical Conductivity umhos/cm	Temperature (Field) degrees C
1/7/2016	8.0	1.3	2.0	10	739	13.5
1/21/2016	7.9	1.1	1.4	10	756	13.3
2/4/2016	8.4	2.0	1.4	10	733	13.0
2/11/2016	8.3	1.3	2.0	15	729	13.1
2/25/2016	8.1	0.6	2.0	5	731	13.4
3/3/2016	7.9	0.8	2.0	10	717	13.4
4/7/2016	8.5	1.0	2.0	10	739	17.0
5/5/2016	8.4	0.9	2.0	10	741	19.3
6/14/2016	8.4	<0.5	6.0	10	739	22.6
7/14/2016	7.9	0.6	12	10	742	23.3
8/25/2016	8.1	1.4	35	15	763	26.1
9/15/2016	8.0	1.0	24	10	769	24.8
10/27/2016	8.4	0.8	24	10	770	21.7
11/3/2016	8.2	0.8	35	15	768	21.0
12/15/2016	7.9	1.2	35	10	769	16.3
1/25/2017	7.9	1.5	8.0	10	768	13.3
2/9/2017	7.3	0.6	8.0	5	760	13.1
3/30/2017	7.6	0.7	6.0	15	780	13.4
4/13/2017	7.6	1.1	6.0	10	752	13.6
5/18/2017	8.2	1.4	12	15	752	19.2
6/15/2017	7.7	0.7	12	10	747	21.9
7/27/2017	7.7	0.8	24	10	770.6	26.2
8/2/2017	7.6	0.6	3.0	10	772	26.7
9/19/2017	7.9	1.2	8.0	15	786	25.7
10/26/2017	7.8	1.0	3.0	10	785	21.8
11/16/2017	8.1	1.6	2.0	15	785	19.7
12/12/2017	7.9	2.0	3.0	20	796.8	16.4

Table 5-4
(Continued)

Date	pH Std Units	Turbidity NTU	Odor units	Color units	Electrical Conductivity umhos/cm	Temperature (Field) degrees C
1/18/2018	7.5	1.4	4.0	15	784	14.6
2/22/2018	7.3	1.3	3.0	15	785.4	14.1
3/8/2018	7.6	1.8	3.0	10	795	13.8
3/14/2018	7.4	0.8	3.0	10	799	13.8
6/27/2018	8.2	0.4	2.0	10	803	23.6
7/19/2018	8.4	0.6	1.0	5	803.5	26.1
8/1/2018	8.5	0.9	1.0	10	799	27.4
9/27/2018	7.8	1.0	2.0	5	813	25.1
10/11/2018	7.8	1.2	4.0	10	822	23.8
11/15/2018	7.9	2.0	6.0	10	801.1	18.8
12/13/2018	7.8	1.5	8.0	15	761.1	16.2
1/10/2019	7.6	1.7	6.0	10	757	14.0
2/28/2019	8.1	2.4	1.4	10	763	12.6
3/7/2019	8.1	2.0	1.4	10	764.3	12.7
3/13/2019	8.0	1.6	1.4	10	762.0	12.7
3/21/2019	7.3	1.7	1	10	774	12.7
3/27/2019	7.3	1.4	1	10	772	12.9
4/4/2019	7.8	1	2	10	774	12.9
4/11/2019	7.8	1.2	1.4	10	766	13.0
4/18/2019	7.6	1.2	1.4	15	771	13.0
4/25/2019	7.3	0.9	3	10	766	13.2
5/2/2019	7.2	0.8	4	10	772	13.1
5/9/2019	7.0	0.7	8	10	769	13.4
5/16/2019	7.7	0.9	8	15	776	13.6
6/20/2019	9.4	16	8	10	725	18.8
7/11/2019	8.0	0.6	6	5	673	19.1
8/15/2019	8.0	0.6	6	10	757	19.0
9/26/2019	7.5	1.3	17	15	774.2	22.3
10/3/2019	8.0	0.8	17	10	778	21.4
11/21/2019	8.0	1.0	12	10	793	18.0
12/12/2019	8.0	1.1	12	10	773	15.7

Table 5-4
(Continued)

Date	pH Std Units	Turbidity NTU	Odor units	Color units	Electrical Conductivity umhos/cm	Temperature (Field) degrees C
1/16/2020	7.9	0.8	12	10	771	13.4
2/20/2020	8.4	1.0	6	10	741	13.4
3/31/2020	8.1	0.7	12	5	693	14.7
4/29/2020	8.0	0.8	8	10	706	16.3
5/27/2020	7.8	1.2	8	10	701	20.4
6/24/2020	7.9	0.6	6	5	722	21.8
7/22/2020	7.7	0.7	6	5	752	24.6
8/11/2020	7.9	1.7	6	5	695	25.4
9/22/2020	8.1	1.5	8	15	764	25.0
9/30/2020	8.2	1.2	6	10	764	25.0
10/8/2020	8.0	1.8	3	10	777	24.7
11/10/2020	7.9	1.8	3	10	777.4	19.9
12/9/2020	8.0	3.1	8	15	763.6	16.4

Table 5-5

Sampling Results for Station D-1 (Elevation 928 Feet)

January 2016 - December 2020

Date	pH Std Units	Turbidity NTU	Odor units	Color units	Electrical Conductivity umhos/cm
1/7/2016	8.0	1.7	8.0	10	730
1/21/2016	7.8	2.0	8.0	10	743
2/4/2016	8.3	2.6	3.0	15	732
2/11/2016	8.2	3.7	6.0	20	729
2/25/2016	8.0	3.9	8.0	20	729
3/3/2016	7.6	4.2	8.0	20	732
4/7/2016	7.4	0.9	4.0	15	747
5/5/2016	8.6	0.9	17	15	742
6/14/2016	7.3	9.0	>200	15	760
7/14/2016	7.1	0.9	200	10	752
8/25/2016	7.2	23	>200	20	762
9/15/2016	7.0	17	>200	20	764
10/27/2016	7.4	37	>200	20	750
11/3/2016	7.3	39	200	25	765
12/15/2016	7.3	54	>200	25	769
1/25/2017	7.9	0.8	12	10	770
2/9/2017	7.3	1.1	12	10	761
3/30/2017	7.5	2.2	8.0	15	782
4/13/2017	8.9	12	12	20	733
5/18/2017	7.4	2.4	>200	10	775
6/15/2017	7.1	7.3	100	5	744
7/27/2017	7.1	8.3	>200	15	773.3
8/2/2017	7.2	9.9	>200	15	774
9/19/2017	7.2	23	>200	15	779
10/26/2017	7.1	9.7	>200	25	767
11/16/2017	7.2	18	>200	15	774
12/12/2017	7.9	1.9	6.0	20	798.0
1/18/2018	7.2	3.7	>200	15	784
2/22/2018	7.3	1.4	3.0	15	794.5
3/8/2018	7.5	1.6	3.0	10	787
3/14/2018	7.6	2.3	2.0	20	801
3/20/2018	7.7	2.0	1.4	20	799.1
3/28/2018	7.7	2.6	2.0	20	791
4/5/2018	7.5	3.0	3.0	25	800
4/11/2018	7.6	2.8	12	15	786

Table 5-5
(Continued)

Date	pH Std Units	Turbidity NTU	Odor units	Color units	Electrical Conductivity umhos/cm
4/18/2018	7.4	2.8	6.0	25	849
4/25/2018	7.6	3.8	200	30	808
5/3/2018	7.5	3.2	140	15	809.6
5/9/2018	7.1	2.2	35	30	807
5/17/2018	8.2	0.8	24	10	807.0
5/23/2018	7.3	4.6	140	10	640
6/27/2018	7.2	7.6	>200	20	805
7/19/2018	7.4	7.9	200	15	815.5
8/1/2018	7.4	7.6	>200	20	820
9/27/2018	6.9	18	>200	20	815
10/11/2018	6.8	40	>200	25	660
11/15/2018	7.9	3.4	3.0	20	798.7
12/13/2018	7.9	2.6	8.0	15	760.1
1/10/2019	7.6	1.8	6.0	10	761
2/28/2019	8.0	6.3	2.0	20	765
3/7/2019	8.1	2.0	3.0	15	768.2
3/13/2019	8.0	11	35	35	770.2
3/21/2019	7.5	6.1	4	20	777
3/27/2019	7.2	4.3	4	15	776
4/4/2019	7.7	4.1	6	25	779
4/11/2019	7.7	4.3	4	20	775.9
4/18/2019	7.5	2.3	1.4	15	773
4/25/2019	9.2	0.6	2	10	723.4
5/2/2019	7.3	3.2	3	30	778
5/9/2019	7.5	0.8	4	15	779
5/16/2019	7.5	1.8	4	25	779
5/25/2019	7.4	1.7	3	25	779.4
6/20/2019	7.6	0.9	6	15	784
7/11/2019	7.6	1.4	6	15	693
8/15/2019	7.3	2.4	12	10	747
9/26/2019	7.1	7.0	24	15	782.1
10/3/2019	7.5	12	>200	10	782
11/21/2019	8.0	0.8	12	10	793
12/12/2019	8.0	1.1	12	10	766

Table 5-5
(Continued)

Date	pH Std Units	Turbidity NTU	Odor units	Color units	Electrical Conductivity umhos/cm
1/16/2020	8.0	0.7	12	10	764
2/20/2020	8.2	0.7	6	10	743.3
3/31/2020	8.0	0.9	8	10	728
4/29/2020	7.6	1.5	8	20	731
5/27/2020	7.5	1.6	8	15	704
6/24/2020	7.7	2.0	12	10	740
7/22/2020	7.1	4.6	17	10	747
8/11/2020	7.2	1.2	17	5	743
9/22/2020	7.9	1.3	24	10	762.9
9/30/2020	7.9	1.1	17	10	760.0
10/8/2020	7.5	25	>200	25	783
11/10/2020	8.2	1.9	100	10	776.8
12/9/2020	7.9	2.8	100	15	759.6

Table 5-6
Geosmin and MIB Results (Various Sampling)
January 2016 - December 2020

Date	Location		Geosmin ng/L	MIB ng/L

A negative (-) indicates less then

Geosmin and MIB sampling is an as needed analysis. There were no samples taken between 2016-2020.

Figure 5-1

Geosmin and MIB Sampling Locations

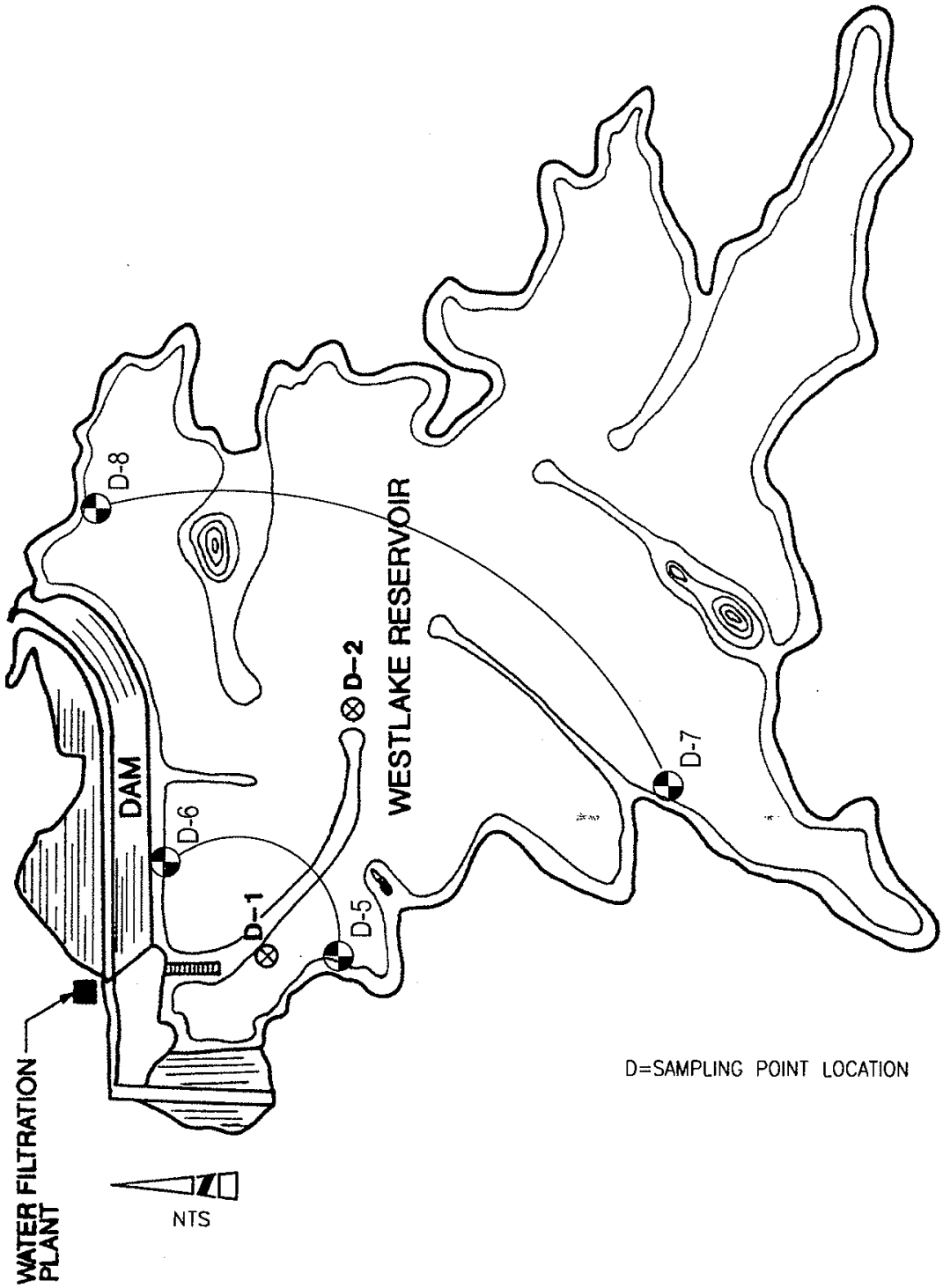


Table 5-7

Las Virgenes Reservoir Dissolved Oxygen
Sampling Station D-1 at Various Elevations (2016-2020)

	930-foot Depth		980-foot Depth		1,000-foot Depth		1,015-foot Depth	
Date	DO (mg/L)	Temp. (°C)	DO (mg/L)	Temp. (°C)	DO (mg/L)	Temp. (°C)	DO (mg/L)	Temp. (°C)
1/7/2016	7.1	13.5	7.2	13.5	7.3	13.5	7.4	13.6
1/21/2016	6.3	13.3	7.2	13.3	7.2	13.3	7.3	13.4
2/4/2016	6.8	13.0	10.4	13.0	10.8	13.0	11.0	13.0
2/11/2016	7.6	13.1	8.9	13.1	9.6	13.1	9.9	13.2
2/25/2016	3.5	13.2	6.9	13.2	7.9	13.4	9.4	13.8
3/3/2016	3.1	13.1	5.7	13.2	6.7	13.4	11.0	15.2
4/7/2016	0.1	13.3	3.7	14.3	9.5	17.0	10.2	17.6
5/5/2016	0.2	13.4	4.0	15.3	9.1	19.3	9.9	19.9
6/14/2016	0.2	13.6	0.4	15.4	8.8	22.6	8.8	22.6
7/14/2016	0.3	13.7	0.5	16.4	7.0	23.3	8.8	26.2
8/25/2016	0.2	13.8	0.4	17.3	7.4	26.1	7.5	26.1
9/15/2016	0.3	13.8	0.8	17.8	8.0	24.8	8.0	24.8
10/27/2016	0.3	13.9	7.3	21.6	8.0	21.7	8.2	21.7
11/3/2016	0.3	13.9	7.0	20.8	7.6	21.0	7.6	21.1
12/15/2016	0.4	13.9	6.9	16.3	7.0	16.3	7.1	16.3
1/25/2017	7.2	13.3	7.3	13.3	7.4	13.3	7.5	13.3
2/9/2017	6.0	13.0	6.8	13.0	6.5	13.1	7.5	13.2
3/30/2017	0.2	13.2	2.4	13.2	3.1	13.4	5.4	13.7
4/13/2017	0.0	13.2	1.2	13.3	3.1	13.6	8.2	16.4
5/18/2017	0.1	13.4	0.1	13.5	7.0	19.2	7.8	19.3
6/15/2017	0.1	13.4	0.2	14.1	5.8	21.9	6.5	22.1
7/27/2017	<0.1	13.5	0.1	14.4	0.5	26.2	6.7	26.7
8/2/2017	<0.1	13.5	0.1	14.6	5.0	26.7	6.1	27.0
9/19/2017	0.2	13.9	0.3	14.9	6.7	25.7	6.8	25.7
10/26/2017	<0.1	13.6	0.2	17.6	6.8	21.8	7.1	21.9
11/16/2017	0.1	13.6	0.6	17.1	8.3	19.7	8.4	19.8
12/12/2017	0.3	13.7	8.0	16.3	8.0	16.4	8.1	16.4
1/18/2018	0.1	14.5	5.3	14.6	5.6	14.6	5.8	14.7
2/22/2018	0.2	14.2	6.4	14.1	6.4	14.1	6.4	14.2
3/8/2018	0.3	13.9	6.4	13.8	6.6	13.8	6.6	13.9
3/14/2018	0.5	13.9	5.8	13.8	5.9	13.8	6.6	14.1
3/20/2018	0.7	13.9	5.0	13.8	6.3	15.9	6.3	14.3
3/28/2018	2.9	13.8	4.3	13.9	5.0	14.2	8.4	14.9
4/5/2018	2.3	13.9	3.3	14.4	8.9	15.7	9.6	16.4
4/11/2018	0.2	13.9	3.4	14.3	8.8	17.1	9.1	17.4
4/18/2018	0.2	13.9	3.2	14.5	9.0	18.4	9.0	17.3

Table 5-7
(Continued)

Date	930-foot Depth		980-foot Depth		1,000-foot Depth		1,015-foot Depth	
	DO (mg/L)	Temp. (°C)	DO (mg/L)	Temp. (°C)	DO (mg/L)	Temp. (°C)	DO (mg/L)	Temp. (°C)
4/25/2018	0.2	14.0	4.4	15.7	9.0	19.1	9.1	18.3
5/3/2018	0.1	14.0	4.7	16.5	8.4	19.0	8.2	18.4
5/9/2018	0.2	14.0	5.0	16.9	8.8	21.3	9.1	19.6
5/17/2018	0.2	14.0	5.9	18.1	8.6	20.4	8.8	19.9
5/23/2018	14.1	0.3	19.8	8.8	8.0	19.6	19.9	9.0
6/27/2018	0.2	14.2	3.0	19.3	8.8	23.6	8.9	23.6
7/19/2018	0.2	14.3	6.2	24.1	8.5	26.1	9.3	26.8
8/1/2018	0.2	14.2	5.3	24.9	7.9	27.4	8.7	27.7
9/27/2018	0.3	14.8.	7.6	25.1	7.8	25.1	7.8	25.3
10/11/2018	0.3	14.5	7.7	23.8	7.8	23.8	7.9	23.8
11/15/2018	0.2	18.4	7.0	18.8	7.2	18.8	7.2	18.9
12/13/2018	7.6	16.2	7.8	16.2	7.9	16.2	8.1	16.2
1/10/2019	7.1	14.0	7.3	14.0	7.5	14.0	7.7	14.0
2/28/2019	5.3	12.7	8.2	12.6	8.3	12.6	8.4	12.7
3/7/2019	0.2	12.8	7.9	12.6	7.7	12.7	8.0	12.8
3/13/2019	6.0	12.7	7.2	12.7	7.6	12.7	7.7	12.9
3/21/2019	0.6	12.8	7.0	12.7	7.3	12.7	7.3	12.8
3/27/2019	4.6	12.8	6.7	12.7	6.9	12.9	8.0	13.7
4/4/2019	---	---	6.3	12.8	6.4	12.9	9.7	14.2
4/11/2019	2.6	12.8	5.7	12.8	5.9	13.0	11.5	14.5
4/18/2019	2.1	12.8	5.3	12.8	5.2	13.0	12.5	15.1
4/25/2019	1.4	12.9	4.2	12.8	4.8	13.2	12.4	15.4
5/2/2019	0.8	12.9	4.1	12.8	4.1	13.1	13.3	16.0
5/9/2019	3.0	12.9	3.1	12.9	3.5	13.4	10.2	15.9
5/16/2019	0.2	12.9	2.8	12.9	2.8	13.6	11.9	17.8
5/25/2019	0.3	12.9	2.2	13.0	2.1	13.7	9.8	20.0
6/20/2019	0.2	12.9	0.5	13.2	4.4	18.8	6.5	19.9
7/11/2019	0.2	13.1	0.2	14.2	2.5	19.1	3.2	20.1
8/15/2019	<0.1	13.1	<0.1	13.8	0.3	19.0	3.4	21.7
9/26/2019	<0.1	13.2	<0.1	16.4	4.6	22.3	4.6	22.3
10/3/2019	<0.1	13.3	4.0	21.1	4.6	21.4	4.6	21.4
11/21/2019	0.2	13.7	7.5	18.0	7.6	18.0	7.6	18.0
12/12/2019	0.80	15.7	6.9	15.7	6.9	15.7	7.0	15.7

Table 5-7
(Continue)

Date	930-foot Depth		980-foot Depth		1,000-foot Depth		1,015-foot Depth	
	DO (mg/L)	Temp. (°C)	DO (mg/L)	Temp. (°C)	DO (mg/L)	Temp. (°C)	DO (mg/L)	Temp. (°C)
1/16/2020	7.7	13.5	8.0	13.4	8.1	13.4	8.2	13.4
2/20/2020	9.5	13.2	10.5	13.3	11.0	13.4	11.2	13.5
3/31/2020	8.1	14.6	8.0	14.5	9.0	14.7	10	15.2
4/29/2020	4.3	14.9	5.1	15.0	8.5	16.3	9.4	18.3
5/27/2020	<0.1	14.5	4.1	15.7	7.0	20.4	7.8	21.0
6/24/2020	<0.1	15.0	1	16.3	4.2	21.8	6.9	23.0
7/22/2020	<0.1	15.4	0.6	20.3	5.0	24.6	8.0	25.2
8/11/2020	<0.1	15.9	<0.1	18.6	5.0	25.4	6.9	25.7
9/22/2020	0.2	16.5	0.2	17.7	6.6	25.0	6.7	25.0
9/30/2020	0.2	16.4	1.9	23.0	6.9	25.0	7.0	25.0
10/8/2020	0.1	15.1	5.4	24.2	7.0	24.7	7.4	24.7
11/10/2020	1.6	20.0	6.8	19.9	7.0	19.9	7.1	20.0
12/9/2020	6.3	16.4	6.3	16.4	6.4	16.4	6.4	16.5

Table 5-8
Las Virgenes Reservoir Supplied Aeration
Sampling Station D-1 at Outlet Elevation (2016-2020)
Las Virgenes Municipal Water District

Date	Number of Days Aeration Was Supplied				
	2016	2017	2018	2019	2020
January	0.00	0.00	2.03	24.16	23.71
February	0.00	0.00	0.00	2.49	28.00
March	23.85	0.00	5.83	0.00	15.58
April	28.83	21.88	29.77	0.00	15.08
May	30.23	29.74	30.78	2.01	12.13
June	19.76	27.63	30.07	9.48	13.88
July	0.57	23.83	23.70	0.00	16.96
August	27.23	26.00	17.93	0.00	17.63
September	19.85	26.34	27.80	19.17	30.00
October	0.00	20.47	9.71	18.88	20.92
November	0.00	15.69	7.16	13.63	11.29
December	0.00	30.85	14.01	11.00	16.96

Table 5-9
General Mineral/General Physical Analyses
Raw Water at Intake Structure - Sampling Point D-1
Las Virgenes Municipal Water District

		928' Intake Level Near Reservoir Bottom					982' Intake Level (Normally Used)				
Constituent	**Units**	**2/4/2016**	**2/9/2017**	**2/22/2018**	**2/28/2019**	**2/20/2020**	**2/4/2016**	**2/9/2017**	**2/22/2018**	**2/28/2019**	**2/20/2020**
Color	units	15	10	15	20	10	10	5	15	10	10
Electrical Conductivity	µmhos/cm	732	761	794.5	765	743.3	732	758	789.5	758	739.2
Iron	mg/L	0.092	<0.01	23	0.240	0.011	0.024	0.011	12	0.098	<0.01
Manganese	ug/L	26	16	41	20	14	15	43	37	7.9	7.2
Odor	TON	3.0	12	3	2.0	6	2.0	12	4.0	1.4	17
pH	Std Units	8.3	7.3	7.3	8.0	8.2	8.4	7.3	7.3	8.0	8.3
Turbidity	NTU	2.6	1.1	1.4	6.3	0.7	2.1	0.6	1.3	2.6	0.9

Table 5-10
Total Organic Carbon (TOC) Sampling Results
Las Virgenes Reservoir Intake Structure
Las Virgenes Municipal Water District

Sampling Date	At Elevation 982 Feet	Sampling Date	At Elevation 1000 Feet
	TOC (mg/L)		TOC (mg/L)
1/7/2016	3.1	3/8/2018	4.1
2/4/2016	3.3	6/27/2018	3.7
3/3/2016	3.5	7/19/2018	3.7
4/7/2016	3.1	7/19/2018	3.7
5/5/2016	2.7	8/1/2018	3.9
6/14/2016	3	9/27/2018	3.9
7/14/2016	3.3	10/11/2018	4
8/25/2016	2.9	11/15/2018	3.6
9/15/2016	2.8	12/13/2018	4.74
11/3/2016	3.3	6/20/2019	3.7
12/15/2016	3.3	7/11/2019	3.7
1/25/2017	3.1	8/15/2019	4.6
2/9/2017	3.3	9/26/2019	4.7
3/30/2017	3	10/3/2019	4.2
5/18/2017	3.3	11/21/2019	3.9
6/15/2017	3.6	12/12/2019	4
7/27/2017	3.2	1/16/2020	3.8
9/19/2017	3.4	3/31/2020	4.6
10/26/2017	3.3	4/29/2020	4.2
11/16/2017	4.1	5/27/2020	4
12/12/2017	4	6/24/2020	4.5
1/18/2018	3.5	7/22/2020	4.1
2/22/2018	3.9	8/11/2020	4.1
11/10/2020	3.7	10/8/2020	3.7
12/9/2020	3.5		

Table 5-11

2020 MWD Water Quality Consumer Confidence Report - Jensen Filtration Plant
(Data collected between January –December 2019)

Parameter	Units	Range	Average
State Water	%	100%	
Combined Filter Water Turbidity	NTU	0.09	
HAA5	ug/L	2.0 - 5.0	3.4
TTHMs	µg/L	12 - 21	17
Aluminum	mg/L	ND - 290	58
Fluoride	mg/L	0.4 - 0.8	0.7
Nitrate (as Nitrogen)	mg/L	- - -	0.5
Gross Alpha	pCi/L	ND - 3	ND
Gross Beta	pCi/L	- - -	ND
Uranium	pCi/L	ND - 1	ND
Chloride	mg/L	- - -	62
Color	pcu	1 - 2	2
Iron	ug/L	- - -	ND
Odor	TON	ND - 1	ND
EC	µmhos	471 - 505	488
Sulfate	mg/L	56 - 62	59
TDS	mg/L	280 - 286	283
Alkalinity ($CaCO_3$)	mg/L	80 - 84	82
Boron	ug/L	- - -	160
Calcium	mg/L	26 - 28	27
Chlorate	ug/L	- - -	ND
Corrosivity (as Aggressiveness Index)	AI	12.1 - 12.3	12.2
Corrosivity (as Saturation Index)	SI	0.28 - 0.46	0.37
Hardness ($CaCO_3$)	mg/L	112 - 117	114
HPC Bacteria	cfu/mL	ND - 64	ND
Magnesium	mg/L	12 - 13	12
pH	units	8.4 - 8.5	8.4
Potassium	mg/L	- - -	2.7
Sodium	mg/L	51 - 54	52

Table 5-12

Bacteriological Water Quality at Outlet Depth at Sampling Station D-1
Las Virgenes Municipal Water District

Date	Location	Fecal Coliform 15 Tube MPN/100 mL	Total Coliform 15 Tube MPN/100 mL	E. coli Quanti Tray MPN/100 mL	Total Coliform Quanti Tray MPN/100 mL
1/7/2016	982'	130	350		
1/21/2016	982'	240	240		
2/4/2016	982'	920	920		
2/25/2016	982'	33	33		
3/3/2016	982'	540	540		
4/7/2016	982'	23	33		
5/5/2016	982'	2.0	2.0		
6/14/2016	982'	<1.8	7.8		
7/14/2016	982'	22	no data		
8/25/2016	982'	79	240		
9/15/2016	982'	7.8	13		
10/27/2016	982'	2.0	2.0		
11/3/2016	982'	4.5	33		
12/15/2016	982'	240	920		
1/25/2017	982'	240	240		
2/9/2017	982'	13	33		
3/30/2017	982'	49	70		
4/13/2017	982'	4.5	7.8		
5/18/2017	982'	33	110		
6/15/2017	982'	2.0	13		
7/27/2017	982'	14	>1600		
8/2/2017	982'	11	70		
9/19/2017	982'	23	23		
10/26/2017	982'	4.5	21		
11/16/2017	982'	540	540		
12/12/2017	982'	33	33		
1/18/2018	982'	23	49		
2/22/2018	982'	33	49		
3/8/2018	1000'	23	33		
3/14/2018	1000'	33	70		
3/20/2018	1000'	33	33		
3/28/2018	1000'	49	79		

Table 5-12
(Continued)

Date	Location	Fecal Coliform 15 Tube MPN/100 mL	Total Coliform 15 Tube MPN/100 mL	E. coli Quanti Tray MPN/100 mL	Total Coliform Quanti Tray MPN/100 mL
4/5/2018	1000'	7.8	17		
4/11/2018	1000'	33	33		
4/18/2018	1000'	49	79		
4/25/2018	1000'	13	13		
5/3/2018	1000'	14	14		
5/9/2018	1000'	23	33		
5/17/2018	1000'	17	17		
5/23/2018	1000'	110	110		
6/27/2018	1000'	6.8	280		
7/19/2018	1000'	4.5	7.8		
8/1/2018	1000'	79	79		
9/27/2018	1000'	33	79		
10/11/2018	1000'	11	46		
11/15/2018	1000'	4.0	79		
12/13/2018	1000'	7.8	70		
1/10/2019	1000'	23	46		
2/28/2019	1000'	4.5	9.3		
3/7/2019	1000'	13	23		
3/13/2019	1000'	33	33		
3/21/2019	1000'	23	No Data		
3/27/2019	1000'	33	49		
4/4/2019	1000'	17	49		
4/10/2019	1000'	4.5	110		
4/18/2019	1000'	7.8	22		
4/24/2019	1000'	23	49		
5/2/2019	1000'	4.0	12		
5/8/2019	1000'	13	23		
5/16/2019	1000'	49	170		
5/22/2019	1000'	49	79		
5/30/2019	1000'	4.5	23		
6/20/2019	1000'			37.9	1299.7

Table 5-12
(Continued)

Date	Location	Fecal Coliform 15 Tube MPN/100 mL	Total Coliform 15 Tube MPN/100 mL	E. coli Quanti Tray MPN/100 mL	Total Coliform Quanti Tray MPN/100 mL
7/11/2019	1000'			27.2	275.5
7/22/2019	1000'			43.5	179.3
7/29/2019	1000'			14.4	172.0
8/5/2019	1000'			27.5	96.0
8/12/2019	1000'			2.0	2419.6
8/15/2019	1000'			17.5	2419.6
8/19/2019	1000'			2.0	658.6
8/26/2019	1000'			7.5	165.8
9/3/2019	1000'			16.9	248.9
9/9/2019	1000'			9.7	410.6
9/16/2019	1000'			7.4	613.1
9/23/2019	1000'			4.1	344.8
9/26/2019	1000'			6.3	193.5
9/30/2019	1000'			6.3	517.2
10/3/2019	1000'			7.5	365.4
10/7/2019	1000'			13.1	686.7
10/14/2019	1000'			14.6	275.5
10/21/2019	1000'			22.8	209.8
10/28/2019	1000'			4.1	>2419.6
11/4/2019	1000'			8.5	>2419.6
11/12/2019	1000'			5.2	>2419.6
11/18/2019	1000'			25.3	>2419.6
11/21/2019	1000'			14.8	12098
11/25/2019	1000'			12.2	2419.6
12/2/2019	1000'			17.3	1160.2
12/9/2019	1000'			5.2	No data
12/16/2019	1000'			9.8	298.7
1/6/2020	1000'			5.2	52.9
1/13/2020	1000'			22.6	146.7
1/21/2020	1000'			60.5	214.2
1/27/2020	1000'			46.4	No data
2/3/2020	1000'			29.5	108.1

Table 5-12
(Continued)

Date	Location	Fecal Coliform 15 Tube MPN/100 mL	Total Coliform 15 Tube MPN/100 mL	E. coli Quanti Tray MPN/100 mL	Total Coliform Quanti Tray MPN/100 mL
2/10/2020	1000'			12.1	No data
2/18/2020	1000'			18.7	No data
2/24/2020	1000'			21.6	56.5
3/2/2020	1000'			12.2	32.7
3/12/2020	1000'			9.8	No data
3/16/2020	1000'			16.0	110.6
3/23/2020	1000'			8.5	No data
4/29/2020	1000'			3.1	>2419.6
5/27/2020	1000'			12.1	124.6
6/24/2020	1000'			2	79.8
7/22/2020	1000'			4.1	>2419.6
8/11/2020	1000'			10.4	>4839.2
10/8/2020	1000'			12.1	770.1
11/10/2020	1000'			17	383.6
12/9/2020	1000'			61	282.8

Table 5-13
Iron/Manganese Test Results at Sampling Point D-1
Las Virgenes Municipal Water District

Sampling Date	At Elevation 982'		Sampling Date	At Elevation 982'	
	Iron (µg/L)	Manganese (µg/L)		Iron (µg/L)	Manganese (µg/L)
1/7/2016		110	9/27/2018		1300
2/4/2016	92	26	10/11/2018		730
3/3/2016		290	11/15/2018	62	83
4/7/2016		110	12/13/2018		35
5/5/2016	<50	7.6	1/10/2019		33
6/14/2016		550	2/28/2019	<50	20
7/14/2016		410	3/7/2019		6.6
8/25/2016	<50	590	4/4/2019		81
9/15/2016		630	5/2/2019	<50	270
11/3/2016	<50	490	6/20/2019		
12/15/2016		350	7/11/2019		300
1/25/2017		16	8/15/2019	<50	340
2/9/2017	<50	16	9/26/2019		350
3/30/2017		310	10/3/2019		340
5/18/2017	<50	490	11/21/2019	<50	53
6/15/2017		430	12/12/2019		37
7/27/2017		440	1/16/2020		11
8/2/2017	150	450	2/20/2020	<50	14
9/19/2017		480	3/31/2020		36
10/26/2017		490	4/29/2020		16
11/16/2017	74	360	5/27/2020	<50	110
12/12/2017		63	6/24/2020		470
1/18/2018		560	7/22/2020		310
2/22/2018	<50	37	8/11/2020	<50	420
3/8/2018		74	9/22/2020		23
4/5/2018		150	10/8/2020		720
5/9/2018	<50	220	11/10/2020	<50	50
6/27/2018		510	12/9/2020		64
7/19/2018		740			
8/1/2018	50	660			

Section 6
Filtration Plant Operations

This section discusses the operations of the Westlake Filtration Plant. Similar to Section 5, all tables referenced in this section are presented at the end.

In 2017, the Westlake Water Filtration Plant (WFP) Expansion and Westlake Pump Station (WPS) Upgrade projects were completed. These projects were identified as part of the Backbone Improvements Program in the 2007 Potable Water Master Plan (LVMWD #2389.00). The expansion of the WFP increased treatment capacity from 15 million gallons per day (MGD) to 18 MGD. A summary of design upgrades are as follows:

Water Filtration Plant

- Two new DE filter units including vacuum pumps, flow meters, turbidimeters, and valves
- Replacement of existing flow controllers with variable frequency motor drivers (controlled by magnetic flow meters) and new motor actuated butterfly valves with isolation valves
- Replacement of existing vacuum pumps on all the other filter units with new pumps with lower NPSH requirements
- Addition of filter-to-waste piping including new motor operated butterfly valves and new magnetic flow meters for all filters (new and existing). Isolation valves will be provided on the filtered water, filter-to-waste, and raw water feed lines to allow the motor actuated valves to be removed or repaired while the rest of the plant remains in operation. A description of the filter-to-waste operation and the return location of the filter-to-waste water are presented in Appendix A.
- New piping and motor-operated butterfly valves to bypass the existing Filtered Water Reservoir (sending water directly to Torchwood Tank) or to recirculate water back to the Raw Water Reservoir.
- Creation of usable space (i.e., “Pipe Gallery”) in the (decommissioned) Filtered Water Reservoir by constructing a new wall, and conversion of the remaining space to an expanded RW Reservoir. A possible future use of the “Pipe Gallery” is installation of ultraviolet light disinfection equipment, should an alternative disinfection system be needed.

- New valves - AWWA butterfly valves. Motor actuators are heavy-duty Beck Electric Actuators.
- New precoat and body feed feeders for the new filters.
- New and modified chlorine and ammonia injection points, plus new residual analyzers at both the Torchwood Tank and the pumping station.

Westlake Pump Station

- Engine drivers were replaced with electric motors.
- Filtered Water Pump No. 2 was upgraded to match the capacity of the other pumps. The old pump capacity was 4,500 gpm and the new Pump No. 2 capacity is now 7,000 gpm.
- A 1,500 kW emergency diesel powered generator (see data sheet in Appendix B) was installed to power two raw water pumps and two filtered water pumps in an emergency loss of power.
- The liquefied propane gas (LPG) tank was removed; because once the engine drives were removed it is no longer needed

6.1 Water Production

Table 6-1 shows the water deliveries from the reservoir to the filtration plant for 2016, 2017, 2018, 2019, and 2020. As shown on this table, the plant is typically used between February and September. The maximum monthly water production by the filtration plant was 492.77 AF, which equals 160.6MG, or 5.3 MGD. Table 6-2 shows similar information.

6.2 Influent and Effluent Quality

The filtration plant's average monthly influent and effluent turbidity levels are summarized in Table 6-3. Plant influent turbidity has been well below 5 NTUs and the plant effluent quality is consistently below the MCL of 0.5 NTU. The plant is providing adequate filtration, removing an average of 88 percent and upwards of 95 percent when the raw water turbidity is relatively high. DDW recommends a treatment goal of 80 percent.

6.3 Chlorine Dose versus Chlorine Residual

Table 6-4, which includes data from 2016 through 2020, summarizes the average monthly chlorine dosage and the average monthly chlorine residual at the plant effluent as it leaves the

treated water (chlorine contact) reservoir. Disinfection is accomplished by using a sodium hypochlorite feed system that injects directly into the raw water reservoir (pre-chlorination) and into the clearwell at the influent (pre-tank chlorination). This is done using chemical feed pumps for pre-chlorination (raw water or RW chlorination) and pumps for post chlorination (Filtered water or FW chlorination).

The pre-chlorination dosage is applied to the raw water at the reservoir inlet located at the filtration plant. The chlorine feed rate is controlled using a compound loop control (volumetric and chlorine residual). The chlorine feed is set to result in a free chlorine residual of about 1.0 to 2.0 mg/L in the water leaving the raw water storage reservoir. Chlorine residual in measured continuously by analyzer D.

The post-chlorination dose is added to the influent of the treated water storage reservoir using a compound loop control (volumetric and chlorine residual). Ammonia is added in the pipeline just after pre-tank chlorine addition to change the disinfection from free chlorine to chloramine. Two analyzers continuously monitor total chlorine, total ammonia, free ammonia and mono-chloramine at the treated water pumping station at the base of the dam.

6.4 Chloramination Treatment

Table 6-5 summarizes ammonia feed data and ammonia monitoring from 2016 to 2020. The chloramination treatment process was added to the filtration plant in June 1998.

Table 6-5 shows that the treated water contains low concentrations of free available ammonia when it leaves the plant. A low concentration levels of free available ammonia helps prevent possible nitrification problems in the District's distribution system and water storage tanks.

