

COASTSIDE COUNTY WATER DISTRICT

766 MAIN STREET

HALF MOON BAY, CA 94019

REGULAR MEETING OF THE BOARD OF DIRECTORS

Tuesday, March 12, 2019 - 7:00 p.m.

AGENDA

The Coastside County Water District (CCWD) does not discriminate against persons with disabilities. Upon request, the agenda and agenda packet materials can be provided in a format to accommodate special needs. If you require a copy of the agenda or related materials in an alternative format to accommodate a disability, or if you wish to attend this public meeting and will require special assistance or other special equipment, please call the District at (650) 726-4405 in advance and we will make every reasonable attempt to provide such an accommodation.

All public records relating to an open session item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at the CCWD District Office, located at 766 Main Street, Half Moon Bay, CA at the same time that the public records are distributed or made available to the legislative body.

This agenda and accompanying materials can be viewed on Coastside County Water District's website located at: www.coastsidewater.org.

The Board of the Coastside County Water District reserves the right to take action on any item included on this agenda.

- 1) ROLL CALL**
- 2) PLEDGE OF ALLEGIANCE**
- 3) PUBLIC COMMENT**

At this time members of the public may address the Board of Directors on issues not listed on the agenda which are within the purview of the Coastside County Water District. Comments on matters that are listed on the agenda may be made at the time the Board is considering each item. Each speaker is allowed a maximum of three (3) minutes and must complete and submit a speaker slip. The President of the Board will recognize each speaker, at which time the speaker should proceed to the podium, give their name and address and provide their comments to the Board.

4) CONSENT CALENDAR

The following matters before the Board of Directors are recommended for action as stated by the General Manager. All matters listed hereunder constitute a Consent Calendar, are considered as routine by the Board of Directors, and will be acted upon by a single vote of the Board. There will be no separate discussion of these items unless a member of the Board so requests, in which event the matter shall be removed from the Consent Calendar and considered as a separate item.

- A. Approval of disbursements for the month ending February 28, 2019:
Claims: \$641,383.47; Payroll: \$103,857.30 for a total of \$745,240.77 ([attachment](#))
➤ *February 2019 Monthly Financial Claims reviewed and approved by Director Feldman*
- B. Acceptance of Financial Reports ([attachment](#))
- C. Approval of Minutes of February 12, 2019 Regular Board of Directors Meeting ([attachment](#))
- D. Monthly Water Service Connection Transfer Report ([attachment](#))
- E. Installed Water Connection Capacity and Water Meters Report ([attachment](#))
- F. Total CCWD Production Report ([attachment](#))
- G. CCWD Monthly Sales by Category Report – February 2019 ([attachment](#))
- H. Monthly Planned Plant or Tank Discharge and New Water Line Flushing Report ([attachment](#))
- I. Monthly Rainfall Reports ([attachment](#))
- J. S.F.P.U.C. Hydrological Report for the month of January 2019 ([attachment](#))
- K. Notice of Completion - 2 Inch El Granada Pipeline Replacement Project ([attachment](#))
- L. Approval for Director Feldman to attend the Association of California Water Agencies (ACWA) Spring Conference in Monterey, May 7th through 10th, 2019 ([attachment](#))
- M. Approval for Director Reynolds to attend the California Special District's Association (CSDA) Special District Leadership Academy – July 7th – 10th, 2019 ([attachment](#))

5) MEETINGS ATTENDED / DIRECTOR COMMENTS

6) GENERAL BUSINESS

- A. Approval of Additional Funding for Professional Services Agreement with EKI Environmental and Water for Capital Project Management Support ([attachment](#))
- B. Approval of Professional Services Agreement with TJC and Associates, Inc. for Water Tank Seismic Evaluations ([attachment](#))
- C. Approval of Professional Services Agreement with TJC and Associates, Inc. for Denniston Water Treatment Plant and Pump Station Standby Power Design Services ([attachment](#))
- D. Approval of Interview and Selection Procedure for Candidates to Fill Board of Directors Vacancy ([attachment](#))

7) MONTHLY INFORMATIONAL REPORTS

- A. Superintendent of Operations Report ([attachment](#))

- 8) **DIRECTOR AGENDA ITEMS - REQUESTS FOR FUTURE BOARD MEETINGS**
- 9) **ADJOURNMENT**

**COASTSIDE COUNTY WATER DISTRICT
CLAIMS FOR FEBRUARY 2019**

CHECKS			
<u>CHECK DATE</u>	<u>CHECK NO.</u>	<u>VENDOR</u>	<u>AMOUNT</u>
02/01/2019	26414	NORTH AMERICAN TITLE CO, INC	\$ 500.00
02/01/2019	26415	NORTH AMERICAN TITLE CO, INC	\$ 500.00
02/01/2019	26416	NORTH AMERICAN TITLE CO, INC	\$ 500.00
02/05/2019	26417	KEITH WOESTE	\$ 3,960.00
02/08/2019	26418	AIRGAS, INC.	\$ 2,458.63
02/08/2019	26419	CALIFORNIA C.A.D. SOLUTIONS, INC	\$ 1,875.00
02/08/2019	26420	COASTSIDE TECHNICAL SERVICES	\$ 250.00
02/08/2019	26421	COMCAST	\$ 322.70
02/08/2019	26422	JAMES COZZOLINO, TRUSTEE	\$ 200.00
02/08/2019	26423	JOHN DAVIS	\$ 176.98
02/08/2019	26424	FEDAK & BROWN LLP	\$ 815.00
02/08/2019	26425	HASSETT HARDWARE	\$ 4,485.79
02/08/2019	26426	HUE & CRY, INC.	\$ 24.00
02/08/2019	26427	MASS MUTUAL FINANCIAL GROUP	\$ 1,974.65
02/08/2019	26428	REPUBLIC SERVICES	\$ 523.81
02/08/2019	26429	STAT PADS, LLC	\$ 125.00
02/08/2019	26430	STATE WATER RESOURCES CONTROL BD	\$ 130.00
02/08/2019	26431	STATE WATER RESOURCES CONTROL BD	\$ 24,106.00
02/08/2019	26432	STANDARD INSURANCE COMPANY	\$ 579.60
02/08/2019	26433	TYLER TECHNOLOGIES, INC	\$ 17,576.92
02/08/2019	26434	VALIC	\$ 4,155.00
02/08/2019	26435	US BANK NA	\$ 1,241.38
02/08/2019	26436	SWIFTCOMPLY US OPCO, INC	\$ 1,900.00
02/12/2019	26437	HEALTH BENEFITS ACWA-JPIA	\$ 43,839.68
02/12/2019	26438	BALANCE HYDROLOGICS, INC	\$ 34,138.71
02/12/2019	26439	PACIFIC GAS & ELECTRIC CO.	\$ 18,514.60
02/12/2019	26440	SAN FRANCISCO WATER DEPT.	\$ 46,075.24
02/12/2019	26441	STOLOSKI & GONZALEZ, INC.	\$ 52,484.61
02/12/2019	26442	TRI COUNTIES BANK	\$ 3,758.41
02/27/2019	26443	ADP, INC.	\$ 680.55
02/27/2019	26444	FRANK YAMELLO	\$ 235.00
02/27/2019	26445	AIR & TOOL ENGINEERING CO.	\$ 944.46
02/27/2019	26446	ANDREINI BROS. INC.	\$ 147,374.08
02/27/2019	26447	AT&T	\$ 4,491.41
02/27/2019	26448	AT&T LONG DISTANCE	\$ 51.49
02/27/2019	26449	AZTEC GARDENS, INC.	\$ 218.00
02/27/2019	26450	BADGER METER, INC.	\$ 27.00
02/27/2019	26451	BAY AREA AIR QUALITY MGMT DIST	\$ 342.00
02/27/2019	26452	BAY ALARM COMPANY	\$ 1,205.61
02/27/2019	26453	BFI OF CALIFORNIA, INC.	\$ 1,426.60
02/27/2019	26454	BIG CREEK LUMBER	\$ 112.13
02/27/2019	26455	CALCON SYSTEMS, INC.	\$ 3,883.13
02/27/2019	26456	JOHN T. CALLAN	\$ 207.08

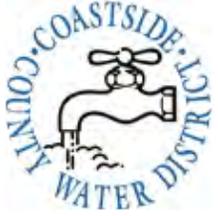
02/27/2019	26457	CEL ANALYTICAL INC.	\$	2,306.00
02/27/2019	26458	CLARK PEST CONTROL OF STOCKTON, INC.	\$	128.00
02/27/2019	26459	PETTY CASH	\$	12.17
02/27/2019	26460	RECORDER'S OFFICE	\$	98.00
02/27/2019	26461	RECORDER'S OFFICE	\$	104.00
02/27/2019	26462	RECORDER'S OFFICE	\$	98.00
02/27/2019	26463	RECORDER'S OFFICE	\$	98.00
02/27/2019	26464	DATAPROSE, LLC	\$	1,791.17
02/27/2019	26465	DEL GAVIO GROUP	\$	89.01
02/27/2019	26466	EKI INC.	\$	11,330.15
02/27/2019	26467	TESTAMERICA LABORATORIES, INC	\$	27.94
02/27/2019	26468	GRAINGER, INC.	\$	2,733.31
02/27/2019	26469	GRISWOLD INDUSTRIES	\$	65.25
02/27/2019	26470	HACH CO., INC.	\$	5,797.00
02/27/2019	26471	HMB BLDG. & GARDEN INC.	\$	135.62
02/27/2019	26472	HALF MOON BAY REVIEW	\$	156.00
02/27/2019	26473	HANSONBRIDGETT. LLP	\$	3,637.00
02/27/2019	26474	IRON MOUNTAIN	\$	702.73
02/27/2019	26475	IRVINE CONSULTING SERVICES, INC.	\$	2,986.20
02/27/2019	26476	IRVINE CONSULTING SERVICES, INC.	\$	2,201.62
02/27/2019	26477	JOHN'S SALT SERVICE, INC	\$	6,295.40
02/27/2019	26478	LIEBERT CASSIDY WHITMORE	\$	52.00
02/27/2019	26479	GLENNA LOMBARDI	\$	111.00
02/27/2019	26480	FRANK LOZANO	\$	43.49
02/27/2019	26481	MASS MUTUAL FINANCIAL GROUP	\$	1,974.65
02/27/2019	26482	MISSION UNIFORM SERVICES INC.	\$	245.42
02/27/2019	26483	MONTEREY COUNTY LAB	\$	1,710.00
02/27/2019	26484	NATIONAL METER & AUTOMATION	\$	11,905.41
02/27/2019	26485	NETWORKFLEET, INC	\$	247.00
02/27/2019	26486	NTU TECHNOLOGIES, INC	\$	12,166.00
02/27/2019	26487	JULIA O'CONNELL	\$	100.00
02/27/2019	26488	OCT WATER QUALITY ACADEMY	\$	950.00
02/27/2019	26489	OFFICE DEPOT	\$	1,417.52
02/27/2019	26490	PACIFICA COMMUNITY TV	\$	250.00
02/27/2019	26491	PAKPOUR CONSULTING GROUP, INC.	\$	11,713.19
02/27/2019	26492	PAULO'S AUTO CARE	\$	57.38
02/27/2019	26493	PITNEY BOWES	\$	211.91
02/27/2019	26494	PSI-PROCESS SOLUTIONS, INC	\$	1,200.00
02/27/2019	26495	PUMPKIN RESEARCH PARK LLC	\$	100.00
02/27/2019	26496	RAY A MORGAN COMPANY INC.	\$	399.16
02/27/2019	26497	MULTI SERVICE TECHNOLOGY SOLUTIONS, INC.	\$	65.24
02/27/2019	26498	RICOH USA INC	\$	503.07
02/27/2019	26499	ROBERTS & BRUNE CO.	\$	42,150.62
02/27/2019	26500	ROGUE WEB WORKS, LLC	\$	487.50
02/27/2019	26501	SERVICE PRESS	\$	114.08
02/27/2019	26502	RYAN H. STOLL	\$	114.17
02/27/2019	26503	STRAWFLOWER ELECTRONICS	\$	76.02
02/27/2019	26504	TEAMSTERS LOCAL UNION #856	\$	1,234.00
02/27/2019	26505	JAMES TETER	\$	2,955.00