6.5 Plant Effluent Bacteriological Quality

Table 6-6 provides a bacteriological water quality of the plant effluent from 2016 through 2020. These analyses are conducted when the plant is processing reservoir water. The data shows that adequate disinfection is being provided at all times to ensure that:

1. Total coliform bacteria are absent in the plant effluent.

2. HPC bacteria in the plant effluent is usually either non-detect or extremely low (<1 organisms/mL). One September 2020 sample taken from the Torchwood Reservoir Tank had 120 CFU/ml.

6.6 Plant Effluent Color/Odor Quality

Table 6-7 summarizes the average monthly effluent readings for color and odor. According to this table, the plant consistently produces an effluent with color <5 cu (15 cu is the MCL) and odor less than 1.5 TON (3 TON is the MCL), reported as No Odor Observed (NOO).

6.7 Plant pH/Water Temperature Data

Table 6-8 shows the average monthly pH levels and temperature in the plant effluent. After chlorine disinfection (sodium hypochlorite), the final pH of the water average 7.79 and ranged from 7.21 to 8.51. The pH level is used to calculate the CT for the overall disinfection treatment process; there is no MCL for pH. The finished water, however, should be relatively non-corrosive to lead/copper pipe and should not cause undue corrosion in customer piping. There is also no MCL for water temperature. Typically, the water supplied from the plant is below 15°C. Higher water temperatures are observed during the summer months.

6.8 Disinfection By-Products in Distribution System

The current total trihalomethane (TTHM) MCL is 80 µg/L. This MCL compliance calculation is based on a system-wide average of all sampling stations used, using the average of the last four quarterly sampling events. TTHM results are shown in Table 6-9 (for 12 sampling points in the distribution system). The District has consistently collected eight samples per quarter at eight different locations. These data show that the sampled stations are consistently below the 80 µg/L MCL. In 2018 and 2019 TTHM samples collected in the second quarter of the year had several exceedances of the MCL. These samples were collected in May and results could have been a factor of seasonal changes in the source water. Each sampling location must also meet the total

haloacetic acid (HAA5) MCL of 60 µg/L. Table 6-10 shows that HAA5 values range from <2 to 47 µg/L.

6.9 Copper Sulfate Treatment of Reservoir

In the past, to control taste and odor, copper sulfate was applied to the reservoir was dosage based on algae count testing results. The operating staff typically applied copper sulfate two to three times a year, usually in early spring and near the end of fall depending on the algae count testing results. Over time, the staff discovered that algae count testing was not an appropriate method for determining copper sulfate application and the application did not alleviate the taste and odor problems encountered at the plant.

Since 2001, the reservoir has received only thirteen treatments of copper sulfate. Copper sulfate is applied by boat and each application takes about one working day. After application, copper residual samples are collected from all depths around Sampling Station D-1.

6.10 Aeration Treatment near Reservoir Outlet Area

The existing reservoir aeration system is located at Sampling Station D-1. It consists of two aeration points. The first aeration application point is located about 150 feet away from the Sampling Station D-1 982-foot reservoir outlet facility and anchored to the lake bottom at 920-foot elevation; the aeration point is adjustable over the water profile. The second aeration application point is located about 400 feet from the Sampling Station D-1 982-foot reservoir outlet facility; is anchored at the lake bottom elevation of 920 feet and is also adjustable over the water profile.

The aeration system has been successful in maintaining minimum dissolved oxygen levels at the 982-foot reservoir outlet elevation. The aeration system is now being turned on when the dissolved oxygen in the extracted water falls below1 mg/L.

6.11 Field Reconnaissance Survey

In August 2019, District staff conducted a field survey to assess conditions of the reservoir banks and property boundary. A summary of staff's observations and potential sources of contamination is as follows:

1. District staff surveyed the dam crest and portions of the east and west perimeter by foot, where accessible. The remainder of the survey was conducted by boat. There were no significant sources of contamination visible at the time of the survey.

2. The reservoir perimeter is protected by both security fencing and natural terrain (**Figure 6-1**). The fencing and terrain restrict pedestrian access; however, wildlife routinely accesses the reservoir and watershed.

3. Seasonal variations in the water level result in portions of the reservoir service roads being under water, thus further limiting access (**Figure 6-1 & 6-2**).

4. The operational staff noted that hikers and fishermen periodically enter the property through holes cut into the security fence. To limit this, perimeter inspections and fence repairs are performed. If trespassers are encountered, District Staff will notify them that they are on private property and request them to leave. Operational staff conducts monthly inspections and additional inspections based on visual observations.

Figure 6-1

Security Fencing

Figure 6-2
Service Road Under Water

Table 6-1

Water Production

Westlake Filtration Plant

Month/Year	No. Days Online	AF/Month Produced
1-16	21.4	267.47
2-16	10.15	191.54
3-16	0.67	8.16
4-16	8.25	241.26
3-17	8.33	199.21
4-17	1.01	94.51
1-18	3.24	77.24
2-18	4.69	135.61
3-18	30.14	492.77
4-18	27.84	350.19
5-18	22.55	280.74
2-19	8.74	145.86
3-19	31	417.09
4-19	29.1	386.47
5-19	18.63	248.30
2-20	9.96	198.74
9-20	13.07	181.83
10-20	0.57	7.86

Table 6-2

Water Filtration Plant Summary

Production and Number of Days Online

	Production (MG)					Number of Days Plant On-Line				
Month	**2016**	**2017**	**2018**	**2019**	**2020**	**2016**	**2017**	**2018**	**2019**	**2020**
Jan	87.15604		25.17			21.40		3.24		
Feb	62.41433		44.19	47.53	64.76	10.15		4.69	8.74	9.96
Mar	2.660184	64.91	160.57	135.91		0.67	8.33	30.14	31	
Apr	78.61545	30.80	114.11	125.93		8.25	1.01	27.84	29.1	
May			91.48	80.91				22.55	18.63	
Jun										
Jul										
Aug										
Sep					59.25					13.07
Oct					2.56					0.57
Nov										
Dec										
Total	230.85	95.71	435.52	390.28	126.57	40	9	88	87	24
Avg. Day Production	5.704	10.247	4.923	4.462	5.363					

Table 6-3

Water Filtration Plant Summary

Average Influent/Effluent Turbidity

	Average Influent Turbidity (NTU)					Average Effluent Turbidity (NTU)				
Month	**2016**	**2017**	**2018**	**2019**	**2020**	**2016**	**2017**	**2018**	**2019**	**2020**
Jan	1.44		1.50			0.18		0.19		
Feb	2.66		1.46	2.53	0.85	0.21		0.17	0.16	0.13
Mar	1.33	1.53	1.09	1.80		0.12	0.07	0.12	0.12	
Apr	1.38	1.85	1.05	0.98		0.11	0.08	0.20	0.15	
May			0.67	0.80				0.15	0.12	
Jun										
Jul										
Aug										
Sep					1.03					0.18
Oct					1.06					0.16
Nov										
Dec										
Yearly Avg	1.70	1.69	1.15	1.53	0.98	0.16	0.08	0.17	0.14	0.16

Table 6-4

Water Filtration Plant Summary

Chlorine Dose and Chlorine Residual

	Average Chlorine Dose (mg/L)					Average Chlorine Residual (mg/L)				
Month	**2016**	**2017**	**2018**	**2019**	**2020**	**2016**	**2017**	**2018**	**2019**	**2020**
Jan	5.85		8.98			2.16		1.69		
Feb	4.72		5.75	8.16	2.07	2.04		2.01	2.23	1.99
Mar	15.21	6.90	6.28	3.65		2.39	1.06	1.36	2.18	
Apr	4.22	5.21	5.38	3.98		2.51	0.99	1.23	2.10	
May			7.85	4.17				1.48	2.00	
Jun										
Jul										
Aug										
Sep					2.21					2.36
Oct					2.44					6.06
Nov										
Dec										
Annual Avg.	7.50	6.06	6.85	4.99	2.24	2.28	1.03	1.55	2.13	3.47

Table 6-5

Water Filtration Plant Summary

Chloramination Treatment Information

	Pounds of 19% NH3 (N) Feed (1.21#/gal)	Cl_2 to Ammonia Ratio[1]	Average Total Ammonia (N) (mg/L)	Average Monochloramine (N) (mg/L)	Average Free Ammonia (N) Residual (mg/L)
2016					
January	386	3.7:1	0.59	2.47	0.09
February	244	3.8:1	0.54	2.77	0.05
March	42	NA	NA	NA	NA
April	311	4.4:1	0.57	2.42	0.04
May					
June					
July					
August					
September					
October					
November					
December					
Average	--	--	0.57	2.55	0.06
2017					
January					
February					
March	289	1.6:1	0.67	2.21	0.18
April	127	1.7:1	0.60	NA	NA
May					
June					
July					
August					
September					
October					
November					
December					
Average	--	--	0.64	2.21	0.18
2018					
January	163	2.5:1	0.69	2.04	0.18
February	183	3.1:1	0.66	2.71	0.06
March	727	2.8:1	0.49	1.95	0.07
April	443	2.6:1	0.48	1.99	0.09
May	518	3.1:1	0.48	2.02	0.08
June					
July					
August					
September					
October					
November					
December					
Average	--	--	0.56	2.14	0.10

Table 6-5

Water Filtration Plant Summary

Chloramination Treatment Information

	Pounds of 19% NH3 (N) Feed (1.21#/gal)	Cl_2 to Ammonia Ratio[1]	Average Total Ammonia (N) (mg/L)	Average Monochloramine (N) (mg/L)	Average Free Ammonia (N) Residual (mg/L)
2019					
January					
February	426	4.2:1	0.53	1.96	0.14
March	536	4.5:1	0.49	2.02	0.10
April	284	4.2:1	0.50	1.91	0.12
May	304	4.2:1	0.48	1.79	0.12
June					
July					
August					
September					
October					
November					
December					
Average	--	--	0.50	1.92	0.12

2020					
January					
February	311	4.1:1	0.51	1.92	0.14
March					
April					
May					
June					
July					
August					
September	237	4.1:1	0.54	2.10	0.13
October	5	4.4:1	0.56	2.14	0.14
November					
December					
Average	--	--	0.54	2.05	0.14

[1]Based on chlorine residual after CT compliance.

Table 6-6
Water Filtration Plant Summary
HPC and Coliform Bacteria in Effluent
Las Virgenes Municipal Water District

	HPC*					Coliform Bacteria*				
Month	**2016**	**2017**	**2018**	**2019**	**2020**	**2016**	**2017**	**2018**	**2019**	**2020**
Jan	<1		<1	<1		A	A	A	A	
Feb	<1		<1	<1	<1	A		A	A	A
Mar	<1	<1	<1	<1		A	A	A	A	
Apr	<1		<1	<1		A		A	A	
May			<1	<1				A	A	
Jun										
Jul		<1					A			
Aug		<1			4		A			A
Sep					104					A
Oct										
Nov	<1					A				
Dec										
Annual Med.	<1	<1	<1	<1	<1	A	A	A	A	A

P = Present
A = Absent
Results are monthly and annual medians.

*Effluent samples taken from the Torchwood Storage Tank and
from the first distribution site, Fastwater Court, when plant is online.

Table 6-7

Water Filtration Plant Summary

Color and Odor in Effluent

	Average Color in Effluent (pcu)					Average Odor in Effluent (TON)				
Month	**2016**	**2017**	**2018**	**2019**	**2020**	**2016**	**2017**	**2018**	**2019**	**2020**
Jan	<5		<5			NOO		NOO		
Feb	<5		<5	<5	<5	NOO		NOO	NOO	NOO
Mar	<5	<5	<5	<5		NOO	NOO	NOO	NOO	
Apr	<5	<5	<5	<5		NOO	NOO	NOO	NOO	
May			<5	<5				NOO	NOO	
Jun										
Jul										
Aug										
Sep					<5					NOO
Oct					<5					NOO
Nov										
Dec										
Yearly Avg	<5	<5	<5	<5	<5					

NOO = No Odor Observed

Table 6-8

Water Filtration Plant Summary

pH and Temperature in Effluent

Month	Average pH in Effluent					Average Temperature in Effluent (°C)				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Jan	7.97		7.26			13.6		14.3		
Feb	8.29		7.21	7.91	8.51	13.2		13.6	12.6	13.2
Mar	8.40	7.59	7.83	7.75		14.6	13.7	13.9	12.8	
Apr	7.91	7.51	8.05	7.48		14.7	13.7	15.4	13.4	
May			7.90	7.40				17.2	13.7	
Jun										
Jul										
Aug										
Sep					7.61					24.3
Oct					7.62					24.1
Nov										
Dec										
Annual Avg.	8.14	7.55	7.65	7.64	7.91	14.0	13.7	14.9	13.1	20.5

Table 6-9

Quarterly Total Trihalomethanes (µg/L)
Las Virgenes Municipal Water District
2016 – 2020

Sampling Location		Kristen Lee	East Lakeshore	Roymor	Valmere	Triunfo Canyon	Lake Lindero	Chesebro	Commanche Trail	Quarterly Average	Running Average
	1st Qtr.	31	26	23	43	34	30	28	29	30.50	30.50
	2nd Qtr.	32	28	30	29	29	22	27	35	29.00	29.8
	3rd Qtr.	30	30	32	25	33	37	31	38	32.00	30.5
2016	4th Qtr.	36	32	27	28	34	41	33	26	32.13	30.9
	1st Qtr.	26	22	22	16	23	22	22	24	22.13	28.8
	2nd Qtr.	24	22	22	19	25	25	21	28	23.25	27.4
	3rd Qtr.	18	20	20	16	21	18	18	34	20.63	24.5
2017	4th Qtr.	18	17	17	16	18	21	17	16	17.50	20.9
	1st Qtr.	15	13	12	19	16	30	14	24	17.88	24.01
	2nd Qtr.	130	160	12	130	140	140	15	15	92.75	40.28
	3rd Qtr.	11	10	11	12	11	11	9.8	15	11.35	34.55
2018	4th Qtr.	15	13	13	14	14	16	12	14	13.88	34.0
	1st Qtr.	10	7.1	8.5	13	14	7.9	7.4	7.9	9.48	31.86
	2nd Qtr.	84	88	18	70	75	83	18	20	57.00	22.93
	3rd Qtr.	16	15	16	15	19	15	16	21	16.63	24.24
2019	4th Qtr.	16	15	16	15	19	15	16	21	16.63	24.9
	1st Qtr.	74	75	8.3	30	73	75	45	11	48.91	34.79
	2nd Qtr.	12	11	13	15	12	11	11	14	12.38	23.63
	3rd Qtr.	12	10	10	12	11	10	10	13	11.00	22.23
2020	4th Qtr.	16	14	14	16	16	14	15	15	15.00	21.8

Table 6-10

Quarterly Haloacetic Acid (µg/L)
Las Virgenes Municipal Water District
2016 - 2020

Sampling Location		Kristen Lee	East Lakeshore	Roymor	Valmere	Triunfo Canyon	Lake Lindero	Chesebro	Commanche Trail	Quarterly Average	Running Average
	1st Qtr.	5.7	3.9	3.6	2.7	4.9	3.8	3.6	1.6	3.73	3.73
	2nd Qtr.	5	5.3	4.8	1.5	5.4	5.2	5.4	5.3	4.74	4.2
	3rd Qtr.	6.4	5.5	5.7	ND	6.2	6	5.7	7.2	6.10	4.8
2016	4th Qtr.	8.6	8.7	7.4	ND	8.7	9.4	9.2	12	9.14	5.8
	1st Qtr.	6.3	5.3	5	ND	5.8	5.6	5.5	7.7	5.89	6.4
	2nd Qtr.	8	6.5	5.6	ND	8.1	5.8	5.9	9.9	7.11	7.1
	3rd Qtr.	7.8	7.4	7.2	ND	7.4	7.6	7.6	8.4	7.63	7.4
2017	4th Qtr.	7.2	6.3	6.2	ND	7	1.2	6.7	7.7	6.04	6.7
	1st Qtr.	5.1	4.7	4.6	4.3	5.6	3.6	4.8	9	5.21	5.86
	2nd Qtr.	44	47	5	14	44	40	5.8	5	25.60	10.37
	3rd Qtr.	4.2	4.2	2.9	ND	4.8	4.4	4.1	8.7	4.76	79.28
2018	4th Qtr.	6.3	3.1	2.1	12	3.7	3.3	3.9	2.6	4.63	10.22
	1st Qtr.	2.6	1.4	1.1	ND	1.6	ND	ND	ND	1.68	10.44
	2nd Qtr.	16	18	5.6	ND	15	16	4.9	6.6	11.73	6.12
	3rd Qtr.	6	5.6	5.6	ND	6.2	5.7	5.8	6.8	5.96	6.44
2019	4th Qtr.	6	5.6	5.6	ND	6.2	5.7	5.8	6.8	5.96	6.89
	1st Qtr.	18	18	2	2.4	18	18	12	4.1	11.56	7.88
	2nd Qtr.	4	2.4	2.5	2.9	4	3.9	3.7	4.8	3.53	6.80
	3rd Qtr.	3.9	3.5	2.4	ND	3.5	2.2	2.4	4	3.13	6.14
2020	4th Qtr.	4.1	3.7	2.2	ND	4.3	ND	3.9	4.3	3.75	5.69

April 6, 2021 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Finance & Administration

Subject : Claim by Shad Rezai

SUMMARY:

On December 29, 2020, the District received the attached claim from Shad Rezai of Calabasas. The claimant is seeking compensation, in the amount of $5,000, for alleged damages to his water heater from low pressure and excessive water usage to clear his system. Although staff confirmed that the claimant did lose water pressure, the Las Virgenes Municipal Water District Code provides that the District is not liable for damages caused by low pressure. As a result, staff recommends that the claim be denied.

RECOMMENDATION(S):

Deny the claim by Shad Rezai.

FISCAL IMPACT:

No

ITEM BUDGETED:

No

FINANCIAL IMPACT:

There is no financial impact with denying the claim.

DISCUSSION:

The claimant alleges that a power failure initially caused low, and subsequently no water pressure to his home on December 14, 2020. The original claim sought compensation for excessive water use to flush his system following the restoration of water service and for unknown potential future damages. Staff reviewed the claim and sent a notice of insufficiency

because it did not substantially comply with Government Code Section 910, which requires identification of specific damages and specification of whether it would be a limited civil case.

On February 24, 2021, the claimant submitted the attached additional information, alleging damages in the amount of $5,000 for a new water heater and excessive water usage for flushing. Staff reviewed the claim and determined that the claimant's water usage during the subject period was consistent with historical usage. Additionally, Section 3-3.101 of the Las Virgenes Municipal Water District Code (Code) specifies that the District is not responsible for maintenance of pressure and reserves the right to discontinue service. The Code further states that customers are responsible to install adequate plumbing and protective devices.

GOALS:

Ensure Effective Utilization of the Public's Assets and Money

Prepared by: Donald Patterson, Director of Finance and Administration

ATTACHMENTS:

Claim by Shad Rezai
Additional Information

RECEIVED
DEC 2 0 2020
BY:

Claim Against Las Virgenes Municipal Water District

Government Code Sections 910 and 910.4

Mail or Deliver To: Executive Assistant/ Clerk of the Board
Las Virgenes Municipal Water District
4232 Las Virgenes Road
Calabasas, CA 91302

Name of claimant/s: SHAD REZAI

Address/location of accident or occurrence:
[redacted], CALABASAS, CA. 91302
CUSTOMER # [redacted]
ACCOUNT # [redacted]

Address to where replies/notices should be sent (if different from the above):
SAME ADDRESS

Telephone numbers: Home: 818-[redacted] **Work/Cell:** 818-[redacted]

Please answer the following questions. If more space is required, please attach additional sheets. **Please attach any receipts, invoices, estimates or photos that may help in consideration of your claim.**

1. When did damage or injury occur? (Give exact date and hour)
   MONDAY DECEMBER 14, 2020 EARLY MORNING
   PLEASE SEE ATTACHED
2. Where did the damage or injury occur?
   AT [redacted], CALABASAS, CA 91302
   PLEASE SEE ATTACHED
3. How did the damage or injury occur? (Give full details)
   PLEASE SEE ATTACHED
4. What damage or injuries do you claim?
   PLEASE SEE ATTACHED

5. If this claim is for damage to property, are you the legal owner of said property?
Yes [X] No [ ]. If not, please list name and address of property owner.

6. What is the name/s of the District employee/s causing the injury, damage or loss, if known?

N/A

7. If District employees were involved in causing the damage or injury, do you believe there was a particular act or omission on the part of the employees that caused it?

N/A

8. What is the amount the damages claimed? (Attach copies of receipts, invoices, estimates, photos, etc.)

Amount claimed as of this date: $ CREDIT ON OUR NEXT BILL

Estimated amount of future expenses: $ UNKNOWN AT THIS TIME

Total Amount Claimed: $ UNKNOWN

Basis for computation of amounts claimed: _____

9. Other details? (Names, addresses of witnesses, doctors and hospitals)

PLEASE SEE ATTACHED

_____ 12/18/2020

Signature of Claimant or Person Acting on Claimant's Behalf — Date

Print Name of Signee (required):

This claim must be signed by claimant or by an authorized agent of the claimant. One copy must be filed with this office. Keep one copy for your records.

Notice: **Section 72 of the Penal Code provides: "Every person who, with intent to defraud, presents for allowance or for payment to any state board or officer, or to any county, town, city, district, ward or village board or officer, authorized to allow or pay the same if genuine, any false or fraudulent claim, bill, account, voucher, or writing, is guilty of a felony".**

Date Received: 12/29/20 Time: 7:30 AM Recorded by: _____

Via U.S. Mail

Note: This document is a Public Record and may be disclosed/released pursuant to the California Public Records Act.

INCIDENT DECEMBER 14, 2020

SOMETIME IN THE EARLY MORNING OF MONDAY DECEMBER 14, 2020, OUR WATER WAS OFF AT OUR HOME, IN ACCORDANCE TO THE SUPERVISOR, BRETT (818) 252-2194, A POWER FAILURE CAUSED THE PUMPS AT THE TANK TO TURN OFF, THEREFORE CAUSING LOW PRESSURE AND SUBSEQUENTLY NO WATER.

DUE TO THE WATER BEING OFF AND COMING BACK ON AROUND 7:30 AM, IT CAUSED BROWN WATER IN OUR HOME. WE HAD TO FLUSH OUR PIPES FOR SOME TIME FOR IT TO CLEAR UP. IT DID NOT TOTALLY CLEAR UP UNTIL THE NEXT DAY, TUESDAY DECEMBER 15, 2020.

WE USED EXCESSIVE WATER TO CLEAR THE BROWN WATER FROM OUR PIPES. IN ADDITION, OUR WATER HEATHER IS NOT FUNCTIONING PROPERLY, IT IS ON MORE OFTEN THEN BEFORE, AND IT'S USING ADDITIONAL GAS TO MAINTAIN THE WATER TEMPERATURE.

AT THIS TIME, THE AMOUNT OF COMPENSATION IS NOT KNOWN, THE TOTAL AMOUNT WILL BE BASED ON THE STATUS OF THE WATER HEATER, AND OUR GAS BILL. IT IS OUR UNDERSTANDING THAT THIS CLAIN CAN REMAIN OPEN FOR ONE YEAR FROM THE DATE THE INCIDENT, DECEMBER 14, 2020.

INCIDENT DECEMBER 14, 2020

HOWEVER, WE WOULD LIKE A CREDIT ON OUR NEXT WATER BILL TO COMPENSATE FOR THE EXCESSIVE WATER USED.

WE REQUEST AND APPRECIATE LVMWD TO KEEP THIS CLAIM OPEN FOR A PERIOD OF ONE YEAR, AND PROVIDE A CREDIT ON OUR NEXT WATER BILL, PLEASE USE YOUR JUDMENT IN COMPENSTING US AT THIS TIME.

THANK YOU FOR YOUR TIME, PLEASE LET ME KNOW IF YOU NEED ADDITIONAL INFORMATION.

SINCERELY

SHAD REZAI

5505 [redacted]

CALABASAS, CA 91302

818-[redacted]

February 24, 2021

To: Donald Patterson, Director of Finance and Administration

Re: Claim-Customer No. [redacted]

Dear Mr. Patterson;

As stated in my original claim dated December 18, 2020, on December 14 our water was off at our home, due to a pump failure at the pump station, therefore, causing low pressure and subsequently no water in our neighborhood.

Due to the water being off and coming back on, and fluctuations in the water pressure, it caused brown water in our piping system and subsequent water heather damage. We had to flush our pipes for some time for the water to clear up, however, our water heater has sustained damage.

The claim is for excessive water to clear the brown water from our pipes. In addition, our water heather is not functioning properly, and it turns on more often than before and it's using additional gas to maintain the water temperature.

To replace the water heather, it will cost over $4,000, it is a 100-gallon water heather with a circulation pump. Therefore, we are requesting a compensation of $4,500 to replace the water heather and the circulation pump, and $500 for water flushing and additional gas usage since the incident on December 14, 2020. The second option is for LVMWD to replace the water heater and the circulation pump, and compensate us $500 for excessive water and gas used.

Please let us know which option is agreeable to you, thank you for your time, please let me know if you need additional information.

Sincerely

Shad Rezai
[redacted]
Calabasas, CA 91302
818-[redacted]

April 6, 2021 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Engineering and External Affairs

Subject : Installation of Flow Restriction Devices and Discontinuation of Water Service on Specified Delinquent Accounts

SUMMARY:

Due to the COVID-19 pandemic and Governor Gavin Newsom's Executive Order N-42-20, the District has been restricted from discontinuing water service to residential customers and certain commercial customers who are delinquent in paying their bills. The Executive Order was intended to protect the health and safety of California's residents who are facing a financial hardship due to the pandemic. However, an unknown number of customers are likely taking advantage of the shutoff prohibition to avoid paying their utility bills. As a result, staff has been installing flow restriction devices on customers' meters with abnormally high water usage when the customer refuses to pay the past due balance on their account, agree to a flexible payment plan or adhere to the terms of an existing payment plan.

The flow restriction device program has been successful for use on delinquent accounts for customers with usage at 200% or more of their water budgets (wasteful water users) during at least two of the past 12 months. The policy has been helping to reduce the number and total amount of delinquent accounts. At this time, staff recommends expanding the use of flow restriction devices to past due accounts for customers with usage at 150% or more of their water budgets (excessive water users) during at least two of the past 12 months. In addition, staff recommends discontinuation of water service to delinquent accounts for recycled water or irrigation customers who refuse to pay the past due balance on their account, agree to a flexible payment plan or adhere to the terms of an existing payment plan.

RECOMMENDATION(S):

Authorize the installation of flow restriction devices on delinquent accounts for customers with water usage at 150% or more of their water budgets during at least two of the past 12 months who refuse to pay the past due amount on their account, agree to a flexible payment plan or adhere to the terms of an existing payment plan; and authorize the discontinuation of water service for delinquent accounts for recycled water or irrigation customers who refuse to pay the past due balance on their account, agree to a flexible payment plan or adhere to the terms of an existing payment plan.

FISCAL IMPACT:

No

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

Sufficient funds to implement these actions are available in the adopted Fiscal Year 2020-21 Budget. The District could recover up to $448,567 from past due accounts upon implementation of the recommendation.

DISCUSSION:

Governor Newsom's Executive Order N-42-20 has been in effect since March 4, 2020. During this time, the District has been unable to discontinue water service for residential and certain commercial accounts that are delinquent. Staff has been contacting customers on a regular basis to encourage payment or to set up delinquent accounts on payment plans. The District has encountered accounts with wasteful or excessive water usage where the customer has refused to pay the past due amount, agree to a flexible payment plan or adhere to the terms of an existing payment plan.

On November 3, 2020, the Board approved Resolution No. 2582, authorizing the installation of flow restriction devices for certain accounts in lieu of discontinuing water service. At the time, staff reported that the District would only install flow restriction devices on delinquent accounts for customers with usage at 200% or more of their water budgets during two of the past 12 months. This action resulted in 195 notifications being sent out, and 14 flow restrictors being installed. At the time of this report, only three flow restrictors remain in place. The resolution has helped the District to combat rising delinquencies, while encouraging customers to make payments or set up a payment plan.

At this time, staff recommends that the District move into the next phase of installing flow restriction devices and begin utilizing them for accounts with usage at 150% or more of their water budgets for at least two months in the past 12-month period. Staff also recommends resuming disconnections on past due recycled water and irrigation accounts for customers who refuse to pay the past due balance on their account, agree to a flexible payment plan or adhere to the terms of an existing payment plan. These accounts do not generally serve a health and safety purpose as outlined in Governor Gavin Newsom's Executive Order N-42-20. Staff has not been discontinuing service for these accounts primarily to simplify business operations; however, since the District's total past due balance has grown over time, it is warranted to begin resuming normal business operations to the extent possible.

Following is a table that summarizes the number and total amount of delinquent accounts as of March 22, 2021:

Account Category	Number of Delinquent Accounts	Total Delinquency Amount

All Delinquent Accounts	996	$524,733.65
Excessive Residential (150%+)	607	$384,502
Recycled Water	57	$49,759
Irrigation (Non-Recycled)	72	$14,306
Total Recoverable this Phase	**736**	**$448,567**

Based on the outcome of the first round of flow restriction device installations on delinquent accounts for wasteful water users, staff anticipates that the majority of the past due amounts from the above categories can be recovered. After implementing this phase over the course of the next several months, staff will report the outcome to the Board and provide a recommendation for further action, which could include but not be limited to the use of flow restriction devices on all remaining delinquent accounts. The recommended approach will likely depend in part on whether the state or federal government provides funding to assist the District with delinquent accounts. In any future recommendation, staff will continue to be sensitive and responsive to customers who are experiencing a financial hardship due to COVID-19.

GOALS:

Ensure Effective Utilization of the Public's Assets and Money

Prepared by: Ursula Bosson, Customer Service Manager

April 6, 2021 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Engineering and External Affairs

Subject : Standard Plans and Specification Update: Award

SUMMARY:

The District's current standard plans and specifications require updating to reflect current industry standards. A Request for Proposals was issued on January 15, 2021, to solicit proposals from qualified consulting firms to perform the work. Proposals were received from the following five firms: MKN & Associates, GHD, Cannon, PACE and Cordoba. Staff reviewed the proposals and identified MKN & Associates as the most qualified firm to perform the work. As a result, staff recommends that the Board accept the proposal from MKN & Associates, Inc., and authorize a professional services agreement, in the amount of $107,958, to update the District's standard plans and specifications.

RECOMMENDATION(S):

Accept the proposal from MKN & Associates, Inc., and authorize the General Manager to execute a professional services agreement, in the amount of $107,958, to update the District's standard plans and specifications.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

Sufficient funds for this work are available in the adopted Fiscal Year 2020-21 Budget.

DISCUSSION:

The District's current standards plans and specifications were developed in the 1970s (sewer), 1980s (recycled water) and 1990s (water). The documents, which establish standards for construction of District-owned facilities, require updating to reflect current industry standards and District preferences. Some of the current standards are no longer applicable, may be in conflict with other industry standards, or specify products that are no longer available. The District solicited proposals from qualified firms to have an updated set of standards that will aid in defining future repairs and construction, as well as facilitate the implementation of capital improvement projects with consistent methods of construction.

In terms of private development, an updated set of standards will also provide consistency and clarity to developers on the District's requirements and establish the basis for inspectors to ensure that facilities are built and constructed in accordance with approved standards using appropriate materials. The updated standards will address the potable water, recycled water, sewer and future potable reuse systems. The standards update will also address electrical standards to be applied District-wide, which were not included in the past.

On January 15, 2021, a Request for Proposals was issued for consulting services to update the District standards. The process concluded on February 15, 2021 with proposals received from the following five firms: MKN & Associates, GHD, Cannon, PACE and Cordoba. The proposed fees ranged from $98,972 to $212,329. Staff reviewed the proposals and recommends award of the work to MKN & Associates. Based on the evaluation of the proposals, MKN & Associates was identified as most qualified due to their good understanding of the current standards and goals of the District, along with cost-effective approach to produce high-quality standard plans and specifications. MKN & Associates proposed a strong team to address all aspects of the update, and their experience performing design projects for the District will be directly applicable to completion of the work.

MKN's proposal included a base fee of $98,972 for the project. In addition, MKN identified $35,290 in optional tasks for the District's consideration. Upon review of the optional tasks, staff recommends inclusion of Task 5.3: Additional Standard Plans. The optional task will be necessary for completion of the update, and staff proposes to authorize the work as needed during the progress of work. The work is scheduled to be completed by September 2021, barring any unforeseen delays.

GOALS:

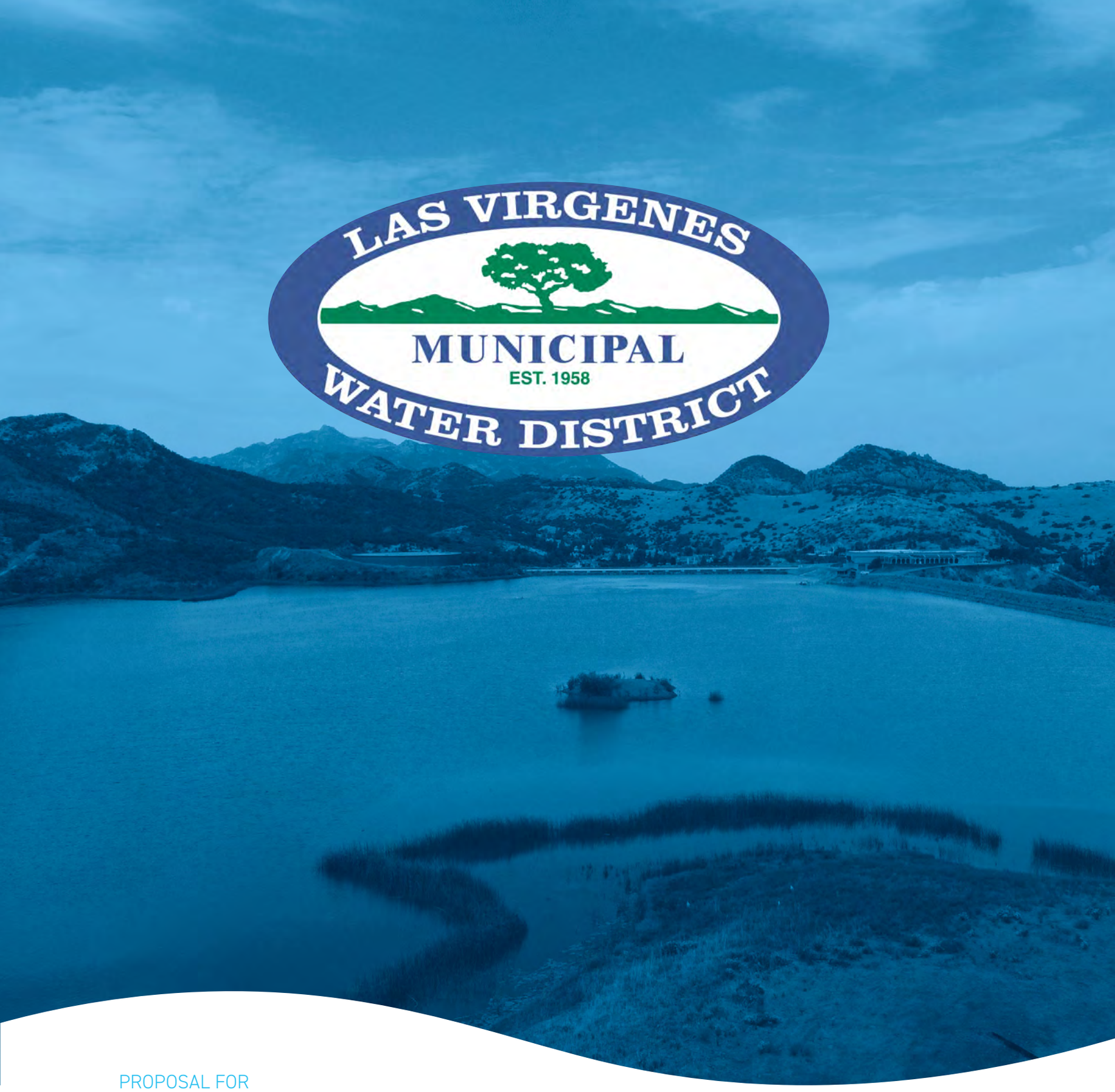
Construct, Manage and Maintain All Facilities and Provide Services to Assure System Reliability and Environmental Compatibility

Updating the District's current standard plans and specifications will ensure that staff deliver future projects consistently and in accordance with industry standards.

Prepared by: Oliver Slosser, Senior Engineer

ATTACHMENTS:

MKN & Associates Proposal



PROPOSAL FOR

Standard Plans And Specifications Update

Submittal Due Date: February 17, 2021 at 3pm

Oliver Slosser, PE | Senior Engineer and Project Manager
Las Virgenes Municipal Water District
4232 Las Virgenes Road
Calabasas, CA 91302

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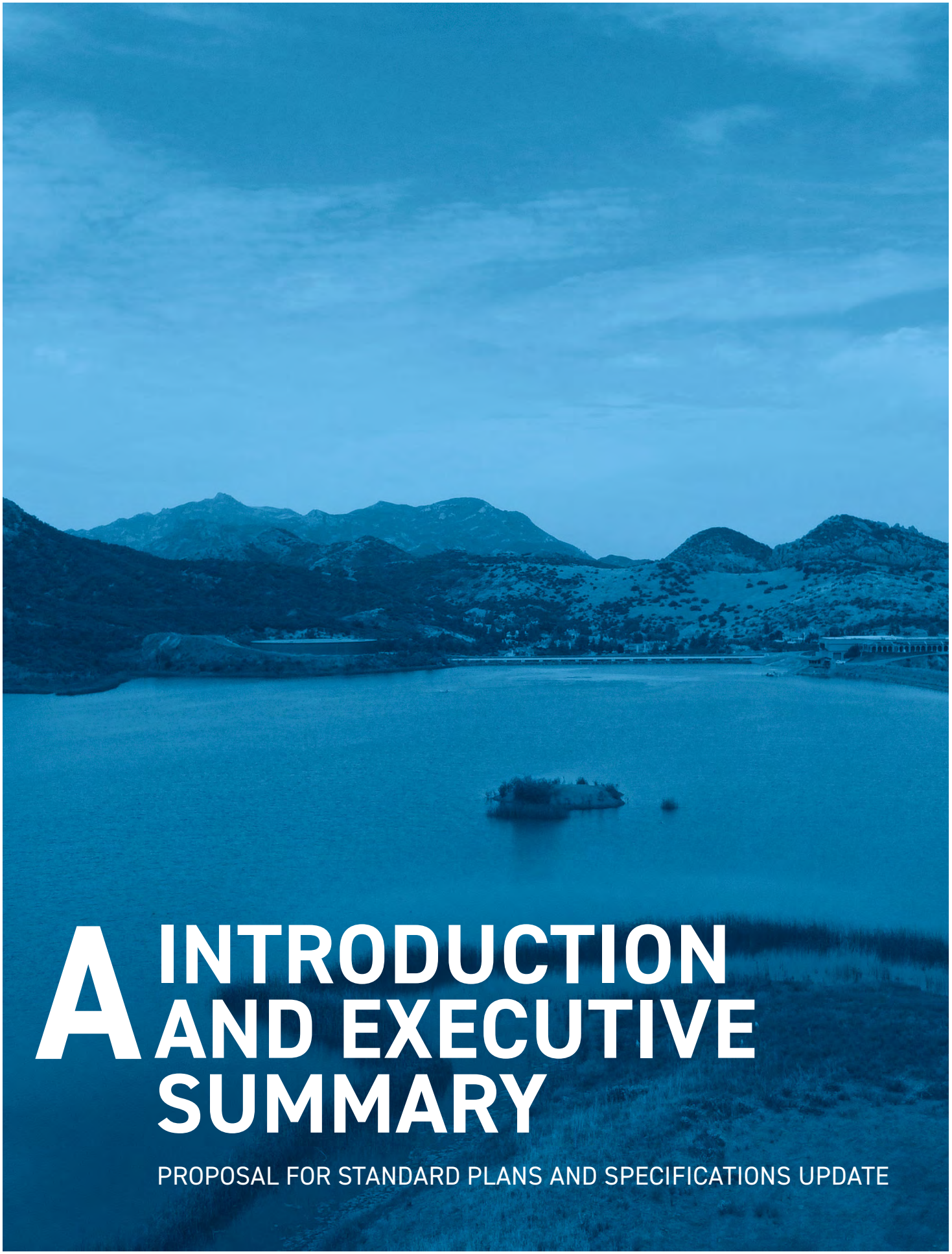


A INTRODUCTION AND EXECUTIVE SUMMARY

PROPOSAL FOR STANDARD PLANS AND SPECIFICATIONS UPDATE

February 17, 2020

Oliver Slosser, PE | Senior Engineer and Project Manager
Las Virgenes Municipal Water District
4232 Las Virgenes Road
Calabasas, CA 91302

Subject: Request for Proposals for Standard Plans and Specifications Update – Cover Letter & Executive Summary

Firm Name: MKN & Associates

Address: 16310 Bake Parkway, Irvine, CA 92618

Point of Contact:

Tanner Bennett, PE
Project Manager
tbennett@mknassociates.us
818.720.2922

Dear Mr. Slosser,

The Las Virgenes Municipal Water District (LVMWD or District) is currently addressing the need to update its standard plans and specifications that have not been updated since their inceptions in the 1970's, 1980's, and 1990's. This project is integral to bringing commonly used standards up to current codes, to reference applicable standards, to include District preferences and equipment, and to replace aging standards with new, raw and editable standard for the District to maintain and be able to use for future updates. An updated set of standard plans and specifications will simplify future development and projects, ease District reviews, and ensure that there is consistency in District facilities. MKN & Associates, Inc (MKN) brings a team that has worked with LVMWD in the past and is familiar with District Staff and design projects, and understands the need for a collaborative effort involving the District and its respective departments. We understand that the District is seeking a consultant that will be a true partner and that can provide timely, cost efficient and high-quality engineering support that sets a precedent for future updates.