02/27/2019	26506	TPX COMMUNICATIONS	\$	1,884.91
02/27/2019	26507	TYLER TECHNOLOGIES, INC	\$	275.00
02/27/2019	26508	UNIVAR USA INC	\$	1,576.13
02/27/2019	26509	UPS STORE	\$	618.09
02/27/2019	26510	USA BLUE BOOK	\$	117.56
02/27/2019	26511	VALIC	\$	4,155.00
02/27/2019	26512	VERIZON WIRELESS	\$	1,061.44
02/27/2019	26513	JUAN CARLOS SALAZAR	\$	1,120.00
02/27/2019	26514	SWIFTCOMPLY US OPCO, INC	\$	1,160.00
02/27/2019	26515	ANDREINI BROS.	\$	896.77
02/27/2019	26516	SARAH FEIT	\$	8.44
02/27/2019	26517	FERNANDO HERRERA	\$	6.72
02/27/2019	26518	GERALD GIROUARD	\$	47.32
02/27/2019	26519	GERALD GIROUARD	\$	6.31
02/27/2019	26520	JETTY RAT, INC	\$	9.43
02/27/2019	26521	CAROL HELGESEN	\$	50.41
02/27/2019	26522	JAMES C. BASS	\$	421.46
				<hr/>
				SUBTOTAL CLAIMS FOR MONTH \$ 575,151.64

WIRE PAYMENTS

<u>MONTH</u>		<u>VENDOR</u>		<u>AMOUNT</u>
02/04/2019	DFT0000197	CalPERS FISCAL SERVICES DIVISION	\$	134.84
02/04/2019	DFT0000198	CalPERS FISCAL SERVICES DIVISION	\$	53.52
02/04/2019	DFT0000199	CalPERS FISCAL SERVICES DIVISION	\$	31,045.96
02/07/2019	DFT0000200	PUB. EMP. RETIRE SYSTEM	\$	14,650.82
02/25/2019	DFT0000203	PUB. EMP. RETIRE SYSTEM	\$	14,683.09
02/28/19		BANK & CREDIT CARD FEES	\$	5,663.60
				<hr/>
				SUBTOTAL WIRE PAYMENTS FOR MONTH \$ 66,231.83

TOTAL CLAIMS FOR THE MONTH \$ 641,383.47



Coastside County Water District

Monthly Budget Report

Account Summary

For Fiscal: 2018-2019 Period Ending: 02/28/2019

	February Budget	February Activity	Variance Favorable (Unfavorable)	Percent Variance	YTD Budget	YTD Activity	Variance Favorable (Unfavorable)	Percent Variance	Total Budget	
Revenue										
RevType: 1 - Operating										
1-4120-00	Water Revenue	958,855.00	714,957.94	-243,897.06	-25.44 %	8,220,036.00	8,026,833.06	-193,202.94	-2.35 %	11,710,500.00
	Total RevType: 1 - Operating:	958,855.00	714,957.94	-243,897.06	-25.44 %	8,220,036.00	8,026,833.06	-193,202.94	-2.35 %	11,710,500.00
RevType: 2 - Non-Operating										
1-4170-00	Water Taken From Hydrants	4,167.00	2,153.80	-2,013.20	-48.31 %	33,334.00	47,664.98	14,330.98	42.99 %	50,000.00
1-4180-00	Late Notice - 10% Penalty	5,000.00	3,493.56	-1,506.44	-30.13 %	40,000.00	46,327.77	6,327.77	15.82 %	60,000.00
1-4230-00	Service Connections	834.00	1,254.76	420.76	50.45 %	6,667.00	8,949.67	2,282.67	34.24 %	10,000.00
1-4920-00	Interest Earned	520.00	0.75	-519.25	-99.86 %	4,158.00	26,878.87	22,720.87	546.44 %	6,236.00
1-4930-00	Tax Apportionments/County Checks	60,000.00	61,190.39	1,190.39	1.98 %	478,000.00	531,407.70	53,407.70	11.17 %	725,000.00
1-4950-00	Miscellaneous Income	2,083.00	161.43	-1,921.57	-92.25 %	16,666.00	1,810.57	-14,855.43	-89.14 %	25,000.00
1-4955-00	Cell Site Lease Income	13,750.00	14,682.50	932.50	6.78 %	110,000.00	108,590.79	-1,409.21	-1.28 %	165,000.00
1-4965-00	ERAF Refund - County Taxes	0.00	0.00	0.00	0.00 %	325,000.00	479,200.50	154,200.50	47.45 %	325,000.00
	Total RevType: 2 - Non-Operating:	86,354.00	82,937.19	-3,416.81	-3.96 %	1,013,825.00	1,250,830.85	237,005.85	23.38 %	1,366,236.00
	Total Revenue:	1,045,209.00	797,895.13	-247,313.87	-23.66 %	9,233,861.00	9,277,663.91	43,802.91	0.47 %	13,076,736.00
Expense										
ExpType: 1 - Operating										
1-5130-00	Water Purchased	85,000.00	64,397.24	20,602.76	24.24 %	1,225,000.00	1,785,249.35	-560,249.35	-45.73 %	1,900,998.00
1-5230-00	Nunes T P Pump Expense	3,558.00	2,206.47	1,351.53	37.99 %	28,464.00	26,164.67	2,299.33	8.08 %	42,697.00
1-5231-00	CSP Pump Station Pump Expense	15,072.00	2,914.40	12,157.60	80.66 %	217,213.00	204,915.87	12,297.13	5.66 %	337,080.00
1-5232-00	Other Trans. & Dist Pump Expense	2,247.00	1,411.34	835.66	37.19 %	17,976.00	14,307.03	3,668.97	20.41 %	26,965.00
1-5233-00	Pilarcitos Canyon Pump Expense	10,000.00	4,015.89	5,984.11	59.84 %	31,000.00	19,330.84	11,669.16	37.64 %	39,248.00
1-5234-00	Denniston T P Pump Expense	10,833.00	4,063.22	6,769.78	62.49 %	86,666.00	26,217.42	60,448.58	69.75 %	130,000.00
1-5242-00	CSP Pump Station Operations	892.00	1,110.94	-218.94	-24.54 %	7,134.00	12,601.73	-5,467.73	-76.64 %	10,700.00
1-5243-00	CSP Pump Station Maintenance	3,084.00	1,438.40	1,645.60	53.36 %	24,667.00	10,377.41	14,289.59	57.93 %	37,000.00
1-5246-00	Nunes T P Operations - General	6,487.00	2,839.14	3,647.86	56.23 %	51,899.00	58,435.83	-6,536.83	-12.60 %	77,850.00
1-5247-00	Nunes T P Maintenance	10,208.00	6,319.23	3,888.77	38.10 %	81,666.00	43,299.87	38,366.13	46.98 %	122,500.00
1-5248-00	Denniston T P Operations-General	3,917.00	8,698.99	-4,781.99	-122.08 %	31,334.00	32,468.91	-1,134.91	-3.62 %	47,000.00
1-5249-00	Denniston T.P. Maintenance	8,487.00	4,350.04	4,136.96	48.74 %	67,899.00	127,390.34	-59,491.34	-87.62 %	101,850.00
1-5250-00	Laboratory Expenses	5,954.00	4,515.97	1,438.03	24.15 %	47,632.00	50,627.43	-2,995.43	-6.29 %	71,450.00
1-5260-00	Maintenance - General	24,308.00	12,941.02	11,366.98	46.76 %	194,467.00	197,404.78	-2,937.78	-1.51 %	291,700.00
1-5261-00	Maintenance - Well Fields	3,333.00	0.00	3,333.00	100.00 %	26,666.00	0.00	26,666.00	100.00 %	40,000.00
1-5263-00	Uniforms	4,500.00	-2,769.36	7,269.36	161.54 %	12,500.00	8,819.28	3,680.72	29.45 %	12,500.00
1-5318-00	Studies/Surveys/Consulting	16,000.00	20,194.16	-4,194.16	-26.21 %	93,000.00	65,784.05	27,215.95	29.26 %	160,000.00
1-5321-00	Water Resources	2,100.00	4,579.42	-2,479.42	-118.07 %	16,800.00	11,385.78	5,414.22	32.23 %	25,200.00

Monthly Budget Report

For Fiscal: 2018-2019 Period Ending: 02/28/2019

	February Budget	February Activity	Variance Favorable (Unfavorable)	Percent Variance	YTD Budget	YTD Activity	Variance Favorable (Unfavorable)	Percent Variance	Total Budget
1-5322-00 Community Outreach	3,000.00	250.00	2,750.00	91.67 %	21,000.00	14,288.80	6,711.20	31.96 %	54,700.00
1-5381-00 Legal	8,333.00	3,153.00	5,180.00	62.16 %	66,666.00	28,138.00	38,528.00	57.79 %	100,000.00
1-5382-00 Engineering	5,000.00	480.00	4,520.00	90.40 %	40,000.00	6,896.00	33,104.00	82.76 %	60,000.00
1-5383-00 Financial Services	0.00	385.00	-385.00	0.00 %	14,000.00	8,430.00	5,570.00	39.79 %	20,000.00
1-5384-00 Computer Services	14,200.00	17,551.40	-3,351.40	-23.60 %	106,400.00	122,126.91	-15,726.91	-14.78 %	163,600.00
1-5410-00 Salaries/Wages-Administration	87,222.00	76,211.08	11,010.92	12.62 %	741,384.00	628,082.35	113,301.65	15.28 %	1,133,880.00
1-5411-00 Salaries & Wages - Field	107,734.00	102,411.51	5,322.49	4.94 %	915,733.00	877,785.17	37,947.83	4.14 %	1,400,532.00
1-5420-00 Payroll Tax Expense	13,671.00	13,678.02	-7.02	-0.05 %	116,211.00	107,153.89	9,057.11	7.79 %	177,734.00
1-5435-00 Employee Medical Insurance	38,502.00	37,692.06	809.94	2.10 %	290,238.00	295,041.94	-4,803.94	-1.66 %	444,246.00
1-5436-00 Retiree Medical Insurance	4,405.00	3,679.97	725.03	16.46 %	33,038.00	29,688.25	3,349.75	10.14 %	50,659.00
1-5440-00 Employees Retirement Plan	49,905.00	47,921.37	1,983.63	3.97 %	399,240.00	377,243.68	21,996.32	5.51 %	598,859.00
1-5445-00 Supplemental Retirement 401a	0.00	0.00	0.00	0.00 %	0.00	0.00	0.00	0.00 %	35,000.00
1-5510-00 Motor Vehicle Expense	5,000.00	3,623.87	1,376.13	27.52 %	40,000.00	54,040.51	-14,040.51	-35.10 %	60,000.00
1-5620-00 Office & Billing Expenses	21,800.00	10,141.25	11,658.75	53.48 %	174,400.00	159,298.00	15,102.00	8.66 %	261,600.00
1-5625-00 Meetings / Training / Seminars	2,167.00	7,799.15	-5,632.15	-259.91 %	17,333.00	31,445.51	-14,112.51	-81.42 %	26,000.00
1-5630-00 Insurance	10,750.00	10,671.37	78.63	0.73 %	86,000.00	87,027.90	-1,027.90	-1.20 %	129,000.00
1-5687-00 Membership, Dues, Subscript.	4,000.00	663.00	3,337.00	83.43 %	57,000.00	59,005.45	-2,005.45	-3.52 %	75,970.00
1-5688-00 Election Expenses	0.00	0.00	0.00	0.00 %	25,000.00	0.00	25,000.00	100.00 %	25,000.00
1-5689-00 Labor Relations	500.00	0.00	500.00	100.00 %	4,000.00	0.00	4,000.00	100.00 %	6,000.00
1-5700-00 San Mateo County Fees	0.00	0.00	0.00	0.00 %	13,000.00	5,854.38	7,145.62	54.97 %	20,000.00
1-5705-00 State Fees	25,000.00	342.00	24,658.00	98.63 %	31,000.00	26,912.59	4,087.41	13.19 %	36,500.00
Total ExpType: 1 - Operating:	617,169.00	479,880.56	137,288.44	22.24 %	5,453,626.00	5,613,239.92	-159,613.92	-2.93 %	8,354,018.00
ExpType: 4 - Capital Related									
1-5712-00 Debt Service/Existing Bonds 2006B	0.00	0.00	0.00	0.00 %	366,963.00	-1,812.44	368,775.44	100.49 %	486,383.00
1-5715-00 Debt Service/CIEDB 11-099	0.00	0.00	0.00	0.00 %	336,126.00	336,125.36	0.64	0.00 %	336,126.00
1-5716-00 Debt Service/CIEDB 2016	0.00	0.00	0.00	0.00 %	324,235.00	324,234.72	0.28	0.00 %	324,235.00
1-5717-00 Chase Bank - 2018 Loan	0.00	0.00	0.00	0.00 %	0.00	318,974.12	-318,974.12	0.00 %	0.00
Total ExpType: 4 - Capital Related:	0.00	0.00	0.00	0.00 %	1,027,324.00	977,521.76	49,802.24	4.85 %	1,146,744.00
Total Expense:	617,169.00	479,880.56	137,288.44	22.24 %	6,480,950.00	6,590,761.68	-109,811.68	-1.69 %	9,500,762.00
Report Total:	428,040.00	318,014.57	-110,025.43		2,752,911.00	2,686,902.23	-66,008.77		3,575,974.00

**COASTSIDE COUNTY WATER DISTRICT
MONTHLY INVESTMENT REPORT
February 28, 2019**

<u>RESERVE BALANCES</u>	Current Year as of 2/28/19	Prior Year as of 2/28/18
CAPITAL AND OPERATING RESERVE	\$7,950,422.12	\$5,088,717.45
RATE STABILIZATION RESERVE	\$250,000.00	\$250,000.00
TOTAL DISTRICT RESERVES	\$8,200,422.12	\$5,338,717.45

ACCOUNT DETAIL

ACCOUNTS WITH TRI COUNTIES BANK		
CHECKING ACCOUNT	\$3,899,494.19	\$4,263,150.86
CSP T & S ACCOUNT	\$208,593.13	\$32,970.41
MONEY MARKET GEN. FUND (Opened 7/20/17)	\$19,436.13	\$2,500.00
LOCAL AGENCY INVESTMENT FUND (LAIF) BALANCE	\$4,072,198.67	\$1,039,396.18
DISTRICT CASH ON HAND	\$700.00	\$700.00
TOTAL ACCOUNT BALANCES	\$8,200,422.12	\$5,338,717.45

This report is in conformity with CCWD's Investment Policy.

COASTSIDE COUNTY WATER DISTRICT
 APPROVED CAPITAL IMPROVEMENT PROJECTS
 FISCAL YEAR 2018/2019

2/28/2019

Approved CIP Budget FY 18/19	Actual To Date FY 18/19	Projected Year-End FY 18/19	Variance vs. Budget	% Completed	Project Status/ Comments
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Equipment Purchases & Replacement

06-03	SCADA/Telemetry/Electrical Controls Replacement	\$ 50,000		\$ 50,000	\$ -	0%	
99-02	Vehicle Replacement	\$ 100,000	\$ 76,936	\$ 76,936	\$ 23,064	100%	

Facilities & Maintenance

08-08	PRV Valves Replacement Project	\$ 30,000	\$ 27,079	\$ 30,000	\$ -	90%	
09-09	Fire Hydrant Replacement	\$ 140,000	\$ 89,584	\$ 140,000	\$ -	64%	
16-07	Sample Station Replacement Project	\$ 30,000	\$ 28,013	\$ 30,000	\$ -	93%	
17-15	Pilarcitos Canyon Emergency Road Repairs	\$ 100,000			\$ 100,000	0%	Delayed
18-13	Denniston WTP and Tank Road Repairs and Paving	\$ 100,000	\$ 13,700	\$ 100,000	\$ -	14%	Work will be done in the spring 2019
99-01	Meter Change Program	\$ 20,000	\$ 42,475	\$ 42,475	\$ (22,475)	212%	

Pipeline Projects

06-02	Highway 1 South Pipeline Replacement Project	\$ 750,000	\$ 353,035	\$ 353,035	\$ 396,965	100%	
07-04	Bell Moon Pipeline Replacement Project	\$ 60,000	\$ 18,469	\$ 340,000	\$ (280,000)	31%	moved up from FY2019/20
13-02	Replace 8 Inch Pipeline Under Creek at Pilarcitos Ave	\$ 50,000		\$ 50,000	\$ -	0%	
14-01	Replace 12" Welded Steel Line on Hwy 92 with 8"	\$ 100,000		\$ 100,000	\$ -	0%	
14-27	Grandview 2 Inch Replacement	\$ 50,000	\$ 2,635	\$ 2,635	\$ 47,365	5%	delayed to FY2019/20
14-30	Replace Miscellaneous 2 Inch GS El Granada	\$ 60,000	\$ 57,911	\$ 65,000	\$ (5,000)	89%	
14-31	Ferdinand Avenue - Replace 4" WS Ferdinand Ave. to Columbus	\$ 60,000	\$ 8,850	\$ 60,000	\$ -	15%	in design

Pump Stations / Tanks / Wells

06-04	Hazen's Tank Removal	\$ 30,000			\$ 30,000	0%	
08-14	Alves Tank Recoating & Refurshment	\$ 600,000	\$ 31,293	\$ 70,000	\$ 530,000	5%	In design. Will go out to bid in Spring 2019
19-01	EG Tank #1 Refurbishment	\$ 100,000	\$ 5,671	\$ 15,000	\$ 85,000	6%	delayed
19-03	Miramar Tank - Chime	\$ 40,000		\$ 40,000	\$ -	0%	for seismic assessment
18-05	Denniston Tank THM Residual Control	\$ 80,000		\$ 80,000	\$ -	0%	
18-06	CSP -- (3) Butterfly Valves	\$ 80,000	\$ 11,399	\$ 11,399	\$ 68,601	100%	
19-04	Tanks - THM Control	\$ 120,000	\$ 105,913	\$ 105,913	\$ 14,087	88%	

Water Supply Development

12-12	San Vicente Diversion and Pipeline	\$ 100,000	\$ -	\$ -	\$ 100,000	0%	delayed
17-12	Recycled Water Project Development	\$ 100,000	\$ -	\$ -	\$ 100,000	0%	

Water Treatment Plants

08-07	Nunes Filter Valve Replacement	\$ 500,000		\$ -	\$ 500,000	0%	delayed
13-05	Denniston WTP Emergency Power	\$ 50,000		\$ 50,000	\$ -	0%	

FY 18/19 TOTALS	\$ 3,500,000	\$ 872,962	\$ 1,812,393	\$ 1,687,607			
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COASTSIDE COUNTY WATER DISTRICT
 APPROVED CAPITAL IMPROVEMENT PROJECTS
 FISCAL YEAR 2018/2019

2/28/2019

Approved CIP Budget FY 18/19	Actual To Date FY 18/19	Projected Year-End FY 18/19	Variance vs. Budget	% Completed	Project Status/ Comments
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FY2017/2018 CIP Projects in process - paid in FY 2018/2019

18-09	Denniston Heater	\$ 4,800	\$ 4,800	\$ (4,800)	100%	completed
13-08	Crystal Springs Spare 350 HP Motor	\$ 70,556	\$ 70,556	\$ (70,556)	100%	
18-03	CSP Spare 500 Pump Rehabilitation	\$ 41,450	\$ 41,450	\$ (41,450)	100%	
07-03	Pilarcitos Canyon Pipeline Replacement	\$ 21,578	\$ 21,578	\$ (21,578)		ongoing
12-12	Denniston/San Vicente Water Supply Development	\$ 78,043	\$ 100,000	\$ (100,000)		ongoing
14-26	Replace 2" Pipe in Downtown Half Moon Bay	\$ 265,902	\$ 265,902	\$ (265,902)	100%	
17-16	CSP P3 Soft Start Pump/Shafting Replacement & Motor refurbishment	\$ 3,370	\$ 3,370	\$ (3,370)	100%	
10-02 & 12-04	Denniston Booster Pump Station - Transformer Installation	\$ 39,544	\$ 39,454	\$ (39,454)	100%	
18-07	EG #2 Tank Chlorination System (Residual Control System)		\$ 50,000	\$ (50,000)	0%	
17-04	Denniston Dam Spillway Repairs	\$ 34,328	\$ 34,328	\$ (34,328)		
18-10	Nunes/Denniston Treat Plants Optimization Study	\$ 16,916	\$ 20,000	\$ (20,000)		
06-03	El Granada Tank #3 Recoating Project	\$ 10,410	\$ 10,410	\$ (10,410)	100%	Cathodic protection
06-01	Ave Cabrillo Pipeline Replacement	\$ 16,673	\$ 16,673	\$ (16,673)	100%	
				\$ -		

PREVIOUS YEAR TOTALS \$ - \$ 603,570 \$ 678,521 \$ (678,521)

UNSCHEDULED ITEMS (CAPITAL EXPENDITURES) FOR CURRENT FISCAL YEAR 2018/2019

NN-00	Unscheduled CIP	\$ 100,000		\$ 100,000	0%	
08-16;11-05;11-06	Seismic assessments-HMB Tanks 2-3. Cahill		\$ 90,000	\$ (90,000)		moved up from FY2019/20
14-32	Casa del Mar PRVs	\$ 294	\$ 100,000	\$ (100,000)		moved up from FY2019/20
19-02	Grand Blvd Pipeline/PRVs	\$ 294	\$ 100,000	\$ (100,000)		moved up from FY2019/20
	Crystal Springs Pump Control Valves		\$ 96,000	\$ (96,000)		approved Feb 2019 Board meeting

NON-BUDGETED TOTALS \$ 100,000 \$ 588 \$ 386,000 \$ (286,000)

CIP TOTALS \$ 3,600,000 \$ 1,477,120 \$ 2,876,914 \$ 723,086

**Legal Cost Tracking Report
12 Months At-A-Glance**

**Acct. No.5681
Patrick Miyaki - HansonBridgett, LLP
Legal**

Month	Admin (General Legal Fees)	Water Supply Develpmnt	Recycled Water	Transfer Program	CIP	Personnel	Water Shortage	Litigation	Infrastructure Project Review (Reimbursable)	TOTAL
Mar-18	1,268			454	962	1,203				3,886
Apr-18	2,503				8,301					10,803
May-18	6,754					1,404				8,158
Jun-18	4,225			406	1,333	358				6,321
Jul-18	7,430			1,680	488	65				9,662
Aug-18	3,230			647		1,608			216	5,701
Sep-18	3,246			757	963					4,965
Oct-18	2,211				437					2,648
Nov-18	1,473									1,473
Dec-18	2,714									2,714
Jan-19	3,088			168	469					3,725
Feb-19	3,101				536					3,637
TOTAL	41,240	0	0	4,112	13,487	4,637	0	0	216	63,691

**Engineer Cost Tracking Report
12 Months At-A-Glance**

**Acct. No. 5682
JAMES TETER
Engineer**

Month	Admin & Retainer	CIP	Studies & Projects	TOTAL	Reimbursable from Projects
Mar-18	1,021	4,270	1,905	7,196	1,905
Apr-18	480	2,197	338	3,015	338
May-18	1,115	1,188		2,303	
Jun-18	480	1,099	169	1,748	169
Jul-18	480	4,989	2,958	8,427	2,958
Aug-18	480	2,380	2,138	4,998	2,138
Sep-18	480	5,197		5,677	
Oct-18	480		3,142	3,622	3,143
Nov-18	480	3,518	254	4,252	254
Dec-18	480	3,972	2,820	7,271	2,820
Jan-19	480	5,126		5,606	
Feb-19	480	2,475		2,955	
TOTAL	6,936	36,409	13,723	57,068	13,723