MKN seeks the opportunity to be the firm that will deliver exactly what the District expects – and more. Our team brings the right expertise and experience having worked with several other agencies on similar updates, and is a perfectly sized firm to be responsive and deliver high quality support services to the District.

This cover letter provides MKN's primary point of contact and an overview of the understanding and approach. The summary is provided in the table below, and is structured to follow the District's selection criteria.

MKN Proposal - Executive Summary

Selection Criteria	MKN Understanding and Approach
Overall Approach	• Early Review and Development of Standards Outline and Matrix. MKN understands the need to know exactly what is in the District's current standard plans and specifications, and will compare the District's standards with other high-quality agency standards build the project's foundation before the first workshop. • Electrical Focused Workshop. As certain individuals at the District are likely to be more involved with electrical aspects of the facilities, our team will hold an electrical focused workshop to target required updates early on. • Partnership through meetings/workshops. The District is seeking a professional firm that will be a partner that listens to its staff and can extract institutional knowledge and pain-points to improve the delivery of future projects. MKN realizes the need to balance the needs and wishes of the District while being responsive, coordinating with District staff, and prioritizing the project.

Selection Criteria	MKN Understanding and Approach
Overall Approach	• Foundational resources for efficiency. Having worked for agencies across California that have utilized different agency standards, MKN's team will draw upon our library of developed standards, utilize available information from high-quality agency standards, and import/re-use District Standards when it is most efficient to do so. • Concurrent tracks of development. After preliminary workshops and deciding on the exact standards to include, MKN's team will work on separate areas of the plans and specifications at once, but will submit separate deliverables for the target areas, while staggering review meetings to focus on certain sections and to not inundate District Staff. • Combined specifications. For the practicality of keeping all District Standards in a single package and for the ease of regular updates, MKN recommends a single set of specifications which will have consistency for elements that won't change from discipline to discipline, but will include subsections that address elements specific to water, sewer, recycled water, or water reuse. • Optional scope. An update such as this project should be flexible to allow for the District to select additional services should they provide value. The optional scope also provides a basis for additional standard plans should they be required. As an option, we have included several additional electrical specifications that our team can provide, and we have included an optional day for a "facilities visit" ensuring our electrical subconsultant has a firm understanding of the District's needs and to familiarize ourselves with standard practices and typical equipment which will inform additional specifications to be included.
Understanding of the Project	• Setting a precedent. MKN's Team has assisted the City of Nipomo, Quartz Hill Water District, East Niles Community Services District, and just recently developed a standard Pressure Reducing Station for the City of Thousand Oaks. MKN will perform a high-quality update of the District's standard plans and specs, that will include District input and be a basis for future projects. • Uniformity in District projects. Our team is made up of individuals that use a plethora of agency standards day-to-day in other design projects. One way of helping to ensure that the District has future seamless projects is by eliminating the "guesswork" of recurring items and features that should be standard for any consultant, developer, or contractor. Specific, clear, and concise plans and specs will be developed that meet current codes, have applicable and accurate references, and capture specific District preferences.
Commitment to Quality	• MKN's QA/QC Process. MKN has a QA/QC process that is common to all of our projects and requires a senior staff person that is not directly involved in the daily work to review all deliverables prior to submission to the District. • Experience. MKN's Josh Nord has worked on multiple standards updates for other clients, and is familiar with the information that is typically necessary and required withing an Agency's Standards.
Commitment of Key Personnel	• Dedicated Project Manager. MKN Project Manager, Tanner Bennett is currently managing two other LVMWD projects, and has worked with key staff members in the past. He is committed to the District and managing the team to provide timely and high-quality deliverables to the District. • Committed Team. Every within the Org Chart on MKN's Team has an availability ranging between 20 to 50%. As a smaller firm, our staff are dedicated to specific projects and are not swapped with other key personnel during the course of a project.

Selection Criteria	MKN Understanding and Approach
Overall Experience, Technical Proficiency, and Professional Reputation	• A team with a track record of similar project success. MKN has assembled an internal team of experts that have worked on similar standards updates as well as projects with the District over the course of their careers (at MKN and at previous firms). Many of our staff were former Boyle Engineering Employees, the firm that developed many of the District's previous standards. • Technical Library. MKN has its own technical library of standard specifications, standard plans and details, and knows of other resources which can be utilized to update the District's standard plans and specifications. • Years of experience. Although MKN is 9 years old as a company, many of our staff have worked together over the last two decades. Water, wastewater, and reuse are our only focus, and our technical expertise rivals that of larger firms. • Reputation, reputation, reputation. MKN enjoys around 90% of its current work from repeat clients because they trust our firm to deliver on its commitments with the highest of quality. As a firm that is currently working for the District and has a positive relationship, we commit to exceeding the District's expectations to work for LVMWD for years to come.
Evidence of completing work on schedule and on budget	• Repeat Clients. As was noted above, the majority of our work comes from repeat clients that have been extremely satisfied with MKN's ability to deliver projects on schedule and within budget. • Previous District Projects. MKN is currently working with the District to deliver the Centrate Valves and Suction Header Replacement Project and has come in with fee to spare in each task to date. This extra fee has been used to for extra services such as creating an expected submittal list to help with managing the contractor.
Project Cost and Rate Table	• Best Value. Our fee schedule and proposed fee table are enclosed. Our billing rates are on average 10-20 percent lower than our competitors. The District will benefit from the savings associated with our low overhead and efficient company structure. Our firm's size and capacity mean individual attention at a great overall fee. • Well-developed timeline for a smooth project. MKN prides itself in driving projects toward the end goal, while building enough time to account for coordination and review time for the District, and to overcome challenges that may arise during development. The proposed schedule will save the District money by reducing the overall schedule by a month.

We look forward to the opportunity to work with your team to deliver this project. Thank you for your consideration.

MKN & Associates, Inc

Tanner Bennett, PE
Project Manager

Ryan Gallagher, PE
Principal-In-Charge

MKN's Client Centric Origins

Michael K. Nunley and Associates, Inc. (MKN) is a water, wastewater and recycled water engineering firm located and focused exclusively in Southern California. Our firm was formed and has grown to over 45 professional engineers, planners, construction managers/inspectors and support staff because of the need from agencies similar to the Las Virgenes Municipal Water District (District). Since 2012, MKN has focused on meeting a growing need by public agencies for responsive, technically capable consultants who are committed to a long-term relationship based on excellence.

Water is our Focus

Our principals have decades of experience in management and leadership roles for some of the highest ranked engineering firms in the world, and we are excited to bring our expertise to the District. MKN practice groups include Treatment, Infrastructure, Program Management, Planning and Hydraulic Modeling, and Construction Management. While MKN offers a wide range of water, wastewater and water reuse expertise, these engineering services represent a core competency for our firm.

MKN is Committed to LA County

MKN is proud to be engaged in locally focused projects that impact our communities. With the District being conveniently located between two of our regional

MKN's Irvine Office will provide local support for the the District's Standard Plans and Specifications Update.

offices - Orange County and Ventura - you can be assured that we will provide the responsiveness, interaction, and and staff commitment necessary for a successful Standard Plans and Specifications Update. In addition, the MKN team has extensive experience working in LA county with local clients on water infrastructure projects including Las Virgenes as well as other surrounding agencies. MKN's Project Manager, Tanner Bennett, is a familiar face with the District, and has worked on several projects with the District over the past nine years. As we continue to grow in LA and Ventura Counties, we look forward to continuing to partenr with the District to deliver important projects for your stakeholders.

MKN's key staff bring extensive and diverse water/wastewater design experience, including many projects for local agencies. We understand the need to be responsive and to adapt, and most importantly meet and exceed the District's expectations.

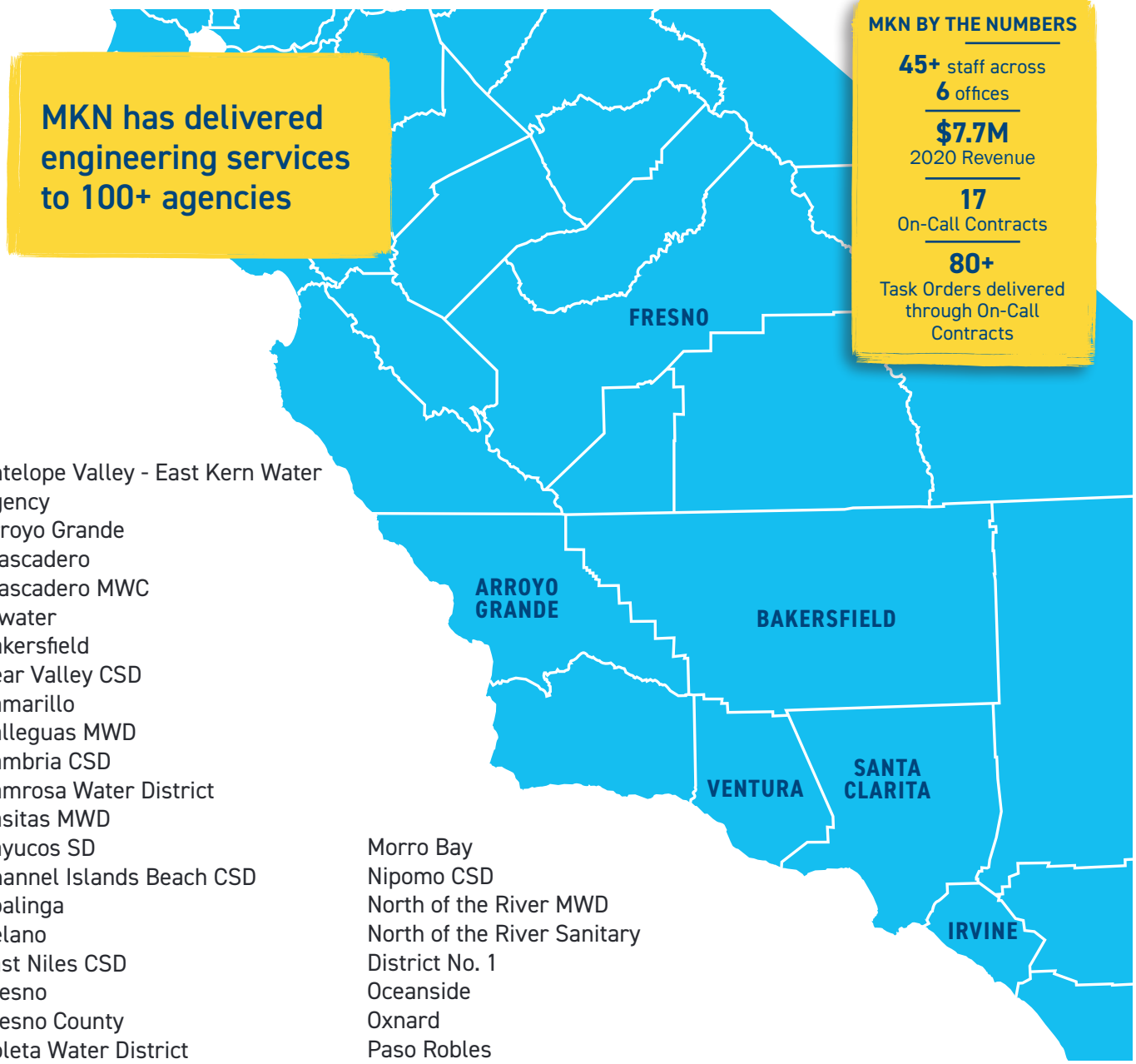
200+ Miles of Pipeline

50+ Pump Station Projects

40+ Water Treatment Projects

50+ Hydraulic Analysis/ Modeling Projects and 45+ Master Plans

MKN has delivered engineering services to 100+ agencies



MKN BY THE NUMBERS

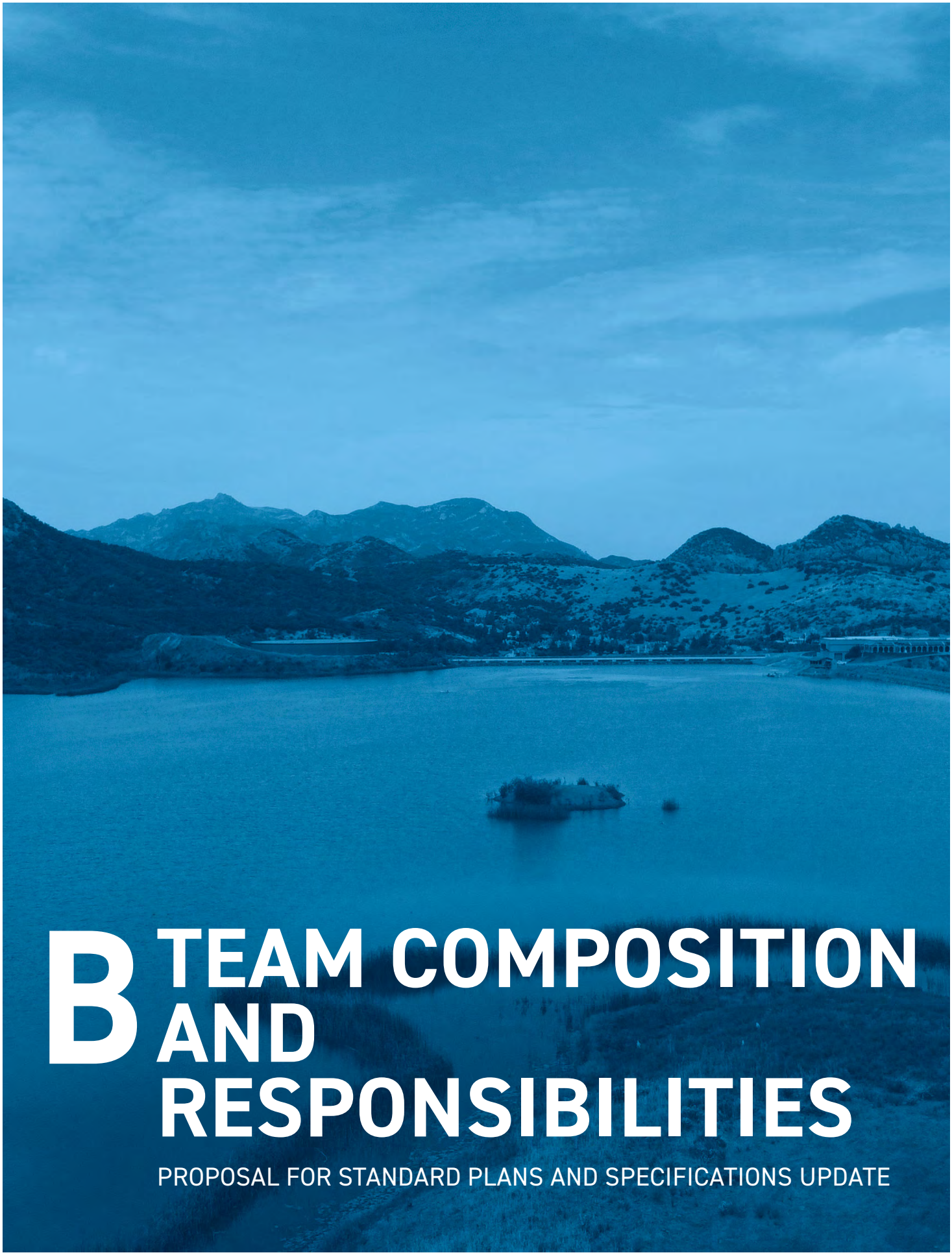
45+ staff across
6 offices

$7.7M
2020 Revenue

17
On-Call Contracts

80+
Task Orders delivered through On-Call Contracts

Antelope Valley - East Kern Water Agency
Arroyo Grande
Atascadero
Atascadero MWC
Atwater
Bakersfield
Bear Valley CSD
Camarillo
Calleguas MWD
Cambria CSD
Camrosa Water District
Casitas MWD
Cayucos SD
Channel Islands Beach CSD
Coalinga
Delano
East Niles CSD
Fresno
Fresno County
Goleta Water District
Gonzales
Greenfield
Grover Beach
Guadalupe
Heritage Ranch CSD
Hollister
Kern County Water Agency
Kern Sanitation Authority
Kingsburg
Laguna County Sanitation District
Las Virgenes MWD
Madera
Madera County
Merced
Monte Vista Water District
Morro Bay
Nipomo CSD
North of the River MWD
North of the River Sanitary District No. 1
Oceanside
Oxnard
Paso Robles
Pismo Beach
Port Hueneme Water Agency
Quartz Hill Water District
Reedley
San Luis Obispo
San Luis Obispo County
San Simeon CSD
Santa Maria
Santa Clarita
Santa Paula
Santa Barbara
Santa Nella
Seaside County SD
Selma-Kingsburg-Fowler Sanitation District
Semitropic Water SD
Soledad
Solvang
South Coast Water District
South San Luis Obispo County Sanitation District
San Luis Obispo County
Sunnyslope County Water District
Taft
Tehachapi
Thousand Oaks
Tulare
Water Replenishment District of Southern California
Westlands Water District



B TEAM COMPOSITION AND RESPONSIBILITIES

PROPOSAL FOR STANDARD PLANS AND SPECIFICATIONS UPDATE

SECTION B

TEAM COMPOSITION AND RESPONSIBILITIES

MKN will bring a team of experienced engineers with a fresh perspective in reviewing and updating the District's Standard Plans and Specifications. The team presented below has between 20% and 40% availability and are committed to seeing a successful updated set of standard plans and specifications for Las Virgenes.

Las Virgenes Municipal Water District

PRINCIPAL-IN-CHARGE
Ryan Gallagher, PE

PROJECT MANAGEMENT

PROJECT MANAGER
Tanner Bennett , PE

QUALITY CONTROL

QA/QC
Josh Nord, PE

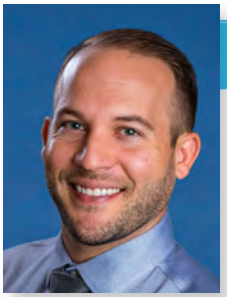
TECHNICAL SUPPORT

TECHNICAL ADVISOR
Jon Hanlon, PE

STANDARDS LEADS
Joseph Reichmuth, PE
Parasto Azami, PE
Keenan Bull, PE

CAD LEAD
Jim Froelicher

ELECTRICAL LEAD
Joe Prevander, PE[1]



Tanner Bennett, PE - Tanks & Wells

EDUCATION
California Polytechnic State University, San Luis Obispo
BS Civil Engineering
LICENSES & REGISTRATIONS
California Professional Engineer - Civil - No. C81334

Tanner Bennett brings over ten years of experience in water and wastewater engineering design and construction. He has been the project manager and project engineer in the design of treatment and conveyance facilities, infrastructure, conditions assessments, alternative analyses, equipment selection, engineering estimates, and has led complex projects from design through. He he has also assisted in data management, grant applications, developing engineering reports and technical memoranda. Tanner is a client-focused PM that partners with agencies to see that projects are delivered on-time and within budget.

Ryan Gallagher, PE - Technical Advisor, *Irvine*

EDUCATION
California Polytechnic State University San Luis Obispo,
BS Civil Engineering
LICENSES & REGISTRATIONS
California Professional Engineer - Civil, No. 74805

Mr. Gallagher has 14 years of experience in the planning, design and construction support services for water, wastewater and recycled water systems projects. This experience includes a wide array of projects from planning to design to construction phase services for various wellhead treatment systems, conveyance and storage projects. Ryan has managed multiple on-call municipal contracts delivering task orders that range in size from $1,000 to +$600,000. Ryan has been a consistent and reliable resource for the Safe Drinking Water Program On-Call where he delivered multiple task orders, typically on an expedited schedule.

Josh Nord, PE - Pump Stations & Pipelines

EDUCATION
California State University, Fresno
BS Civil Engineering
LICENSES & REGISTRATIONS
California Professional Engineer - Civil - No. C61789

Josh Nord has been analyzing, designing, and providing quality control reviews related water and sewer conveyance infrastructure for over 20 years. Josh has designed pipelines ranging from 6-inch to 144-inch that convey sewage, raw water, and treated water for municipalities, utilities, large-scale agricultural operations, and State Special Districts. Mr. Nord's experience includes the design of gravity sewers, gravity raw water systems, sewer lift stations, pressurized water conveyance systems (e.g., lake intake pump stations, intermediate booster stations, and associated transmission mains), and open canal conveyance systems. Mr. Nord provides quality-related input to MKN's design teams from project initiation through bid package submittal.

Jon Hanlon, PE - Technical Lead

EDUCATION

Missouri University of Science and Technology,

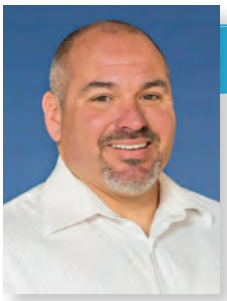
MS Civil Engineering

LICENSES & REGISTRATIONS

California Mechanical Engineer No. M33232

NACE Certified Coating Inspector #10431924

Mr. Hanlon is a Principal with nearly 20 years of experience focused on design, analysis, and management of complex multi-disciplined projects including water and wastewater treatment facilities, reservoirs, pump stations, sewer lift stations and linear infrastructure. Mr. Hanlon's experience includes design of water and wastewater facilities, ranging in size from 100 gallons per day to over 70 million gallons per day. He is a certified NACE Coating Inspector with significant experience performing condition assessment of water, wastewater, and recycled water facilities throughout California.



Joseph Reichmuth, PE - Standards Lead

EDUCATION

California Polytechnic State University, San Luis Obispo

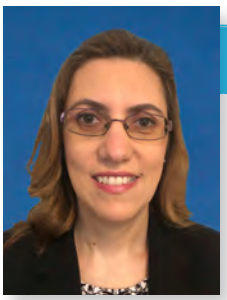
BS Civil Engineering

LICENSES & REGISTRATIONS

California Professional Engineer - Civil - No. C63124

NASSCO ITCP - Cured-In-Place Pipe; Manhole Rehabilitation

Mr. Reichmuth is a Senior Engineer with over 10 years of design experience with an emphasis in pipeline design, ranging from condition assessment and rehabilitation to planning and design. Pipeline experience includes various trenchless construction methods, such as horizontal directional drilling and jack-and-bore, and pipeline sizes up to 42-inches. Mr. Reichmuth also has nearly a decade of experience working in the geotechnical engineering discipline specializing in field engineering and construction observation.



Parasto Azami, PE - Standards Lead

EDUCATION

University of California Irvine, California

MS Civil Engineering

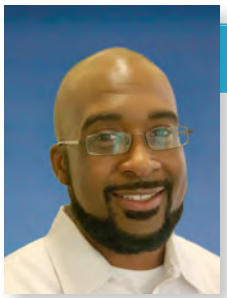
Tabriz University, Iran

BS Mechanical Engineering

LICENSES & REGISTRATIONS

California Professional Engineer - Civil - No. 91468

Parasto Azami has over 9 years of experience in water and wastewater engineering design delivering designs in the areas of gravity sewer, force main, water conveyance system, pump station, rehabilitation, and engineering estimates. Her interface with clients is multi-faceted - during projects' proposals, design phases, progress reviews, and submittals.



Keenan Bull, PE - Standards Lead

EDUCATION

Missouri University of Science and Technology,

MS Civil Engineering

LICENSES & REGISTRATIONS

California Professional Engineer - Civil - No. 91138

Mr. Bull brings 20 years of proven experience in the planning and design for water, wastewater, and recycled water facilities, with emphasis on conveyance, storage, and pumping stations. Proficiencies include the design, planning, and construction/retrofit of water booster stations and sewer lift stations, water and wastewater treatment facility repair and rehabilitation; aboveground water storage tanks, reservoirs, collection and conveyance infrastructure, and buried or exposed large diameter transmission and distribution pipelines. In addition, Keenan is the senior project engineer for the LVMWD Tapia Water Reclamation Facility Outfall Rehabilitation Design and the LVMWD Rancho Las Virgenes Composting Facility Centrate Valve Replacement.

Jim Froelicher - CAD Lead

EDUCATION

Certificate of Proficiency in Computer Assisted Design and Drafting, 2005

University of Santa Barbara Biochemistry, Molecular Biology

Jim Froelicher has over ten years of experience serving as a civil designer for a Fortune 500 consulting engineering firm before he joined MKN & Associates, Inc (MKN), specializing in water, wastewater and water reuse engineering for public agencies. His expertise includes design of water, wastewater and recycled water facilities throughout California. As the Senior Design Technician for all six branches of MKN, Mr. Froelicher's experience has included design of complex multi-disciplined projects including water and wastewater treatment facilities, pump stations, production wells, piping and valves, water storage tanks, site grading, and road designs and update of District's standard details and standards.

ELECTRICAL POWER SYSTEMS INC.

Electrical Power Systems, Inc. (EPS) has provided successful Electrical Engineering services over 40 years. This includes well projects including green field sites, granular activated carbon filter additions, emergency generator power and control upgrades. Providing optimum electrical designs while employing expert electrical design services is our goal for making the Client's projects extremely successful while minimizing total cost of ownership.

Our extensive experience in electrical engineering/construction makes EPS uniquely suited to provide expert electrical engineering services. EPS provides the expertise required by a client for expert safety, coordination, and integration of electrical systems including the power distribution system, lighting system, emergency generation system, communication system, information technology system, security system, and the energy management system.

At EPS we provide computer modeling of electrical systems including OSHA required Arc Flash Safety Analysis and labeling. Our software simulates the distribution and generation within a facility making optimizing the engineering decisions needed when adding or doing alterations. The software computes connected and demand loading, load flows, fault deliveries, and protective device coordination. The system can also be analyzed as to harmful effects caused by motor starting, unusual system loading, etc. EPS has the equipment and expertise to provide real time, high resolution, power quality analysis. Providing detailed historical recorded electrical data is critical in resolving issues with utility Company power. The actual recorded electrical data is the basis for working with the utility to determine the root cause and resolution for power quality problem solutions.

EPS endeavors to maintain a flexible and forward-looking design approach to the constantly changing needs of our clients brought about by changing technological advances and ever rising energy costs. Buildings are looked at as dynamic structures, with all electrical systems designed for logical modifications and expansion capability. Sites are analyzed in a comprehensive format with distribution systems designed for the most efficient delivery of power and information while maintaining capabilities for future expansion and growth.

At EPS, we realize that upon completion, all systems must be maintainable. Because of our high level of practical experience, our designs are based on minimizing total cost of ownership. We design to utilize equipment and techniques to make maintenance costs as low as possible. Our designs incorporate cost factors including compatibility with the owner's existing equipment, readily available support, equipment ratings for California conditions, energy efficiency, and optimum equipment warranties.

Joe Prevander, PE (EE) - Electrical Lead *Electrical Power Systems*

EDUCATION

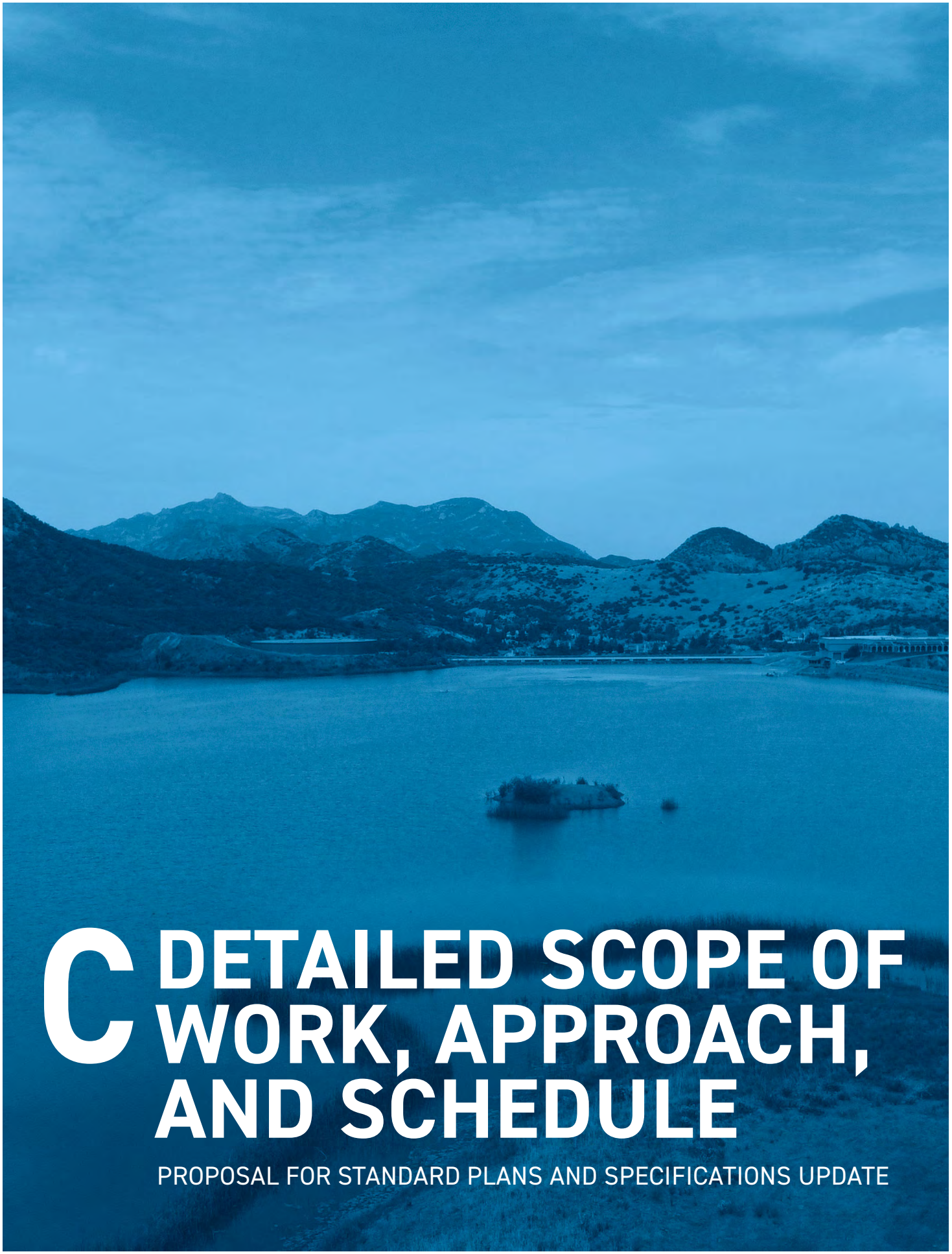
University of Washington, Seattle
BS Electrical Engineering,

University of Portland, OR
MS Business Administration

LICENSES & REGISTRATIONS

Professional Electrical Engineer, Minnesota-1995; California-2001; Arizona-2007; Washington-2006; Utah-2019; Texas-2019

Mr. Prevendar has over 40 years experience in Electrical Engineering for industry and government. Mr. Prevendar is President of the firm and a Principal Electrical Engineer. Mr. Prevendar has extensive experience in electrical engineering, plant engineering and maintenance management. This includes positions with Potlatch Company as Plant Engineer, Senior Electrical Project Engineer, Lead Electrical Engineer and Engineering manager. Mr. Prevendars' project experience includes power distribution, analog and digital process controls, motor controls, VFD's, PLC's distributed control systems, material handling, and pumping systems.



C DETAILED SCOPE OF WORK, APPROACH, AND SCHEDULE

PROPOSAL FOR STANDARD PLANS AND SPECIFICATIONS UPDATE

SECTION C

PROJECT UNDERSTANDING AND APPROACH

PROJECT UNDERSTANDING

Las Virgenes Municipal Water District's (LVMWD) current standards were developed in the 1970's (sewer), 1980's (recycled water), and 1990's (water), and it is the District's desire to update its current standards to be consistent with industry standards as well as the District's preferences. These District Standards are relied upon by District staff as well as potential developers and consultants during the design of water, sewer, and recycled water system improvements. During the course of regular use, District staff have identified areas of the Standards that are outdated, do not represent current District practices, do not represent current technology, or a combination of the above. Thus, LVMWD wishes to make updates and review the need for new District Standards to eliminate inconsistencies and bring them up to current.

MKN understands that the District deals with developers, consultants, and contractors on a daily basis and that LVWMD staff have the institutional, and working-knowledge of how District facilities should be designed, constructed, maintained, and operated – and MKN has the right staff, previous LVMWD project involvement, and design standards experience to extract that knowledge. We understand the importance of cross-referencing best-in-class agency standards, and will build upon the foundation that already exists. MKN will review current standards, outline new standards and formatting, and hold focused workshops to ensure that no standard is overlooked. The overall goal of the project is to provide the District with a final set of standard plans and specifications for water, sewer, recycled water, and water reuse that will simplify District design and construction projects by organizing and standardizing elements that are commonly found and used. These updated standard plans and specifications will set clear expectations and define District preferences for designers and contractors to follow and incorporate.

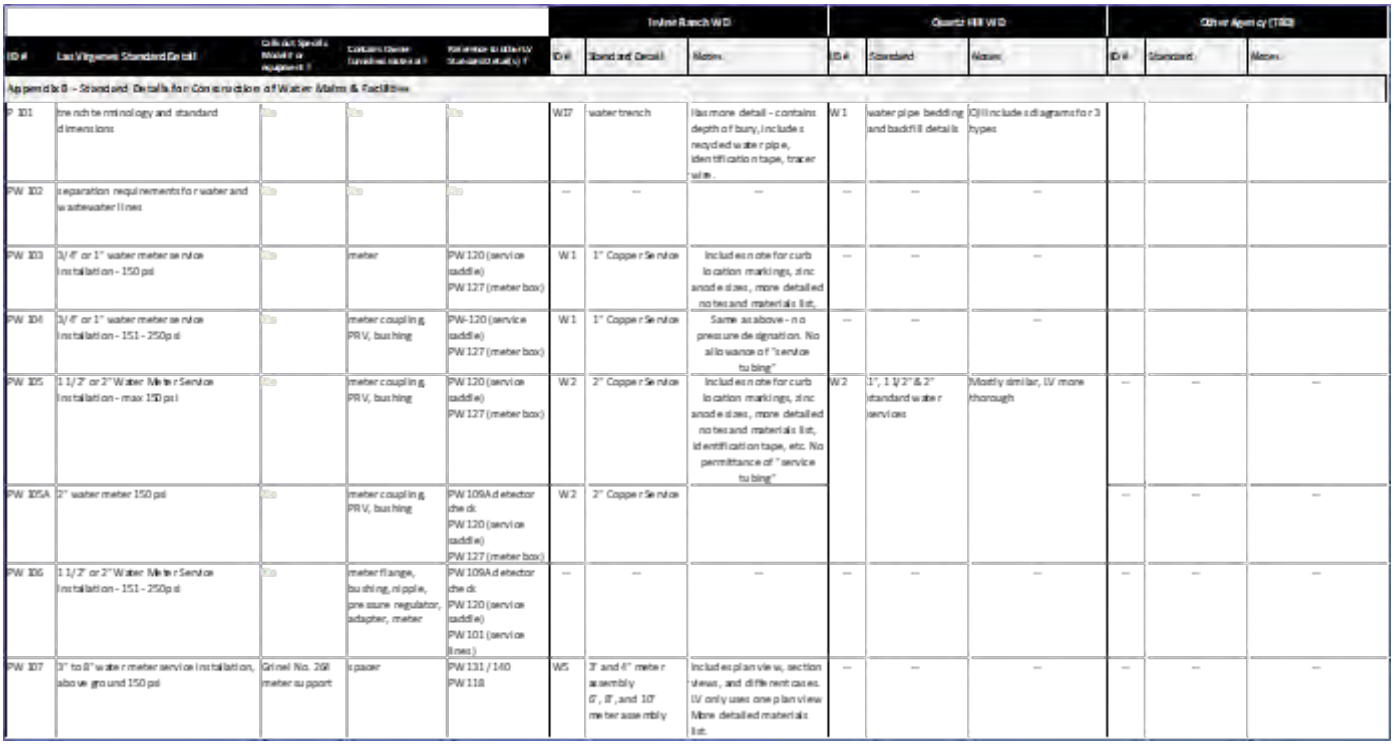
MKN Delivers a team that has assisted similar agencies with the development of their Standard Plans and Specifications and will be a partner to the District. By bringing a detailed outline to the first workshop which highlights standards that are obsolete, identifies named equipment, as well as recommends proposed new standards – our team will be ahead of the curve to complete the Standards Update.

PROJECT APPROACH

Early Review, Outlining, and Standards Matrix

MKN realizes that the District would like the standard plans and specifications to be updated in a timely manner and to the highest quality, and MKN has the approach to do just that. Rather than having a standard kickoff meeting to review the scope of work, schedule, and points of contact, MKN proposes to hold a "working" Kickoff Workshop and Outline Review. Upon Notice to proceed, our team will get to work reviewing the Districts current standards and comparing them with up to three similar agency's relevant standards. MKN has already begun building a matrix to identify standards that name specific equipment, reference other standards, and comparing the level of detail with other agencies. Our team will continue building this matrix to inform discussions during the Kickoff Workshop and Outline Review Meeting, and will be ready to discuss particular details and necessary updates with District Staff.

MKN has already started to review the District's Standards and compare them with available standards from other similar agencies. The work already performed will help our team to smoothly transition into recommending and developing updates to the District's Standards.



					Irvine Ranch WD			Quartz Hill WD			Other Agency (TBD)		
ID #	Las Virgenes Standard Detail	Calls out Specific Make/Model or Equipment?	Contains Owner Furnished Material?	Reference to other LV Standard detail(s)?	ID #	Standard Detail	Notes	ID #	Standard	Notes	ID #	Standard	Notes
Appendix B – Standard Details for Construction of Water Mains & Facilities													
P 101	trench terminology and standard dimensions	No	No	No	W17	water trench	Has more detail – contains depth of bury, includes recycled water pipe, identification tape, tracer wire.	W1	water pipe bedding and backfill details	CJII includes diagrams for 3 types			
PW 102	separation requirements for water and wastewater lines	No	No	No	--	--	--	--	--	--			
PW 103	3/4" or 1" water meter service installation - 150 psi	No	meter	PW 120 (service saddle) PW 127 (meter box)	W1	1" Copper Service	Includes note for curb location markings, zinc anode sizes, more detailed notes and materials list,	--	--	--			
PW 104	3/4" or 1" water meter service installation - 151 - 250 psi	No	meter coupling PRV, bushing	PW-120 (service saddle) PW 127 (meter box)	W1	1" Copper Service	Same as above – no pressure designation. No allowance of "service tubing"	--	--	--			
PW 105	1 1/2" or 2" Water Meter Service Installation - max 150 psi	No	meter coupling PRV, bushing	PW 120 (service saddle) PW 127 (meter box)	W2	2" Copper Service	Includes note for curb location markings, zinc anode sizes, more detailed notes and materials list, identification tape, etc. No permittance of "service tubing"	W2	1", 1 1/2" & 2" standard water services	Mostly similar, LV more thorough	--	--	--
PW 105A	2" water meter 150 psi	No	meter coupling PRV, bushing	PW 109A detector check PW 120 (service saddle) PW 127 (meter box)	W2	2" Copper Service					--	--	--
PW 106	1 1/2" or 2" Water Meter Service Installation - 151 - 250 psi	No	meter flange, bushing, nipple, pressure regulator, adapter, meter	PW 109A detector check PW 120 (service saddle) PW 101 (service lines)	--	--	--	--	--	--	--	--	--
PW 107	3" to 8" water meter service installation, above ground 150 psi	Grinnel No. 268 meter support	spacer	PW 131 / 140 PW 118	W5	3" and 4" meter assembly 6", 8", and 10" meter assembly	Includes plan view, section views, and different cases. LV only uses one plan view. More detailed materials list.	--	--	--	--	--	--

MKN has already begun to review LVMWD Standards and compare with comparable Agencies. ***See Appendix A for the working matrix.***

Electrical Focused Workshop

MKN realizes that the District would like the standard plans and specifications to be updated in a timely manner and to the highest quality, and MKN has the approach to do just that. Rather than having a standard kickoff meeting to review the scope of work, schedule, and points of contact, MKN proposes to hold a "working" Kickoff Workshop and Outline Review. Upon Notice to proceed, our team will get to work reviewing the Districts current standards and comparing them with up to three similar agency's relevant standards. MKN has already begun building a matrix to identify standards that name specific equipment, reference other standards, and comparing the level of detail with other agencies. Our team will continue building this matrix to inform discussions during the Kickoff Workshop and Outline Review Meeting, and will be ready to discuss particular details and necessary updates with District Staff.

MKN's subconsultant Electrical Power Systems, Inc. (EPS) is a trusted electrical engineering firm that currently serves as the go-to electrical engineer for large agencies such as the City of Fresno, City of Clovis, Fresno County, Kings County and other municipalities. EPS has also performed specification review for the Metropolitan Water District of Southern California for the Wadsworth Pumping Plant Control and Protection Upgrade. EPS has already identified non-applicable language in some of the available electrical specifications that can be trimmed down for clarity, and they have also identified other sections in which the District may prefer to have much more detail for O&M considerations, such as in the 16405 Electrical Motors Specification.

MKN will be the team that partners with the District to understand where the standards currently fall short, and our team will make sure that the standards you deal with on a day-to-day basis incorporate your preferences and ensure that future projects have appropriate uniformity when applicable.

Workshops and Meetings

MKN's team proposes several workshops and review meetings to speak with, and listen to the appropriate District staff. LVMWD Staff have the years of experience dealing with design and constructions projects with many different firms and contractors, and MKN's team intends to note the particular recurring problems areas, elements that may cause confusion among designers and contractors, as well as items that District Staff already know are outdated or on which staff has had a change in equipment or material preferences. By partnering with the District, we anticipate a collaborative approach that will capture the needs of the District, and ensure that all parties are headed in the right direction in developing the most useful standards for the District.

#	Type	Meeting ID	Time	District Staff	Elapsed Time
1	Virtual	Kickoff Workshop & Outline Review	1.5 – 2 hours	All	3 weeks after NTP
2	In-Person	Electrical Focused Workshop (part of the facilities visit if selected)	1.5 hours (rest of the day to visit sites)	Relevant Operations and Engineering Staff	1-2 week after NTP
3	Virtual	Pre-Draft Workshop	1.5 hours	All	5-6 weeks after NTP
4	Virtual	Draft Water/ Recycled Water Review Meeting	1.5 hours	Water/ Recycled Water Staff	10-12 weeks after NTP
5	Virtual	Draft Sewer Review Meeting	1.5 hours	Sewer/ Collections Staff	12-14 weeks after NTP
6	Virtual	Draft Electrical Standards Review Meeting	1.5 hours	Relevant Operations and Engineering Staff	10-14 weeks after NTP
7	Virtual	Draft Water Reuse Standards Meeting	1 hours	Applicable district Staff	14-16 weeks after NTP

MKN has included the Meetings to the right in the Detailed Scope of Work in Section 4:

Utilizing Foundational Resources for Efficiency

Having a CAD designer that is well-versed in standards updates, and having worked on several other updates for other agencies, MKN has a library of examples to draw from and use as a basis for new or revised District Standards. Our team plans to utilize a mixture of composing new standards from scratch, importing District Standards and providing new CAD versions, and utilizing available public information from other agencies as a resource.

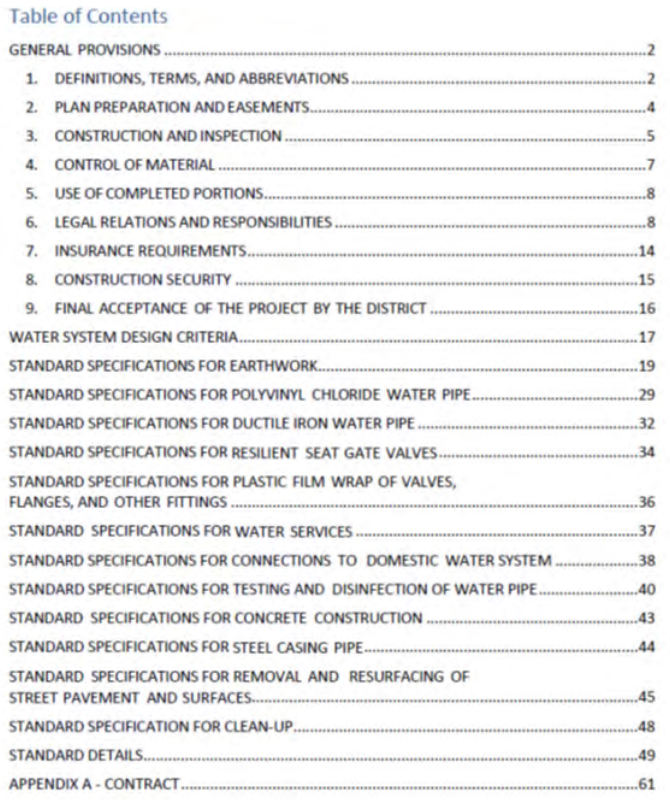
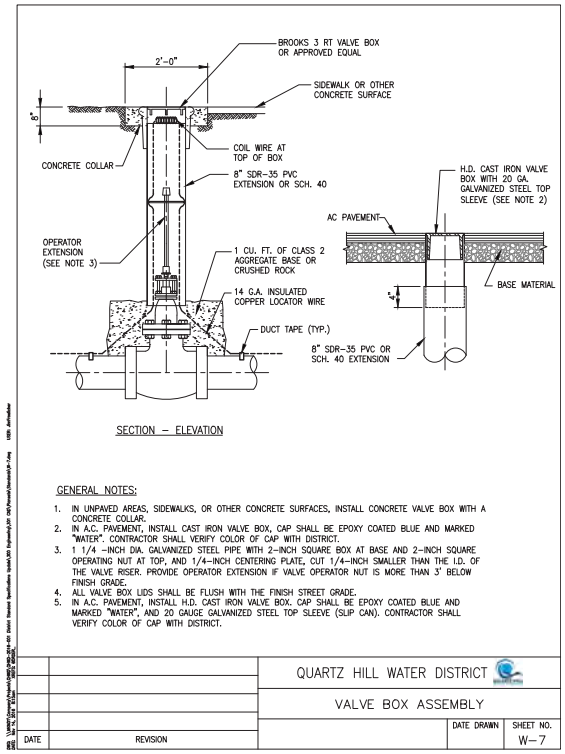


Table of Contents

Previous Water Standard Specifications Update for Quartz Hill Water District

Concurrent Tracks for Updates

The proposed team and staffing allow for multiple tracks to develop concurrently, but also allow for a slight stagger for separate standards area reviews. We understand that the District has separate staff member that are relevant to either water, sewer, recycled water, and water reuse – but there are likely other who overlap between one or more of these groups. We have arranged the updates in such a way as to keep all parties focused and engaged, without overloading particular staff at the District.



Previous MKN Standard Plan Update for Quart Hill Water District

Combined Set of Specifications

For ease in future standards updates, MKN proposes utilizing a single set of specifications consistent with the District's existing format which incorporates all of the relevant areas (water, sewer, recycled water, and water reuse) within this document. With all specifications residing within this single location, when updates or changes occur, there will not be a need to go through several documents to updates references and this will also avoid inconsistencies. Within a certain specification, there would be a clear delineation in subsections that give direction or list materials that are specific to the type of use, but all other District standards for that section that are applicable to all areas would be consistent and there would not be a need to duplicate this information in multiple sections – in our experience, this helps to save time and resources for future updates and avoids confusion between multiple specification books.

The developed electrical specifications are proposed to be a standalone section in CSI format.

Optional Scope

It is often the case that the District may have changing needs and would like to have options to expand or adjust the scope of work presented in this proposal. MKN's team has presented the option for additional Board workshops/presentations in the even that additional input or involvement is required beyond the included workshops, an option to include up to ten additional standard drawings unit cost if the need arises to add more than is currently assumed, the option and ability to create four, unique specification packages for the separate areas (water, sewer, recycled water, and water reuse), and has provided the option for our electrical teammate to further develop additional electrical standard specification (up to 17 sections) and assist with Instrumentation Specification Standards, and electrical standard plans that the District may find useful. Lastly, should the District wish to expand the electrical specifications scope, the MKN team has also provided the option for a Facilities Visit in conjunction with the electrical workshop. This entail visiting a collection of LVMWD sites by our electrical and standards leads and speaking with the relevant and knowledgeable District Staff. Theis visit will assist our team in understanding the typical methods, design features, and operations of facilities. Getting our electrical team familiar with the facilities and aligned with the District's goals, expectations, and preferences will make for a smooth and seamless development of the District's Additional Electrical Standard Specifications in the optional scope. It is assumed that the Facilities visit will consist of seeing District sites that are a representative cross-section of District facilities, and the electrical/facilities focused workshop will take place immediately before or after the site visits.

In any case, MKN is willing to discuss and revise the scope as might be necessary to align with the District's expectations.

SECTION C

SCOPE OF WORK AND SCHEDULE

As experienced water, wastewater, and recycled water engineers, our team has utilized and worked with agency standards across California. We have also assisted with reviewing and updating District Standards for agencies very similar to Las Virgenes Municipal Water District. Our success is driven by our experienced technical leads as well as a streamlined approach to extract institutional information, review best-in-class industry practices, and draw upon internal and external resources to reuse and update LVMWD's standards consistent with applicable codes and standards. The following scope of work is based on our team's previous experience, working relationship with the District, as well as the scope of work provided by LVMWD in the RFP.

1 TASK GROUP 1
Project Management and Quality Assurance/Quality Control

MKN will provide overall project management, which includes supervision of in-house staff and subconsultants, planning and monitoring of contract budget and schedule, and coordination with the District and MKN's project team will be conducted by the MKN Project Manager.

MKN's Project Manager will also coordinate bi-weekly check in meetings with the District's PM to give regular updates and discuss work that is upcoming and has been completed. These check-in meetings are also valuable in that any project challenges may be identified, discussed, and resolved in a timely fashion. Bi-Weekly check-in meetings are anticipated to be held on half an hour virtual calls.

MKN will provide senior technical review and implement our quality assurance and quality control (QA/QC) measures throughout the project.

Task 1 Deliverables:

- *Monthly Invoices, Status Reports, and Schedule Updates*

2 TASK GROUP 2
Data Collection and Review

Although MKN has already worked with the District and is familiar with the District's standards, the first step in the update process will require our team to be intimately aware of all the existing standards. The objective of this is to generate an understanding of the full project and to ensure that our team knows the correct District staff/department to coordinate with as the update process moves forward.

Task 2.1 | Standard Plans and Specifications Review

MKN will review LVMWD's available standard plans, specifications, and functional specifications for familiarity, and will assess specifications that are outdated, obsolete, referenced elsewhere, and identify standards that may be missing or are recommended for inclusion in the updated LVWMD Standard Plans and Specifications. MKN will also review standard plans and specifications from up to three similar agencies to optimize LVMWD's current documents.

Task 2.2 – Standards Plans and Specifications Outline and Matrix

In order to make the best use of time prior to the first workshop, MKN will utilize the information from Tasks 2.1 and 2.2 to outline the likely updates required for the standard plans and specifications. MKN will build a matrix indicating all current and recommended plans and specifications, and will show which plans and specifications make reference to an outside entity's standards, are cross-referenced within LVMWD standards, contain specific named equipment, and that require the District's specific input or preferences. This outline and matrix will be used as the basis of discussion at the workshop and to come to a consensus and decide which standards are needed, which are no longer necessary, and if there are additional considerations for any of the respective water, sewer, recycled water, or water

reuse areas.

Task 2 Deliverables:

- *Water, Sewer, Recycled Water, Reuse Standards Outline and Matrix in electronic format (PDF, MS Word, and Excel)*
- *CSI categorized Electrical Specifications List in electronic format*

Task 2 Assumptions:

- *MKN may rely on the District providing all available documents upon Notice to Proceed, and that information requests will receive responses in a timely manner (within 7 days)*
- *LVMWD will provide comments on the standards outline/matrix within two weeks of submission and include any additional standards that it would like considered .*

3 TASK GROUP 3
Meetings/Workshops

The goal of this task is to ensure that the intent of the District is met and that LVMWD's expertise and input is captured at critical stages in the development of the updated standard plans and specifications. These meetings and workshops will also be project milestones that keep the efforts on track, capture progress, and inform the District on further information or input that may be necessary. Review Meetings with separate departments will ensure that no section is overlooked, and larger all staff workshops ensure that initial questions and areas of concern from District staff are identified and addressed.

The following virtual meetings are included in the Scope of Work

1. 2 hour - All Staff Kickoff Workshop & Outline Review (Water, Sewer, Recycled Water, and Reuse/Pure Program)
2. 1 hour - Electrical/Facilities Focused Workshop (to be held immediately following the site visit)
3. 1 hour All Staff Pre-Draft Workshop (To review final list of standard plans and specifications included)
4. Focused Draft Standard Plans and Specifications Review Meetings
    a. 1.5 hour – Draft Water and Recycled Water and Facilities Standards Review Meeting
    a. 1.5 hour – Draft Sewer and Facilities Standards Review Meeting
    a. 1.5 hour – Draft Electrical Standards Review Meeting
    a. 1 hour – Draft Water Reuse Standards Review Meeting

Task 3 Deliverables:

- *Meeting Agendas (three (3) days in advance of meeting) in electronic format (PDF)*
- *Meeting Notes (five (5) days after meeting) in electronic format*

Task 3 Assumptions:

- *All meetings/workshops are assumed to be virtual as a result of the ongoing COVID-19 safety protocols, except for the in-person electrical/facilities workshop as part of the site visit. MKN assumes that this meeting may be held outside where proper social distancing may be followed.*
- *MKN assumes that District Staff will have reviewed deliverables and be prepared to discuss comments, modifications, or required information during the workshops.*

4 TASK GROUP 4
Standard Plans and Specifications Package

Task 4.1 | Draft Standard Plans and Specifications

MKN's Team will utilize the District's existing standards to the extent practicable as the foundation for the plan and specification updates. There will be instances where plans require significant updates that essentially require a whole new drafted standard, while others may only require re-drafting the existing in current AutoCAD format with minor changes to text and/or equipment. After the initial workshop review of similar agency's standards, there may be several new standards that the District would like to incorporate.

MKN assumes the preparation of the following standard plan sheets:

- Water Details – Up to 50 drawings (48 currently)
- Sewer Detail – Up to 15 drawings (14 currently)
- Recycled Water Details – Up to 19 drawings (17 currently)
- Water Reuse Details – Up to 5 drawings (0 currently)
- Electrical Standard Details – See Optional Task 5

For efficiency in this project, as well as for ease of future District Standards Updates, MKN proposes to provide a single set of Standard Specifications for water, sewer, recycled water, and water reuse. As there are many redundant or overlapping elements similar to each of these areas, keeping one specification book may be in the best interest for the District. Within each section, there would be elements separated into water, sewer, recycled water, or water reuse subsections where appropriate. The District's existing water specification sections and formatting will be used as the basis for updating the new standard specifications set (i.e. about 30 sections would be required between the existing Section 1.0 through 2.9). Sewer, Recycled Water, and Water Reuse materials and constructions sections will be added.

MKN's team will provide a draft set of electrical specifications two weeks prior to the Draft Electrical Standards Review Meeting.

Draft Standards Plans and specifications for each focus area will be delivered two weeks before each focused review meeting at a minimum.

Task 4.2 Final Standard Plans and Specifications

After the Draft standard plans and specification review meeting and obtaining comments from the District, MKN's team will review all District comments and incorporate the comments into the final standard plans and specifications.

Task 4 Deliverables:

- *Draft and Final Water, Sewer, Recycled Water, and Water Reuse Standard Plans in electronic format (PDF and AutoCAD files)*
- *Draft and Final Combined Standard Specifications for Water, Sewer, Recycled Water, and Water Reuse in electronic format (PDF and MS Word)*
- *Draft and Final Electrical Standards Specification in electronic format (PDF and MS Word)*

Task 4 Assumptions:

- *MKN assumes that the District will provide review comments within two weeks of the time that they are submitted.*

5 TASK GROUP 5
Optional Scope

Task 5.1 | Board Informational Workshop/ Presentation

In addition to the meetings and workshops above, MKN can prepare a presentation and participate in a Board-specific workshop. This would likely include an explanation of the Standards update process, why it is needed, the benefits to the District, and how the District Staff and MKN team are partnering to bring LVMWD's standard up to current standards for the benefit of all parties. MKN's team assumes that this workshop/presentation would take place virtually over the course of one hour.

Task 5.2 | Board Final Presentation

In addition to the meetings and workshops above, MKN can prepare a presentation and participate in a Board-specific final presentation. This would likely include a recap of the of the Standards update process, presentation of the final documents, and an explanation of how these standards will be incorporated into future projects, as well as the efficiencies that are gained from a the benefits to the District, and how the District Staff and MKN team are partnering to bring LVMWD's standard up to current standards for the benefit of all parties. MKN's team assumes that this workshop/presentation would take place virtually over the course of one hour.

Task 5.3 | Additional Standard Plans (up to 10 Drawings)

MKN Understands that the District may wish to develop additional standards outside of those listed in Task 4, and MKN is providing this optional task for up to ten (10) additional standard plan details. These plans would be provided in PDF and AutoCAD format for the Districts use. This task may also be

used as a basis should the District choose to add additional drawings in excess of the ten (10) shown here.

Task 5.4 | Individual Standard Specification Sections

Should the District desire for water, sewer, recycled water, and water reuse specifications to be delivered as separate, stand-alone specification books rather than the proposed combined specification package, MKN will submit four separate standard specifications – Water Mains and Facilities, Sewer Mains and Facilities, Recycled Water Mains and Facilities, and Water Reuse Related Facilities.

Task 5.5 | Facilities Visit (Electrical & Mechanical)

MKN's Project Manager, Standards Lead, and electrical subconsultant will arrange and attend a visit to see and review a number of District facilities to gain a better understanding of typical design features, equipment, and types of facilities that need to be accounted for when preparing updates to the plans and specifications. During this visit, a specific electrical-focused workshop (within Task 3) will be held before or after visiting relevant sites. This visit and workshop will help direct the electrical standards development and acquaint our team with the District's "typical" project elements. The Facilities Visit is assumed to be held over a single day (not to exceed six and a half (6.5) hours), concurrently with electrical/facilities workshop included within Task 3.

Task 5.6 | Instrumentation and Controls Standards Specifications

Should the District desire to include and update Instrumentation and Controls specifications, the MKN team will assist the District by preparing the following Specifications:

- 13420 Process Control Instruments
- 13450 Plant Control and SCADA

Task 5.7 | Additional Electrical Standard Specifications (17 Specification and up to 3 Drawings)

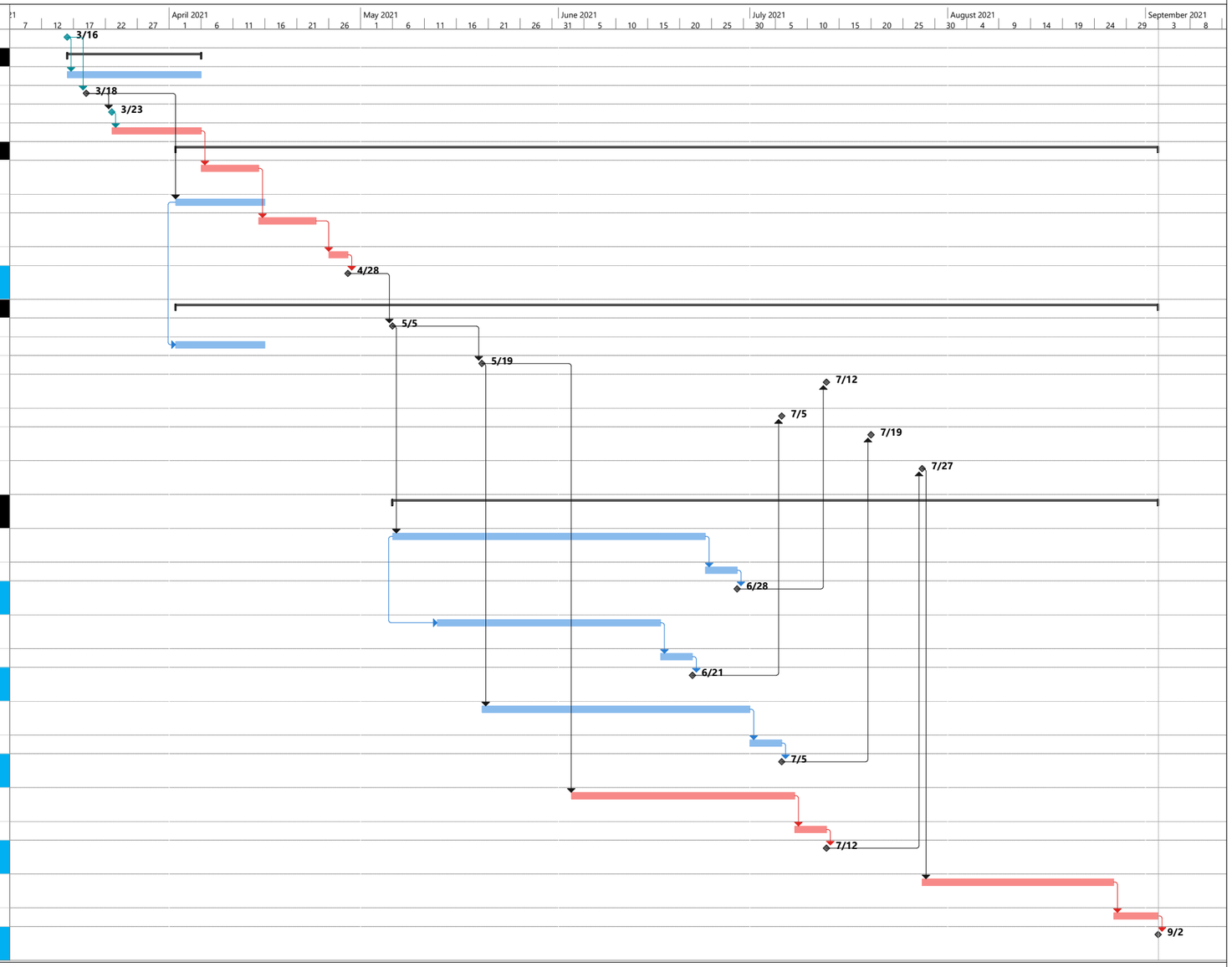
Should the District desire to update and maintain a more thorough set of standard electrical specifications, the MKN team will assist the District by preparing the following Specifications:

- 16060 Service, Distribution and Grounding
- 16231 Diesel Fueled Emergency Generator
- 16250 Automatic Transfer Switch
- 16291 Power Metering
- 16400 Motor Control Centers
- 16420 Solid State Reduced Voltage Starters
- 16430 Surge Protective Devices
- 16442 Motor Protection Relay
- 16460 Dry Type Transformers
- 16495 Heavy Duty Safety Switches
- 16600 Portable Generator
- Electrical Commissioning Checklist
- 16747 Spread Spectrum Radios
- 16910 PLC Control
- 16924 AC Variable Frequency Drives

Las Virgenes Municipal Water District

Standard Plans and Specifications Update

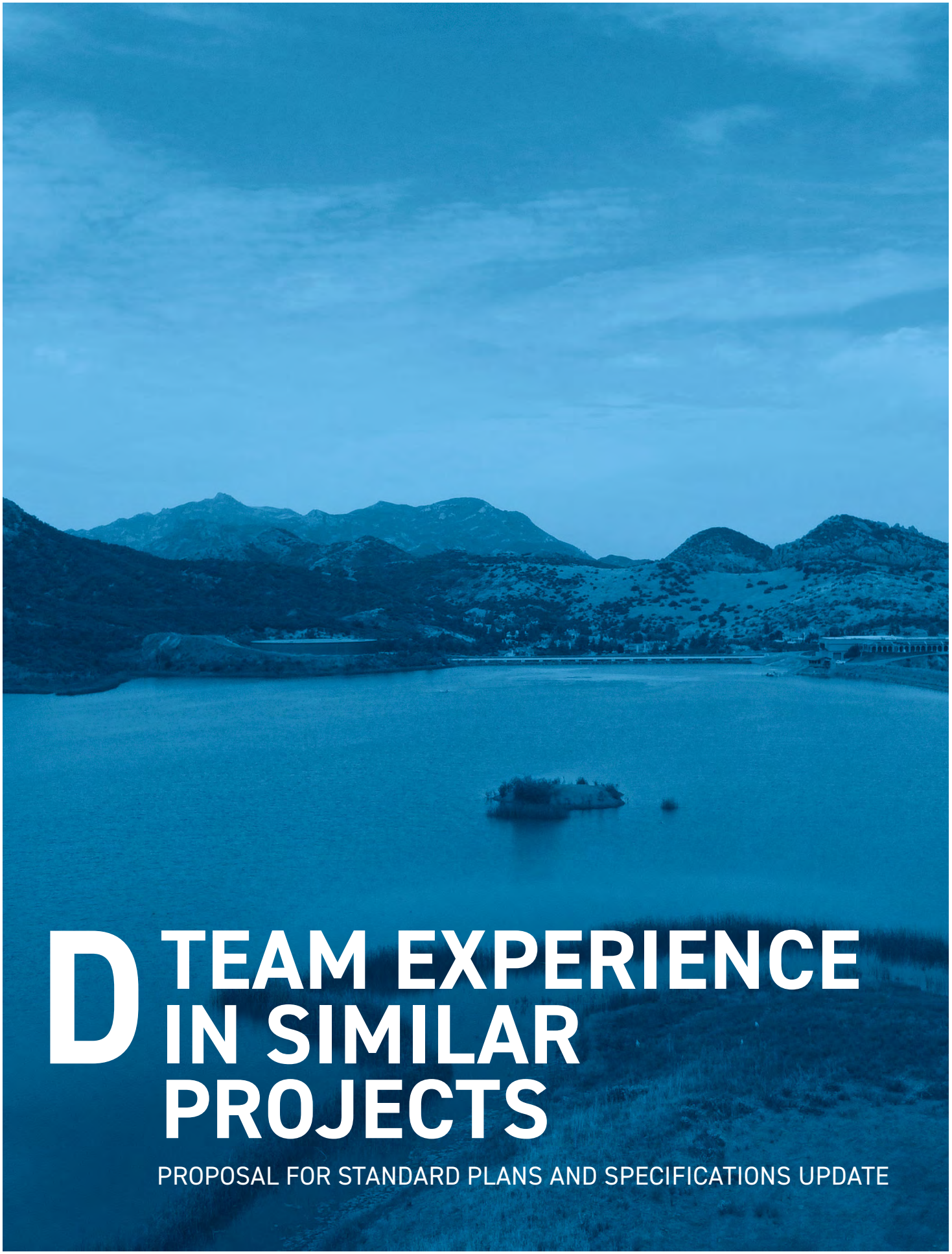
ID	Task Name	Duration	Start	Finish	Predecessors
1	Notice to Proceed	0 days	Tue 3/16/21	Tue 3/16/21	
2	**TASK 1 - Project Management & QA/QC**	**15 days**	**Tue 3/16/21**	**Mon 4/5/21**	
3	Project Management	15 days	Tue 3/16/21	Mon 4/5/21	1
4	Internal Kickoff Meeting	0 days	Thu 3/18/21	Thu 3/18/21	1FS+3 days
5	Submit Data Request to LVMWD	0 days	Tue 3/23/21	Tue 3/23/21	4FS+2 days
6	Receive Data from LVMWD	10 days	Tue 3/23/21	Mon 4/5/21	5
7	**TASK 2 - Data Collection and Review**	**110 days**	**Fri 4/2/21**	**Thu 9/2/21**	
8	Review District Standard Plans and Specifications	7 days	Tue 4/6/21	Wed 4/14/21	6
9	(OPTIONAL) Facilities Visit (Elect & Mech)	10 days	Fri 4/2/21	Thu 4/15/21	4FS+10 days
10	Standard Plans and Specifications Outline and Matrix	7 days	Thu 4/15/21	Fri 4/23/21	8
11	QC Review	3 days	Mon 4/26/21	Wed 4/28/21	10
12	**Deliver Standard Plans and Specifications Outline and Matrix**	**0 days**	**Wed 4/28/21**	**Wed 4/28/21**	**11**
13	**TASK 3 - Meetings/Workshops**	**110 days**	**Fri 4/2/21**	**Thu 9/2/21**	
14	Kickoff Workshop & Outline Review	0 days	Wed 5/5/21	Wed 5/5/21	12FS+5 days
15	Electrical Focused Workshop	10 days	Fri 4/2/21	Thu 4/15/21	9SS
16	Pre-Draft Workshop	0 days	Wed 5/19/21	Wed 5/19/21	14FS+10 days
17	Draft Water/Recycled Water Standards Review Meeting	0 days	Mon 7/12/21	Mon 7/12/21	24FS+10 days
18	Draft Sewer Standards Review Meeting	0 days	Mon 7/5/21	Mon 7/5/21	27FS+10 days
19	Draft Electrical Standards Review Meeting	0 days	Mon 7/19/21	Mon 7/19/21	30FS+10 days
20	Draft Water Reuse Standards Review Meeting	0 days	Tue 7/27/21	Tue 7/27/21	33FS+11 days
21	**TASK 4 - Standard Plans and Specifications Update**	**86 days**	**Thu 5/6/21**	**Thu 9/2/21**	
22	4.1 DRAFT Water and Recycled Water Standard Plans and Specs	35 days	Thu 5/6/21	Wed 6/23/21	14
23	QC Review	3 days	Thu 6/24/21	Mon 6/28/21	22
24	**Deliver Draft Water/Recycled Water Standard Plans and Specifications**	**0 days**	**Mon 6/28/21**	**Mon 6/28/21**	**23**
25	4.1 DRAFT Draft Sewer Standard Plans and Specs	25 days	Thu 5/13/21	Wed 6/16/21	22SS+5 days
26	QC Review	3 days	Thu 6/17/21	Mon 6/21/21	25
27	**Deliver Draft Sewer Standard Plans and Specifications**	**0 days**	**Mon 6/21/21**	**Mon 6/21/21**	**26**
28	4.1 DRAFT Electrical Standard Specifications	30 days	Thu 5/20/21	Wed 6/30/21	16
29	QC Review	3 days	Thu 7/1/21	Mon 7/5/21	28
30	**Deliver Draft Electrical Standard Specifications**	**0 days**	**Mon 7/5/21**	**Mon 7/5/21**	**29**
31	4.1 DRAFT Water Reuse Standard Plans and Specs	25 days	Thu 6/3/21	Wed 7/7/21	16FS+10 days
32	QC Review	3 days	Thu 7/8/21	Mon 7/12/21	31
33	**Deliver Draft Water Reuse Standard Plans and Specifications**	**0 days**	**Mon 7/12/21**	**Mon 7/12/21**	**32**
34	4.2 FINAL Standard Plans and Specifications Update	22 days	Wed 7/28/21	Thu 8/26/21	20
35	QC Review	5 days	Fri 8/27/21	Thu 9/2/21	34
36	**Deliver Final Water Reuse Standard Plans and Specifications**	**0 days**	**Thu 9/2/21**	**Thu 9/2/21**	**35**



Project: MKN Schedule-LVMWD
Date: Wed 2/17/21

Task	Summary	Inactive Milestone	Duration-only	Start-only	External Milestone	Critical Split
Split	Project Summary	Inactive Summary	Manual Summary Rollup	Finish-only	Deadline	Progress
Milestone	Inactive Task	Manual Task	Manual Summary	External Tasks	Critical	Manual Progress

MKN has prepared the schedule below which shows a streamlined approach to deliver the updated Standard Plans and Specifications in at least a month early. With MKN's initial reviews and preparation of a standards outline and matrix, our team intends to build consensus early in order for all draft sections to be worked on concurrently with targeted dates and efficient reviews.



D TEAM EXPERIENCE IN SIMILAR PROJECTS

PROPOSAL FOR STANDARD PLANS AND SPECIFICATIONS UPDATE

SECTION D

TEAM EXPERIENCE IN SIMILAR PROJECTS

District Standards Update

East Niles Community Services District, CA

East Niles Community Services District provides potable water and sewerage services to over 30,000 customers in eastern Bakersfield California. Over many years, the District developed a set of standards that include guidance to developers, water system design criteria, sewer design criteria, easement requirements, standard materials specifications, and standard drawings. District staff regularly review the standards for minor updates. MKN, as District Engineer, has been engaged to lead the Standards review and update. As part of this effort, MKN staff are reviewing the existing standards, identified potential modifications and additions to the standards, reviewing District-suggested additions/modifications, reviewing technical specifications and materials for conformance with current applicable design standards (AWWA, ASTM, etc.), and updating the associated drawings.

District Standards Update

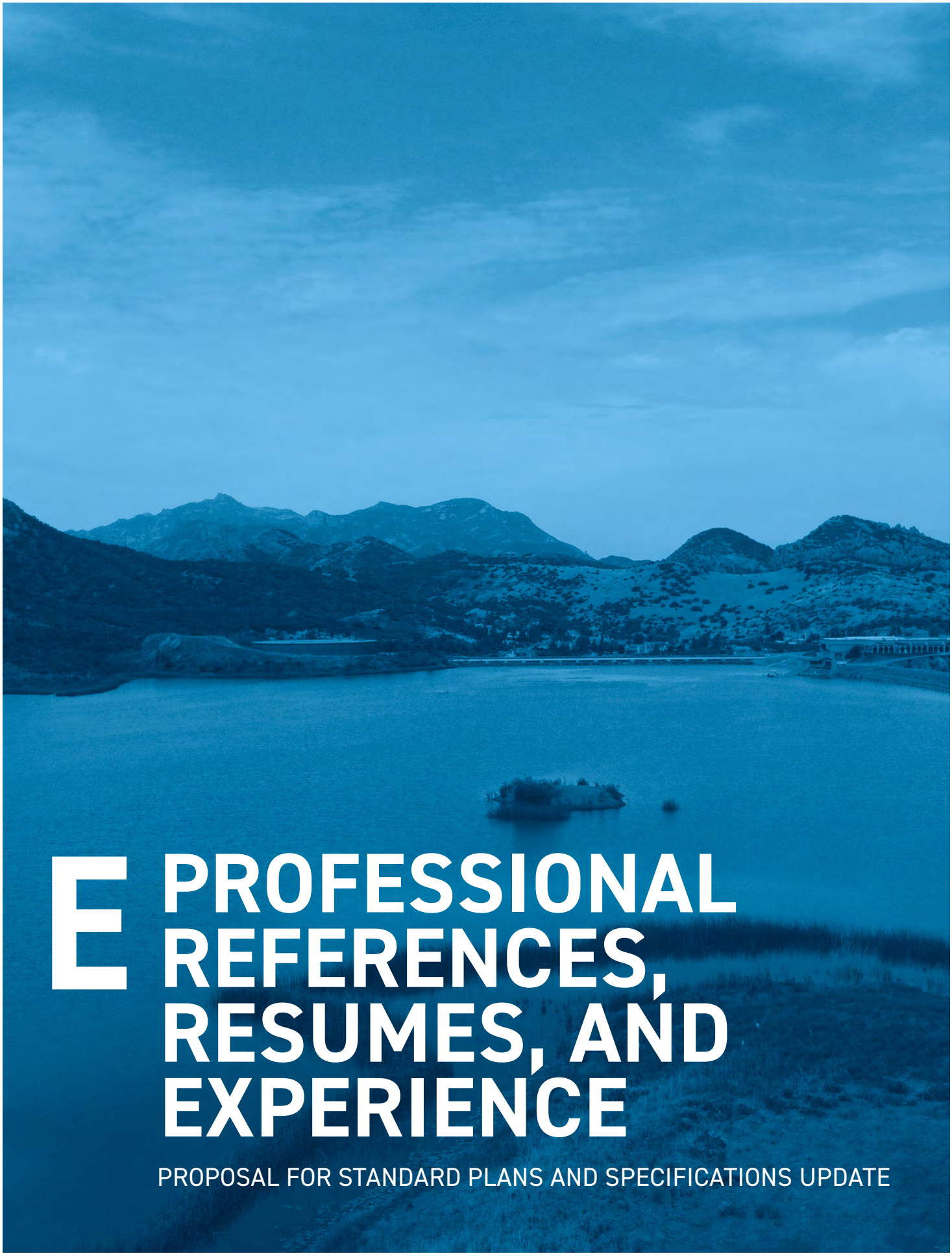
Quartz Hill Water District, CA

Quartz Hill Water District provides potable water to approximately 20,000 customers in Los Angeles County near Lancaster California. Over many years, the District developed a set of standards that include guidance to developers, water system design criteria, standard materials specifications, and standard drawings. District staff identified gaps and outdated items in the standards and determined that the standards needed an update. MKN was engaged to lead the Standards review and update. As part of this effort, MKN staff reviewed the existing standards, identified potential modifications and additions to the standards, reviewed technical specifications and materials for conformance with current applicable design standards (AWWA, ASTM, etc.), and updated the associated drawings.

District Standard Details Update

Nipomo Community Services District, CA

The Nipomo Community Services District (District) updated many of their standard details in 2019. These revisions were performed to update listed product models, provide additional clarity, and to establish new details to cover work that is typically performed. The District engaged with MKN to provide recommendations on standard drawings to be updated and to those that need to be added. Based on MKN's experience providing developer plan review services and construction observations on behalf of the District, MKN provided recommendations and revisions based on the District's approach on similar project components and based on common standards for neighboring agencies.



E PROFESSIONAL REFERENCES, RESUMES, AND EXPERIENCE

PROPOSAL FOR STANDARD PLANS AND SPECIFICATIONS UPDATE

SECTION E

PROFESSIONAL REFERENCES, RESUMES, AND EXPERIENCE

The following client references correspond to the projects listen in Section D, page 18.

OWNER: East Niles Community Services District

CLIENT CONTACT:
Tim Ruiz, PE | General Manager
1417 Vale Street, Bakersfield, CA 93306
661.871.2011
truiz@eastnilescsd.org

District Standards Update
East Niles Community Services District, CA

OWNER: Quartz Hill Water District

CLIENT CONTACT:
Chad Reed | General Manager
5034 W. Avenue L, Quartz Hill, CA 93536
661.943.3170
creed@qhwd.org

District Standards Update
Quartz Hill Water District, CA

OWNER: Nipomo Community Services District

CLIENT CONTACT:
Peter Sevcik, PE | Director of Engineering and Operations
805-929-1133
psevcik@ncsd.ca.gov

District Standard Details Update
Nipomo Community Services District, CA

Company Overview	
Company Name	MKN & Associates, Inc. (MKN)
Business Address	530 Paulding Circle, Suite B, Arroyo Grande, CA 93420
Phone Number	805-904-6530
Point of Contact	Mike Nunley, PE (CEO)
Year Company Established	2012

Tanner Bennett brings over ten years of experience in water and wastewater engineering design and construction. He has been the project engineer in the design of water and wastewater infrastructure, treatment and conveyance facilities, conditions assessments, alternatives analyses, equipment selection and sizing, and has provided engineers opinions of probable construction costs. He has led complex projects through engineering services during construction and construction management and has worked on several alternative delivery projects. Tanner is client-focused, results-driven, and seeks to build lasting relationships in which he can be viewed as a trusted advisor.