Calcon T&M Projects Tracking

2/28/2019

Project No.	Name	Status	Proposal Date	Approved Date	Project Budget	Project Actual thru 6/30/18	Project Billings FY2018-19
Closed Projects:							
CAL-13-01	EG Tank 2 Recoating Project	Closed	9/30/13	10/8/13	\$8,220.00	\$ 8,837.50	
CAL-13-02	Nunes Control System Upgrades	Closed	9/30/13	10/8/13	\$46,141.00	\$ 55,363.60	
CAL-13-03	Win 911 and PLC Software	Closed	9/30/13	10/8/13	\$9,717.00	\$ 12,231.74	
CAL-13-04	Crystal Springs Surge Tank Retrofit	Closed	11/26/13	11/27/13	\$31,912.21	\$ 66,572.54	
CAL-13-06	Nunes Legacy Backwash System Removal	Closed	11/25/13	11/26/13	\$6,516.75	\$ 6,455.00	
CAL-13-07	Denniston Backwash FTW Valves	Closed	11/26/13	11/27/13	\$6,914.21	\$ 9,518.28	
CAL-14-01	Denniston Wash Water Return Retrofit	Closed	1/28/14	2/14/14	\$13,607.00	\$ 13,591.60	
CAL-14-02	Denniston Calrifier SCADA Data	Closed	4/2/14	4/7/14	\$4,125.00	\$ 4,077.50	
CAL-14-03	Nunes Surface Scatter Turbidimeter	Closed	4/2/14	4/7/14	\$2,009.50	\$ -	
CAL-14-04	Phase I Control System Upgrade	Closed	4/2/14	4/7/14	\$75,905.56	\$ 44,459.14	
CAL-14-06	Miramar Control Panel	Closed	8/28/14	8/28/14	\$37,953.00	\$ 27,980.71	
CAL-14-08	SFWater Flow & Data Logger/Cahill Tank	Closed	8/20/2014	8/20/2014	\$1,370.00	\$ 1,372.00	
CAL-15-01	Main Street Monitors	Closed				\$ 6,779.42	
CAL-15-02	Denniston To Do List	Closed				\$ 2,930.00	
CAL-15-03	Nunes & Denniston Turbidity Meters	Closed			\$6,612.50	\$ 12,536.12	
CAL-15-04	Phase II Control System Upgrade	Closed	6/23/2015	8/11/2015	\$195,000.00	\$ 202,227.50	
CAL-15-05	Permanganate Water Flow	Closed				\$ 1,567.15	
CAL-16-04	Radio Network	Closed	12/9/2016	1/10/2017	\$126,246.11	\$ 139,200.68	
CAL-16-05	El Granada Tank No. 3 Recoating	Closed	12/16/2016		\$6,904.50	\$ 6,845.00	
CAL-17-03	Nunes Valve Control	Closed	6/29/2017	7/11/2017	\$73,281.80	\$ 79,034.35	
CAL-17-04	Denniston Booster Pump Station	Closed	7/27/2017	8/8/2017	\$21,643.75	\$ 29,760.00	
CAL-17-05	Crystal Springs Pump Station #3 Soft Start	Closed	7/27/2017	8/8/2017	\$12,213.53	\$ 12,178.13	
CAL-18-04	Tank Levels Calibration Special	Closed	3/5/2018	3/5/2018	\$8,388.75	\$ 10,700.00	
CAL-18-05	Pilarcitos Stream Flow Gauge -Well 1 120 Service Power	Closed	3/22/2018	3/22/2018	\$3,558.13	\$ 3,997.40	
CAL-17-06	Nunes Flocculator & Rapid Mix VFD Panels	Closed	12/6/2017	12/12/2017	\$29,250.75	\$ 30,695.66	
Closed Projects - Subtotal (pre FY2018-19)					\$727,491.05	\$ 788,911.02	
Open Projects:							
CAL-17-01	Crystal Springs Leak Valve Control		2/8/2017	2/14/2017	\$8,701.29	\$ 18,055.88	
CAL-17-02	Crystal Springs Requirements & Addtl Controls		2/8/2017	2/14/2017	\$38,839.50	\$ 41,172.06	
CAL-18-03	CSP Breakers & Handles		3/7/2018	3/7/2018	\$25,471.47	\$ 29,167.79	
CAL-18-06	Nunes VFD Project		9/6/2018	9/6/2018	\$2,381.51	\$ 895.50	
Open Projects - Subtotal					\$75,393.77	\$88,395.73	\$895.50
Other: Maintenance							
Tanks							
Crystal Springs Maintenance							\$ 1,141.91
Nunes Maintenance							\$ 5,912.50
Denniston Maintenance							\$ 15,814.25
Distribution System							\$ 26,993.76
TOTAL FY 2018/19							\$ 50,757.92

COASTSIDE COUNTY WATER DISTRICT

766 MAIN STREET

HALF MOON BAY, CA 94019

MINUTES OF THE REGULAR MEETING OF THE BOARD OF DIRECTORS

February 12, 2019

- 1) **ROLL CALL** - President Ken Coverdell called the meeting to order at 7:00 p.m. Present at roll call: Directors Glenn Reynolds, Bob Feldman, and Vice-President Chris Mickelsen
Also present: David Dickson, General Manager; Mary Rogren, Assistant General Manager; Patrick Miyaki, Legal Counsel; James Derbin, Superintendent of Operations, JoAnne Whelen, Administrative Assistant/Recording Secretary; Cathleen Brennan, Water Resources Analyst and Gina Brazil, Office Manager.
- 2) **PLEDGE OF ALLEGIANCE**
- 3) **PUBLIC COMMENT** - There were no public comments.
- 4) **CONSENT CALENDAR**
 - A. Approval of disbursements for the month ending January 31, 2019:
Claims: \$708,933.66; Payroll: \$103,857.30 for a total of \$812,790.96
 - B. Acceptance of Financial Reports
 - C. Approval of Minutes of January 8, 2019 Regular Board of Directors Meeting
 - D. Installed Water Connection Capacity and Water Meters Report
 - E. Total CCWD Production Report
 - F. CCWD Monthly Sales by Category Report - January 2019
 - G. Monthly Planned Plant or Tank Discharge and New Water Line Flushing Report
 - H. Monthly Rainfall Reports
 - I. S.F.P.U.C. Hydrological Report for the month of December 2018
 - J. Notice of Completion - Denniston Pump Station Transformer Work
 - K. Notice of Completion - Pilarcitos Creek Pipeline Valves Replacement Project

Director Reynolds reported that he had reviewed the monthly financial claims and found all to be in order.

ON MOTION BY Director Reynolds and seconded by Director Feldman, the Board voted by roll call vote to approve the Consent Calendar in its entirety:

Director Reynolds	Aye
Vice-President Mickelsen	Aye
Director Feldman	Aye
President Coverdell	Aye

5) **MEETINGS ATTENDED / DIRECTOR COMMENTS**

Vice-President Mickelsen reported briefly on a Bay Area Water Supply and Conservation Agency (BAWSCA) Board of Directors meeting that he had attended in January.

6) **GENERAL BUSINESS**

A. **Coastside County Water District Basic Financial Statements and Independent Auditor's Report for the Fiscal Year Ended June 30, 2018**

Ms. Rogren provided a brief background, followed by an introduction of Mr. Jeff Palmer, with Fedak & Brown, LLP, the District's current independent auditor. Mr. Palmer shared a presentation with the Board on the 2018 audit results. Mr. Palmer reported an unmodified "clean" auditor's opinion following the audit. He also reported that no material weaknesses had been noted within the District's internal control structure. Mr. Palmer also briefly explained GASB 75, the new provisions of Governmental Standards Board No. 75 and followed with a question and answer period with the Board.

ON MOTION BY Director Reynolds and seconded by Vice-President Mickelsen, the Board voted by roll call vote to accept the Coastside County Water District Basic Financial Statements and Independent Auditor's Report for Fiscal Year Ended June 30, 2018:

Director Reynolds	Aye
Vice-President Mickelsen	Aye
Director Feldman	Aye
President Coverdell	Aye

B. **Approval of EKI Design Contracts for Ferdinand Ave. Pipeline Replacement, Casa Del Mar Main Replacement (Phase 1) and Grand Boulevard Pipeline/PRV Loop**

Mr. Dickson introduced discussion of this item and provided a brief description of the pipeline projects. He also stated that EKI has been very responsive to the District with providing design proposals for these projects.

ON MOTION BY Director Reynolds and seconded by Director Feldman, the Board voted by roll call vote to authorize the General Manager to contract with EKI Environmental and Water for design, bid support, and construction support services for the Ferdinand Avenue Pipeline Replacement Project at a time-and-materials cost not to exceed \$29,000, and the Casa Del Mar Main Replacement Phase 1 and Grand Boulevard Pipeline/Pressure Reducing Valve (PRV) Loop Project at a time-and-materials cost not to exceed \$28,500:

Director Reynolds	Aye
Vice-President Mickelsen	Aye
Director Feldman	Aye
President Coverdell	Aye

C. Bell Moon Pipeline Replacement Project

Mr. Derbin provided the background of this project and explained the nature of the request to waive the competitive bidding requirements. Mr. Dickson summarized the easement related issues of the project and he and Mr. Miyaki answered several questions from the Board.

ON MOTION BY Director Feldman and seconded by Vice-President Mickelsen, the Board voted by roll call vote to determine that waiving the competitive bidding requirements of Resolution 2016-09 and that contracting on a sole-source basis with Andreini Brothers Construction to replace 785 feet of 12-inch welded steel water main is in the best interest of the District project and to authorize the General Manager to execute a contract with Andreini for the replacement, for a total not to exceed \$326,410:

Director Reynolds	Aye
Vice-President Mickelsen	Aye
Director Feldman	Aye
President Coverdell	Aye

D. Crystal Springs Pump Control Valves

Mr. Derbin reviewed the purpose and operation of the Crystal Springs Pump Control Valves and the need for a solution to the problems caused by the current leaking.

ON MOTION BY Director Reynolds and seconded by Director Feldman, the Board voted by roll call vote to authorize staff to purchase three 12" Cla-Val Model 60-AN pump control valves, for a price of \$80,910 and hire Calcon Systems in the amount of \$15,068 for conduit, wiring installation and PLC integration, for a total cost of \$95,978:

Director Reynolds	Aye
Vice-President Mickelsen	Aye
Director Feldman	Aye
President Coverdell	Aye

E. Consideration of Next Steps in Process of Filling Director Vacancy, Possible Appointment of Director to Fill Vacancy

Mr. Dickson summarized the details provided in the staff report, including the background, the main elements of the applicable government code and the

relevant key dates. President Coverdell suggested that the two candidates that had attended this Board Meeting be offered an opportunity to address the Board.

Les Deman - introduced himself and summarized his background and qualifications.

John Muller - complimented the District's Board and staff for generating the level of interest in the current Board vacancy. He also reviewed his background and experience.

Director Feldman proposed that, based on the number of interested candidates and the variety of backgrounds and experience, the Board consider an interview process to allow an opportunity to meet the interested candidates individually, and learn more about their qualifications. He additionally suggested that the District's Human Resources committee members convene to develop a recommended interview and evaluation procedure.

Brief discussion ensued among the Board concerning the time frame of scheduling a Human Resources Committee meeting and a subsequent Special Meeting of the Board for the candidate interview process.

ON MOTION BY Director Feldman and seconded by Director Reynolds, the Board voted, by roll call vote, for the Human Resources Committee members to meet and review the protocol utilized in the last interview process and make any changes that they feel appropriate, and for the scheduling of a Special Board Meeting for the purpose of interviewing the candidates:

Director Reynolds	Aye
Vice-President Mickelsen	Aye
Director Feldman	Aye
President Coverdell	Aye

F. Coastside County Water District Board Committees

President Coverdell recommended that the standing Water Quality Committee and the Water Resources Committee be eliminated at this time and suggested that the committees could be brought back should it become necessary. President Coverdell also reported that Director Feldman had volunteered to serve as the District's representative with respect to the California Special District Association (CSDA). He also stated that once the Board vacancy has been filled with the appointment of a Director, he would like the Board Committees to be reviewed once again for possible reassignment of committee members. President Coverdell stated that he would like these revisions to transpire via Board action.

ON MOTION BY Director Feldman and seconded by Director Reynolds, the Board voted, by roll call vote, to accept the appointments to the District's Board Committees previously assigned by Director Coverdell and to eliminate the standing committees

of the Water Quality Committee and the Water Resources Committee and to name Director Feldman as the District's representative to the California Special District Association:

Director Reynolds	Aye
Vice-President Mickelsen	Aye
Director Feldman	Aye
President Coverdell	Aye

7) **MONTHLY INFORMATIONAL REPORT**

A. **Assistant General Manager**

Ms. Rogren announced that in 2019 the District will be launching monthly billing for residential customers, advising that a pilot program is being initiated with customers of the Ocean Colony community in March and with the Clipper Ridge customers in April, followed by a transition of all District customers to monthly billing in the fall of 2019.

B. **Superintendent of Operations**

Mr. Derbin reviewed operations highlights for the month of January.

C. **Water Resource Analyst**

Ms. Brennan summarized the snowpack summary provided by the California Department of Water Resources.

8) **DIRECTOR AGENDA ITEMS - REQUESTS FOR FUTURE BOARD MEETINGS**

Director Feldman requested that the discussion topics generated at the District's last strategic planning session be brought back to the Board of Directors soon.

9) **ADJOURNMENT** - The meeting was adjourned at 8:27 p.m.