TANNER BENNETT, PE,
PROJECT MANAGER

EDUCATION

California Polytechnic State University, San Luis Obispo

BS, Civil Engineering

LICENSES & REGISTRATIONS

California Professional Engineer - Civil - No. C81334

HAZWOPER Certification

A/E/C Project Management Training (PSMJ)

PROFESSIONAL ASSOCIATIONS

American Society of Civil Engineers

California Water Environment Association

American Water Works Association

WateReuse

Orange County Water Association

Centrate Treatment 24-inch Pump Suction Header and Valve Replacement Design, Las Virgenes Municipal Water District | Calabasas, CA

Tanner is currently serving as the Project Manager for the design, bid phase, and construction phase services for the replacement of the pumping suction header piping and two, below grade 24-Inch plug valves with abovegrade piping and new, 20-inch plug valves. Tanner oversaw delivery of the final design, attended pre-bid and construction meetings, and is overseeing the team to deliver engineering services during construction.

Tapia Water Reclamation Facility: 003 Outfall Rehabilitation, Las Virgenes Municipal Water District | Calabasas, CA

Tanner is currently serving as the Project Manager for the rehabilitation design of the 003 Outfall pipeline that discharge to Malibu Creek from the Tapia Water Reclamation Facility. The project is split into two distinct phases and to date, MKN has prepared draft construction documents to install new access manholes along the alignment. Once the manholes have been permitted and constructed, MKN will lead the inspection of the 24-inch outfall via CCTV and will prepare final design and construction documents to rehabilitate the pipeline – likely by a cured-in-place pipe (CIPP) structural liner.

Third Digester Design, Rancho Las Virgenes Composting Facility, Las Virgenes Municipal Water District | Calabasas, CA

Assisted with the design of improvements at the Rancho Compost facility which included the design and construction of a new, third anaerobic digester, adjacent pumping/mixing building and equipment, and replacement of the existing steam heating system for Digesters Nos. 1 and 2 with a new hot water heating system.

New Third Digester and Existing Digesters Rehabilitation, Engineering Services During Construction, Las Virgenes Municipal Water District | Calabasas, CA

As the Project Engineer during construction phase services of the third digester at the Rancho Las Virgenes Composting Facility, Tanner provided engineering services during construction for construction of the third digester, new digester building, and a new hot water heating system for both the new and existing digesters. His responsibilities included reviewing contractor submittals, coordinating with discipline leads, Processing and responding to Requests for Information, and issuing clarifications. He identified and coordinated the design of major pipe supports, participated in bi-weekly progress meetings and site visits. Point of contact for the design team and assisted the onsite construction manager.

2020 Urban Water Management Plan Update, City of Lynwood | Lynwood, CA

Tanner is currently serving as the Project Manager for the update of the City of Lynwood's 2020 Urban Water Management Plan Update. Tanner is overseeing the phased approach to updating the City's existing document, providing new sections, and meeting new California Water Code and Department of Water Resources requirements. He is overseeing the team, coordinating with the City, and will be involved in public outreach and City Council Meetings for approval and adoption of

Tanner Bennett, PE

RELEVANT EXPERIENCE (CONT.)

the Urban Water Management Plan and the Water Shortage Contingency Plan.

Earl Schmidt Filtration Plant (ESFP) Two 5MG Tanks Improvements, Santa Clarita Valley Water Agency | Castaic, CA

Tanner is currently serving as the Project Manager for the planning and preliminary design services for two, 1970's era 5MG welded steel tanks at the Agency's Earl Schmidt Filtration Plant. He coordinated meetings and field inspection activities including both specialty coatings and structural subconsultants to perform destructive and non-destructive tests, reviewed previous record drawings and dive inspection reports, coordinated the design team, and developed a technical memorandum which includes rehabilitation alternatives, recommendations, opinions of probable construction costs, and 30% design drawings. The tank improvements will consist of roof and rafter structural retrofits and upgrades, recoating, safety enhancements, and seismic upgrades. Tanner is overseeing the engineering team, coordinating with subconsultants, and assisting with the preparation of deliverables, and managing the scope, schedule, and budget.

Reservoirs 2B and 3B Replacement Project, South Coast Water District | Laguna Beach, CA

As the Tank Technical Lead for this project, Tanner has led the effort for the reservoir siting evaluation technical memorandum and has helped to refine the overall Project Concept Plan. He performed a field inspection along with the geotechnical and environmental subconsultants, devised several alternatives, defined project constraints, and developed figures for various alternatives. Additionally, Tanner assisted with contractor outreach for preparing cost estimates and obtaining feedback on constructability limitations and concerns at both of the District's difficult sites.

Main Pump Station Booster 2-East Replacement & MCC Rehab, Foothill Municipal Water District | La Cañada, CA

Project Manager for the replacement of 200HP booster pump at the District's main pumping station as well as upgrades to the existing 2-East motor control center. Preparing constructions documents including figures and specifications inlcuing an owner-furnished, contractor installed rehabilitation of the 200HP pump motor.

Regional Water System Emergency Interties 2, 3, and 4, San Lorenzo Valley Water District | San Lorenzo Valley, CA

Deputy PM, project engineer, and intermittent construction inspection for this project. Combined two separate packages at the 75% design-level to merge into one seamless contract documents package in a constrained timeframe. Involved preparing specifications and drawings for two new pump stations with five 75HP vertical, in-line centrifugal pumps, 17,600 lineal feet of new water intertie pipelines in San Lorenzo and Scotts Valley, including a bridge crossing. Created plan and profile drawings, incorporating surveyed elements, utilities from as-builts, and various features. Assisted in specifying HDPE pipe and Ductile Iron pipe that will be used in the project. Coordinated and reviewed submittals, requests for information, issued clarifications, performed construction oversight, and ran construction progress meetings

Ellis Creek Water Recycling Facility Optimization Project, City of Petaluma | Petaluma, CA

Engineer of Record involved with drafting and design of the replacement of the City of Petaluma's Headworks mechanical screens and washer/compactor units. Coordinated with vendors, performed reference checks, and assisted with preparing cost estimates, schedules, and specifications. Performed an initial site visit with the client and attended design review meetings. Reviewed a pre-purchase submittal for the step screens and washer/compactors, and assisted with the preparation of record drawings, O&M Manuals, and Standard Operating Procedures.

Carmel Meadows Gravity Sewer Design, Carmel Area Wastewater District | Carmel, CA

Performed a site investigation to collect information on a failing, below and above grade gravity sewer that was installed in the 1960s. Assisted in the preparation of design specifications and reviewed plans for the construction to replace approximately 2,500 lineal feet of 6-inch, restrained joint, ductile iron sewer pipe. The design also included the replacement of six existing manholes, removal of trees in an environmentally sensitive area, and the installation of several aerial crossings of the sanitary sewer pipes.

Dual Media Filter Optimization and Secondary Clarifier Improvements, Palo Alto Regional Water Quality Control Plant | Palo Alto, CA

As the Project Engineer, Tanner coordinated the mechanical, structural, and electrical design efforts and worked with several equipment vendors to deliver final construction documents to the City of Palo Alto. Designed and drafted improvements to the secondary clarifiers including installation of launder isolation slide gates and mud valves, secondary effluent channel scum removal system, structural concrete modifications to the four square clarifiers,

Tanner Bennett, PE

RELEVANT EXPERIENCE (CONT.)

and a weir and launder washing system on two round clarifiers. Tanner also oversaw the design and installation of air scour systems for the dual media filters, including new air piping, pneumatically actuated valves, and new blowers. As the point of contact for the City, Tanner held several design review meetings and assisted the City in the competitive bid process. Tanner was the Project Coordinator for engineering services during construction, and reviewed submittals, held construction progress meetings, responded to requests for information, and performed periodic site observations.

Alkalinity Adjustments Project, Palo Alto Regional Water Quality Control Plant | Palo Alto, CA

Prepared 30% design plans and specifications to demolish an existing lime storage and feed system that had not been in service for a number of years as part of this design/build effort. He prepared 30% design plans and specifications for a new magnesium hydroxide storage and feed system for the City to be able to add alkalinity to the plant effluent which included the selection of positive displacement peristaltic pumps. Tanner participated in pre-bid meetings in which he gave overviews of each of the projects, and assisted the City staff with RFIs during bidding, and provided support during construction.

El Camino Real Water Main Replacement, City of Burlingame | Burlingame, CA

Deputy Client Manager and project engineer that wrote the initial proposal to the City of Burlingame to secure the design contract. Wrote subcontracts to retain a surveyor and utility location/potholing services. Coordinated with the City and Caltrans to obtain required permits and performed pre-design utility research. Assisted with the drafting and specification preparation for the design of 1,700 lineal feet of new water 8" to 12" water mains within El Camino Real (State Route 82), as well as four perpendicular crossings of the roadway to add redundancy to the City's water system. Held design review meetings and prepared schedules and cost estimates.

Tesoro Viejo Wastewater Treatment Plant Design | Madera County, CA

As the Project Engineer, Tanner coordinated the design of a membrane bioreactor wastewater treatment plant for a new community development north of Fresno and in Madera County as part of an alternative delivery/design-build project with W.M. Lyles Construction. The wastewater treatment plant will had an initial design capacity of 0.25 MGD, but was designed with a phased expansion up to a design capacity of 3.0MGD at buildout. Tanner designed the influent pump station, coarse screening, yard piping, the initial packaged membrane bioreactors, the sodium hypochlorite chemical feed area, and the sludge dewatering area. He also coordinated between disciplines and all other process mechanical designers. Tanner was involved with specification preparation, client interactions, development of the guaranteed maximum price, and project management duties such as coordinating with the WWTP project team and providing them with labor hour goals and deliverable schedule milestones.

Hi-Desert Wastewater Reclamation Facility, Hi-Desert Water District | Yucca Valley, CA

Tanner acted as the Co-Project Engineer for the design of a 1.0MGD initial capacity membrane bioreactor treatment plant as part of an alternative delivery/design-build project with W.M. Lyles Construction. Tanner developed and authored Technical Memoranda and engineer's estimates to evaluate whether or not to provide a dedicated flow equalization tank, and whether or not to design the wastewater process in a "pump back" or a "feed forward" process configuration. He developed present worth cost spreadsheets to aid in the evaluation. He led the evaluation to select the membrane supplier and worked with senior process engineers to further develop the process design. He also assisted with the development of the plant hydraulic profile using the Visual Hydraulic software program and was a significant contributor in preparing the Basis of Design Report. He performed calculations for initial structure sizing including the flow equalization tank, process tanks (anoxic, aerobic, and membrane), off-spec water pond, sludge holding tank, and percolation ponds, and also performed preliminary sizing for equipment including RAS Pumps, WAS pumps, various blowers, and sludge transfer pumps.

UCSC Environmental Health and Safety Building Civil Site Design, Miller Hull Architects, University of California | Santa Cruz, CA

Deputy PM and project engineer involved with developing the demolition plan, grading plan, site utilities plan, and stormwater management for the new EH&S Building site at UCSC's campus. Tanner met with the entire project team for several design review meetings on campus to refine the design based on the dynamic needs of the client. He helped to scope, schedule, and estimate the fee for the design phases and through construction.

JOSH NORD, PE

QA/QC

EDUCATION

California State University, Fresno

BS Civil Engineering

LICENSES & REGISTRATIONS

California Professional Engineer - Civil - No. C61789

PROFESSIONAL ASSOCIATIONS

American Public Works Association (Kern Branch) Past President

American Society of Civil Engineers

Mr. Nord has been analyzing, designing, and providing quality control reviews related water and sewer conveyance infrastructure for over 20 years. Josh has designed pipelines ranging from 6-inch to 144-inch that convey sewage, raw water, and treated water for municipalities, utilities, large-scale agricultural operations, and State Special Districts. Mr. Nord's experience includes the design of gravity sewers, gravity raw water systems, sewer lift stations, pressurized water conveyance systems (e.g., lake intake pump stations, intermediate booster stations, and associated transmission mains), and open canal conveyance systems. Mr. Nord provides quality-related input to MKN's design teams from project initiation through bid package submittal.

Quartz Hill Water District, Standards Update| Quartz Hill, CA

Quartz Hill Water District provides potable water to approximately 20,000 customers in Los Angeles County near Lancaster California. MKN was engaged to update the District Standards, which include guidance to developers, water system design criteria, standard materials specifications, and standard drawings. As part of this effort, MKN staff reviewed the existing standards, identified potential modifications and additions to the standards, reviewed technical specifications and materials for conformance with current applicable design standards (AWWA, ASTM, etc.), and updated the associated drawings.

East Niles Community Services District, Standards Update| Bakersfield, CA

ENCSD provides potable water and sewerage services to over 30,000 customers in eastern Bakersfield California. MKN, as District Engineer, has been engaged to update the District Standards, which include guidance to developers, water system design criteria, standard materials specifications, standard drawings, and easement requirements. As part of this effort, MKN staff are in process of reviewing the existing standards, identifying potential modifications and additions to the standards, reviewing technical specifications and materials for conformance with current applicable design standards (AWWA, ASTM, etc.), and updating the associated drawings.

Antelope Valley – East Kern Water Agency, South Feeder Parallel Pipeline | Bakersfield, CA

Project Engineer. Work consisted of the preparation of steel pipe design calculations, preparation of technical specifications, and construction drawings for the project including approximately 6.5 miles of 48-inch, 36-inch, and 24-inch CML&C steel pipe and appurtenances.

Antelope Valley – East Kern Water Agency, Tehachapi East Afterbay Pump Station | Antelope Valley, CA

Project Engineer. Work consisted of the preparation plans, specifications, and estimates for the design of a nominal 4,500 gpm pump station (four vertical turbine units – 3 future) including metering and discharge piping and appurtenances. The facility takes water from the Pool 42 of the California Aqueduct.

California Rail Builders, North Kern Water Storage District Canal 9-26 Conflict Relocations | Kern County, CA

Project Manager for the design of a 48-inch reinforced concrete pipe inverted siphon, measuring weir, farm turnouts, pump relocation, irrigation delivery pipeline, and associated canal segment reconstruction. Work included preparing a baseline design report, preparation of hydraulic calculations, and preparation of bidding documents. The siphon is required to provide service for NKWSD's Canal 9-22 under the future high-speed rail alignment and Highway 43.

Josh Nord, PE

RELEVANT EXPERIENCE (CONT.)

California Rail Builders, Shafter-Wasco / U.S. Bureau of Reclamation Conflict 7000 Relocation | Kern County, CA

Project Manager for the design of a 72-inch reinforced concrete pipe irrigation main realignment. Work included preparing a baseline design report, preparation of hydraulic calculations, analyzing materials options, and preparing of bidding documents. The encased crossing is required to provide service for SWID/USBR's irrigation line under the future high-speed rail alignment and a future road realignment project.

Casitas Municipal Water District, Running Ridge Improvements | Ojai, CA

Project Manager for the preparation of a baseline design report and design documents for the Running Ridge Improvements. The improvements consist of a pump station relocation/reconstruction, tank inlet revisions, a chlorination station for conversion from chloramines to chlorine, a 10-inch transmission main, tie-ins to multiple pressure zones, tank abandonments, and associated electrical and instrumentation.

City of Bakersfield, Downtown Master Sewer Study | Bakersfield, CA

Project Manager for the preparation of a comprehensive master sewer study for Downtown Bakersfield. The analysis includes building a hydraulic model, surveying 450 key manholes, performing flow monitoring, performing condition assessment (manholes and lift stations) and analyzing impacts of growth in order to identify capital projects and triggers.

City of Tehachapi, Water System Master Plan Update | Tehachapi, CA

Served as Project Manager. Project consisted of a condition assessment and capacity evaluation of the City of Tehachapi water distribution system. Specific responsibilities included evaluation of existing water production, storage, and distribution facilities; creation of a GIS-based hydraulic water model, preparation of GIS-based system atlas, and review of water quality requirements and goals; development of potential future requirements and evaluation of equipment alternatives; identification of deficiencies under existing and future conditions; and development of Capital Improvements Program and cost opinions for existing and future improvements.

City of Tehachapi, Sewer Master Plan Update | Tehachapi, CA

Served as Project Manager. Project consisted of a condition assessment and capacity evaluation of the City of Tehachapi sewer collection system. Specific responsibilities included evaluation of existing gravity pipelines, lift stations, and force mains; creation of a GIS-based hydraulic sewer model, preparation of GIS-based system atlas, development of potential future requirements and evaluation of equipment alternatives; identification of deficiencies under existing and future conditions; and development of Capital Improvements Program and cost opinions for existing and future improvements.

East Niles Community Services District, District Engineering | Bakersfield, CA

District Engineer. District is responsible for providing domestic water, fire protection water, and sewer services to approximately 30,000 people in eastern Bakersfield, California. Responsibilities include preparation of plans and specifications for a wide variety of water and sewer system improvement project including domestic water well design, review of all development plans submitted to District for system improvements, and consulting engineering.

East Niles Community Services District, Water Master Plan | Bakersfield, CA

Project Engineer. Work included evaluating the existing infrastructure (water sources, pump stations, storage, and pipelines) and identifying additional facilities that would be needed to serve the District at build-out. The work included preparing cost opinions for the improvements as well as phasing recommendations.

East Niles Community Services District, Kern Citrus Pump Station | Bakersfield, CA

Project Manager / Lead Designer. The pump station includes a nominal flow of 5,700 gpm at a Total Dynamic Head of approximately 170 feet provided by four identical 100 hp constant speed can-mounted vertical turbine pumping units, including one standby unit. The pump station replaces a 60-year old facility. The pump station is a key facility in the District's infrastructure that distributes flows from the District's groundwater wells to the higher elevation areas of the District. Facilities at the station include an air chamber for surge control, discharge piping and appurtenances, and connection to the Kern Citrus Tank.

East Niles Community Services District, Morning Dr. Pipeline (3 Phases) | Bakersfield, CA

Project Manager for the environmental document preparation and preparation of the plans, specifications, and estimates for the project. The design included three segments: 1) 20-inch CML&C steel pipeline between the Morning Drive Tank Site and Pump Station and the Freeway Tank Site (future pump station site), 2) ½-mile of 20-inch CML&C

Josh Nord, PE

RELEVANT EXPERIENCE (CONT.)

steel pipeline between the Morning Drive Pipeline and Auburn Street (includes a segment of ductile-iron pipeline inside the bridge with saddles and seismic flexibility at the point of crossing Highway 178), and 3) 14-inch and 12-inch welded steel piping (CML&C and FBEL&C) as well as two pressure-reducing valves and an altitude valve.

East Niles Community Services District, Fairfax & Poppy Pipeline (3 Ph.) | Bakersfield, CA

Project Manager for the preparation of construction plans, technical specifications, and contract documents for the project. The design includes 14-inch ductile iron (DI) transmission main (2,000 l.f.+-) and 8-inch and 6-inch distribution pipelines PVC and DI (1,000 l.f.+-) and related appurtenances. The purpose of the pipeline construction is to separate transmission and distribution facilities and replace and aging pipeline that has become a maintenance issue.

G.L. Bruno Associates, Freeway Tank Pump Station | Bakersfield, CA

Project Manager / Lead Designer. Project will be constructed in East Niles Community Services District to serve the G.L. Bruno medical campus which would be the first point of service in ENCSD's 900 zone. The pump station design includes three present (1 future) nominal 750 gpm 30 hp constant speed vertical turbine can-mounted pumping units. The design also included a hydropneumatic tank for pressure regulation, discharge piping and appurtenances, a block building, and a standby generator.

John Blalock, Big Rock Creek Siphon Turnout | Los Angeles, Pearblossom, CA

Project Engineer for the design of the project. Design included 20-inch steel turnout piping and appurtenances from the connection at the existing blow-off of the South Siphon of the California Aqueduct siphon under Big Rock Creek. DWR metering was included in the design.

Kern County Water Agency, Cross Valley Canal Expansion Project | California

Existing Cross Valley Project conveys water from the California Aqueduct to metropolitan Bakersfield through a 17-mile long concrete lined canal with six intermediate low-head pump plants. The expansion project work included designing six parallel pumping plants (500 cfs capacity – 224,000 gpm) as well as a raised liner (1 to 1.5 feet) to accommodate the increase in system capacity from 922 cfs to 1422 cfs. The work included modeling of the canal section using HEC-RAS as well as preliminary modeling of surge events in the canal using Root Canal.

Kern County Water Agency, Cross Valley Canal Turnout No. 2 Project | Bakersfield, CA

Project Engineer. The existing turnout supplies flow to the Cross Valley Canal from the California Aqueduct. Project work included designing a parallel turnout structure with control gates, a 12-foot diameter RCP siphon under the Outlet Canal (Kern River Flood Channel), a 25-foot deep meter vault, and a new canal segment to tie the parallel turnout into the existing Cross Valley Canal.

Kern County Water Agency, North and East Pump Station Project | Bakersfield, CA

Design Engineer. Pump station includes four 600 hp variable frequency drive equipped can-mounted pumping units (3 duty – 1 standby) at the North Pump Station and one 500 hp wet-well mounted unit for the East Pump Station. The Total dynamic head of the two respective systems ranges between of 308 and 445 feet. Facilities include two air chambers (300 and 250 cubic feet respectively), modifications to existing air chambers, and pump station piping reconfiguration. Staging of construction was carefully detailed to minimize impacts to the existing systems.

Kern County Water Agency, North Feeder | Bakersfield, CA

Technical design team. Preparation of preliminary design, surge analysis, and plans and specifications for 3-mile long 27-inch diameter CML&C steel feeder from the Kern County Water Agency's WTP to the North of the River Municipal Water District's turnout.

Kern County Water Agency, East Feeder | Bakersfield, CA

Technical design team. Preparation of preliminary design, surge analysis, and plans and specifications for 0.9-mile long 30-inch diameter CML&C steel feeder from the Kern County Water Agency's Oswell Pump Station to the Corner Tank site turnout to Cal Water and ENCSD.

Kern County Water Agency, Northwest Feeder Pump Station and Pipeline Project | Bakersfield, CA

Project Engineer for the preparation of system hydraulics, surge analyses, pipeline design, and plans and specifications for Northwest Feeder Project. The project included approximately 4 miles of 42-inch CML&C steel pipe and appurtenances.

RYAN GALLAGHER, PE,
PRINCIPAL-IN-CHARGE

EDUCATION

California Polytechnic State University, San Luis Obispo

BS, Civil Engineering

LICENSES & REGISTRATIONS

California Professional Engineer - Civil - No. C74805

PROFESSIONAL ASSOCIATIONS

Orange County Water Association (President 2020)

American Society of Civil Engineers (Santa Barbara/Ventura YMF President 2012)

American Public Works Association (Ventura County Chapter President 2014)

Association of Water Agencies Ventura County (President 2013, Board of Directors 2010-2016)

Ryan Gallagher; for the past 14 years, Ryan has completed over 75 projects with 20 public agencies in Southern California, serving as the Project Manager for the majority. The estimated construction value of the projects that have been planned, designed and/or constructed exceeds $250 million. Projects include planning through design for water, wastewater and recycled-water conveyance, pumping, storage, and treatment. Ryan specializes in complex multi-agency water supply programs, alternative delivery program management, master planning, and contract negotiations.

Groundwater Reliability Improvement Project (GRIP), Program Owner's Engineer, Water Replenishment District of Southern California | Lakewood, CA

Served as Deputy Project Manager for Program Management, Procurement, and Offsite Improvements. The overall program consisted of a $100 million advanced water purification facility (AWPF) located in Pico Rivera. The treatment train consists of a 10 mgd capacity microfiltration, reverse osmosis, and ultraviolet disinfection. Work included development of the procurement process and documents, including Request for Information (RFI), Request for Qualifications (RFQ), and Request for Proposals (RFP). The program management role included development of a document control system, master project schedule, task coordination, monthly reporting, and cost control.

Water Operations Support | Oxnard, CA

Project Manager for operations support efforts for the City's water treatment and distribution system, which includes a 7.5 mgd brackish water desalination facility and five blending stations, serving nearly 200,000 residents. Major tasks include design of emergency plant projects (chemical piping replacement and well improvements), operator training, organization study, operations and maintenance (O&M) manual update, health and safety training, regulatory and permitting support, brine optimization, and automated meter reading (AMR) replacement project. Work also included start-up and refurbishment of the City's offline brackish water desalination facility and evaluation of overall system operating scenarios to decrease costs and avoid charges from over-pumping groundwater allocations.

Wastewater Operations Support | Oxnard, CA

Served as Deputy Project Manager for operations support efforts at the City of Oxnard 25 mgd wastewater treatment plant. Major tasks include design of emergency plant projects, organization study, operations and maintenance (O&M) manual update, start-up and commissioning of the advanced water purification facility (AWPF) and recycled-water system, health and safety training, regulatory and permitting support, and staff augmentation. Start-up of the recycled-water system included retrofit coordination, design review, development of training and user manuals, regulatory coordination, and cross connection testing support.

Recycled Water System Startup and Retrofit Support | Oxnard, CA

Served as Task Leader for the start-up of the City's recycled-water backbone system and customer retrofits, as part of the larger Wastewater Operations Support Contract with the City of Oxnard. The task included retrofit of two 18-hole golf courses and cross-connection testing for the Riverpark development, which includes 33 separate recycled-water sites. Efforts included value engineering for existing retrofit designs, design of golf course retrofits, staff augmentation for cross-connection testing, coordination with DDW, development of user manuals and training program, hydraulic analysis, creation of start-up procedures for the advanced water purification facility (AWPF) finish water pumping station and backbone, and overall program management.

Ryan Gallagher, PE

RELEVANT EXPERIENCE (CONT.)

Projects Executed as District Engineer for Channel Islands Beach Community Services District

Water System Hydraulic Model, Channel Islands Beach Community Services District | Channel Islands Harbor, CA

Project Manager for a comprehensive study that included the following tasks: outline existing and future potable-water demands, identify and quantify reliable water sources, develop a steady-state hydraulic model, evaluate current and future distribution capacity, summarize required improvements, and estimate costs.

Infrastructure Review (multiple), Channel Islands Beach Community Services District | Channel Islands Harbor, CA

Project Manager for a water and sewer hydraulic modeling analysis of developments planned in District service area. [Fisherman's Wharf, Casa Sirena, Marina]

Force Main Rehabilitation, Channel Islands Beach Community Services District | Channel Islands Harbor, CA

Project Manager providing construction management services related to cured-in-place lining for approximately 10,300 linear feet of 8-inch and 12-inch wastewater force main piping.

Lift Station Condition Assessment, Channel Islands Beach Community Services District | Channel Islands Harbor, CA

As Project Manager, evaluated seven existing raw wastewater lift stations in the District service area. Prepared a report with recommended improvements covering mechanical, structural, electrical, and instrumentation.

Wastewater Rate Study, Channel Islands Beach Community Services District | Channel Islands Harbor, CA

Project Manager for development of an update to the District's wastewater service rate and connection fees. The effort included support in negotiating a revised service contract with the City of Oxnard. This effort, identified by the team during development of the study, is expected to result in significant savings to the District.

RFP Development for W/WW Rate Study, Channel Islands Beach Community Services District | Channel Islands Harbor, CA

Project Manager developed procurement documents for a water and wastewater study for the District. The effort included identification, collection, and review of critical data for inclusion in the procurement document. Assisted with identification of consultants and distribution of the Request for Proposal (RFP).

Procurement Support for AMI System, Channel Islands Beach Community Services District | Channel Islands Harbor, CA

As Project Manager, assisted District with selection of cellular based advanced meter replacements, negotiated pricing and prepared procurement documents for public bid installation. Project included purchase and installation of approximately 1,900 ultrasonic meters and end points, with a total cost of approximately $800,000 ($650k materials and $150k labor).

RFP for new Administration Building, Channel Islands Beach Community Services District | Channel Islands Harbor, CA

As Project Manager, developed procurement documents for architectural services in support of a new headquarters building. The estimated cost for the new facility and associated site improvements is $1.35M.

Water Supply Analysis, Channel Islands Beach Community Services District (CIBCSD) | Oxnard, CA

Project Manager serving as the District Engineer for CIBCSD. Developed 30 water supply alternatives in coordination with District staff. Conducted a board workshop using interactive audience response system (iClicker) to conduct a survey of current priorities and concerns and establish District goals. Assisted the District in initial screening and shortlisting of preferred concepts, including DPR, seawater desalination, and optimization of existing brackish water desalination systems.

JON HANLON, PE

TECHNICAL ADVISOR

EDUCATION

California Polytechnic State University, San Luis Obispo

BS Mechanical Engineering

LICENSES & REGISTRATIONS

California Professional Engineer - Mechanical - No. M33232

NACE Certified Coating Inspector #10431924

PROFESSIONAL ASSOCIATIONS

National Association of Corrosion Engineers (NACE)

American Water Works Association

American Society of Mechanical Engineers

American Public Works Association

Jon Hanlon, after over 18 years of serving as project engineer, project manager, and ultimately as an operations manager for a Fortune 500 consulting engineering firm, joined Michael K. Nunley and Associates, Inc. (MKN) specializing in water, wastewater, and water reuse engineering for public agencies. His expertise includes management, planning, and design of water, wastewater, and recycled water facilities throughout California. As a Principal Engineer at MKN, Mr. Hanlon's experience has included District Engineering, design, analysis, and management of complex multi-disciplined projects, including water and wastewater treatment facilities, pump stations, production wells, piping and valves, hydraulic analysis, master planning, and environmental permitting.

Water Treatment Plant Ozone System Upgrades | San Luis Obispo, CA

Project Manager. In 1994, ozone was incorporated as the primary disinfectant at the City San Luis Obispo Water Treatment Plant (WTP) to minimize the formation of disinfection byproducts during the treatment process. The ozonation, air-preparation, and ozone destruction equipment is over 23 years old, which is causing increased need for investment in service and repair. MKN was retained to assist in the design and to support construction of replacement gas preparation, ozone generation and injection, and destruct equipment.

Nacimiento Surface Water Treatment Plant Design | Paso Robles, CA

Project Manager. Responsible for 60% complete design of a new 2.4 MGD membrane surface water treatment plant, pumping station, and water storage facility. The microfiltration membrane treatment plant will be located on an 18-acre City-owned parcel within the City limits. Treatment processes include Dissolved Air Flotation (DAF) pretreatment, membrane filtration, Granular Activated Carbon for taste and odor and disinfection byproduct control, and facilities for future addition of ozone as a primary disinfectant. The plant is to provide a daily treatment capacity of approximately 2.0-2.5 MDG of potable water and meet all state drinking water standards. Responsibilities included preparation of plans and specifications for the new treatment plant.

Water Treatment Plant Improvements | San Luis Obispo County, CA

Project Manager. The San Luis Obispo County Flood Control and Water Conservation District (County or District) retained MKN to investigate plant process issues and recommend and design solutions to these problems at the Lopez Water Treatment Plant. The scope included design and preparation of plans, technical specifications and engineer's estimate to address coagulant delivery, measurement, and alarm systems. MKN also evaluated the failure of three existing automatically-backwashing strainers and prepared plans and specifications for replacement filtration equipment.

Nitrification Monitoring and Mitigation Plan | Nipomo, CA

Project Engineer. Prepared Chloramination Operations/Nitrification Monitoring and Control Plan (Plan) and Water Supply Permit Amendment to address changes in operations resulting from implementation of the Supplemental Water Project ("Project"). The Project will allow NCSD to transport supplemental water from the City of Santa Maria (City) and deliver it to the Nipomo Mesa. The Project includes a chloramination booster facility at the pump station to boost disinfectant in the water from Santa Maria and conversion of NCSD's disinfection system to monochloramine. The Plan also provides the District with standard procedures for operations and monitoring of a chloraminated water system.

Booster Pump Station Capacity Expansion, Nipomo CSD | Nipomo, CA

Project Manager. Designed and prepared construction documents for a new 800 gallon per minute (gpm) pump at the existing Joshua Road Booster Pump Station.

Jon Hanlon, PE

RELEVANT EXPERIENCE (CONT.)

The booster pump station consists of three vertical turbine pumps and associated controls. The new pump will provide redundancy and reliability consistent with the recommendations in the NCSD Supplemental Water Phasing Plan (MKN 2016).

Water Treatment Plant Plate Settler Performance Improvements | Heritage Ranch CSD, California

Project Engineer. Heritage Ranch Community Services District ("District" or HRCSD) was experiencing operational challenges at their water treatment plant (WTP) including inadequate TOC removal and poor removal of powdered activated carbon (PAC) resulting in diminished filter run times. MKN evaluated the operations at the WTP, including the addition of PAC, polymer, coagulant (aluminum sulfate), potassium permanganate, and sodium hypochlorite. By managing laboratory testing, including free lamella settling tests, MKN identified the potential to meet the Districts treatment goals by utilizing ferric chloride alone.

Surface Water Treatment Plant Feasibility Study | Templeton Community Services District, CA

Project Manager. Responsible for predesign feasibility study for a new 250 AFY surface water treatment plant. Responsibilities included evaluation of source water quality, alternative treatment processes, and development of preliminary site layouts, process descriptions, and cost

Supplemental Water Project | Nipomo Community Services District, CA

Principal in Charge. Project included hydraulic analysis, disinfection/water quality study, cost opinions and construction plans and specifications for 1 booster station, 4 production wells, 1 storage tank, and approximately 6 miles of 18-inch and 24-inch water main, including approximately 2500 feet of horizontal directional drill under the Santa Maria River.

Terrace Hill and Washwater Tank No.2 Rehabilitations | San Luis Obispo, CA

The City retained MKN to develop construction documents for recoating and repair of two steel water storage tanks. Additionally, MKN developed seismic improvements of the Terrace Hill Tank, revisions to the inlet/outlet piping, and passive mixing systems to address water age and improve turnover of the tank. The seismic improvements included construction documents for a new ringwall footing and anchorage, as well as installation of flexible connections. Based on the anticipated cost of the necessary repairs, MKN assisted the City in evaluating alternatives for abandoning the Terrace Hill Tank. Ultimately, MKN designed a new 16-inch waterline and PRV connection to allow for removal of the tank while maintaining service to the Terrace Hill Zone.

Obispo Water Storage Tank #2 | Guadalupe, CA

Project Manager. Design and construction of a new 350,000 gallon welded steel tank to serve new development in the City of Guadalupe. In addition to design of the AWWA D100 tank, project includes design of a municipal booster pump station and water production well along with

Disinfection Byproduct Reduction Project | San Luis Obispo, CA

Project Manager. Project includes preparation of construction documents for improvements at the water treatment plant and in the water distribution system. The City identified two locations for TTHM reduction: 1) A two-million gallon tank located at the WTP, and 2) A four million gallon tank located on the southern side of the City. MKN reviewed prior efforts and recommended revisions to the planned approach that would improve efficacy, reduce operating cost, and have lower construction cost.

JOSEPH REICHMUTH, PE

STANDARDS LEAD

EDUCATION

California Polytechnic State University, San Luis Obispo

BS Civil Engineering

LICENSES & REGISTRATIONS

California Professional Engineer - Civil - No. C63124

PROFESSIONAL ASSOCIATIONS

American Society of Civil Engineers

NASSCO Certification Inspector Training and Certification Program
- Manhole Rehabilitation
- Cured In Place Pipe

Mr. Reichmuth is a Senior Engineer with over 10 years of design experience as a project engineer specializing in wastewater treatment facilities, lift stations, pipelines, and water facilities and performing construction management services. Mr. Reichmuth also has nearly a decade of experience working in the geotechnical engineering discipline specializing in field engineering and construction observation.

Calleguas-Crestview Interconnection Facility | Camarillo, CA

Project Engineer. Performed design services for an interconnection facility to connect the Crestview Mutual Water Company (Crestview) with Calleguas Mutual Water District (Calleguas). This connection will provide Calleguas with an emergency source of water during outages of imported water from other sources. The interconnection facility consist of a subsurface vault with a flow meter, pressure reducing/sustaining valve, and associated piping. The vault is connected to Crestview's water distribution system and Calleguas' Springville Reservoir via 650 feet of 12-inch CML&C welded steel pipe.

Tognazzini Well Intertie Pipeline | Guadalupe, CA

Project Engineer. Performed design and production of construction documents for 300 feet of 8 inch PVC transmission pipeline to convey well water to the City's distribution system. . Also provided construction phase service for the City.

Foothill PRV Vault Design | San Luis Obispo, CA

Project Engineer. Performed design and production of construction documents to replace and relocate a 16 inch pressure reducing valve. An 8 inch low flow bypass was incorporated into the design to improve system performance.

Branch Street Waterline Improvements, Nipomo CSD | Nipomo, CA

Project Engineer. Project consists of abandoning an aged 6-inch waterline and installation of approximately 400 linear feet of new 8 inch waterline, reconnecting water services and installation of a new fire hydrant. MKN developed project alternatives, provided recommendations to the District, produced plans and specifications for public bid and an opinion of construction cost.

DJ Farms Water Storage Tank and Well | Guadalupe, CA

Project Engineer. Design and construction of a new 750,000 gallon welded steel tank and 1,000 gpm well to serve a new development in the City of Guadalupe. Also provided construction phase service for the City.

Heights Waterline Upgrade | Pismo Beach, CA

Project Engineer. Responsible for design of main water lines to consolidate pressure zones in the area. Design included the preparation of plans, details, specifications, and opinions of cost for the construction of over 3000-lf of 12-inch PVC and 650-lf of 8-inch PVC distribution main. Project also involved connection to a new booster station, replacing a pressure reducing station, reconnecting laterals, fire hydrants, and new meters.

Observation Services, Nipomo CSD | Nipomo, CA

Performed observation services for NCSD. Field checked water system improvements for conformance to the District's specifications and approved development plans. Provided the District with recommendations regarding compliance of completed work with approved development plans and/or District standards. Prepared daily field reports and other documentation.

Emergency UPRR Sewer Repair/Replacement Project | Guadalupe, CA

Performed construction management services for project to repair and replace a failing sewerline crossing under the Union Pacific Railroad tracks. New sewer line was installed using by jack and bore construction techniques.

Joseph Reichmuth, PE

RELEVANT EXPERIENCE (CONT.)

Hollister Avenue Waterline Replacement | Pismo Beach, CA

Project Engineer. Responsibilities included the preparation of plans, details, specifications, and opinions of cost for the construction of 350-lf of 8-inch PVC distribution main. Project also involved reconnecting laterals, fire hydrants, and new meters.

Nipomo Waterline Intertie Project, Nipomo CSD | Nipomo, CA

Project Engineer. Responsible for coordination and management of subconsultants (HDD, Environmental/Permits, Geotechnical, and property acquisition). Responsibilities also included the preparation of plans, details, specifications, and opinions of cost for construction.

DJ Farms Housing Development Observation Services | Guadalupe, CA

Performed construction observation services for the City of Guadalupe. Field checked water and sewer system improvements for conformance to the City's specifications and approved development plans. Provided the City with recommendations regarding compliance of completed work with approved development plans and/or City standards. Prepared daily field reports and other documentation.

Plan Review Services | Arroyo Grande, CA

Performed various development plan review services for the City of Arroyo Grande. Performed review of proposed public improvements associated with development projects including storm water drainage, water, and sewer improvements for conformance with City's Standard Specifications.

Terrace Hill and Washwater Tank Rehabilitations | San Luis Obispo, CA

Project Engineer. The City retained MKN to develop construction documents for recoating and repair of two steel water storage tanks. Additionally, MKN developed seismic improvements of the Terrace Hill Tank, revisions to the inlet/outlet piping, and passive mixing systems to address water age and improve turnover of the tank. The seismic improvements included construction documents for a new ringwall footing and anchorage, as well as installation of flexible connections. Based on the anticipated cost of the necessary repairs, MKN assisted the City in evaluating alternatives for abandoning the Terrace Hill Tank. Ultimately, MKN designed a new 16-inch waterline and PRV connection to allow for removal of the tank while maintaining service to the Terrace Hill Zone.

2019 CDBG Waterline Replacement| Grover Beach, CA

Project Engineer. Project consists of abandoning 50 year old 2-inch water mains and installation of approximately 2500 linear feet of new 8 and 6 inch water mains, reconnecting water services and installation of new fire hydrants. MKN developed pipeline alignment alternatives, produced plans and specifications for public bid and an opinion of construction cost.