Respectfully submitted,

David R. Dickson, General Manager
Secretary to the District

Ken Coverdell, President
Board of Directors

**WATER SERVICE CONNECTION TRANSFER REPORT
TRANSFERS APPROVED FOR THE MONTH OF FEBRUAR 2019**

DONATING APN	PROPERTY OWNER(S)	RECIPIENT APN	PROPERTY OWNER(S)	# OF CONNECTIONS	DATE
066-520-120	Ocean Colony Partners LP	064-342-120	Coastside Estates LLC	2 --5/8"	February 13, 2019
066-520-120	Ocean Colony Partners LP	056-115-340	Ryan Whelen	1 -- 5/8"	February 13, 2019
066-520-120	Ocean Colony Partners LP	066-092-850	Jerome & Adrienne Schnell	1 -- 5/8"	February 19, 2019
047-208-120	Robert & Bertina Moules/Rebecca Moules	047-208-100	Robert & Bertina Moules/ Elisabeth Moules	1 -- 3/4"	February 20, 2019

COASTSIDE COUNTY WATER DISTRICT
Installed Water Connection Capacity & Water Meters

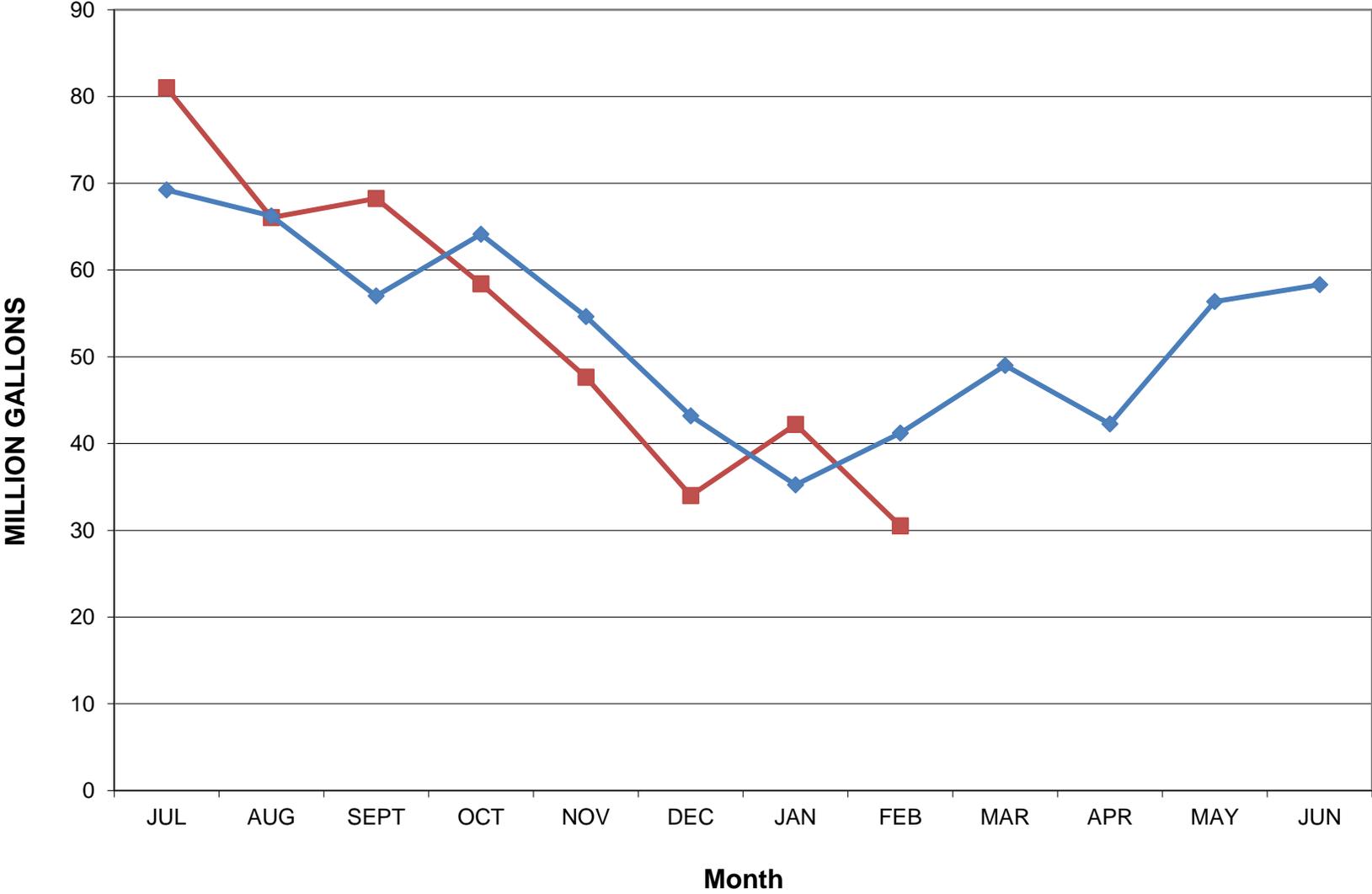
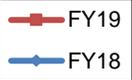
FY 18/19 Meters

Installed Water Meters	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
HMB Non-Priority													
0.5" capacity increase													
5/8" meter		1	2	2	6								11
3/4" meter		1											1
1" meter							1						1
1 1/2" meter													
2" meter													
3" meter													
HMB Priority													
0.5" capacity increase													
5/8" meter													
3/4" meter													
1" meter													
1 1/2" meter													
2" meter													
County Non-Priority													
0.5" capacity increase													
5/8" meter			2										2
3/4" meter							1						1
1" meter													
County Priority													
5/8" meter													
3/4" meter													
1" meter													
Totals	0	2	4	2	6	0	2	0					16

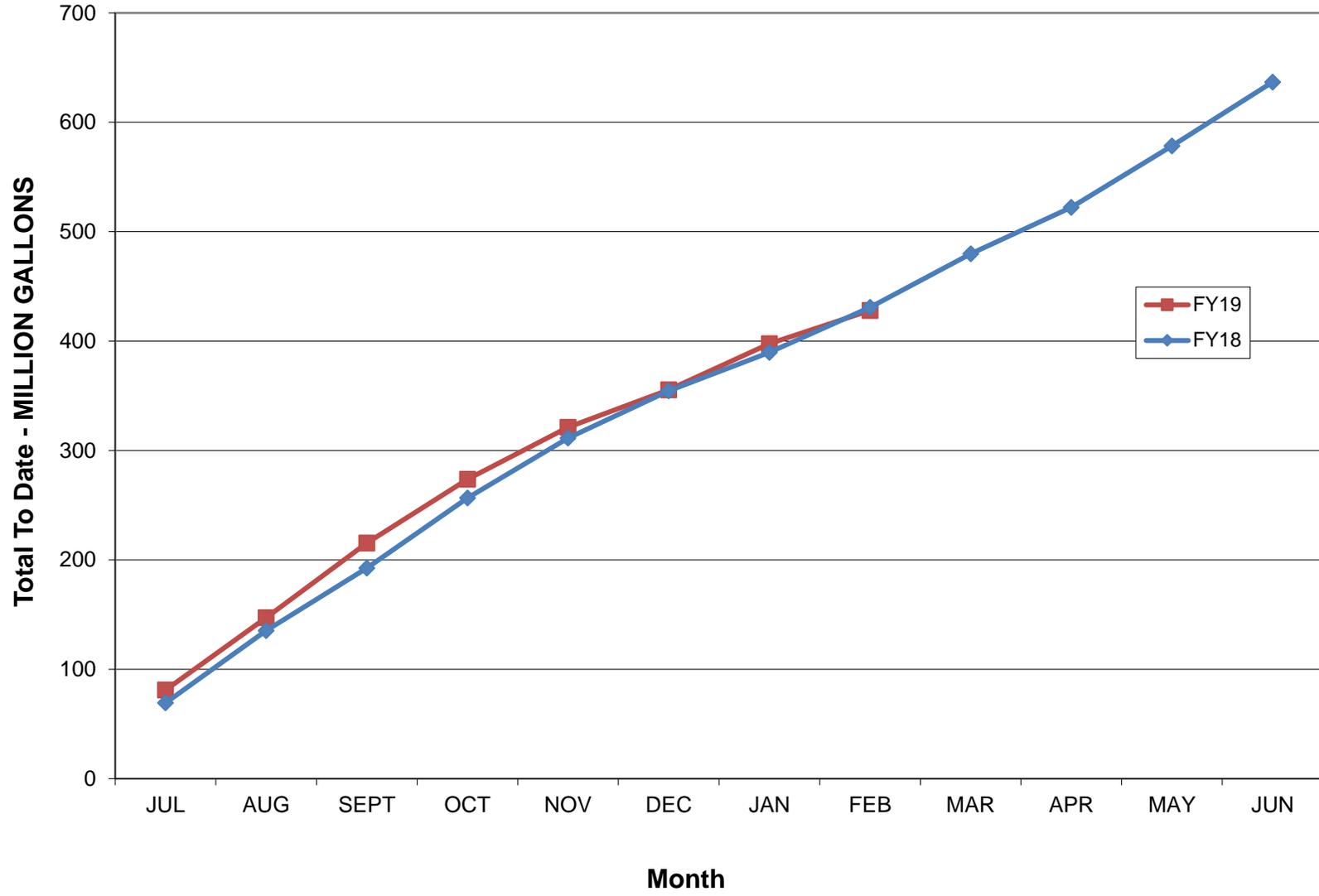
5/8" meter = 1 connection
3/4" meter = 1.5 connections
1" meter = 2.5 connections
1.5" meter = 5 connections
2" meter = 8 connections
3" meter = 17.5 connections

FY 2019 Capacity (5/8" connection equivalents)	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Totals
HMB Non-Priority		2.5	2	2	6		4						16.5
HMB Priority													
County Non-Priority			2										2
County Priority													
Total	0	2.5	4	2	6	0	4	0					18.5

Monthly Production FY 18 vs FY 19



Cumulative Production FY18 vs FY19



CCWD Monthly Leak Report - February 2019

	Date Reported Discovered	Date Repaired	Location	Pipe Class	Pipe Size & Type	Estimated Water Loss MG
1						
2						
3						
4						
5						
6						
7						
8						
Total						0.000

OTHER DISCHARGES	
Total Volumes (MG)	
Flushing Program	0.048
Reservoir Cleaning	
Automatic Blowoffs	0.110
Dewatering Operations	0.000
PLANNED DISCHARGES GRAND TOTAL (MG)	
0.158	

Coastside County Water District
 766 Main Street
 July 2018 - June 2019

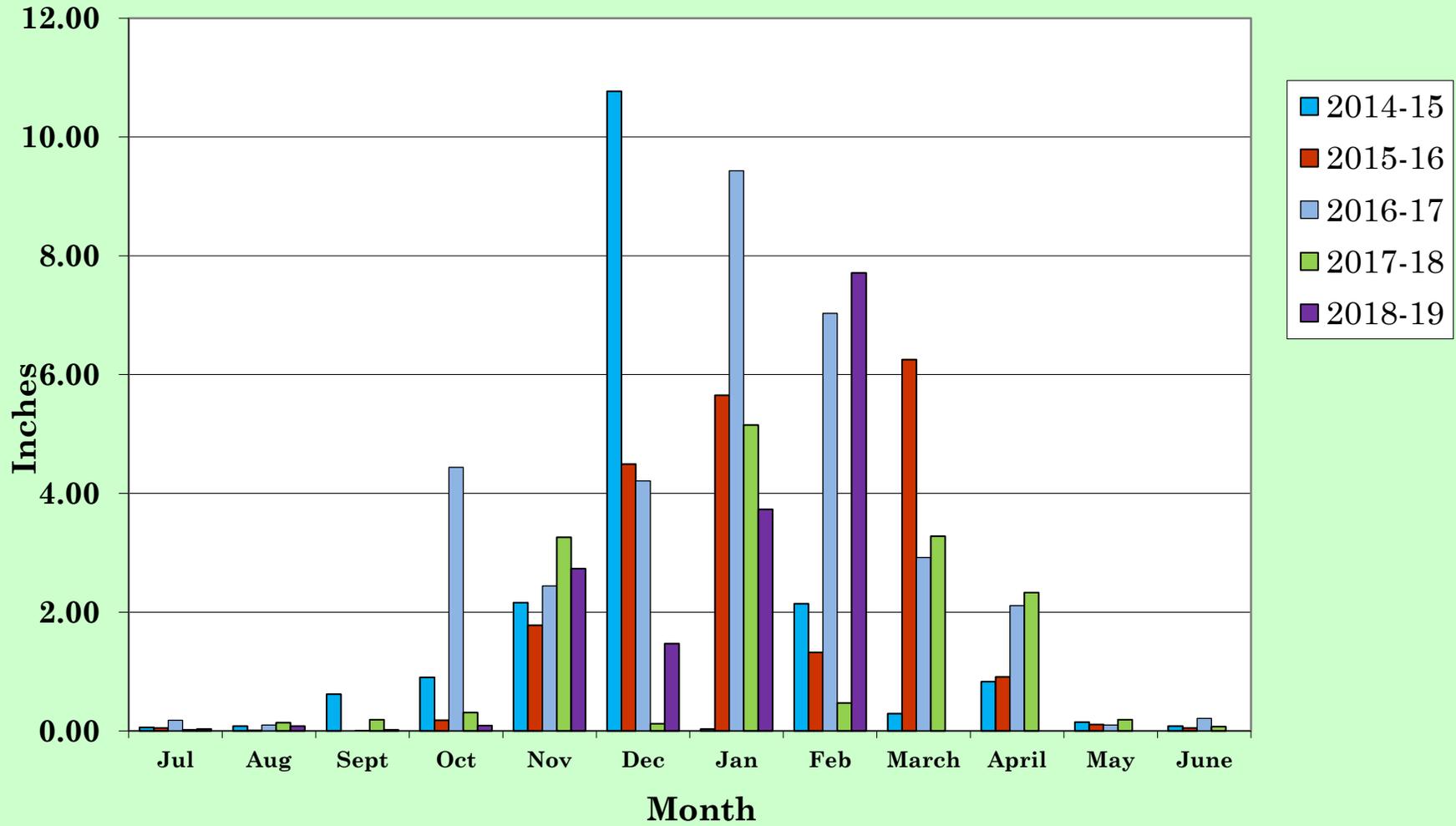
District Office
 Rainfall in Inches

	2018						2019					
	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
1	0	0	0	0	0	0.09	0	0.02				
2	0	0.02	0	0.06	0	0	0	0.74				
3	0	0	0	0	0.01	0	0	0.62				
4	0	0	0	0.01	0	0.13	0	0.8				
5	0	0	0	0	0	0.29	0.18	0.25				
6	0	0	0.01	0	0	0.01	1.13	0				
7	0	0	0	0	0	0	0	0				
8	0	0	0	0	0	0	0.05	0.49				
9	0	0	0	0	0	0.01	0.03	0.34				
10	0	0	0	0.01	0	0	0	0.6				
11	0	0	0	0	0	0.01	0.12	0.01				
12	0.01	0	0	0	0	0.01	0.02	0				
13	0.02	0	0	0	0	0	0.01	0.77				
14	0	0.04	0	0	0	0.07	0.01	0.69				
15	0	0	0	0	0	0.01	0.31	0.4				
16	0	0	0	0	0	0.45	0.38	0.28				
17	0	0	0.01	0	0	0.03	0.46	0.33				
18	0	0	0	0	0	0.01	0.15	0				
19	0	0	0	0	0.01	0.01	0.08	0				
20	0	0	0	0	0	0	0.02	0				
21	0	0	0	0	1.07	0.06	0.3	0				
22	0	0	0	0	0.48	0	0	0				
23	0	0	0	0	0.26	0.01	0	0				
24	0	0	0	0	0.04	0.26	0	0				
25	0	0	0	0	0.01	0	0	0				
26	0	0	0	0	0.01	0.01	0	0.15				
27	0	0	0	0	0.08	0	0	0.8				
28	0	0.02	0	0	0.43	0	0	0.42				
29	0	0	0	0.01	0.33	0	0.03					
30	0	0	0	0	0	0	0.24					
31	0	0		0		0	0.21					
Mon.Total	0.03	0.08	0.02	0.09	2.73	1.47	3.73	7.71				
Year Total	0.03	0.11	0.13	0.22	2.95	4.42	8.15	15.86				

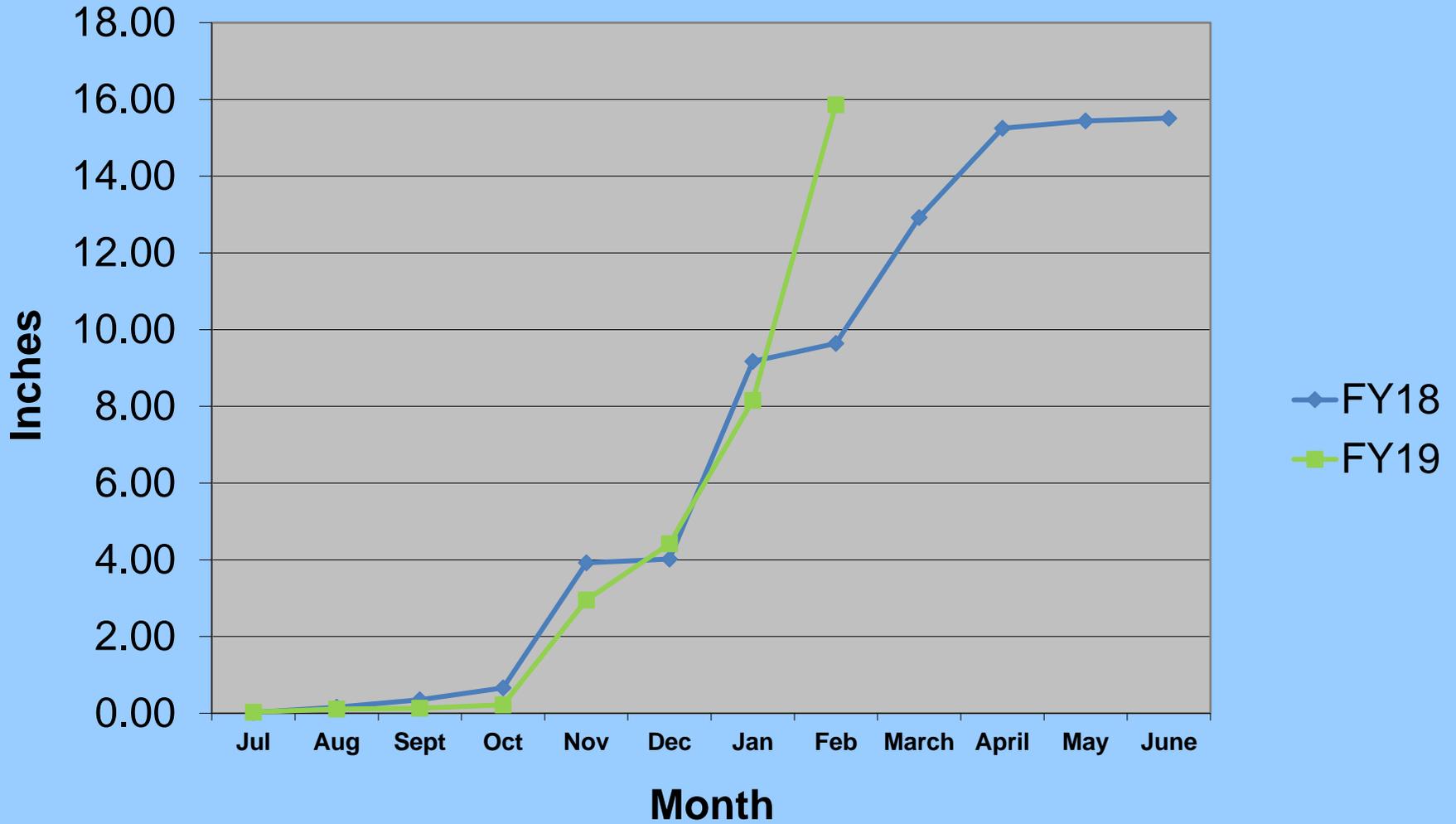
Coastside County Water District

Rainfall by Month

Fiscal Years 14 - 19

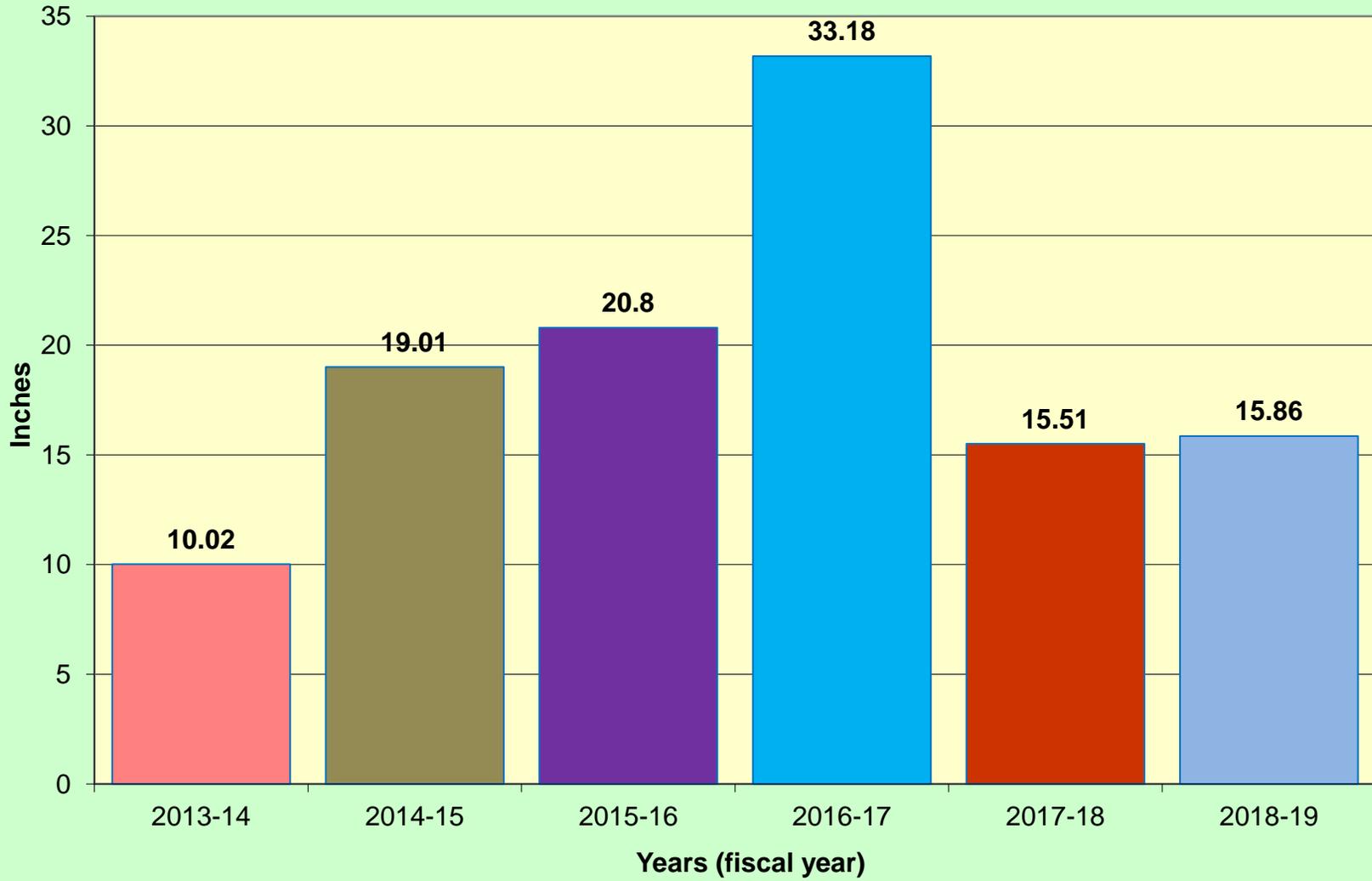


Rainfall Total Comparison Fiscal Years 18-19



Rain Totals

Fiscal Years 13 - 19



San Francisco Public Utilities Commission Hydrological Conditions Report January 2019

J.Chester, C.Graham, N.Waelty R.Walters February 8, 2019



Moccasin Reservoir and snow on Moccasin Peak. A storm event the first week of February brought snow down to Moccasin Elevation.

System Storage

Current Tuolumne System and Local Bay Area storage conditions are summarized in Table 1.

Table 1 Current System Storage As of February 1, 2019							
Reservoir	Current Storage		Maximum Storage		Available Capacity		Percentage of Maximum Storage
	acre-feet	millions of gallons	acre-feet	millions of gallons	acre-feet	millions of gallons	
Tuolumne System							
Hetch Hetchy ¹	259,230		340,830		80,900		76%
Cherry ²	218,873		268,810		50,437		81%
Eleanor ³	23,727		21,495		0		110%
Water Bank	557,036		570,000		12,964		98%
Tuolumne Storage	1,059,066		1,201,135		142,069		88%
Local Bay Area Storage							
Calaveras ⁴	32,416	10,563	96,824	31,550	64,408	20,987	34%
San Antonio	41,282	13,452	50,496	16,454	9,214	3,002	82%
Crystal Springs	49,203	16,033	58,377	19,022	9,173	2,989	84%
San Andreas	16,827	5,483	18,996	6,190	2,169	707	89%
Pilarcitos	2,396	781	2,995	976	598	195	80%
Total Local Storage	142,125	46,311	227,688	74,192	85,563	27,881	62%
Total System	1,201,190		1,428,822		227,632		84%

¹ Maximum Hetch Hetchy Reservoir storage with drum gates deactivated.

² Maximum Cherry Reservoir storage with flash-boards removed.

³ Maximum Lake Eleanor storage with flash-boards removed.

⁴ Available capacity does not take into account current DSOD storage restrictions.