2020 CDBG Waterline Replacement| Grover Beach, CA

Project Engineer. Project consists of abandoning 50 year old 2-inch water mains and installation of approximately 4800 linear feet of new 8 and 6 inch water mains, reconnecting water services and installation of new fire hydrants. MKN developed pipeline alignment alternatives, produced plans and specifications for public bid and an opinion of construction cost.

Lift Station No.1 Force Main Replacement Project | Arroyo Grande, CA

Project Engineer. Designed and prepared construction documents for over 3,000 feet of force main. The new force main replaces a 60 year old failing steel force main. The project is situated along the City's busiest commercial and shopping area so the use of horizontal directional drilling (HDD) was proposed to limit traffic interruptions and impacts to adjacent businesses. In addition, and alternative discharge location was identified to eliminate the requirement for crossing Highway 101.

Lift Station Rehabilitation Project | Pismo Beach, CA

Project Engineer. Developed construction documents for the rehabilitation of five sewage lift stations for the City of Pismo Beach, including modifications to piping, replacement of submersible pumps, coating of pipes and equipment, protective concrete coatings, and upgrades to electrical controls Construction cost opinions for the work was also developed.

Arroyo Grande Creek Sewer Rehabilitation Project | Arroyo Grande, CA

Project Engineer. Developed construction documents for the rehabilitation of 2,400 feet of aging sewer main for the City of Arroyo Grande. Due to the close proximity of the sewer main to the Arroyo Grande Creek, cured-in-place-pipe (CIPP) was proposed. Construction phase services was also performed for the City.

Joseph Reichmuth, PE

RELEVANT EXPERIENCE (CONT.)

Two Lift Stations and Trunk Sewer Main Replacement | Guadalupe, CA

Project Engineer. Project to replace two City sewer lift Stations and force mains involving a variety of challenges such as property acquisition, proximity to residences, constrained site access, traffic impacts and the need for temporary operations to maintain continuous service throughout the construction duration.

Cal Poly State University Student Housing South Lift Station, WebCor Builders | California

Project Engineer. MKN was retained by WebCor Builders to perform design/build and construction phase services for a new lift station on the California Polytechnic State University Campus. Design of the new lift station required development of anticipated flows, development of a hydraulic model to evaluate capacity of existing collection system, and flow monitoring to confirm existing flows. Special consideration was given to manage emergency flows and to address potential odors.

Eastside Force Main Project, Templeton Community Services District | Templeton, CA

Project Manager. Designed and prepared construction documents for two sewage lift stations. The new lift stations diverted flow currently being conveyed to the City of Paso Robles to the District's Meadowbrook WWTP. Design included two lift stations consisting of solids handling submersible pumps, rehabilitation of an existing lift station, and a total combined force main length of over 2.5 miles. The force main included three creek crossings and crossing under Highway 101. In addition to open cut trenching of the force main the design included HDD and jack and bore construction techniques.

Margarita and Foothill Lift Station Replacements | San Luis Obispo, CA

Project Engineer. Project to replace two City sewer lift Stations, involving a variety of challenges such as proximity to residences, constrained site access, traffic impacts and the need for temporary operations to maintain continuous service throughout the construction duration.

Calle Joaquin and Laguna Lift Station Replacements | San Luis Obispo, CA

Project Engineer. Assisted in the design to replace two City sewer lift Stations including 2500 feet of force main. Provide assistance with engineer's opinion of cost, and plans and specifications for public bid; bid phase services; and office engineering construction phase services.

Lift Station # 3 Upgrade | Arroyo Grande, CA

Project Manager. Designed and prepared construction documents for retrofitting an existing dry-pit/wet-pit sewage lift station to a duplex submersible pump sewage lift station. The new lift station contains two submersible solids handling pumps on variable frequency drives, capable of pumping a peak flow of 315-gpm.

El Camino Real Storm Drain Rehabilitation | Arroyo Grande, CA

Project Engineer. Project consists of rehabilitating an existing 24-inch corrugated metal pipe located under an existing structure. Services included design and construction observation of 300 linear feet of cured-in-place pipe (CIPP). The next phase of the project includes design of storm drain piping within El Camino Real so that the City can abandon the existing pipe under the structure.

Arroyo Grande Sewer and Storm Drain Rehabilitation Project | Arroyo Grande, CA

Project Engineer. Developed construction documents for the rehabilitation of 1,000 feet of vitrified clay sewer main and 900 feet of corrugated metal storm drain pipe for the City of Arroyo Grande. Due to accessibility constraints, the use of cured-in-place-pipe (CIPP) was proposed.

18th Street Lift Station Replacement Project | Selma-Kingsburg-Fowler County Sanitation District, CA

Project Engineer. Project to replace an existing lift station that was constructed in the 1940's as the headworks structure to the previous WWTP. Project elements included design of a new submersible lift station and pumps, odor control facilities, force main, removal of existing wetwell and concrete block building structures, installation of piping, and installation of new generator, electrical, SCADA, and motor control center.

PARASTO AZAMI, PE
STANDARDS LEAD

EDUCATION

University of California Irvine, California

BS Civil Engineering

Tabriz University, Iran

MS Mechanical Engineering

LICENSES & REGISTRATIONS

California Professional Engineer - Civil - No. C91468

PROFESSIONAL ASSOCIATIONS

American Society of Civil Engineers

Association of Woman in Water, Energy & Environment

Woman in Water (OC Chapter)

Parasto Azami has over 9 years of experience in civil engineering as a design engineer delivering project designs in the areas of water, wastewater, and recycled water infrastructure systems. Her interface with clients is multi-faceted - during projects' proposals, design phases, progress reviews, and submittals.

Rehabilitation of Western Regional Sewer, Orange County Sanitation District | Fountain Valley, CA

Design Engineer for rehabilitation (cured-in-place liner) and replacement of 16 miles of sewer pipes and over 200 manholes to extend sewer system's reliable life by 50 years. Major tasks include preparation of preliminary and final design technical reports, design of plan & profile, civil details, bypass plans, paving plans, construction schedule, cost estimate and specifications. Work also included coordination and attending progress review meetings with client, utility agencies and sub-contractors. Also, coordination with various agencies to identify submittal and permit requirements.

Morena Pump Station and Conveyance System (Pure Water), City of San Diego | San Diego, CA

Design Engineer for design of over 11 miles of 48-inch Force main and 30-inch Brine line to convey sewer from Morena pump station to North City Pure Water Facility and producing 15 MGD of purified drinking water. Major tasks include hydraulic analysis, steel pipe calculations (AWWA M-11), preparing plan & profile, civil and connection details, air release valve and blow-ff vaults, and associated appurtenances. Also, designed pressure reducing facility (PRV), prepared specifications and O&M manual.

Otay 2nd Pipeline, City of San Diego | San Diego, CA

Project Engineer for design of 2 miles of new 48-inch water line and a pressure reducing facility. Designed PRV, conducted hydraulic calculations and steel pipe welding size, developed plan & profile, civil details, and technical reports. Also, coordinated with vendors to obtain PRV sizing and requirements.

Santa Anita Debris Dam Seismic Strengthening, County of Los Angeles | Arcadia, CA

Project Engineer for design of 8-inch water line to provide temporary water for construction and future fire hydrant at dam site. Tasks include developing scope, budget and work schedule for project addendum, design of waterline, hydraulic calculations, site plan, plan & profile, civil details, construction schedule and cost estimate.

Capital Improvement water and Sewer lines, Portola Parkway, Irvine Ranch Water District | Irvine, CA

Project Engineer for design over 2 miles 30-inch domestic transmission water line, 10-inch sewer line, 16-inch recycled water lines and over 200 feet of trenchless/ tunneling pipe for new developments along Portola pkwy. Prepared civil details, plan & profile, Air/vac relief and blow-off vaults, sections, paving plans, construction schedule and specifications.

Terminal Link Road Triturator, San Diego County Regional Airport Authority | San Diego, CA

Design Engineer in charge of designing trenchless 8-inch sewer line and connections to convey airlines sewer from Triturator facility to city sewer. Major tasks include preparing plan & profile, civil details, sections, grading, and paving plans, evaluation of access road alternatives, construction schedule and cost estimate.

Mentone Boulevard SR-38 Sewer System, City of Redlands | Redlands, CA

Design Engineer for the design of over one mile 10-inch sewer line to provide sewer service for new senior center and library. Major tasks include preparing preliminary

Parasto Azami, PE

RELEVANT EXPERIENCE (CONT.)

and final design report, plan & profile, and civil details. Conducted utility research, performed alignment study, calculated hydraulics, prepared construction schedule, cost estimate, and specifications. Reviewed construction submittals and performed site inspection.

Emergency Interconnects, City of Thousand Oaks | Thousand Oaks, CA

Design Lead for final design for two emergency potable water interconnects between the City of Thousand Oaks and American Water. The interconnects include control valves, pressure relief valve, pump connections, metering, below grade vaults and associated appurtenances. As part of project, evaluated multiple locations and alignments, coordinated with both agencies to obtain design requirements, and coordinated with surveying and pot-holing subconsultants.

Pressure-Reducing Station, City of Thousand Oaks | Thousand Oaks, CA

Design Lead for final design of two pressure reducing facilities. Major tasks include hydraulic analysis of existing conditions, utilities research, and development of a preliminary and final design for a new pressure-reducing station to offset the need for alternative capital improvement projects.

Reservoir 2B & 3B Replacement, South Coast Water District | Thousand Oaks, CA

Project engineer for preliminary design of replacement of existing water reservoirs to meet the emergency fire demand. Major tasks include hydraulic analysis, reservoirs siting evaluation, constraint analysis, environmental and geotechnical evaluation. Prepared technical memos, construction schedule and cost estimate.

Water Pipeline Assessment, Channel Islands Beach Community Services District | Channel Islands Harbor, CA

As Project Engineer, evaluated existing conditions and risk mitigation measures associated with an existing potable pipeline located within private easements. Prepared report and recommendation including construction feasibility and cost estimate.

Lift Station Rehabilitation, Channel Islands Beach Community Services District | Channel Islands Harbor, CA

As Project Engineer, evaluated alternatives for replacement or rehabilitation of existing raw wastewater lift station in the District service area. Prepared report with recommended improvements covering mechanical, structural, electrical, and instrumentation.

Whittier Narrows Utility Relocation, U.S. Army Corps of Engineers | San Gabriel, CA

Project Engineer for the design to utility relocation plans as part of dam modification. Major tasks include obtaining As-built and record drawings, coordination with multiple utility agencies for relocation requirements, preparing concept plans, preliminary and final reports and construction schedule. Attended meetings with the utility agencies to evaluate and discuss design alternatives and make sure all needs were met throughout the design process.

Keenan Bull has 20 years of experience in civil engineering as a design engineer and project manager for private and municipal water and wastewater treatment operations, water distribution systems, wastewater collection systems, large-diameter pipelines, water conveyance systems, and water storage facilities. Proficiencies include the design, planning, and construction/retrofit of water pumping stations and lift stations; water and wastewater treatment facility mechanical process and yard piping; aboveground water storage tanks; and buried or exposed transmission, distribution, and wastewater collection system infrastructure and pipelines.

KEENAN BULL, PE

STANDARDS LEAD

EDUCATION

Missouri University of Science and Technology (formerly University of Missouri-Rolla)

MS Civil Engineering

BS Civil Engineering

LICENSES & REGISTRATIONS

California Professional Engineer - Civil - No. C91138

Arizona Civil Engineer - No. 68967

Missouri Civil Engineer - No. 2006019594

Illinois Civil Engineer - No. 062.059597

North Dakota Civil Engineer - No. PE - 10549

PROFESSIONAL ASSOCIATIONS

American Water Works Association (AWWA), CA-NV Section, New Technology Committee Vice Chair

Orange County Water Association (OCWA)

WateReuse Association, Orange County

Wastewater Treatment Plant (WWTP) Headworks Project | Oxnard, CA

Project Engineer for the effluent pump station design and pump replacements. Also provided condition assessment, planning, design, construction administration assistance, and start-up for a new 40 mgd average dry-weather flow (ADWF)/77.4 mgd peak wet-weather flow (PWWF) headworks facility. The facility consists of an influent wastewater bypass pumping and conveyance, mechanical bar screens, an aerated grit chamber, an influent pump station, an odor control system and grit/screening dewatering facilities, stand-by power generators, infrastructure support systems, and a supervisory control and data acquisition (SCADA) monitoring and control system. Construction of the project required bypass pumping and conveyance facilities design of the entire influent flow for implementation and operation by the construction contractor.

Atascadero Mutual Water Company: PFAS Water Treatment Plant | Atascadero, CA

Senior Engineer & Design Lead. Project consists of planning, design, and construction of a 8 MGD PFAS removal facility designed to interchangeably use Granular Activated Carbon (GAC) or Ion Exchange (IX) to reduce PFOS and PFOA below state-mandated response levels. Designed full-scale facility, prepared conceptual and basis of design reports. Prepared construction plans, specifications, and cost estimates. (Ongoing)

City of Santa Paula WRF Desalter (AWTF) | Santa Paula, CA

Project Senior Engineer. Projects consists of designing and constructing a 1.44 MGD advanced water treatment facility to lower the WRF's effluent chloride below 110 mg/L. Facility consisted of multimedia filtration, nanofiltration, reverse osmosis, precipitative softening, and brine concentration units to reduce blended WRF effluent chloride concentrations to acceptable levels and minimize brine production. Prepared construction plans, specifications, and cost estimates for AWTF Feed Pump Station, civil sitework, yard piping, grading plans, and drainage plans and details. (Ongoing)

Cambria Community Services District, Cambria WWTP Improvements | Cambria, CA

Project Senior Engineer for the design of wastewater treatment plant upgrades including the installation of a new flow equalization pump station, screw press feed pump station, RAS/WAS submersible pump station, scum pump replacements, process air blowers and process water pump station replacement. Scope of work also included design for pump replacements and improvements at water distribution booster stations, including a new booster pumping facility and four (4) well pump replacements in the Cambria Community Services District San Simeon and Santa Rosa well fields.

Palos Verdes Recycled-Water Pipeline & Lago Seco Pump Station, West Basin Municipal Water District | Carson, CA

Project Task Leader for preliminary design and environmental assessment for a recycled-water pipeline conveying water through Torrance and Palos Verdes Estates. The project includes approximately 16,000 feet of 8-inch to 10-inch-diameter pipeline, a recycled water pump station, and a connection to the Palos Verdes Golf Course and several parks, schools, and other irrigation customers along the

route. Several options were established which reduced overall project cost by approximately $750,000. Major project elements included easement assessment, hydraulics, pump station concept development, a California Department of Transportation (Caltrans) crossing, and an expedited schedule. Total project cost is estimated at $6.2M.

Anaheim Valve Vault, Orange County Water District | Anaheim, CA

Vault and Pipeline Design Task Leader for the Anaheim Lake Valve Vault project. The pipeline distributes water to various locations throughout the District's facilities, including Anaheim Lake, Miller Basin, Kraemer Basin, Atwood Channel, and the Carbon Creek Diversion Channel. Several connections to the Anaheim Pipeline are directly buried within a small area just north of a spillway between OC-28 and Anaheim Lake, and are inaccessible to District staff without deep excavation posing potential problems should emergency repairs be necessary. This project involves replacing two (2) valves and includes construction of a subterranean vault that will house a total of five (5) valves. They include: two (2) 48-inch butterfly valves (requiring replacement from the Warner Pipeline to the Anaheim Pipeline), two (2) additional existing 48-inch valves (connecting Warner Pipeline to the Atwood Channel), and one (1) 72-inch valve (allowing the District to distribute water received from Metropolitan Water District deliveries via OC-28 to the Anaheim Pipeline). Since the design includes replacing two (2) of the 48-inch valves, GF recommended considering changing the location of the valves. As of July 2019, the project is currently in the Final Design stage and on schedule, with an anticipated construction date of November 2019.

Big Sandy Rancheria (BSR) Wastewater System Improvements | Auberry, CA

Project Engineer/Technical Lead for the planning and design of the BSR community's wastewater treatment system. The improvements consist of a community-wide gravity wastewater collection system, a secondary treatment plant capable of treating up to 100,000 gpd, a treated effluent disposal system, and decommissioning and abandonment of the existing onsite septic systems. The project planning and construction is funded by the SWRCB Prop 1 Small Community Wastewater Projects program and the funding is administered by RCAC.

Wastewater Treatment Plant Improvements Preliminary Design, Avila Beach CSD | Avila Beach, CA

Project Senior Engineer. Project consists of preliminary design for wastewater treatment plant improvements to increase capacity for future flows and loadings. The existing WWTP consists of a primary clarifier, trickling filter, secondary clarifiers, chlorination, and an anaerobic sludge digester. Due to the constrained site and need for additional secondary treatment, the project consists of adding a package membrane bioreactor treatment plant as a separate, side-stream treatment system, and improvements to the influent lift station, including concrete coating and pump/piping replacement.

Design-Build Phase Services for the Temecula Valley Regional Water Reclamation Facility (TVRWRF), Eastern Municipal Water District | Temecula, CA

Project Manager for the design of the Plant 2 24-inch and 18-inch process air pipeline replacement. Design/build alternative delivery was utilized to expedite implementation as part of the TVRWRF expansion project. The new air line was installed to support the TVRWRF Blower Electrification Project implementation to comply with SCAQMD Rule 1110.2. Scope of work included the development of preliminary design plans and performance specifications for design/build project delivery. Total project cost was $2.8 Million.

Regional Water Reclamation Plant and Horsethief Canyon Water Reclamation Facility (HTCWRF) Expansion and Upgrades, Elsinore Valley Municipal Water District | Lake Elsinore, CA

Deputy Project Manager for program management of expansion and upgrades to the District's reclamation plant and the HTCWRF. The project involves third-party construction management of the HTCWRF expansion and upgrades. The scope includes program start-up services, strategy development and administration, as-needed staff augmentation, management of technical activities and deliverables, and compliance with financing and permit conditions.

Via California Pipeline Replacement, South Coast Water District | Dana Point, CA

Project Manager for replacement of 500 feet of Asbestos concrete (transite) pipe following failure of the pipeline. The 10-inch AC pipeline is located within a 16-inch casing located in an I-5 freeway overpass (Caltrans). The replacement design included evaluation of various materials, including fusible PVC and Certa-Lok PVC. The final design included a cured-in-place-pipe (CIPP) liner for the casing and new Certa-Lok RJIB AWWA C900 PVC (DR14) pipe to replace the failed carrier pipe. The design was expedited to ensure the pipe could be returned to service.

Keenan Bull, PE

RELEVANT EXPERIENCE (CONT.)

Groundwater Reliability Improvement Project (GRIP) (now known as the Albert Robles Center for Water Recycling & Environmental Learning) Program Owner's Engineer, Water Replenishment District of Southern California | Lakewood, CA

Project Engineer for the overall program consisting of a $100 million advanced water purification facility located in Pico Rivera. The treatment train comprises 10 mgd capacity microfiltration, reverse osmosis (RO), and ultraviolet disinfection. Work included development of the procurement process and documents, including Requests for Information, Request for Qualifications, and Request for Proposals. The program management role involved development of a document control system, master project schedule, task coordination, monthly reporting, and cost control.

EchoWater Flow Equalization (FEQ) Project, Sacramento Regional County Sanitation District | Sacramento, CA

Project Engineer for tasks inclusive of the yard piping design and layout of water mains, sanitary force mains, electrical duct banks, and associated pipeline profiles/associated specifications and details. Pipelines consisted of 12-inch washdown basin piping, 20-inch pumped-drain piping, 84-inch welded-steel chlorinated effluent piping, as well as 12-inch and 18-inch drain piping, layout, and profiles. Responsibilities also involved coordinating changes and updates to yard piping specifications for ductile iron, polyvinyl chloride (PVC), and high-density polyethylene (HDPE) pipe; main-line valves; air-release valves; and associated structures and appurtenances. The Echowater Project involved the upgrade of the existing Sacramento Regional Wastewater Treatment Plant located in Elk Grove, California, US. The facility is being renovated to meet the new treatment requirements set by the Central Valley Regional Water Quality Control Board (CVRWQCB) and State Water Resources Control Board (SWRCB). It will also improve the quality of water discharged into the Sacramento River.

Casitas Municipal Water District Ojai Valley Pumping Plant Evaluation | Ojai, CA

Project Senior Engineer. Project consisted of conducting pump tests to determine energy deficiencies of two pairs of existing, aged vertical turbine and horizontal axial split-case pumps that exhibited unusually low pumping efficiency. Developed pumping scenarios based on new system curves and proposed pump performance curves, identified several viable alternatives, and provided recommendations for replacements for four pumps. Also developed pumping scenarios based on electric utility (SCE) Time-of-Use (TOU) rate structure to provide maximum energy efficiency and savings on annual pumping costs.

Effluent Pump Station Replacement | Guadalupe, CA

Project Engineer. Project to replace three submersible pumps at a City effluent pump station with the addition of a flowmeter vault on the effluent line (ongoing).

Alvarado Trunk Sewer Phase IV Replacement Project | San Diego, CA

Quality Assurance/Quality Control (QA/QC) Lead on project involving the design and replacement of approximately 3.5 miles of gravity sewer ranging in diameter from 30 inches to 42 inches. The project consisted of deep gravity sewers ranging in depth from 15 feet to 30 feet. The scope of work also included microtunneling of approximately 3,000 feet of sewer across College Avenue and Waring Road, which required permitting coordination with the California Department of Transportation (Caltrans) and San Diego's Metropolitan Transit System (MTS). The estimated design fee was $4 million, with an estimated construction cost of $30 million.

Marine Park Irrigation Retrofit Project | Santa Monica, CA

Project Manager in charge of the planning and design of approximately 5,000 linear feet of 6-inch polyvinyl chloride (PVC) treated urban runoff (TUR) water pipeline filled from a 2.75 M gallon treated stormwater reservoir located at the City of Los Angeles' Penmar Park and transferred to a holding tank/cistern located at Marine Park. The project reduced the demand for imported water by utilizing treated wet-weather and dry-weather runoff for irrigation purposes. Responsibilities included collection and review of record drawings for existing infrastructure, verification of existing conditions along the right-of-way, verification of the location and depth of existing utilities along the pipeline corridor, coordination and communication with various City departments, coordination and securing of permits and approvals from regulatory agencies, and preparation of final bid documents. The project construction cost was $2.3 million.

Mr. Froelicher is the Supervising CADD Manager for MKN & Associates and oversees the firm's CADD production team. Prior to joining AECOM, Jim Froelicher served as a Senior CADD Drafter for AECOM's San Luis Obispo office. He will serve as the production lead responsible for all of MKN's AutoCAD work. He specializes in water, wastewater, and water reuse engineering for public agencies. As the Supervising CADD Manager for MKN, Mr. Froelicher developed and maintains MKN's CADD Standards and is responsible for the production of all engineering project planset.

JIM FROELICHER

CAD LEAD

EDUCATION

Certificate of Proficiency in Computer Assisted Design and Drafting, 2005

University of Santa Barbara Biochemistry, Molecular Biology

Private Agriculture | CA

Supervising CADD Manager for the analysis, design, bidding, and construction phase services associated with construction of a well field collection and delivery system tying in eight (8) water wells. Design elements for well collection field phases 1 and 2 included pump discharge piping, collection system piping ranging from 12-inch to 42-inch, and tie-ins to an adjacent canal system.

Private Agriculture - Transmission Main | CA

Supervising CADD Manager for the analysis and design of a 7.5-mile long 42-inch PVC transmission main and appurtenances tying a well field into a distribution canal. The design included high-pressure gas crossings, high-voltage power crossings, a crossing of Interstate 5, and turnouts for future users.

Private Agriculture - Canal Pumping Plant | CA

Supervising CADD Manager for the analysis and design of a 20,000-gpm 1,600 hp in-line multi-bay canal pumping plant feeding a 7.5-mile transmission main. The design included canal modifications, structural concrete, discharge piping and appurtenances, a flood-channel crossing, and electrical and instrumentation components.

Private Food Processing - Arsenic Treatment Integration | CA

Supervising CADD Manager for the preparation of plans and specifications for the integration of an absorptive arsenic treatment system into an existing bottling plant. Design included foundation, structural modifications, stainless steel piping, valving and appurtenances. Challenges included limited space within the treatment room and minimizing impacts to existing functions.

Valley Children's Hospital Rio Mesa Well & Pipeline | Madera, CA

Supervising CADD Manager for the preliminary engineering, design development, bidding, and construction administration of a potable water supply well and transmission pipeline project that added a third potable water well to the hospital's water distribution system. Project required extensive utility research, coordination with the surrounding community, development of technical standard details and specifications, in-depth alignment evaluation, and development of construction cost estimates. The planset was developed in Autodesk Civil 3D and included plan production for construction staging areas, pipeline plan and profiles, and site grading.

Paso Robles Water Treatment Plant | Paso Robles, CA

Supervising CADD Manager for the design of the City's 2.4-MGD surface water treatment facility. The project included a Dissolved Air Flotation Clarifier, membrane filtration, GAC contactors for taste and odor and DBP precursor reduction, four chemical feed systems, chemical storage facilities, and a 180,000-gallon clearwell. The planset was developed in Autodesk Civil 3D and included plan production for construction staging areas, temporary and new access roads, pipeline plan/profile sheets, details, site grading and strengthening, erosion control, and structural details.

Jim Froelicher

RELEVANT EXPERIENCE (CONT.)

California Rail Builders, North Kern Water Storage District Canal Relocations | Kern County, CA

Supervising CADD Manager for the design of a various large diameter conveyance facilities including reinforced concrete pipes, measuring weir, farm turnouts, pump relocation, irrigation delivery pipeline, inverted siphons and associated canal segment reconstruction. Work included preparing a baseline design report, preparation of hydraulic calculations, and preparation of bidding documents. The siphon is required to provide service for NKWSD's Canal 9-26 under the future high-speed rail alignment. The planset was developed in Autodesk Civil 3D and included plan production for construction staging areas, temporary and new access roads, aqueduct and pipeline plan/profile sheets, details, site grading and strengthening, erosion control, and structural details.

California Rail Builders, Shafter-Wasco / U.S. Bureau of Reclamation Facility Relocations | Kern County, CA

Supervising CADD Manager for the design of a 30-inch irrigation main and 44-inch steel casing realignment, a 72-inch reinforced concrete pipe and irrigation main, and miscellaneous conveyance facilities. Work included preparing a baseline design report, preparation of hydraulic calculations, analyzing materials options, and preparing of bidding documents. The encased crossing is required to provide service for SWID/USBR's irrigation line under the future high-speed rail alignment and future roads. The planset was developed in Autodesk Civil 3D and included plan production for construction staging areas, temporary and new access roads, aqueduct and pipeline plan/profile sheets, details, site grading and strengthening, erosion control, and structural details.

5 Wells Arsenic Treatment Integration | Bakersfield, CA

Supervising CADD Manager for the design of the integration of five (5) absorptive media arsenic treatment systems for five key wells within the City's distribution system. The work included design of the foundations, piping and valving, backwash, pH adjustment peripherals, electrical and instrumentation equipment. Services included design, bidding, construction phase engineering, and construction observation. The planset was developed in Autodesk Civil 3D and included plan production for construction staging areas, temporary and new access roads, aqueduct and pipeline plan/profile sheets, details, site grading and strengthening, erosion control, and structural details.

East Niles Community Services District, Various Water System Improvements | Bakersfield, CA

Supervising CADD Manager for the design of various water and sewer system improvement projects including pump stations, wells, pipelines, water storage tanks, and treatment facilities. MKN has served as the District Engineer and has established the District's standard details and specifications and AutoCAD Standards. The planset was developed in Autodesk Civil 3D and included plan production for construction staging areas, temporary and new access roads, pipeline plan/profile sheets, details, site grading and strengthening, erosion control, and structural details.

Supplemental Water Project, Nipomo Community Services District, CA | Nipomo, CA

Supervising CADD Manager for the Supplemental Water Project. Project included hydraulic analysis, disinfection/water quality study, cost opinions and construction plans and specifications for 1 booster station, 4 production wells, 1 storage tank, and approximately 6 miles of 18-inch and 24-inch water main, including approximately 2500 feet of horizontal directional drill under the Santa Maria River. The planset was developed in Autodesk Civil 3D and included plan production for construction staging areas, temporary and new access roads, pipeline plan/profile sheets, details, site grading and strengthening, erosion control, and structural details.

Joshua Road Booster Pump Station | Nipomo CSD, CA

Supervising CADD Manager for the Joshua Road Booster Pump Station Project. Project included preparation of construction documents for a 2,000 gallon per minute (gpm) pump station, as well as chloramination systems at the pump station and at four existing NCSD production wells. The booster pump station consists of three vertical turbine pumps and associated controls. The pumps draw water from the City of Santa Maria distribution system and deliver it at flows ranging from 600 gallons per minute (gpm) to up to 2,000 gpm. A 24-inch pipeline was designed to connect the pump station to an existing 12-inch waterline. The planset was developed in Autodesk Civil 3D and included plan production for construction staging areas, temporary and new access roads, aqueduct and pipeline plan/profile sheets, details, site grading and strengthening, erosion control, and structural details.

Joseph P. Prevendar, P.E. (EE)

EDUCATION:

BS Electrical Engineering, University of Washington, Seattle, WA, 1979

Masters in Business Administration, University of Portland, Portland, OR, 1985

REGISTRATION:

Professional Electrical Engineer, Minnesota-1995; California-2001; Arizona-2007; Washington-2006; Utah-2019; Texas-2019

Mr. Prevendar has over 40 years experience in Electrical Engineering for industry and government. Mr. Prevendar is President of the firm and a Principal Electrical Engineer.

Mr. Prevendar has extensive experience in electrical engineering, plant engineering and maintenance management.

This includes positions with Potlatch Company as Plant Engineer, Senior Electrical Project Engineer, Lead Electrical Engineer and Engineering manager.

Mr. Prevendars' project experience includes power distribution, analog and digital process controls, motor controls, VFD's, PLC's distributed control systems, material handling, and pumping systems. A few assignments include:

- Electrical engineering services for electrical and telemetry systems for many government agencies and Districts for water pumping, treatment, wastewater facilities, flood control lift stations, emergency generators, precipitator systems, unit substations, arsenic remediation, ozone treatment, and energy conservation studies.

- Large scale interrelated analog distributed control systems for numerous processes including temperature/pressure/level-
  /flow, boiler fuel processing/flame safety systems/burner management, and numerous other industrial and municipal projects.

Additional projects Mr. Prevendar has completed are attached with this resume.

ELECTRICAL POWER SYSTEMS INC.
PROFESSIONAL ELECTRICAL ENGINEERING
ESTABLISHED 1974

Electrical Power Systems Inc.
4049 N Fresno St
Fresno, CA 93726-4004
Tel: (559) 221-7230
Fax: (559) 221-0507
www.epsfresno.com

Date: February 12, 2021

From: Joe Prevendar, CA PE 16581

Subject: EPS Background Projects

Project: Caruthers Well 6 with Storage Tank and Booster Pumps
Contracting Agency: Caruthers Community Service District
Contracting Agency Project Manager: Dave McIntyre
Contracting agency contact information: (559) 864-8189
Contract amount: $2,875,000 for construction ($3,002,000 budget), $398,000 for electrical and controls
Funding Source: Public Funds
Date of Contract: August 2013
Date of Completion: October 2015
Civil Consultant Project Manager and contact information:
Provost and Pritchard Michael Taylor 559-449-2700
Electrical Engineer: Joseph Prevendar 559-221-7230
Project Objective: To provide a water storage and pumping facility for reliable clean treated drinking water to the community of Caruthers California.
Project Description: The project consisted of a 1.2 million gallon storage tank, a 100 horsepower deep well vertical turbine pump with variable frequency drive, six 40 horsepower booster pumps with hydropneumatics tank, a diesel emergency generator and chemical addition facilities. The control system consisted of an Allen-Bradley Compact Logix programmable controller, Ethernet communication for the Grundfos pump skid and spread spectrum radio system for future communication.
Project Outcome: The project was successfully completed under budget and is supplying the city with clean reliable water.

Project: Santa Cruz Beltz Well 12 with Reclaim Tank and Pumps
Contracting Agency: City of Santa Cruz
Contracting Agency Project Manager: Kevin Crossley
Contracting agency contact information: (831) 420-5356
Contract amount: $375,000 electrical, $60,000 programming
Funding Source: Public funds
Date of Contract: March 2014
Date of Completion: February 2015
Civil Consultant Project Manager and contact information:
Luhdorff and Scalmanini Justin Shobe 530-661-0109
Electrical Engineer: Joseph Prevendar 559-221-7230
Project Objective: To provide a water storage and pumping facility for reliable clean treated drinking water to the community of Santa Cruz California.
Project Description: The project consisted of a 75 horsepower variable frequency drive Byron Jackson submersible well pump, a Loprest iron and manganese filter system, reclaim tanks, 5 horsepower filter backwash and reclaim pumps, a portable generator tap box, and a MicroChlor sodium hypochlorite generator system.

Project Outcome: The project was successfully completed under budget and is supplying the city with clean reliable water. The control system consisted of a Modicon M340 programmable controller with Teledesign TS4000 radio back to the main Wonderware SCADA at the surface water treatment plant.

Project: Discovery Bay Well 6 and Willow Lake WTP (original design and PLC upgrade)
Contracting Agency: Town of Discovery Bay
Contracting Agency Project Manager: Berney Sadler, Veolia
Contracting agency contact information: (925) 634-8137
Contract amount: $175,000
Funding Source: Public Funds
Date of Contract: February 2017
Date of Completion: May 2017
Civil Consultant Project Manager and contact information:
Luhdorff and Scalmanini Justin Shobe 530-661-0109
Electrical Engineer: Joseph Prevendar
Project Objective: Update the Water Treatment Plan programmable controller from Modicon Momentum to Allen Bradley Compact Logix with Ethernet link to Ignition SCADA system.
Project Description: The original water treatment plant electrical was designed by Electrical Power Systems and consists of two 500,000 gallon glass lined bolted steel tanks, a 250 horsepower submersible well pump, four 75 variable frequency drive booster pumps, two 25 horsepower jockey pumps, Loprest iron and manganese filter systems, backwash reclaim tank and pumps, and chemical addition system. Project Outcome: The conversion was completed while keeping the water supplied to the town by using a phased conversion approach. Water quality is improved through a chlorination strategy that adjusts sodium hypochlorite addition based on the demands of water sourced from different wells.

Other Tank and Pump Electrical Designs by EPS

Hanford Fargo Ave. Tank and Booster Pumps: Project Description: Two 1,500,000 gallon tanks, 250 horsepower well, five 125 horsepower booster pumps, 1000 KW emergency generator
Dixon Solano Municipal Water Service Southeast Tank and Booster Pumps : Project Description: Two 1,500,000 gallon tanks, 300 horsepower well, two 20 horsepower jockey pumps, three 75 horsepower booster pumps, 750 KW emergency generator
Dixon Solano Municipal Water Service Watson Ranch Tank and Booster Pumps: Project Description: 800,000 gallon tank with two 20 horsepower jockey pumps and two 75 horsepower booster pumps
Hanford Grangeville Tanks and Pumps: Project Description: Two 1,500,000 gallon tanks, 250 horsepower well, five 125 horsepower booster pumps, 1000 KW emergency generator
Home Garden Phase 2 Arsenic Remediation Tank and Boosters: Project Description: Arsenic treatment system with 100 horsepower well pump and three 20 horsepower variable frequency booster pumps
Cal Water Service Redondo Station 29 Upgrade: Project Description: Replacement MCC for two 40 horsepower booster pumps and 30 horsepower recirculation pump at tank site
Tejon Well 200 and Tank: Project Description: 400 horsepower vertical turbine deep well, 40 horsepower booster, two 7.5 horsepower boosters at tank site.
Cawelo Pump Station D,E,F: Project Description: 12,000 volt distribution system to three pump stations with three 1000 horsepower and one 500 horsepower 4160 volt pumps at Station E, a 100 horsepower, 200 horsepower, 350 horsepower and 500 horsepower 460 volt pumps at Station D, and two 200 horsepower pumps at Station F.
Madera Ranchos Kensington Well: Project Description: 100 horsepower municipal potable water well
Madera County Oakhurst WWTP: Project Description: Electrical design for the grit removal, clarifier, oxidation ditch, spray field, runoff return system, sludge dewatering and emergency generator for the waste water treatment site.