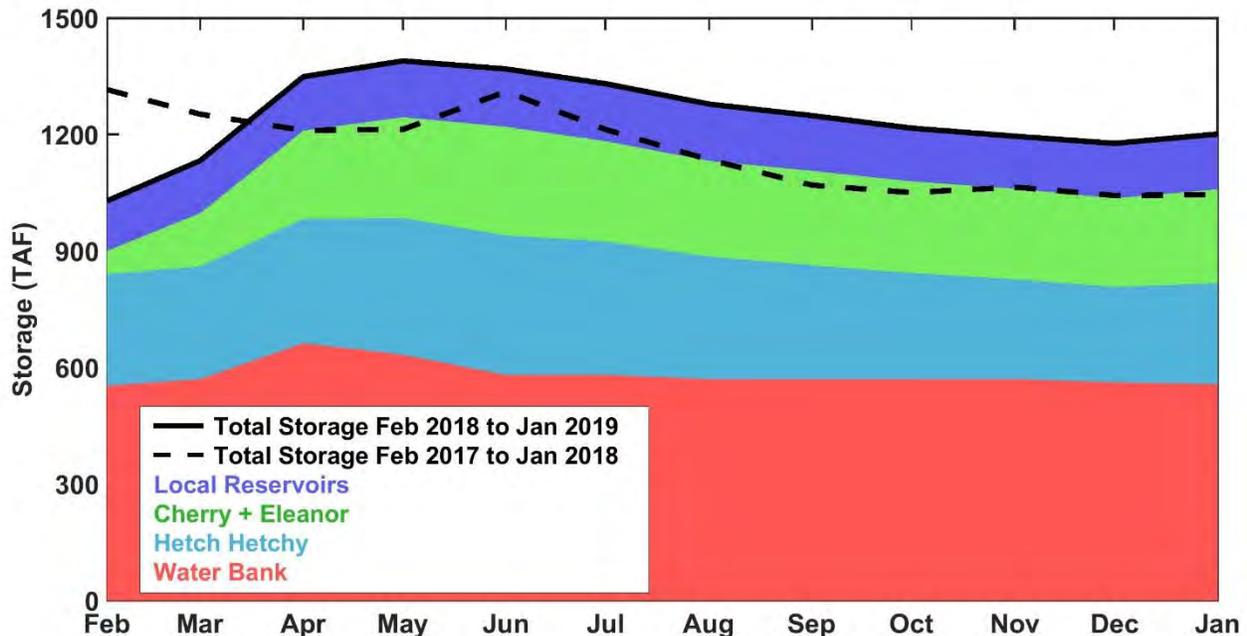


Figure 1: Monthly system storage for past 12 months in thousand acre-feet (TAF). Color bands show contributions to total system storage. Solid black line shows total system storage for the past 12 months. Dashed black line shows total system storage the previous 12 months.

Hetch Hetchy System Precipitation Index

Current Month: The January 2019 six-station precipitation index was 6.58 inches, or 100% of the average index for the month. The precipitation index is computed as the average of six Sierra precipitation stations and is an indicator of the overall basin wetness.

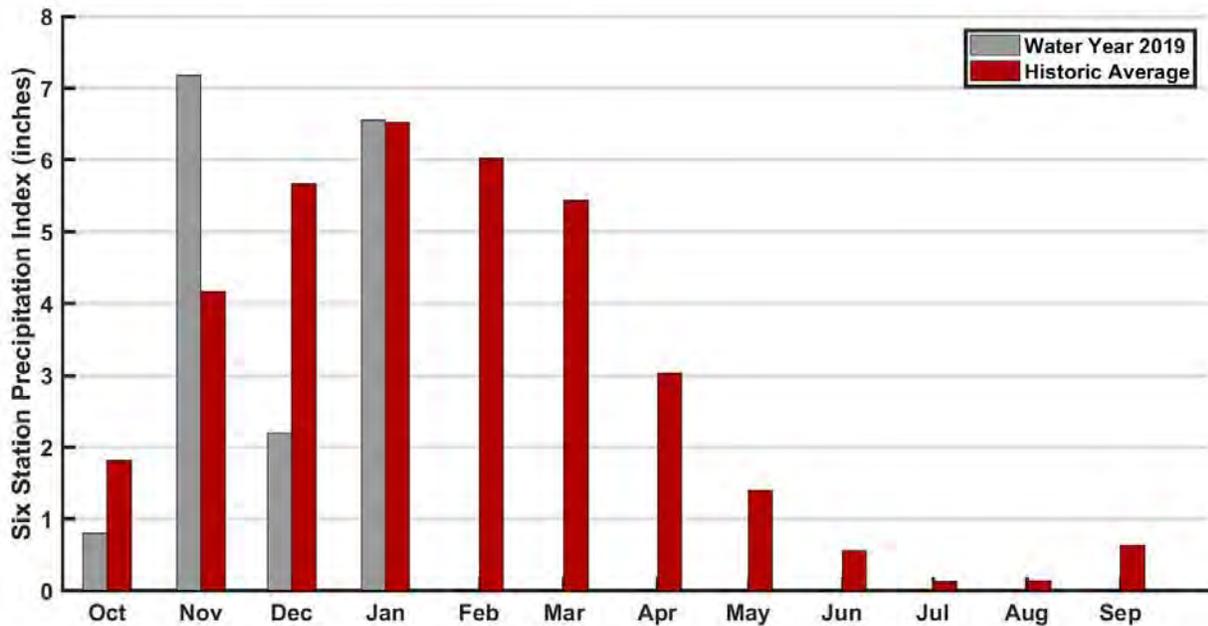


Figure 2: Monthly distribution of the six-station precipitation index as compared to the average monthly precipitation. The precipitation index is computed as the average of six Sierra precipitation stations and is an indicator of the overall basin wetness.

Cumulative Precipitation to Date: As of February 1st, the six-station precipitation index for Water Year 2019 was 16.72 inches, which is 47.0% of the average annual water year total. Hetch Hetchy received 5.71 inches of precipitation in January, for a total of 15.36 inches for Water Year 2019. The cumulative Hetch Hetchy precipitation is shown in Figure 3 in red.

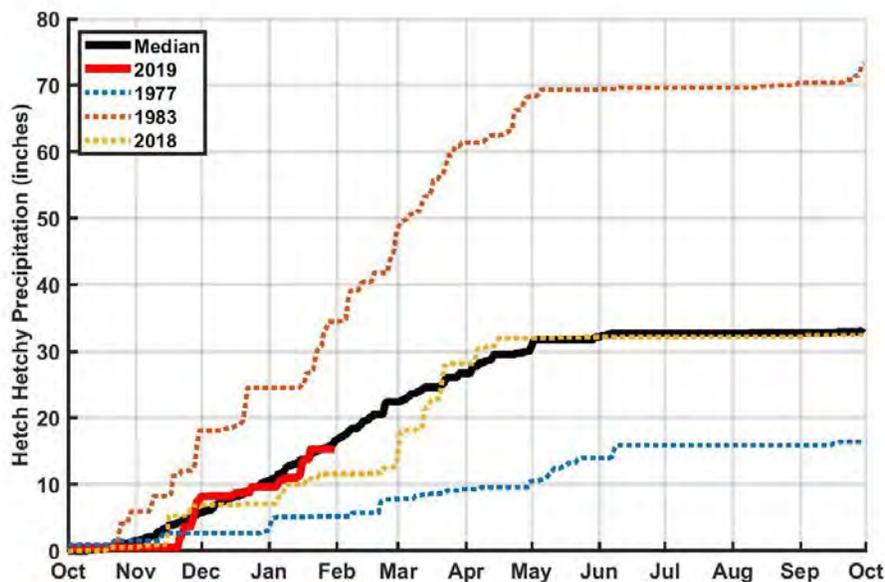


Figure 3: Water Year 2019 cumulative precipitation measured at Hetch Hetchy Reservoir through February 1st. Median cumulative precipitation at Hetch Hetchy and example wet and dry years are included with WY 2019 for comparison purposes.

Tuolumne Basin Unimpaired Inflow

Unimpaired inflow to SFPUC reservoirs and the Tuolumne River at La Grange for January 2019 is summarized below in Table 2.

Calculated reservoir inflows and Water Available to City								
* All flows are in acre-feet	January 2019				October 1, 2018 through February 1, 2019			
	Observed Flow	Median ¹	Mean ¹	Percent of Mean	Observed Flow	Median ¹	Mean ¹	Percent of Mean
Inflow to Hetch Hetchy Reservoir	21,060	15,297	23,063	91%	39,923	49,332	63,898	62%
Inflow to Cherry Lake and Lake Eleanor	27,392	16,497	24,545	112%	44,621	52,114	69,887	64%
Tuolumne River at LaGrange	118,179	73,463	119,307	99%	189,995	180,751	269,756	70%
Water Available to City	27,041	7,251	49,765	54%	30,413	22,226	102,270	30%

¹Hydrologic Record: 1919-2015

Hetch Hetchy System Operations

Power draft and stream releases from Hetch Hetchy Reservoir during the month of January totaled 23,268 acre-feet. Precipitation thus far in Water Year 2019 result in a Water Year Type A (normal to wet conditions) for Hetch Hetchy Reservoir, which will be maintained through at least April 1st, 2019. Hetch Hetchy minimum instream release requirements for the month of January were 50 cfs. Instream release requirements for February 2019 are 60 cfs. Current Hetch Hetchy total releases are equal to minimum environmental releases and SFPUC water deliveries.

Cherry Reservoir power generation and valve releases totaled 11,643 acre-feet for the month and were used to maintain seasonal target elevations. The required minimum instream release from Cherry Reservoir was 5 cfs for January and will remain at this rate through June 30. Required minimum release from Lake Eleanor was 5 cfs for January and will remain at 5 cfs through March 1. There were 10 days of transfers of water from Eleanor to Cherry in January for total of 5,373 ac-ft.

Regional System Treatment Plant Production

The Harry Tracy Water Treatment Plant average production rate for January was 69 MGD. The Sunol Valley Water Treatment Plant production rate for the month was 66 MGD.

Local System Water Delivery

The average January delivery rate was 154 MGD which is a 3% increase over the December delivery rate of 149 MGD.

Local Precipitation

January precipitation totals were near normal for the month. The rainfall summary for January 2019 is presented in Table 3.

Reservoir	January		Water Year 2019	
	Total (inches)	Percent of Mean for the Month	Total (inches)	Percent of Mean for the Year-To-Date
Pilarcitos	7.47	110 %	18.93	91 %
Lower Crystal Springs	4.20	88 %	11.30	78 %
Calaveras	3.36	87 %	9.59	84 %

Snowmelt and Water Supply

The February 1st snow pack was 74% of the April 1st median and 109% of normal to date. A storm in the first five days of February, not show in plot below, has put the snow pack at 97% of the April 1st median and 134% of normal to date. The first snow surveys of 2019 were performed the last week of January, and averaged just above average to date. The snow surveys were completed before February 1 and thus did not capture the Feb 1-5 storm event.

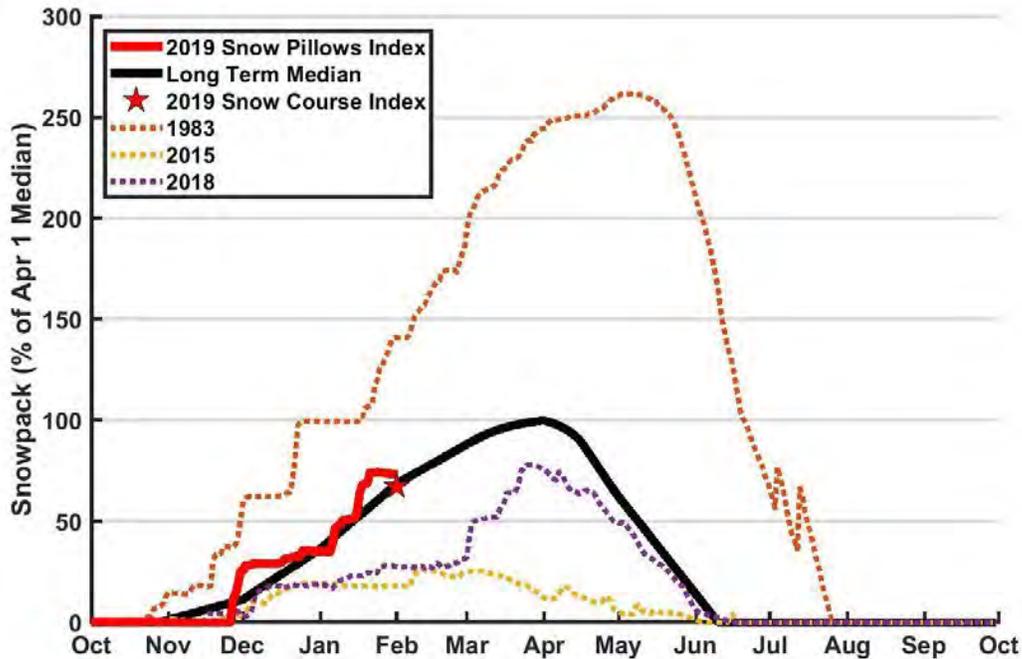


Figure 4: Tuolumne River Basin 10 Station Snow Index, based on real time snow pillow SWE measurements in the Tuolumne Basin.