F FEE/PRICE SCHEDULE FOR SERVICES

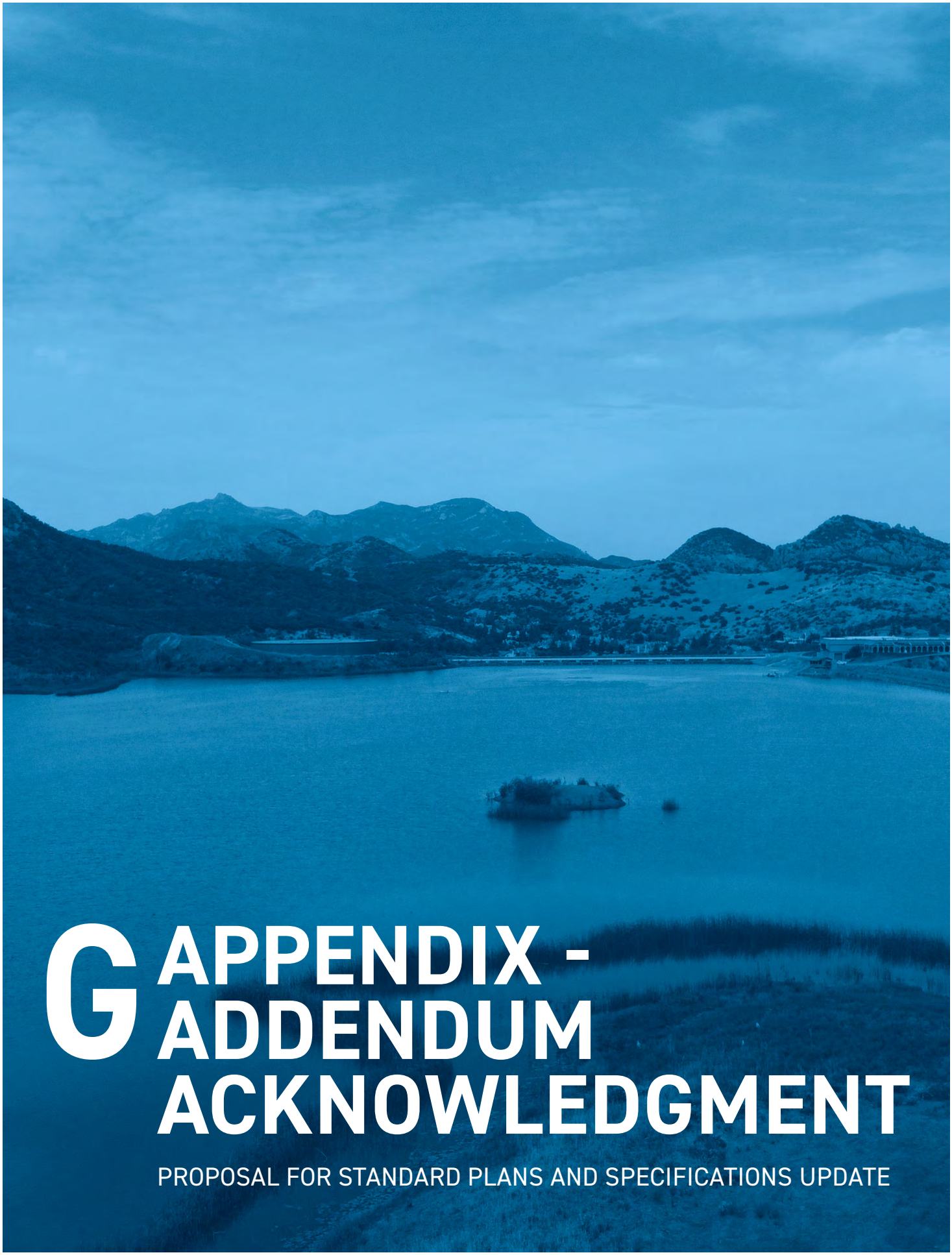
PROPOSAL FOR STANDARD PLANS AND SPECIFICATIONS UPDATE

SECTION F

FEE/PRICE SCHEDULE FOR SERVICES

Las Virgenes Municipal Water District
Standard Plans and Specifications Update

	Principal Engineer (RG, JH, JN)	Senior Project Engineer (TB, JR, KE	Project Engineer (PA)	Assistant Engineer II (JW, CE)	Supervising Drafter (JF)	Drafting/Design Technician I (TC)	Administrative Assistant	Total Hours (MKN)	Labor (MKN)	ODCs (MKN)	Elect. Power Systems PM (JP)	Elect. Power Systems Tech	Elect Power Systems Admin	Total Hours (EPS)	Electrical Power Systems, Inc.	Non-Labor Costs	Total Fee
Hourly Rates	214	201	175	156	151	125	103				235	160	85				
Task Group 1: Project Management and QA/QC																	
Task 1.1 Project Management (5 months)	3	12					1	16	$3,157	$ 95			2	2	$ 187	$282	$ 3,439
Task 1.2 QA/QC	12							12	$2,568	$ 77				0	$ -	$77	$ 2,645
Subtotal	15	12	0	0	0	0	1	28	$ 5,725	$ 172	0	0	2	2	$ 187	$ 359	$ 6,084
Task Group 2: Data Collection and Review																	
Task 2.1 Standard Pans and Specifications Review	1	6	8	10				25	$4,380	$ 131	4		1	5	$ 1,128	$1,259	$ 5,639
Task 2.2 Standard Plans and Specifications Outline and Matrix	1	6	12	14				33	$5,704	$ 171	8		1	9	$ 2,162	$2,333	$ 8,037
Subtotal	2	12	20	24	0	0	0	58	$ 10,084	$ 303	12	0	2	14	$ 3,289	$ 3,592	$ 13,676
Task Group 3: Meetings/Workshops																	
Task 3.1 Kickoff Workshop & Outline Review Meeting (2 hr Virtual)	2	4	3	2				11	$2,069	$ 62	4		1	5	$ 1,128	$1,190	$ 3,259
Task 3.2 Electrical Workshop (1.5 hr virtual)		2						2	$402	$ 12	6		1	7	$ 1,645	$1,657	$ 2,059
Task 3.3 All Staff Pre-Draft Workshop (1.5hr virtual)		3	2	2				7	$1,265	$ 38					$ -	$38	$ 1,303
Task 3.4 Draft Water/RW Standards Review Meeting (1.5 hr virtual)		3		2				5	$915	$ 27					$ -	$27	$ 942
Task 3.5 Draft Sewer Standards Review Meeting (1.5 hr virtual)		3		2				5	$915	$ 27					$ -	$27	$ 942
Task 3.6 Draft Electrical Standards Review Meeting (1.5 hr virtual)		2						2	$402	$ 12	4		1	5	$ 1,128	$1,140	$ 1,542
Task 3.7 Draft Water Reuse Standards Review Meeting (1 hr virtual)	1	2	1	1				5	$947	$ 28					$ -	$28	$ 975
Subtotal	3	19	6	9	0	0	0	37	$ 6,915	$ 207	14	0	3	17	$ 3,900	$ 4,107	$ 11,022
Task Group 4: Standard Plans and Specifications Update																	
Task 4.1 Draft Standard Plans and Spec Update (up to 89 dwgs + Combined Spec consistent with current 30 Sections 1.0 to 2.9)	2	18	40	40	50	200		350	$49,836	$ 1,495	8	3	1	12	$ 2,690	$4,185	$ 54,021
Task 4.2 Final Standard Plans and Spec Update (up to 89 dwgs + Combined Spec consistent with current 30 Sections 1.0 to 2.9)	1	12	16	18	10	26		83	$12,994	$ 390	2	1	1	4	$ 787	$1,176	$ 14,170
Subtotal	3	30	56	58	60	226	0	433	$ 62,830	$ 1,885	10	4	2	16	$ 3,476	$ 5,361	$ 68,191
TOTAL BUDGET	23	73	82	91	60	226	1	556	$85,554	$ 2,567	36	4	9	49	$ 10,852	$ 13,418	$ 98,972
Task Group 5: Optional Scope																	
Task 5.1 Board Informational Workshop/Presentation		4	2	2				8	$1,466	$ 44					$ -	$44	$ 1,510
Task 5.2 Board Final Presentation		4		4				8	$1,428	$ 43					$ -	$43	$ 1,471
Task 5.3 Additional Standards Plans (10 dwgs)		6	10	10	8	24		58	$8,724	$ 262					$ -	$262	$ 8,986
Task 5.4 Individual Standard Specifications	2	10	20	24				56	$9,682	$ 290					$ -	$290	$ 9,972
Task 5.5 Facilities Visit (Electrical/Mechanical) (6.5 hours in-person)		13						13	$2,613	$ 328	12		1	13	$ 3,196	$3,524	$ 6,137
Task 5.6 Instrumentation and Controls Specs (2 Sections)		2						2	$402	$ 12	6		1	7	$ 1,645	$1,657	$ 2,059
Task 5.7 Additional Electrical Specs (15 sections & 4 drawings)		2						2	$402	$ 12	10	8	8	26	$ 4,741	$4,753	$ 5,155
Subtotal	2	41	32	40	8	24	0	147	$ 24,717	$ 992	28	8	10	46	$ 9,581	$ 10,573	$ 35,290
Optional TOTAL BUDGET	2	41	32	40	8	24	0	147	$24,717	$ 992	28	8	10	46	$ 9,581	$ 10,573	$ 35,290



G APPENDIX - ADDENDUM ACKNOWLEDGMENT

PROPOSAL FOR STANDARD PLANS AND SPECIFICATIONS UPDATE

SECTION G

ADDENDUM ACKNOWLEDGMENT

LAS VIRGENES MUNICIPAL WATER DISTRICT
Standard Plans and Specifications Update
ADDENDUM NO. 1
February 3, 2021

To: Prospective Proposers

The following clarifications, revisions, replacements, additions, and/or deletions shall be made a part of the above-referenced project.

Item 1)

The RFP states that "The disciplines addressed in the update should include mechanical, civil, electrical, and instrumentation and controls."

It is hereby noted that Instrumentation and Control (I&C) standards and specifications are not anticipated to be updated under this contract and are being addressed separately. LVMWD's current I&C standards as well as functional specifications for LVMWD's facilities will be made available to the selected consultant, no update is anticipated at this time.

Item 2)

The District does not have a standard title block, line weight file, or border file available in CAD. These items do not necessarily need to be produced as part of this effort.

Item 3)

It is noted that the primary intent of the project is to produce an updated set of standards and design guidelines that can be used across District projects. A set of CSI formatted specifications to be used across projects is not necessarily needed for this update, though proposals that offer development of CSI standards as part of the update will be considered. Creation of CSI specifications should be proposed as an optional scope item and not part of the base fee proposed.

By: _____
Oliver Slosser, Senior Engineer

ACKNOWLEDGEMENT TO BE INCLUDED WITH SEALED PROPOSAL:

I have read the entirety of Addendum No. 1.

Signed: Tanner T. Bennett _____ Date: 2/17/21

END OF ADDENDUM #1

SECTION G

STANDARDS MATRIX

					Irvine Ranch WD			Quartz Hill WD			Other Agency (TBD)		
ID #	Las Virgenes Standard Detail	Calls out Specific Model # or equipment?	Contains Owner furnished material?	Reference to other LV Standard Detail(s)?	ID #	Standard Detail	Notes	ID #	Standard	Notes	ID #	Standard	Notes
Appendix B - Standard Details for Construction of Water Mains & Facilities													
P 101	trench terminology and standard dimensions	No	No	No	W17	water trench	Has more detail - contains depth of bury, includes recycled water pipe, identification tape, tracer wire.	W1	water pipe bedding and backfill details	QH includes diagrams for 3 types			
PW 102	separation requirements for water and wastewater lines	No	No	No	--	--	--	--	--	--			
PW 103	3/4" or 1" water meter service installation - 150 psi	No	meter	PW 120 (service saddle) PW 127 (meter box)	W1	1" Copper Service	Includes note for curb location markings, zinc anode sizes, more detailed notes and materials list, identification tape, etc.	--	--	--			
PW 104	3/4" or 1" water meter service installation - 151 - 250 psi	No	meter coupling, PRV, bushing	PW-120 (service saddle) PW 127 (meter box)	W1	1" Copper Service	Same as above - no pressure designation. No allowance of "service tubing"	--	--	--			
PW 105	1 1/2" or 2" Water Meter Service Installation - max 150 psi	No	meter coupling, PRV, bushing	PW 120 (service saddle) PW 127 (meter box)	W2	2" Copper Service	Includes note for curb location markings, zinc anode sizes, more detailed notes and materials list, identification tape, etc. No permittance of "service tubing"	W2	1", 1 1/2" & 2" standard water services	Mostly similar, LV more thorough	--	--	--
PW 105A	2" water meter 150 psi	No	meter coupling, PRV, bushing	PW 109A detector check PW 120 (service saddle) PW 127 (meter box)	W2	2" Copper Service					--	--	--
PW 106	1 1/2" or 2" Water Meter Service Installation - 151 - 250 psi	No	meter flange, bushing, nipple, pressure regulator, adapter, meter	PW 109A detector check PW 120 (service saddle) PW 101 (service lines)	--	--	--	--	--	--	--	--	--

					Irvine Ranch WD			Quartz Hill WD			Other Agency (TBD)		
ID #	**Las Virgenes Standard Detail**	**Calls out Specific Model # or equipment?**	**Contains Owner furnished material?**	**Reference to other LV Standard Detail(s)?**	**ID #**	**Standard Detail**	**Notes**	**ID #**	**Standard**	**Notes**	**ID #**	**Standard**	**Notes**
PW 107	3” to 8” water meter service installation, above ground 150 psi	Grinel No. 264 meter support	spacer	PW 131 / 140 PW 118	W5	3” and 4” meter assembly 6”, 8”, and 10” meter assembly	Includes plan view, section views, and different cases. LV only uses one plan view More detailed materials list.	--	--	--	--	--	--
PW 108	single stage pressure regulation station	PRV Model 90G-01	gate valve	No	W15	pressure regulating station (PRV)	IRWD significantly more thorough, includes plan, section, mounting views and assembly details	--	--	--	--	--	--
PW 109	4” to 10” detector check, above ground	FEBCO Vavle Setter Model 611 FEBCO Backflow Prevention Model 876V	No	PW 131/140 PW 133 PW 118 PW 130	W7	Reduced pressure principle backflow assembly, 2” and smaller, 3” and larger, (N-pattern) 3” and larger	LV includes dimension table, IRWD includes more drawing cases	--	--	--	--	--	--
PW 109A	2 1/2” detector check	FEBCO Vavle Setter Model 611 FEBCO Backflow Prevention Model 876V	No	PW 120 PW 130				--	--	--	--	--	--
PW 110	fire hydrant installation	No	No	PW 127 PW 133 PW 117 PW 131/140 PW 118	W8	Fire hydrant	Mostly similar, however IRWD detail includes 4 conditions for hydrant location plans	W4	fire hydrant assembly	mostly similar	--	--	--
PW 111	master meter piping installation	No	master meter	PW 131/140 PW 127	--	--	--	--	--	--	--	--	--
PW 112	master meter piping removal	No	master meter	PW 110	--	--	--	--	--	--	--	--	--
PW 113	1” water sampling station	No	No	PW 103 PW 107 PW 127	W10	water sample station	Mostly similar, IRWD includes more details, section drawings, and zinc anode sizing chart, as well as a plan view	--	--	--	--	--	--
PW 114	temporary riser and hose bib	No	No	PW 103-106	W12	temporary flush-out assembly	Moderate differences, IRWD has more detailed materials list	--	--	--	--	--	--
PW 115	2” air and vacuum valve for 6” to 18” mains	No	intermediate joints	PW 128 PW 120	W11	1” or 2” air release and vacuum relief	IRWD much more detailed, includes separate sheets for PVC, Steel/DIP,	W6	combination air release valve assembly	moderately similar, QH includes more detailing for surrounding area	--	--	--

					Irvine Ranch WD			Quartz Hill WD			Other Agency (TBD)		
ID #	**Las Virgenes Standard Detail**	**Calls out Specific Model # or equipment?**	**Contains Owner furnished material?**	**Reference to other LV Standard Detail(s)?**	**ID #**	**Standard Detail**	**Notes**	**ID #**	**Standard**	**Notes**	**ID #**	**Standard**	**Notes**
PW 116	4” class 200 or 400 blow-off installation	No	No	PW 127PW 133 PW 131/140 PW 118	W13	flush out assembly, for main lines 8” and larger “” for main lines 6” and smaller	IRWD much more thorough	W5	Blowoff assembly	mostly similar	--	--	--
PW 117	valve restraint installation	No	No	PW 118 PW 133	--	--	--	--	--	--	--	--	--
PW 118	valve box and cover identification	Valve Box Cover - Alhambra Foundary No. A-29608	No	PW 119	W22	valve box	IRWD more thorough	W7	valve box assembly	mostly similar	--	--	--
PW 119	valve stem extension	No	No	No	W23	valve stem extension	moderately similar	--	--	--	--	--	--
PW 120	dielectric connection to steel main	No	No	No	--	--	--	--	--	--	--	--	--
PW 127	location of above ground utilities	No	No	PW 129 PW 130	--	--	--	--	--	--	--	--	--
PW 131	flange outlet and end assembly details	No	No	PW 133	--	--	--	--	--	--	--	--	--
PW 133	thrust block details	No	No	PW 131	W16	thrust block	includes horizontal bend thrust block sizing charts (LV does not)	W9	typical thrust block details	mostly similar	--	--	--
PW 134	anchor block details (max 16”)	No	No	No	--	--	--	--	--	--	--	--	--
PW 135	special anchor block detail	No	No	No	--	--	--	--	--	--	--	--	--
PW 136	redwood baffles and concrete collars	No	No	No	--	--	--	--	--	--	--	--	--
PW 137	joint restraint and anchor box assembly 6” to 12”	joint mechanical coupling	No	No	--	--	--	--	--	--	--	--	--
PW 138	pipe protection fence assembly	No	No	No	--	--	--	--	--	--	--	--	--
PW 139	pipe protection slab and concrete encasement	No	No	PW 101 PW 102	--	--	--	--	--	--	--	--	--
PW 140	mechanical joint tapping sleeve	No	No	PW 133	--	--	--	--	--	--	--	--	--
PW-2DC	2” meter installation for residential fire protection - 225 psi	No	intermediate joints, 2” meter	PW 120 PW 127	--	--	--	--	--	--	--	--	--
Not Included in LVMWD					W3	1” or 2” Service Connection		W8	Pipe Crossing				
					W4	1” or 2” Service Manifold		W10	Standard Water Notes				
					W6	Double check backflow assembly, 3” and larger		W14	Barricades				
					W14	Blowoff/Bottom Drain Assembly Location Plans		W15	Horizontal Alignment Transition				
					W19	Cut-In Tee for PVC, DIP, ACP							
					W20	Mortar Lined and Coated Steel Pipe Joints							
					W21	Steel Casing for Water Pipe							
					W24	Pipe Support							

					Irvine Ranch WD			Quartz Hill WD			Other Agency (TBD)		
ID #	**Las Virgenes Standard Detail**	**Calls out Specific Model # or equipment?**	**Contains Owner furnished material?**	**Reference to other LV Standard Detail(s)?**	**ID #**	**Standard Detail**	**Notes**	**ID #**	**Standard**	**Notes**	**ID #**	**Standard**	**Notes**
Appendix C - Sewer Standard Plans													
1S	pipe bedding	No	No	No	S6	sewer trench	IRWD much more detailed						
2S	std. concrete creadles and encasements	No	No	No	--	--	--						
3S	standard “t” foundation	No	No	No	--	--	--						
4S	standard chimney pipe	No	No	County Engineer Standard S-27, LA County	--	--	--						
5S	std. manhole and junction chamber 8”-24” pipe (reinforced)	No	No	No	--	--	--						
6S	std. manhole and junction chamber 8”-24” pipe (non-reinforced)	No	No	No	--	--	--						
7S	std. manhole and junction chamber-flat top type	No	No	No	--	--	--						
8S	std. manhole and juction chamber, flat top type	No	No	No	--	--	--						
9S	std. drop manhole	No	No	applicable manhole design std. dwgs. nos 5, 6, 7, 8	S1.1	manhole	Several more material call-outs/notes						
10S	std. manhole frame and cover	No	No	No	S1.2	manhole (frame and cover	IRWD is very detailed & containts orientation of cover, signage, curb markings						
11S	std. pressure manhole frame and cover	No	No	No	--	--	--						
12S	wye support	No	No	No	S4	cut in wye connection	IRWD more thorough						
13S	redwood baffles and concrete collars	No	No	No	--	--	--						
14S	sanitary sewers near pressure water mains	no but sewer construction requirements may need to be updated	No	LA County Sanitary Division Instruction 60-9	--	--	--						
Not Included in LVMWD					S3	Sewer Lateral							
					S5	Terminal Cleanout							
					S7	Steel Casing for Water Pipe							

Does not include sewer std. plans

					Irvine Ranch WD			Quartz Hill WD			Other Agency (TBD)		
ID #	**Las Virgenes Standard Detail**	**Calls out Specific Model # or equipment?**	**Contains Owner furnished material?**	**Reference to other LV Standard Detail(s)?**	**ID #**	**Standard Detail**	**Notes**	**ID #**	**Standard**	**Notes**	**ID #**	**Standard**	**Notes**
Appendix D - Recycled Water Standard Plans													
R1	reclaimed water pipeline typical location plan	No	No	No									
R2	reclaimed water cover identification and valve box detail	Brooks No. 4-TT series 10 1/4" Dia.	No	No									
R3	reclaimed water sampling connection	Yes - see spec	No	No									
R4	reclaimed water residential irrigation service	Yes - see spec	No	R2 R5									
R5	reclaimed water sprinkler control box detail	No	Yes (control box)	No									
R6	remove differential pressure pilot valve detail	Yes - see spec	No	R2 R9									
R7	combination pressure reducing and metering vault for reclaimed water (VOID -?)	No	No	No									
R8	remote differential pressure pilot valve detail	Yes - see spec	No	R2 R9									
R9	1" or 2" air vacuum valve assembly	Yes (corporation stop)	No	Std. Dwg 26		Does not include recycled water std. plans			Does not include recycled water std. plans				
R10	4" blow off assembly CL 200 or 400	Yes - see spec	No	Std. Dwg 4 Std. Dwg 26									
R11	reclaimed water - potable water separation layout	No	No	No									
R12	valve assembly details	Yes - Brooks No. 4-TT Series	No	Std. Dwg 13 Std. Dwg 31 R2 R10									
R13	reclaimed water service assembly for 4" to 6" assemblies	No	Yes - Item No. 1	R2 R10 R12									
R14	3/4" and 1" water service assemblies	Yes - see spec	Yes - Items 4, 5, 6, 7	R1									
R15	1" and 2" water service assemblies	Yes - see spec	Yes - Items 4, 5, 8, 10, 15	R1 R2									
R16	3/4" and 1" reclaimed water service assembly	Yes - see spec	No	R1 Std. Dwg 5									
R17	1 1/2" and 2" reclaimed water service assembly	No	No	Std Dwg 5									
Not Included in LVMWD					W9	Recycled Water Warf Head Hydrant							

Arroyo Grande/Corporate Office
530 Paulding Circle, Ste. B
Arroyo Grande, CA 93420

Bakersfield
1800 21st St., Ste C
Bakersfield, CA 93301

Fresno
8405 North Fresno St., Ste. 120
Fresno, CA 93720

Irvine
16310 Bake Parkway
Irvine, CA 92618

Santa Clarita
23942 Lyons Ave., Ste. 215
Newhall, CA 91321

Ventura
121 North Fir St., Ste G
Ventura, CA 93001

mkn

April 6, 2021 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Engineering and External Affairs

Subject : Mullholland Highway Bridge over Triunfo Creek Water Main Replacement Project: Change Order No. 1

SUMMARY:

On August 18, 2020, the Board awarded a construction contract to Unified Field Services Corporation (UFSC), in the amount of $199,653.85, for the Mullholland Highway Bridge over Triunfo Creek Water Main Replacement Project. During the pre-construction meeting, it was observed that a requested utility penetration through the bridge headwall had not been provided, nor was there sufficient clearance to install a utility penetration. As a result, it was determined that the water main would need to be rerouted around the abutment wingwall, instead of passing through the bridge abutment as originally proposed. The realignment of the pipe required a revision to the plans and additional pipe material, fittings and supports, along with more time for construction.

UFSC has been very cooperative and flexible throughout the redesign and construction process. UFSC staff have coordinated effectively with the Los Angeles County Department of Public Works and the County's bridge contractor. Additionally, UFSC offered suggestions that helped to minimize additional costs and overall delay. Staff recommends approval of Change Order No. 1 to UFSC for the costs of additional labor, materials, and equipment, as well as an extension of the original contract completion date for delays incurred as a result of the pipeline realignment.

RECOMMENDATION(S):

Authorize the General Manager to approve Change Order No. 1 with Unified Field Services Corporation, in the amount of $30,092.65, for the Mulholland Highway over Triunfo Creek Water Main Replacement Project.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

Sufficient funds are available in the adopted Fiscal Year 2020-21 Budget. No additional appropriation is needed at this time. The cost of the project is expected to be reimbursed by CalOES/FEMA as the work stems from the 2018 Woolsey Fire.

DISCUSSION:

On August 18, 2020, the Board awarded a construction contract to Unified Field Services Corporation (UFSC), in the amount of $199,653.85, for the Mulholland Highway Bridge over Triunfo Creek Water Main Replacement Project. The scope of work consists of installing a 14-inch diameter water main across the new Mulholland Highway Bridge over Triunfo Creek, which is currently under construction by Los Angeles County Department of Public Works (County).

During initial coordination with the County, staff shared plans for the pipeline replacement for review and requested a utility penetration through the concrete bridge abutment to allow for the installation of the water main. At a pre-construction meeting for the pipeline in October 2020, staff observed and pointed out to the County that the utility penetration through the bridge abutment headwall had not been provided. Subsequent measurements revealed that the retaining wall configuration would not allow for sufficient clearance to add the utility penetration. As a result, the best option was to reroute the pipeline around the abutment wingwall, instead of passing through the bridge abutment as originally proposed. Attached are photographs that show the originally-proposed alignment and rerouted pipeline.

Realignment of the pipeline required additional design effort and revision of the plans, which caused construction delays. The redesign included additional pipe material, fittings and structural supports. Long lead times for ductile iron pipe contributed to delays. UFSC was very cooperative and flexible throughout the redesign and construction process. UFSC staff have effectively coordinated with the bridge contractor for site access, as well as with the County's Road Maintenance Division for a laydown area and equipment storage at a nearby yard, due to the bridge contractor holding permits for staging within the adjacent State Park land.

UFSC made suggestions that helped expedite construction and minimized additional cost. Change Order No. 1, in the amount of $30,092.65, includes credits for unused bid items for the original alignment, additional labor and materials required to reroute and install the pipeline, and 72 additional working days to extend the original contract duration for reasons beyond the contractor's control. The change order exceeds the General Manger's approval authority and is recommended for Board approval. After including the cost of the change order, the construction contract cost remains 22.5% below the Engineer's Estimate and approximately $25,000 below the second lowest bidder.

Following is a summary of the construction contract cost.

	Amount	Completion Date

Engineer's Estimate	$296,500.00	
Original Contract	$199,653.85	December 31,2020
Change Order No. 1	$30,092.65	April 16, 2021
Contract Revisions	**$229,746.50**	**April 16, 2021**

Staff anticipates that the cost to construct the permanent water main across the bridge will be reimbursed by CalOES/FEMA through its Public Assistance Grant Program. Reimbursement for the installation of the temporary water main was already approved and paid by CalOES/FEMA.

GOALS:

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

Prepared by: Veronica Hurtado, Assistant Engineer

ATTACHMENTS:

Photos of Original and Rerouted Pipeline Alignment
Change Order No. 1

Attachment 1

Figure 1 – Location where the pipe penetration was requested.

Figure 2 – Reroute of the pipe alignment around the retaining wall.

CONTRACT CHANGE ORDER
No. 1

4232 Las Virgenes Road
Calabasas, California 91302-1994

Project **Triunfo Creek Bridge Mulholland Hwy Water Main Replacement** Project No. Acct. No. 10700.1880.505

Contractor Unified Field Services Corporation Date 3/11/2021

CONTRACTOR CHANGE ORDER NO. 1 The Contractor is hereby authorized and directed to make the herein described changes from the Plans and Specifications or do the following work not included in the Plans and Specifications for the construction of this project.

This change requested by: Las Virgenes Municipal Water District

DESCRIPTION OF CHANGE:

	Description	Amount
	Contractor Change Order Request Realignment of the pipeline from original design caused considerable changes resulting in credit for unused bid items, as well as additional labor and materials required to re-route the pipeline. See attached Rev.4 Plan Set. Item 1 – Costs to realign the pipeline. • Credit for Bid Item #4 - Link Seals (+ $7,189.64) • Line Breach Impact ($2,281.64) • Re-route additional labor & materials ($15, 169.31) • Additional Thrust Blocks ($5,488.42) • Credit for pipe supports (+3,902.25) • Pipe Support Modifications ($6,685.66) Item 2 – Costs to fabricate fittings to field adjust pipeline alignment per response to RFI 04. • Piping Materials ($1,573.91) • Insulation Kits ($1,153,36) • Coating ($3,176.78) • Shop fabrication ($4,404.81) • UFSC Support ($1,250.64)	$18,533.14 $11,559.51
	TOTAL	**$30,092.65**

INCREASES
TOTAL AT AGREED PRICES OR FORCE ACCOUNT **$30,092.65**
~~DECREASES~~

Contract Change Order No. 1 Project No. 10700 Acct. No. 10700.1880.505
Date 3/11/2021

(2) Estimate of increases and/or decreases in contract items at contract unit prices:

INCREASES

Item	Description	Quantity	Unit Price	Total
			TOTAL INCREASES	N/A

DECREASES

TOTAL DECREASES	N/A
TOTAL NET DECREASE IN CONTRACT ITEMS AT CONTRACT UNIT PRICES	N/A

TOTAL COST OF THIS CHANGE ORDER **$30,092.65** **INCREASE**

~~DECREASE~~

It is agreed 72 working days extension of time will be allowed by reason of this change.

Recommended by

Veronica Hurtado
Assistant Engineer

Departmental Approval

Joe McDermott. P.E.
Director of Engineering and External Affairs

ACCEPTED:

Unified Field Services Corporatation

By:

Date:

APPROVED:

Las Virgenes Municipal Water District

By:
David W. Pedersen, General Manager

Date:

Note: Attention is called to the sections of the Special Provisions and Standard Provisions on EXTRA, ADDITIONAL OR OMITTED WORK.

■ THIS CHANGE ORDER IS NOT EFFECTIVE UNTIL APPROVED BY OWNER

□ IF ACCEPTABLE TO THE CONTRACTOR, THIS CHANGE ORDER IS EFFECTIVE IMMEDIATELY

Cover sheet

Date	**23-Feb-21**
Project	**Truinfo Creek Water Main (CO#1)**
Const.Rep	**Mike Hand**
Engineer	**Veronica Hurtado**

TASK #	TASK DECRIPTION	COST PER TASK	MATERIAL & SUBS COST	EQUIPMENT COST	MAN HR's	EQUIP.HR's	LABOR	PER DIEM
1	**Credit for Eliminating Link Seals (Bid Item #4)**	$ (7,189.64)	$ (7,189.64)	$ -	0	0	$ -	
2	**Line Breach Impact**	$ 2,281.64	$ -	$ 244.00	16	12	$ 2,037.64	
3	**Re Route Additional labor & materials**	$ 15,169.31	$ 4,138.75	$ 2,880.00	64	64	$ 8,150.56	
4	**Additional Thrust Blocks**	$ 5,488.42	$ 1,182.50	$ 344.00	32	16	$ 3,961.92	
5	**Pipe Supprt Credits**	$ (3,902.25)	$ (3,902.25)	$ -	0	0	$ -	
6	**Pipe Support Modifications**	$ 6,685.66	$ 1,655.50	$ 396.00	36	24	$ 4,634.16	
7		$ -	$ -	$ -	0	0	$ -	
24		$ -	$ -	$ -	0	0	$ -	RATE
25		$ -	$ -	$ -	0	0	$ -	
Totals		**$ 18,533.14**	**$ (4,115.14)**	**$ 3,864.00**	**148**	**116**	**$ 18,784.28**	**$ -**

Cover sheet

Date	**9-Mar-21**
Project	**Truinfo Creek Bridge Repair**
Const.Rep	**Mike Hand**
Engineer	**Veronica**

TASK #	TASK DECRIPTION	COST PER TAS	MATERIAL & SUBS COST	UIPMENT CO	MAN HR's	EQUIP.HR's	LABOR	PER DIEM
1	**Piping Materials (David Janes)**	$ 1,573.91	$ 1,573.91	$ -	0	0	$ -	
2	**Insulation Kits w/ Delivery (Far West)**	$ 1,153.36	$ 1,153.36	$ -	0	0	$ -	
3	**UFSC Coating (Internal & External)**	$ 3,176.78	$ 266.06	$ 240.00	32	16	$ 2,670.72	
4	**Shop Fabrication (Advance Fabrication)**	$ 4,404.81	$ 4,404.81	$ -	0	0	$ -	
5	**UFSC Support**	$ 1,250.64	$ -	$ 120.00	8	8	$ 1,130.64	
23		$ -	$ -	$ -	0	0	$ -	
24		$ -	$ -	$ -	0	0	$ -	RATE
25		$ -	$ -	$ -	0	0	$ -	
Totals		**$ 11,559.51**	**$ 7,398.15**	**$ 360.00**	**40**	**24**	**$ 3,801.36**	**$ -**

LAS VIRGENES MUNICIPAL WATER DISTRICT &
LOS ANGELES COUNTY PUBLIC WORKS
COUNTY OF LOS ANGELES, CALIFORNIA
TRIUNFO CREEK BRIDGE-MULHOLLAND HWY WATERMAIN REPLACEMENT
AGOURA HILLS, CALIFORNIA

GENERAL NOTES

1. MATERIALS USED AND ALL WORK TO BE PERFORMED SHALL BE IN ACCORDANCE WITH THE LOS ANGELES COUNTY CODE, DIVISION I, TITLE 20.
2. MATERIALS USED AND ALL WORK TO BE PERFORMED SHALL BE APPROVED BY LVMWD AND BE IN ACCORDANCE WITH THE CURRENT LVMWD STANDARD SPECIFICATIONS, STANDARD DRAWINGS, AND WATER ORDINANCE. THE CONTRACTOR WILL BE REQUIRED TO HAVE A SET OF THESE SPECIFICATIONS ON SITE AT ALL TIMES.
3. A MINIMUM OF 48 HOURS PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR SHALL ARRANGE FOR A PRE-CONSTRUCTION MEETING WITH THE LVMWD CONSTRUCTION SUPERVISOR (818) 251-2139. CONTRACTOR SHALL APPLY FOR INSPECTION FROM LVMWD AT (818) 251-2139 AT LEAST 24 HOURS IN ADVANCE.
4. THE CONTRACTOR SHALL VERIFY LOCATION, DEPTH, VERTICAL AND HORIZONTAL ALIGNMENT AND PROTECT IN PLACE ALL OF EXISTING WATER MAINS AND UNDERGROUND STRUCTURES.
5. PIPE WILL BE CLASS 350 DUCTILE IRON PIPE. DIP WILL NOT BE USED IN EASEMENT AREAS WHERE THERE ARE NO STREET IMPROVEMENTS. PIPE TO MEET LATEST LVMWD STANDARDS AND SPECIFICATIONS.
6. ALL WATERLINE ELEVATIONS SHOWN ON PLANS ARE TOP OF PIPE UNLESS OTHERWISE NOTED.
7. AIR AND VACUUM VALVES, BLOW-OFFS, AND FIRE HYDRANTS SHALL BE LOCATED AS SHOWN ON LVMWD STANDARD DRAWINGS NO. PW-127 & PW-128, AND AS DESCRIBED IN STANDARD SPECIFICATIONS.
8. PRIOR TO WATERLINE CONSTRUCTION, THE CONTRACTOR IS REQUIRED TO SUBMIT TRENCH GRADE SHEETS TO CONSTRUCTION SUPERVISOR AT LVMWD. GRADE SHEETS SHALL SHOW STATIONING, FINISH SURFACE ELEVATIONS, HUB ELEVATIONS, AND CUT/FILL TO TOP OF PIPE.
9. FOR WATER SERVICE DURING CONSTRUCTION, CONTACT CUSTOMER SERVICE REPRESENTATIVE AT (818) 880-4110 REGARDING SERVICE APPLICATION AND WATER COSTS.
10. UNLESS OTHERWISE SHOWN, MINIMUM COVER SHALL BE 36-INCHES OVER 12-INCH PIPES AND SMALLER, FROM FINISH SURFACE.
11. PROVISIONS MUST BE MADE FOR TEMPORARY FILLING CONNECTIONS, DISINFECTION, PRESSURE TESTING, AND FLUSHING AND DRAINING. THESE PROVISIONS TO BE PRESENTED TO LVMWD CONSTRUCTION SUPERVISOR, FOR APPROVAL, PRIOR TO THE START OF CONSTRUCTION.
12. SHOP DRAWINGS FOR PIPE AND FITTINGS, INCLUDING PIPE LAYOUT SHEETS SHOWING JOINTS, SHALL BE SUBMITTED FOR APPROVAL BY DISTRICT'S REPRESENTATIVE PRIOR TO FABRICATION OF THE PIPE AND FITTINGS.
13. WHERE EXISTING WATER MAIN IS CUT, THE CONTRACTOR SHALL CAP AND PLUG AND ABANDON THE EXISTING WATER MAIN PER SPECIFICATIONS.
14. PROTECT IN PLACE ALL BOLLARDS. IF BOLLARDS ARE DAMAGED, THE CONTRACTOR SHALL REPLACE IN KIND.
15. THE CONTRACTOR IS REQUIRED TO COORDINATION WITH LA COUNTY AND LA COUNTY'S CONTRACTOR OF THE BRIDGE. PIPE INSTALLATION, TESTING, DISINFECTION, AND DISTRICT APPROVAL SHALL BE COMPLETED PRIOR TO COUNTY'S CONTRACTOR STREET SURFACE WORK.
16. TRENCH BACKFILL SHALL BE 1-SACK SLURRY TO BOTTOM OF AC PAVEMENT OR 12-INCHES BELOW GROUND SURFACE IN SHOULDER AREAS.
17. ALL BURIED BOLTS SHALL BE 316SS.

STRUCTURAL STEEL & MISC. METALS

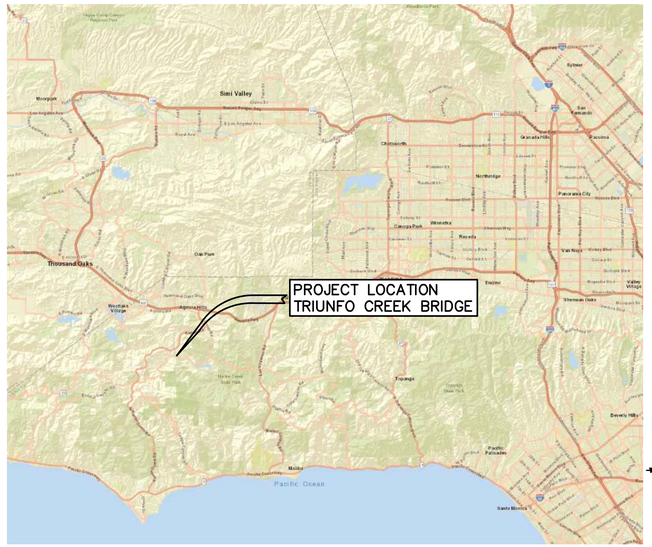
1. All portions of work pertaining to structural steel construction shall conform to the California Building Code, Chapter 22, and other referenced Standards.
2. Fabrication and erection of structural steel shall be in accordance with the "Code of Standard Practice for Steel Buildings and Bridges", AISC 303-10.
3. Materials:

A. W Shapes:	ASTM A992 (F_y = 50 ksi)
B. Channels & Angles:	ASTM A36 (F_y = 36 ksi)
C. All other Shapes & Plates:	ASTM A572 Grade 50 (F_y = 50 ksi)
D. Structural Tubes (Rectangular HSS):	ASTM A500 Grade B (F_y = 46 ksi)
E. Structural Tubes (Round HSS):	ASTM A500 Grade B (F_y = 42 ksi)
F. Structural Pipes:	ASTM A53 Grade B (F_y = 35 ksi)

4. Bolts, unless noted otherwise on drawings:

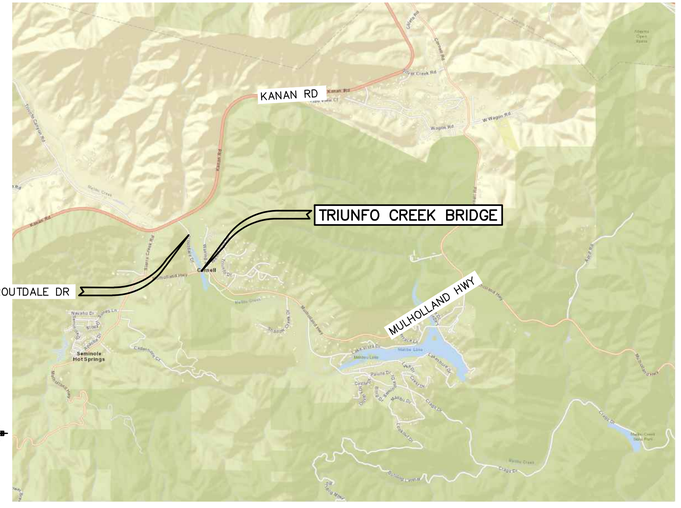
A. Typical Steel Connections:	ASTM A325-N
B. Machine Bolts when specified (MB):	ASTM A307
C. Anchor Bolts & Rods:	ASTM F1554 Grade 55-S1

5. Joint type for bolted connections shall be Pre-Tensioned (PT), unless noted otherwise as Snug-Tightened (ST) or Slip-Critical (SC).
6. Bolt holes shall be 1/16" larger in diameter than nominal size of bolt used, unless noted otherwise.
7. For bolted connections, provide 1½ inch edge and end distance, unless noted otherwise.
8. All welding shall conform to the Structural Welding Code – Steel, AWS D1.1 and Seismic Supplement, AWS D1.8, by the American Welding Society. Welding rods shall be E70XX, unless noted otherwise.
9. The filler metal for all welding shall have a notch toughness of not less than 20 ft-lbs at 0 degrees F, as measured by a standard Charpy V-Notch test, ASTM E-23, in accordance with the applicable filler metal specification referenced in AWS D1.1 and Seismic Supplement AWS D1.8.



VICINITY MAP

N.T.S.



SITE MAP

N.T.S.

10. All welding shall be performed by certified welders.
11. All welds not specified shall be continuous fillet welds. Size of welds shall be based on AWS D1.1 for thicker part joined.
12. Weld symbols shown on the drawings do not necessarily differentiate between shop weld and field welds. When field welds are necessary due to construction procedure or sequence, welds shall be provided and be inspected per specifications. All welds shown as field welds shall be done in field as indicated.
13. All structural steel surfaces are to be painted or galvanized, unless noted otherwise. Steel that is not exposed to weather and is to be encased in concrete or masonry shall be left uncoated. Steel that is to receive spray-applied fireproofing shall be left uncoated. Faying surfaces of high-strength bolted connections and areas within 3 inches of field welded joints shall be left uncoated until welding and bolting operations are complete.
14. All structural steel, miscellaneous metal and connectors exposed to weather shall be hot-dip galvanized after fabrication, unless noted otherwise.
15. No holes or penetrations through structural steel members are allowed except as indicated on the structural drawings. Connections of items supported by structural steel members are the responsibility of the disciplines who are making these attachments. Attachment of lateral bracing to bottom flanges of steel beam members are not allowed except as indicated on the structural drawings.

POST-INSTALLED ANCHORS

1. Post-Installed anchors include all adhesive anchors (reinforcing bar dowels and threaded rods) expansion anchors, screw anchors and undercut anchors set in holes drilled in existing concrete or masonry.
2. Installation of post-installed anchors shall conform to all requirements of the applicable code evaluation or IAPMO reports and manufacturers' recommendations.
3. Mark the location of all existing reinforcing in the substrate material within 12" of the proposed locations of all post-installed anchors. Notify the Engineer of any conflicts discovered between the proposed anchor locations and the existing reinforcing prior to fabrication of any steel and prior to any hole drilling, so as to avoid disturbing, cutting, or otherwise harming the existing reinforcing.
4. Holes for adhesive anchors in concrete shall be drilled. Cored holes are not permitted.
5. Adhesive Anchors in Concrete or Approved Equal (reinforcing bar dowels or threaded rods), UNO:
   A. HILTI "HIT-HY 200" ICC ESR-3187.
   B. HILTI "HIT-RE 500 V3" ICC ESR-3814.
   C. Simpson "SET-XP" Epoxy Adhesive. ICC ESR-2508.
   D. Simpson "AT-XP" Anchoring Adhesive IAPMO ER-263.
   E. Sika "Anchorfix-3001" ICC ESR-3608.
   F. Powers "Pure 110+" ICC ESR-3298,

ADHESIVE ANCHORS

ANCHOR SIZE	TYPICAL EMBEDMENT (U.O.N.)	PROOF LOAD NORMAL WEIGHT CONCRETE	PROOF LOAD LIGHT WEIGHT CONCRETE	PROOF LOAD GROUT-FILLED CMU BLOCK
#3 OR 3/8"ø	3½"	2100 lb.	1600 lb.	1600 lb.
#4 OR ½"ø	4½"	3700 lb.	1900 lb.	1900 lb.
#5 OR 5/8"ø	5⅝"	5800 lb.	2800 lb.	2800 lb.
#6 OR ¾"ø	6¾"	6900 lb.	–	–
#7 OR 7/8"ø	7⅞"	11500 lb.	–	–
#8 OR 1"ø	9⅜"	12400 lb.	–	–
#9 OR 1⅛"ø	10¾"	19000 lb.	–	–

LEGEND

RIGHT-OF-WAY	
FENCE	X X X
PROPOSED WATER MAIN	W
EXISTING WATER MAIN	W
EXISTING TELEPHONE	T
EXISTING TRAFFIC SIGNAL	TS
EXISTING OVERHEAD WIRES	OH
EXISTING GAS	G
AC PAVING	
EXISTING STORM DRAIN CULVERT	
FIRE HYDRANT COMPLETE	W
BUTTERFLY OR GATE VALVES	PROPOSED / EXISTING
TEE	W, THRUST BLOCK
DOMESTIC SERVICE CONNECTION AND METER BOX	
SEWER LINE AND MANHOLE	SS SS
DI	DUCTILE IRON
MJ	MECHANICAL JOINT
PE	PLAIN END
ACP	ASBESTOS CEMENT PIPE
PVC	POLYVINYL CHLORIDE
FL	FLANGE
VCP	VITRIFIED CLAY PIPE
C.P.	SURVEY CONTROL POINT
MAILBOX	MB
POWER POLE	
SIGN	

SHEET INDEX

CONSULTANT(S)

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TEL: (310) 664-1166 FAX: (310) 664-8877

PREPARED FOR

LAS VIRGENES MUNICIPAL WATER DISTRICT
4232 LAS VIRGENES ROAD CALABASAS, CA 91302
TEL: (818) 251-2100

DESIGN:	TK
DRAWN:	TK
CHECKED:	GP

REGISTERED PROFESSIONAL ENGINEER
TINA T. KUAH
C 70876
EXP. 6/30/2021
CIVIL
STATE OF CALIFORNIA
ENGINEER'S SEAL

Cannon
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REV. NO.	DATE	DESCRIPTION	APPVD.	DATE
	5/18/20	100% CONSTRUCTION DOCUMENTS ISSUED FOR CONSTRUCTION		
1	11/16/20	REVISED ALIGNMENT PER BRIDGE SHOP DRAWING		
2	02/02/21	REVISED SUPPORT DETAILS PER LA COUNTY COMMENTS		
3	02/08/21	REVISED ALIGNMENT		
4	02/22/21	REVISED SUPPORT DETAILS AND ALIGNMENT		

REVISIONS

LAS VIRGENES MUNICIPAL WATER DISTRICT

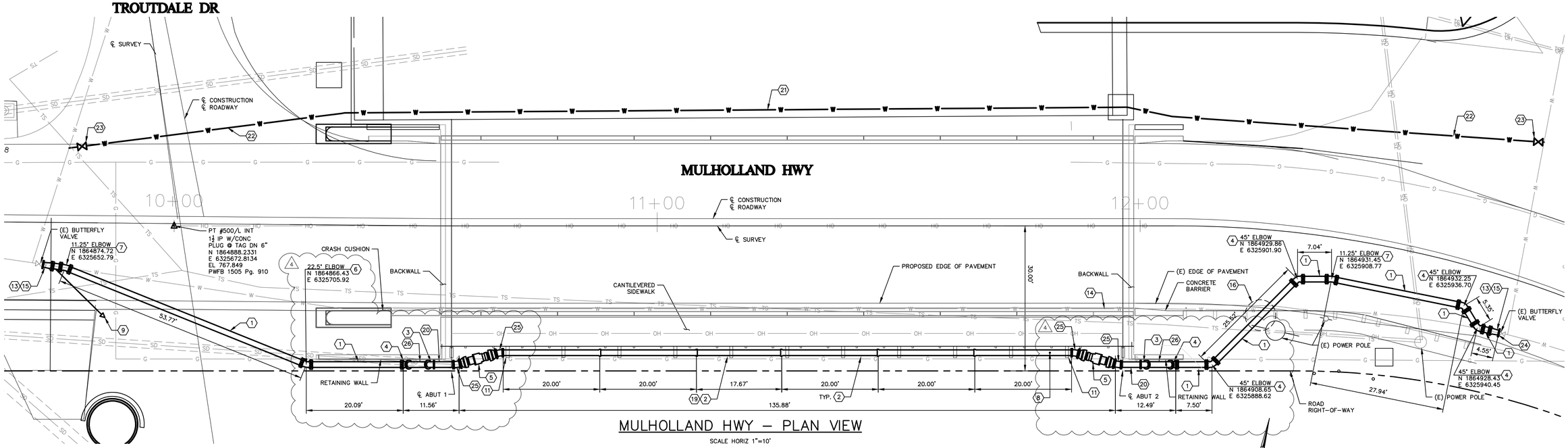
TRIUNFO CREEK BRIDGE-MULHOLLAND HWY WATERMAIN REPLACEMENT

VICINITY MAP & LOCATION MAP

PREPARED BY:
CANNON ENGINEERING
11900 WEST OLYMPIC BLVD., SUITE 530,
LOS ANGELES, CALIFORNIA 90064

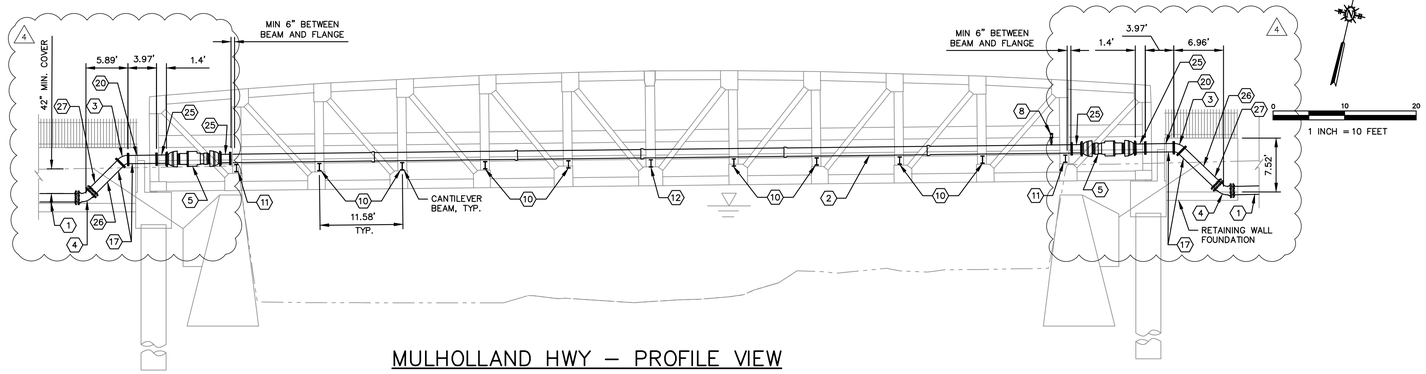
APPROVED FOR LAS VIRGENES MUNICIPAL WATER DISTRICT
BY: _____
DATE: _____

SCALE: AS SHOWN
DATE: 05/18/2020
SHEET 1 OF 3



MULHOLLAND HWY – PLAN VIEW

SCALE HORIZ 1"=10'



MULHOLLAND HWY – PROFILE VIEW

SCALE: HORIZ 1"=10'; VERT 1"=10'

GENERAL NOTES

1. LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND BASED ON AVAILABLE INFORMATION PROVIDED BY UTILITY COMPANIES. IN INSTANCES WHERE NO VERTICAL UTILITY INFORMATION COULD BE FOUND, THE DEPTH OF THESE UTILITIES ARE SHOWN THREE FEET BELOW GROUND SURFACE.
2. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL POTHOLE AND VERIFY LOCATION AND DEPTH OF EXISTING UTILITIES AND NOTIFY ENGINEER OF ANY DISCREPANCIES. CONTRACTOR SHALL USE POSITIVE LOCATION METHODS PER CALTRANS PUBLICATION – "POLICY ON HIGH AND LOW RISK UNDERGROUND FACILITIES WITHIN HIGHWAY RIGHTS OF WAY".
3. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF THE DISCOVERY OF ANY UTILITY THAT WAS OMITTED FROM THE PLANS, INCORRECTLY SHOWN OR NOT PROPERLY MARKED. IF THE UTILITY DOES NOT PROVIDE LOCATION INFORMATION OR MARKING SERVICES IN THE FIELD, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.
4. OVERHEAD UTILITIES ARE NOT SHOWN IN ALL INSTANCES. CONTRACTOR SHALL USE DUE CARE WHEN WORKING NEAR OR UNDER SAID UTILITIES AND SHALL PROTECT THEM IN PLACE.
5. THE CONTRACTOR SHALL NOT INTERRUPT THE UTILITY SERVICE FUNCTION, DISTURB THE SUPPORT BASE, OR MODIFY ANY FACILITY WITHOUT AUTHORITY FROM THE UTILITY OWNER.
6. EXISTING PIPELINES/UTILITIES THAT CROSS NEW SYSTEM PIPING OR SIMILAR EXCAVATIONS REQUIRED TO CONSTRUCT THE PIPING, SHALL BE PROTECTED IN PLACE, UNLESS OTHERWISE NOTED. ALL EXISTING PIPELINES/UTILITIES SHALL BE SUPPORTED ACROSS THE EXCAVATION DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY OWNER IF ANY UTILITY IS DISTURBED OR DAMAGED DURING THE COURSE OF THE WORK. THE CONTRACTOR SHALL BEAR THE COSTS OF REPAIR OR REPLACEMENT OF ANY MARKED UTILITY WHERE DAMAGE WAS CAUSED BY THE CONTRACTOR'S ACTIVITIES.
8. POTHOLE CONNECTION AREA IN ADVANCE AND REVISE PROFILE TO ACCOMMODATE DEPTH DIFFERENCE.
9. ALL DIP INTENDED TO BE FIELD CUT SHALL BE "GAUGED PIPE".

CONSTRUCTION NOTES

1. INSTALL FULLY RESTRAINED CLASS 350 DIP, 14"ø WATER MAIN WITH POLYETHYLENE ENCASEMENT (FLEX RING BY AMERICAN DUCTILE IRON, TR FLEX BY US PIPE, AND/OR APPROVED EQUAL) WITH MINIMUM 42" COVER IN OPEN TRENCH PER LVMWD STD. PW-101.
2. INSTALL FULLY RESTRAINED CLASS 350 DIP, 14"ø WATER MAIN WITH CEMENT MORTAR LINED AND PAINTED PER SPECIFICATIONS ABOVE GROUND (FLEX RING BY AMERICAN DUCTILE IRON, TR FLEX BY US PIPE, AND/OR APPROVED EQUAL).
3. INSTALL 14"ø AWWA C110 DI 45° BEND (FL x FL).
4. INSTALL 14"ø DI 45° BEND (MJ x MJ) WITH RESTRAINTS (EBAA MEGALUG OR APPROVED EQUAL) AND THRUST BLOCK PER LVMWD STD. PW-133.
5. INSTALL 14"ø FLEXIBLE EXPANSION JOINT, FLEX-TEND FORCE BALANCED (FL x FL) SERIES NUMBER 4414F208, OR APPROVED EQUAL. SEE DETAIL 12, SHEET 3.
6. INSTALL 14"ø DI 22.5° BEND (MJ x MJ) WITH RESTRAINTS (EBAA MEGALUG OR APPROVED EQUAL) AND THRUST BLOCK PER LVMWD STD. PW-133.
7. INSTALL 14"ø DI 11.25° BEND (MJ x MJ) WITH RESTRAINTS (EBAA MEGALUG OR APPROVED EQUAL) AND THRUST BLOCK PER LVMWD STD. PW-133.
8. INSTALL 2" COMBINATION AIR AND VACUUM VALVE AND BALL VALVE. VENT-O-MAT SERIES RBX WITH TEST COCK.
9. INSTALL 2" BLOW OFF PER LVMWD STANDARD DETAIL DWG PW-116.
10. PIPE ROLLER SEE DETAIL 1, SHEET 3.
11. END CONDITION PIPE BRACE SEE DETAIL 2, SHEET 3.
12. PIPE ROLLER LONGITUDINAL BRACE SEE DETAIL 3, SHEET 3.
13. 12" x 14" REDUCER (FL x MJ) WITH RESTRAINT (EBAA MEGALUG OR APPROVED EQUAL).
14. ABANDON EXISTING 12" WATERMAIN PER SPECIFICATION.
15. CONNECTION DETAIL 10, SHEET 3.
16. INSTALL WATERMAIN BETWEEN GUARDRAIL POSTS, SEE ROAD PLAN. CONTRACTOR TO VERIFY LOCATION OF GUARDRAIL POSTS BEFORE CONSTRUCTION OF WATERMAIN. NOTIFY THE ENGINEER IMMEDIATELY IF LOCATION OF POSTS DEVIATE FROM PLANS.
17. PIPE BRACE AT RETAINING WALL SEE DETAILS 7 AND 8 SHEET 3.
19. PE x PE
20. INSTALL 14"ø MIN. THICKNESS CL 53 DIP SPOOL (FL x FL).
21. REMOVE ABOVEGROUND TEMPORARY PIPELINE AND APPURTENANCES ALONG TEMPORARY BRIDGE AND HAUL TO LVMWD YARD.
22. CUT HDPE PIPE AT 10"ø BUTTERFLY VALVE AND ABANDON UNDERGROUND TEMPORARY PIPELINE PER SPECIFICATION.
23. REMOVE 10"ø BUTTERFLY VALVE, BLIND FLANGE TEE, AND HAUL VALVE TO LVMWD YARD.
24. BEFORE ANY WORK, EXCAVATE AND WELD GASKET JOINT THAT IS APPROXIMATELY 3 FT FROM REDUCER AND BUTTERFLY VALVE, SEE APPENDIX A OF SPECIFICATION.
25. INSTALL 14"ø DI 11.25° BEND (FLG x FLG) WITH DI TAPERED FILLER FLANGES TO OBTAIN AN ANGLE OF 14.2°- 15.6°
26. INSTALL 14"ø MIN. THICKNESS CL 53 DIP SPOOL (FL x PE).
27. ADDITIONAL PIPE SUPPORT AT RETAINING WALL SEE DETAIL 4 SHEET 3.

BENCHMARK

PT #500/℄INT — MALIBU 2008 ADJ NAVD 1988 — EL.767.849

1½ IP W/CONC
PLUG & TAG DN 6"
N 1864888.2331
E 6325672.8134
PWFB 1505 — PAGE 910

DESIGN: TK
DRAWN: TK
CHECKED: GP

REGISTERED PROFESSIONAL ENGINEER
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REV. NO.	DATE	DESCRIPTION	APPVD.	DATE
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REVISIONS

LAS VIRGENES MUNICIPAL WATER DISTRICT

TRIUNFO CREEK BRIDGE–MULHOLLAND HWY WATERMAIN REPLACEMENT

WATERLINE REPLACEMENT PLAN AND PROFILE

PREPARED BY:
CANNON ENGINEERING
11900 WEST OLYMPIC BLVD., SUITE 530,
LOS ANGELES, CALIFORNIA 90064

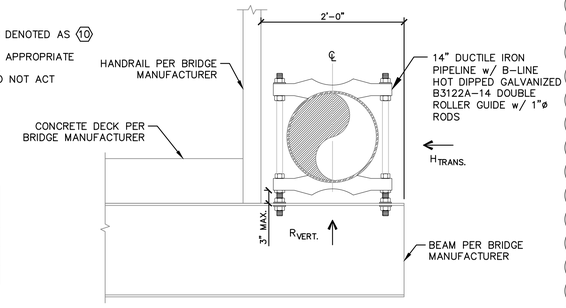
APPROVED FOR LAS VIRGENES MUNICIPAL WATER DISTRICT
BY: _____
PRINCIPAL ENGINEER
DATE: _____

SCALE: AS SHOWN
DATE: 05/18/2020
SHEET 2 OF 3

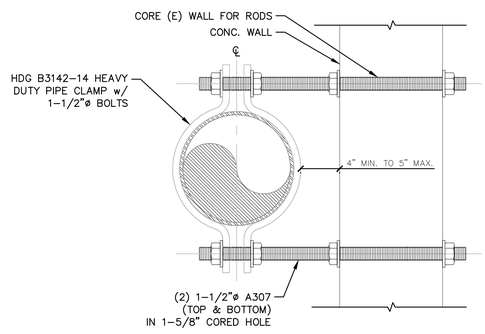
NOTES:
1. THIS DETAIL APPLIES TO TYPICAL PIPE SUPPORTS DENOTED AS (10) PER DRAWINGS SHEET 2.
2. THE TABULATED LOADS ARE UNFACTORED LOADS. APPROPRIATE LOAD COMBOS PER CBC 2016 SHALL BE APPLIED.
3. HORIZONTAL THRUST AND EARTHQUAKE LOADS DO NOT ACT CONCURRENTLY.
4. PIPE WATER PRESSURE DESIGN DATA:
   TEST PRESSURE = 350 PSI
   SERVICE PRESSURE = 200 PSI
5. EARTHQUAKE DESIGN DATA:
   SPECTRAL RESPONSE COEFFICIENT, S_{DS} = 1.29g
   RESPONSE MODIFICATION FACTOR, R = 6.0
   SEISMIC RESPONSE COEFFICIENT, Cs = 0.58

	$R_{VERT.}$ [KIPS]	$H_{TRANS.}$ [KIPS]	$H_{LONG.}$ [KIPS]
DL	−1.45	0.00	0.00
THRUST	0.00	0.00	0.00
EQ	±0.38	±0.84	0.00

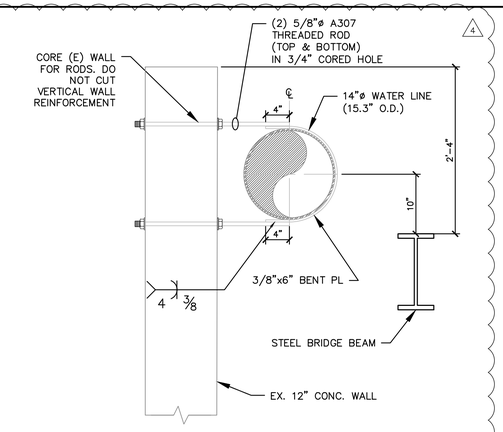
*"+" VERT. FORCE INDICATES AN UPWARD FORCE.



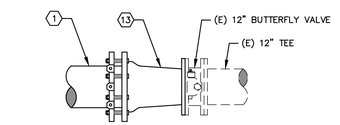
TYPICAL PIPE ROLLER DETAIL
SHEET 2 — SCALE: 1"=1'-0" — 1



PIPE BRACES SECTION
SHEET 2 — SCALE: 1-1/2"=1'-0" — 4

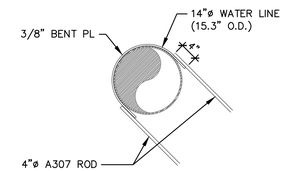


PIPE BRACES SECTION
SHEET 2 — SCALE: 1"=1'-0" — 7



NOTE:
POTHOLE CONNECTION AREA IN ADVANCE AND REVISE PROFILE TO ACCOMMODATE DEPTH DIFFERENCE

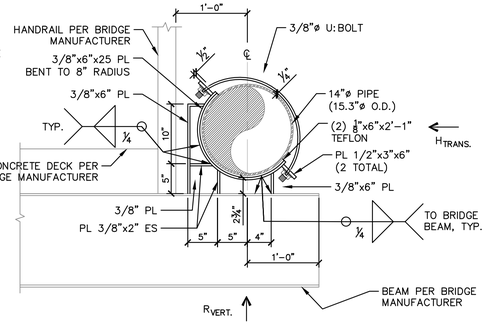
PIPE CONNECTION DETAIL
SHEET 2 — SCALE: NTS — 10



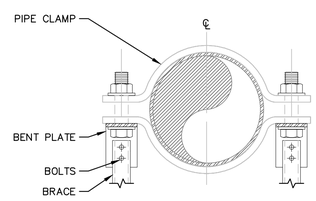
NOTES:
1. THIS DETAIL APPLIES TO PIPE SUPPORTS DENOTED AS (11) PER DRAWINGS SHEET 2.
2. THE ABOVE LOADS ARE UNFACTORED LOADS. APPROPRIATE LOAD COMBOS PER CBC 2016 SHALL BE APPLIED.
3. HORIZONTAL THRUST AND EARTHQUAKE LOADS DO NOT ACT CONCURRENTLY.
4. PIPE WATER PRESSURE DESIGN DATA:
   TEST PRESSURE = 350 PSI
   SERVICE PRESSURE = 200 PSI
5. EARTHQUAKE DESIGN DATA:
   SPECTRAL RESPONSE COEFFICIENT, S_{DS} = 1.29g
   RESPONSE MODIFICATION FACTOR, R = 6.0
   SEISMIC RESPONSE COEFFICIENT, Cs = 0.58

	$R_{VERT.}$ [KIPS]	$H_{TRANS.}$ [KIPS]	$H_{LONG.}$ [KIPS]
DL	−1.03	0.00	0.00
THRUST	±3.08	+15.00	0.00
EQ	±2.03	±2.36	0.00

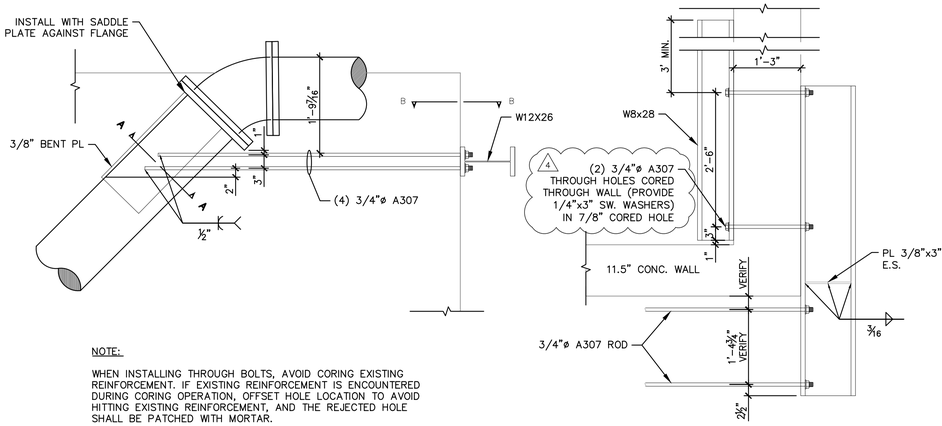
*"+" VERT. FORCE INDICATES AN UPWARD FORCE.



END CONDITION – PIPE BRACE DETAIL
SHEET 2 — SCALE: 1"=1'-0" — 2



PIPE ROLLER LONGITUDINAL BRACE – SECTION
SHEET 2 — SCALE: 1-1/2"=1'-0" — 5



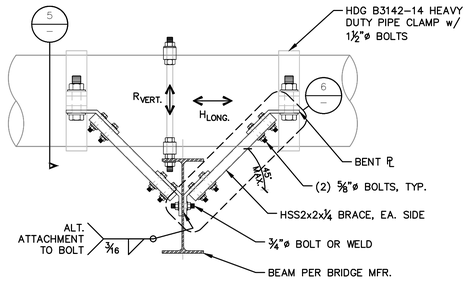
NOTE:
WHEN INSTALLING THROUGH BOLTS, AVOID CORING EXISTING REINFORCEMENT. IF EXISTING REINFORCEMENT IS ENCOUNTERED DURING CORING OPERATION, OFFSET HOLE LOCATION TO AVOID HITTING EXISTING REINFORCEMENT, AND THE REJECTED HOLE SHALL BE PATCHED WITH MORTAR.

PIPE BRACES SECTION
SHEET 2 — SCALE: 1"=1'-0" — 8

NOTES:
1. THIS DETAIL APPLIES TO PIPE SUPPORTS DENOTED AS (12) PER DRAWINGS SHEET 2.
2. THE ABOVE LOADS ARE UNFACTORED LOADS. APPROPRIATE LOAD COMBOS PER CBC 2016 SHALL BE APPLIED.
3. HORIZONTAL THRUST AND EARTHQUAKE LOADS DO NOT ACT CONCURRENTLY.
4. PIPE WATER PRESSURE DESIGN DATA:
   TEST PRESSURE = 350 PSI
   SERVICE PRESSURE = 200 PSI
5. EARTHQUAKE DESIGN DATA:
   SPECTRAL RESPONSE COEFFICIENT, S_{DS} = 1.29g
   RESPONSE MODIFICATION FACTOR, R = 6.0
   SEISMIC RESPONSE COEFFICIENT, Cs = 0.58

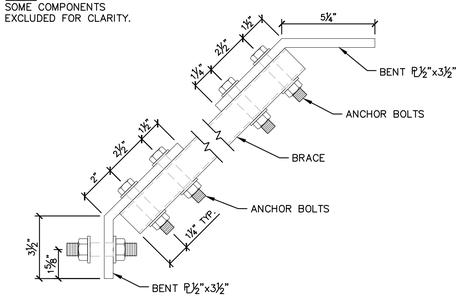
	$R_{VERT.}$ [KIPS]	$H_{TRANS.}$ [KIPS]	$H_{LONG.}$ [KIPS]
DL	−1.45	0.00	0.00
THRUST	0.00	0.00	0.00
EQ	±0.27	±0.84	±8.64

*"+" VERT. FORCE INDICATES AN UPWARD FORCE.

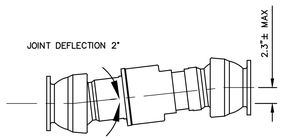


PIPE ROLLER LONGITUDINAL BRACE DETAIL
SHEET 2 — SCALE: 1"=1'-0" — 3

NOTE:
SOME COMPONENTS EXCLUDED FOR CLARITY.



PIPE ROLLER LONG. BRACE DETAIL
SHEET 2 — SCALE: 3"=1'-0" — 6



NOTE:
1. DEFLECTION ANGLE NOT TO EXCEED 2° PER JOINT.
2. SERIES 4414F20B FORCE BALANCED FLEX-TEND FLEXIBLE EXPANSION JOINT DOUBLE BALL, FLANGE BY FLANGE, 14 INCH NOMINAL PIPE SIZE

FLEX-TEND EXPANSION JOINT DETAIL
SHEET 2 — SCALE: NTS — 12

DESIGN: TK
DRAWN: TK
CHECKED: GP

REGISTERED PROFESSIONAL ENGINEER — MARSHALL R. PYNE — S 5101 — STRUCTURAL — STATE OF CALIFORNIA
2/22/2021
ENGINEER'S SEAL

Cannon
11900 West Olympic Blvd, Suite 530
Los Angeles, CA 90064
P 310.664.1166 F 310.664.8877

REV. NO.	DATE	DESCRIPTION	APPVD.	DATE
	5/18/20	100% CONSTRUCTION DOCUMENTS ISSUED FOR CONSTRUCTION		
1	11/16/20	REVISED ALIGNMENT PER BRIDGE SHOP DRAWING		
2	02/02/21	REVISED SUPPORT DETAILS PER LA COUNTY COMMENTS		
3	02/08/21	REVISED ALIGNMENT		
4	02/22/21	REVISED SUPPORT DETAILS AND ALIGNMENT		

REVISIONS

LAS VIRGENES MUNICIPAL WATER DISTRICT

TRIUNFO CREEK BRIDGE–MULHOLLAND HWY WATERMAIN REPLACEMENT

WATERLINE REPLACEMENT DETAIL SHEET

PREPARED BY:
CANNON ENGINEERING
11900 WEST OLYMPIC BLVD., SUITE 530,
LOS ANGELES, CALIFORNIA 90064

APPROVED FOR LAS VIRGENES MUNICIPAL WATER DISTRICT
BY: _____
PRINCIPAL ENGINEER
DATE: _____

SCALE: AS SHOWN
DATE: 05/18/2020
SHEET 3 OF 3

April 6, 2021 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Engineering and External Affairs

Subject : Woolsey Fire Facility Repair Project No. 2, Westlake Filtration Plant: Construction Award

SUMMARY:

On January 19, 2021, the Board rejected previously-submitted bids and authorized the reissuance of a call for bids for the Woolsey Fire Facilities Repair Project No. 2, Westlake Filtration Plant. The scope of work includes complete demolition and reconstruction of the building arcade; demolition and reconstruction of the external pump room; removal and replacement of the roof; replacement of the countertop and repairs to the wall in the laboratory; repainting the building; and repainting of the air gap pipe. Following re-advertisement of the project for construction, six bids were submitted and publicly opened. SBS Corporation submitted the lowest responsive bid, in the amount of $1,211,702.61.

RECOMMENDATION(S):

Award a construction contract to SBS Corporation, in the amount of $1,211,702.61, and reject all remaining bids upon receipt of the duly executed contract documents for the Woolsey Fire Facilities Repair Project No. 2, Westlake Filtration Plant.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

Yes

FINANCIAL IMPACT:

Sufficient funds for the project are available in the adopted Fiscal Year 2020-21 Budget. No additional appropriation is needed at this time. Staff anticipates that the District's insurance policy will provide reimbursement for the cost of the project. FEMA/CalOES may cover items

of work that are not specifically covered through the District's insurance policy.

DISCUSSION:

On January 19, 2021, the Board rejected bids from the October 20, 2020 advertisement of the project. The submitted bids each had irregularities and after a thorough review by District Counsel, staff recommended rejection of all bids and authorization to reissue a call for bids for the Woolsey Fire Facility Repair Project No. 2, Westlake Filtration Plant.

M6 Consulting, Inc., completed the design plans and specifications for construction project. The general scope of work for repairs includes demolition and reconstruction of interior and exterior building elements that were damaged by the Woolsey Fire. The exterior damages include the arcade, pump room, architectural façade, landscaping and roof assembly. Repairs for interior damages include portions of the laboratory, electrical conductors, conduits and piping.

Staff held a mandatory pre-bid meeting on February 3, 2021, via teleconference, followed by individual appointments for job walks. Thirteen general contractors and sub-contractors expressed interest in the project. Six bids were received by the deadline with SBS Corporation (SBS) submitting the lowest responsive bid. SBS's bid is 16.3% below the Engineer's Estimate of $1,448,245.63. After a thorough review of the submitted bids, staff recommends awarding a construction contract to SBS Corporation in the amount of $1,211,702.61.

Following is a table summarizing the bid results:

Bidder	Submitted Bid Total	Percentage Below/Above the Engineer's Estimate of $1,448,245.63
SBS Corporation	$1,211,702.61	16.3% below
Ardalan Construction Company, Inc.	$1,235,888.00	14.7% below
Fast-Track Const. Comp.	$1,350,894.00	6.7% below
Waisman Construction Inc.	$1,360,941.93	6.0% below
Nationwide Contracting Services	$1,531,129.64	5.7% above
MCEC, Inc.	$1,885,145.65	30.2% above

Following is a table summarizing the anticipated costs as compared to the current budget for the project:

Description	Cost
Professional Services:	
Design, Bidding, Construction Support	$93,186.20
Construction:	
Construction Award	$1,211,702.61
Construction Contingency (10%)	$121,170.26
Administrative:	
District Labor (4%)	$48,468.10
G&A (7%)	$84,819.18

Total Project Cost	**$1,559,346.35**
Existing Budget	$1,910,598.75

The project completion date is 180 calendar days from the Notice of Award/Notice to Proceed, which will be issued following approval by the Board to award the construction contract. As such, the project is anticipated to be completed by October 3, 2021.

GOALS:

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

Prepared by: Veronica Hurtado, Assistant Engineer

ITEM 9A

INFORMATION ONLY

April 6, 2021 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Finance & Administration

Subject : Reconciliation of Capacity and Developer Fee Deposits

SUMMARY:

On January 7, 2020, Director Charles Caspary requested a future agenda item to discuss capacity and developer fee deposits, including the number and dollar value of deposits, length of time deposits are held, disposition of deposits not yet taken to revenue and handling of accrued interest. On April 21, 2020, staff provided an interim response with a summary of the outstanding capacity and developer fee deposits, process to follow-up on the status of the projects for which those deposits were being held and a proposal for an improved process to handle capacity and developer fee deposits going forward.

Over the past year, staff from the Engineering and External Affairs Department and Finance and Administration Department have worked cooperatively to complete the reconciliation of all accounts and implement an improved process to manage the deposits more effectively in the future. Overall, staff reconciled 351 accounts that resulted in recognizing $8,854,884 in additional revenue and issuing $82,843 in refunds.

FISCAL IMPACT:

Yes

ITEM BUDGETED:

No

FINANCIAL IMPACT:

Reconciliation of the accounts resulted in recognizing $8,854,884 in additional revenue, which was previously reflected in the District's financial statements as a liability (unearned income), and issuing $82,843 in refunds.

DISCUSSION:

The District's capacity fees recover the costs associated with providing water and sanitation services to new users and existing users requiring additional capacity.

When staff began the reconciliation process in April 2020, the District held deposits for 371 accounts in the amount of $8,968,974.18. Currently, the District has 30 active deposit accounts, including 10 new accounts, in the amount of $2,617,281.44. Over the past year, staff reconciled 351 accounts that resulted in recognizing $8,854,884 in additional revenue and issuing $82,843 in refunds.

Following is a summary of the reconciliation process on a month-by-month basis.

Month	No. of Accounts Reconciled	Revenue Recognized	Refunds Processed
March	72	$143,251	$0
April	11	$532,320	$3,434
May	8	$248,816	$0
June	3	$41,526	$0
July	4	$152,298	$326
August	11	$76,055	$2,620
September	56	$1,017,175	$0
October	87	$2,926,014	$11,535
November	53	$2,083,397	$64,928
December	19	$994,502	$0
January	27	$639,530	$0
Total	**351**	**$8,854,884**	**$82,843**

Attached for reference is a list of outstanding deposit accounts, all of which were issued an annual statement to ensure that the associated project was still in progress. Annual statements will be sent out by January 31st of each future year for all deposits of record on December 31st of the prior year.

GOALS:

Ensure Effective Utilization of the Public's Assets and Money

Prepared by: Angela Saccareccia, Finance Manager

ATTACHMENTS:

Outstanding Capacity and Developer Deposits

LVMWD CAPACITY AND DEVELOPER DEPOSITS
2/28/2021

PROJECT	CUSTOMER	DEPOSIT ON FILE	LAST DEPOSIT
C0392250 Total	CITY OF CALABASAS	4,459.00	**2/13/2020**
C0505051 Total	GG STORAGE	31,741.07	**7/8/2019**
C0576850 Total	MGC ARCHITECTURE	20,146.00	**6/25/2018**
C2397850 Total	POWELL CONSTRUCTION	28,294.00	**5/13/2020**
C2402550 Total	ALPHA OMEGA CONTRACTORS	12,645.00	**3/10/2020**
C2465050 Total	LITHIA RE	2,753.85	**10/10/2020**
C2630050 Total	RONDELL OASIS	213,342.65	**7/19/2019**
C2950550 Total	AGOURA HILLS HHG HOTEL DEV	245,637.00	**6/23/2017**
C3142550 Total	CARPETTA	2,783.70	**10/22/2020**
C3203750 Total	WESTLAKE VILLAGE INN	11,669.00	**5/9/2019**
P1092450 Total	XEBEC CONSTRUCTION LTD	14,000.00	**3/16/2012**
R0166550 Total	ENCO CONTRACTORS	13,449.00	**12/10/2020**
R0221450 Total	SANTA MONICA BLDG CO	1,085.90	**3/4/2020**
R0341051 Total	NAROYAN	8,017.04	**5/30/2019**
R0384050 Total	WESTLAKE LAKE MANAGEMENT	18,244.00	**12/30/2020**
R0411950 Total	BARNARD ENTERPRISES	7,000.00	**8/7/2015**
R0430050 Total	CREEKSIDE CALABASAS HOA	1,616.00	**6/30/2020**
R0545650 Total	KORAMBATH	756.00	**1/6/2020**
R0550850 Total	STOCK	7,000.00	**11/25/2015**
R0551551 Total	5515 PARADISE VALLEY LLC	38,337.00	**5/14/2020**
R0575750 Total	ENCO STRUCTURAL CONSULTANT	-301.31	**1/16/2020**
R1187450 Total	SINGH	10,750.00	**11/19/2020**
R2391150 Total	ISEN	10,996.00	**10/1/2020**
R2410150 Total	SONOMA	42,524.90	**10/17/2019**
R2676950 Total	MALIBU CANYON LP	6,463.00	**6/28/2108**
R3133650 Total	NILES	10,750.00	**8/11/2020**
R3133750 Total	TUVERSON	756.00	**4/23/2020**
R3352850 Total	ROLLINS	5,149.60	**6/28/2108**
T3295203 Total	GKL INC	333.54	**11/29/2018**
T5313850 Total	PRESIDION CHATSWORTH PARTNERS	1,846,883.50	**1/29/2021**
Grand Total		**2,617,281.44**	

ITEM 9B

INFORMATION ONLY

April 6, 2021 LVMWD Regular Board Meeting

TO: Board of Directors

FROM: Finance & Administration

Subject : GFOA Distinguished Budget Presentation Award

SUMMARY:

The Government Finance Officers Association of the United States and Canada (GFOA) presented its Distinguished Budget Presentation Award to the District for its Fiscal Years 2020-22 Biannual Budget. The award, along with one received by GFOA for the District's Comprehensive Annual Financial Report, reflect the Board's on-going commitment to strong financial management and transparency in District operations.

FISCAL IMPACT:

No

ITEM BUDGETED:

No

DISCUSSION:

The District's two-year budget for Fiscal Years 2020-22 received the Distinguished Budget Presentation Award from the Government Finance Officers Association of the United States and Canada. This represents the 16th straight year that the District has received the award.

The budget award is the highest form of recognition for excellence in state and local government budgeting. To receive the Distinguished Budget Presentation Award, a government agency must satisfy nationally-established standards for effective budgeting. The budget document is assessed on its fulfillment of requirements that demonstrate that the budget serves as a policy document, financial plan, operations guide and communications device.

The GFOA established the Distinguished Budget Presentation Awards Program in 1984 to

encourage and assist state and local governments to prepare budget documents of the very highest quality that reflect both the guidelines established by the National Advisory Council on State and Local Budgeting and the GFOA's best practices on budgeting and then to recognize individual governments that succeed in achieving that goal.

GOALS:

Ensure Effective Utilization of the Public's Assets and Money

Prepared by: Angela Saccareccia, Finance Manager

ATTACHMENTS:

GFOA Distinguished Budget Presentation Award

The Government Finance Officers Association of the United States and Canada

presents this

CERTIFICATE OF RECOGNITION FOR BUDGET PREPARATION

to

Finance Department
Las Virgenes Municipal Water District, California

The Certificate of Recognition for Budget Preparation is presented by the Government Finance Officers Association to those individuals who have been instrumental in their government unit achieving a Distinguished Budget Presentation Award. The Distinguished Budget Presentation Award, which is the highest award in governmental budgeting, is presented to those government units whose budgets are judged to adhere to program standards.

Executive Director

Christopher P. Morrill

Date **February 22, 2021**