Hetch Hetchy Reservoir storage is below its maximum seasonal storage target and is being drafted to meet instream release requirements and water delivery demands. Cherry Reservoir is being operated to remain at the seasonal storage target of 210 TAF through the end of runoff. Increased inflows due to storms or snow melt will result in elevated Holm Powerhouse power draft. Instream releases from Cherry, Eleanor and Hetch Hetchy reservoirs exceeded unimpaired flows at LaGrange maintaining the Water Bank at or near capacity throughout the month of January. Total Tuolumne system storage is at 88%. The most recent WSFM forecast has us filling the Tuolumne River System by the end of runoff (see below).

Priest Reservoir is currently out of service to accommodate the January 8-March 9 SJPL shutdown and Mountain Tunnel inspections and repairs. Moccasin Reservoir has been refilled according to DSOD guidance to an elevation of 905 ft and will remain there through the shutdown.

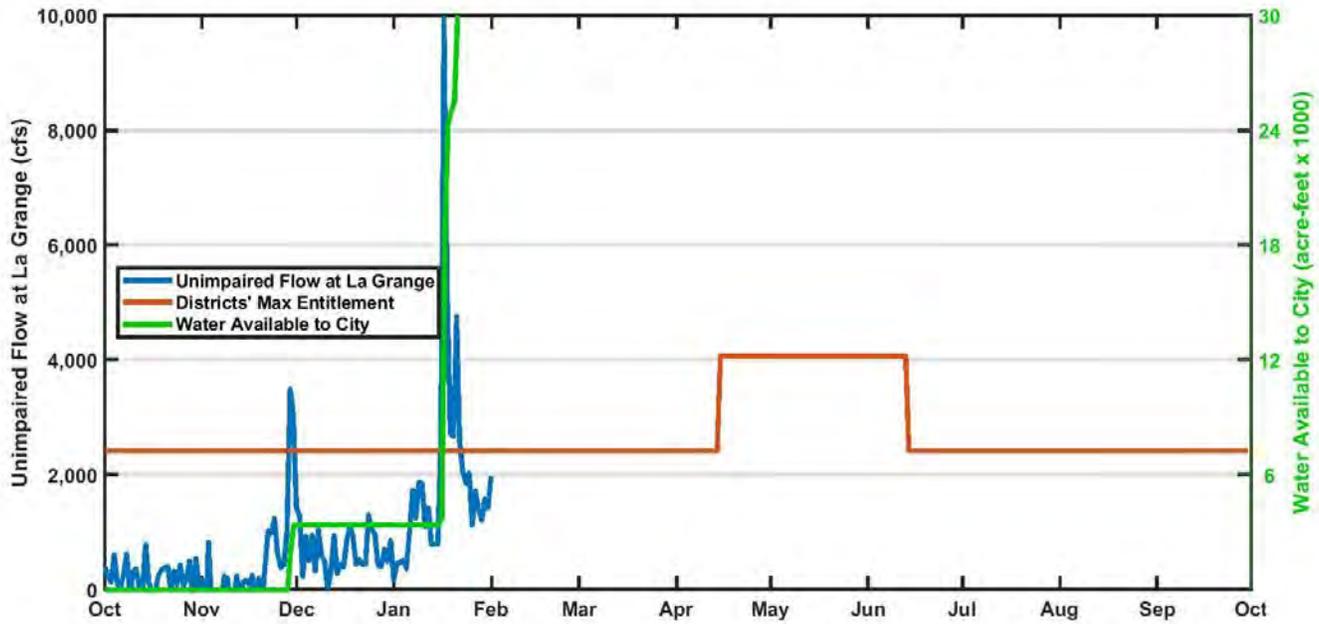


Figure 5: Calculated unimpaired flow at La Grange and the allocation of flows between the Districts and the City. To date there has been over 78,000 ac-ft available to the city in Water Year 2019.

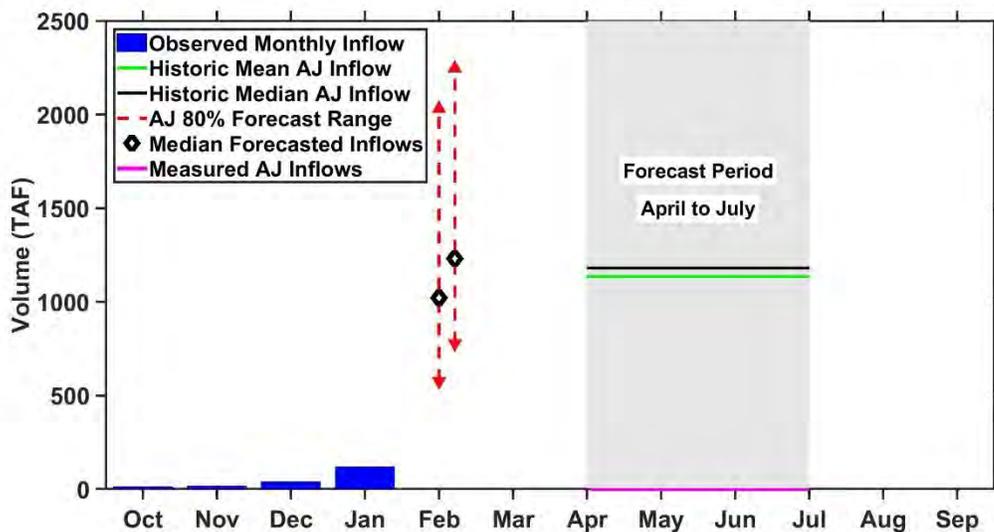


Figure 6: The Hetch Hetchy Water Supply Forecast Model (WSFM) was run before and after the early February storm. The current median forecast is above the long-term averages. All forecasts have sufficient inflows to refill the Tuolumne River System by the end of runoff.

STAFF REPORT

To: Coastside County Water District Board of Directors

From: Dave Dickson, General Manager

Agenda: March 12, 2019

Date: March 6, 2019

Subject: Notice of Completion - 2 Inch El Granada Pipeline Replacement Project

Recommendation:

That the Board of Directors take the following actions:

- (1) Accept the 2 Inch El Granada Pipeline Replacement Project as complete.
- (2) Authorize the Notice of Completion to be filed with the County of San Mateo.
- (3) Authorize the release of the retention funds when the Notice of Completion has been recorded and returned to the District.

Background

Coastside County Water District entered into a contract with Stoloski & Gonzalez, Inc. on December 18, 2018 for the 2 Inch El Granada Pipeline Replacement Project.

The work consisted of construction of 188 feet of 6 inch diameter pipelines, abandonment of existing pipelines, replacement of 2 customer water service connections, reconnection of 3 customer water service connections, and asphalt concrete repaving. The site of the work was in El Granada, an unincorporated community in San Mateo County. All work was within existing street right of way areas.

Work was completed on February 1, 2019. The project was constructed according to District specifications.

Fiscal Impact: None.

RECORDING REQUESTED BY

AND WHEN RECORDED MAIL TO

Name
Street
Address
City &
State

COASTSIDE COUNTY WATER DISTRICT
766 MAIN STREET
HALF MOON BAY, CA 94019

SPACE ABOVE THIS LINE FOR RECORDER'S USE

RECORD WITHOUT FEE Govt. Code § 6103 & 27383

NOTICE OF COMPLETION

1. The undersigned is an owner of an interest or estate in the hereafter described real property, the nature of which is: Fee Title

2. The full name and address of the undersigned is:

COASTSIDE COUNTY WATER DISTRICT
766 MAIN STREET
HALF MOON BAY, CALIFORNIA 94019

3. On March 12, 2018 there was completed upon the hereinafter described real property a work of improvement as a whole named 2 Inch El Granada Pipeline Replacement Project. The work consisted of construction of 188 feet of 6-inch diameter pipelines, abandonment of existing pipelines, replacement of 2 customer water service connections, reconnection of 3 customer water service connections, and asphalt concrete repaving.

4. The name of the original contractor for the work of improvement as a whole was: Stoloski & Gonzalez, Inc., 727 Main Street, Half Moon Bay, CA 94019

5. The real property herein referred to is situated in the County of San Mateo, State of California, and described as follows:

The site of the work was in El Granada, an unincorporated community in San Mateo County. All work was within existing street right of way areas.

I certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

COASTSIDE COUNTY WATER DISTRICT

BY: _____
David R. Dickson, Secretary

VERIFICATION

I, David R. Dickson, declare that I am the Secretary of the Coastside County Water District and am authorized to make this verification for that reason. I have read said Notice of Completion and know the contents thereof to be true and correct.

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

Executed on March 12, 2019, at Half Moon Bay, California
(Date) (Place where signed)

By: _____
David R. Dickson,
Secretary of the District

STAFF REPORT

To: Coastside County Water District Board of Directors

From: David Dickson, General Manager

Agenda: March 12, 2019

Report Date: March 4, 2019

Subject: Approval for Director Feldman to attend the Association of California Water Agencies (ACWA) Spring Conference in Monterey, May 7 – 10, 2019

Recommendation:

Approve expense reimbursement for Director Feldman's one day attendance (Wednesday, May 8, 2019) at the Association of California Water Agencies (ACWA) Spring Conference in Monterey, CA, May 7th through 10th 2019, including the \$345.00 registration fee, the \$55.00 conference luncheon, and travel expenditures.

Background:

District policy in Section XII.b of Resolution 2004-06 (Code of Conduct) states that "Each member of the Board of Directors is encouraged to participate in those outside activities and organizations that in the judgment of the Board further the interests of the District. Expenses incurred by Board members in connection with such activities are reimbursable, where authorized in advance or subsequently ratified by the Board."

Director Feldman plans to attend the ACWA Spring Conference and requests that the Board approve reimbursement of his expenses.

ACWA conferences provide an excellent opportunity for Directors and water utility staff to learn about California water issues. The District has reimbursed Director's attendance at these conferences in the past.

STAFF REPORT

To: Coastside County Water District Board of Directors

From: David Dickson, General Manager

Agenda: March 12, 2019

Report Date: March 4, 2019

Subject: Approval for Director Reynolds to attend the California Special District's Association - Special Districts Leadership Academy Conference in Napa, July 7th - 10th, 2019

Recommendation:

Approve expense reimbursement for Director Reynold's attendance at the California Special District's Association - Special Districts Leadership Academy Conference in Napa, July 7th - 10th, 2019 including the \$650.00 registration fee, lodging fees of \$189.00 plus tax for 3 nights and additional travel expenditures.

Background:

District policy in Section XII.b of Resolution 2004-06 (Code of Conduct) states that "Each member of the Board of Directors is encouraged to participate in those outside activities and organizations that in the judgment of the Board further the interests of the District. Expenses incurred by Board members in connection with such activities are reimbursable, where authorized in advance or subsequently ratified by the Board."

Director Reynolds plans to attend the CSDA/SDLA Conference and requests that the Board approve reimbursement of his expenses.

First-time attendees at this conference will attend Governance Foundations, Setting Direction/Community Leadership, Board's Role in Human Resources and Board's Role in Finance and Fiscal Accountability modules.

STAFF REPORT

To: Coastside County Water District Board of Directors

From: David Dickson, General Manager

Agenda: March 12, 2019

Report

Date: March 5, 2019

Subject: Approval of Additional Funding for Professional services Agreement with EKI Environment and Water for Capital Project Management Support

Recommendation:

Authorize the General Manager to approve a \$75,000 increase in the time-and-materials budget under the professional services agreement with EKI Environment and Water (EKI) for capital project management support.

Background:

At the January 8, 2019 meeting, the Board approved funding for a professional services agreement with EKI Environment and Water (EKI) to provide Capital Improvement Program (CIP) management support, with an initial time-and-materials budget of \$40,000. EKI and staff indicated at that time that the approved budget would cover services to be provided through February.

EKI has continued to work closely with District staff during January and February, providing services including the following:

- Developing and maintaining a master CIP project schedule (see Exhibit 1);
- Suggesting strategies to accelerate CIP projects and make the process from design through construction more efficient;
- Conducting and documenting biweekly progress meetings with District staff;
- Updating the District's hydraulic model to evaluate the Casa del Mar PRV Project, reduced Alves Tank operating level, and decommissioning of El Granada Tank No. 1 (Exhibit 2);
- Developing and managing the RFP and consultant selection process for seismic evaluation of four storage tanks.

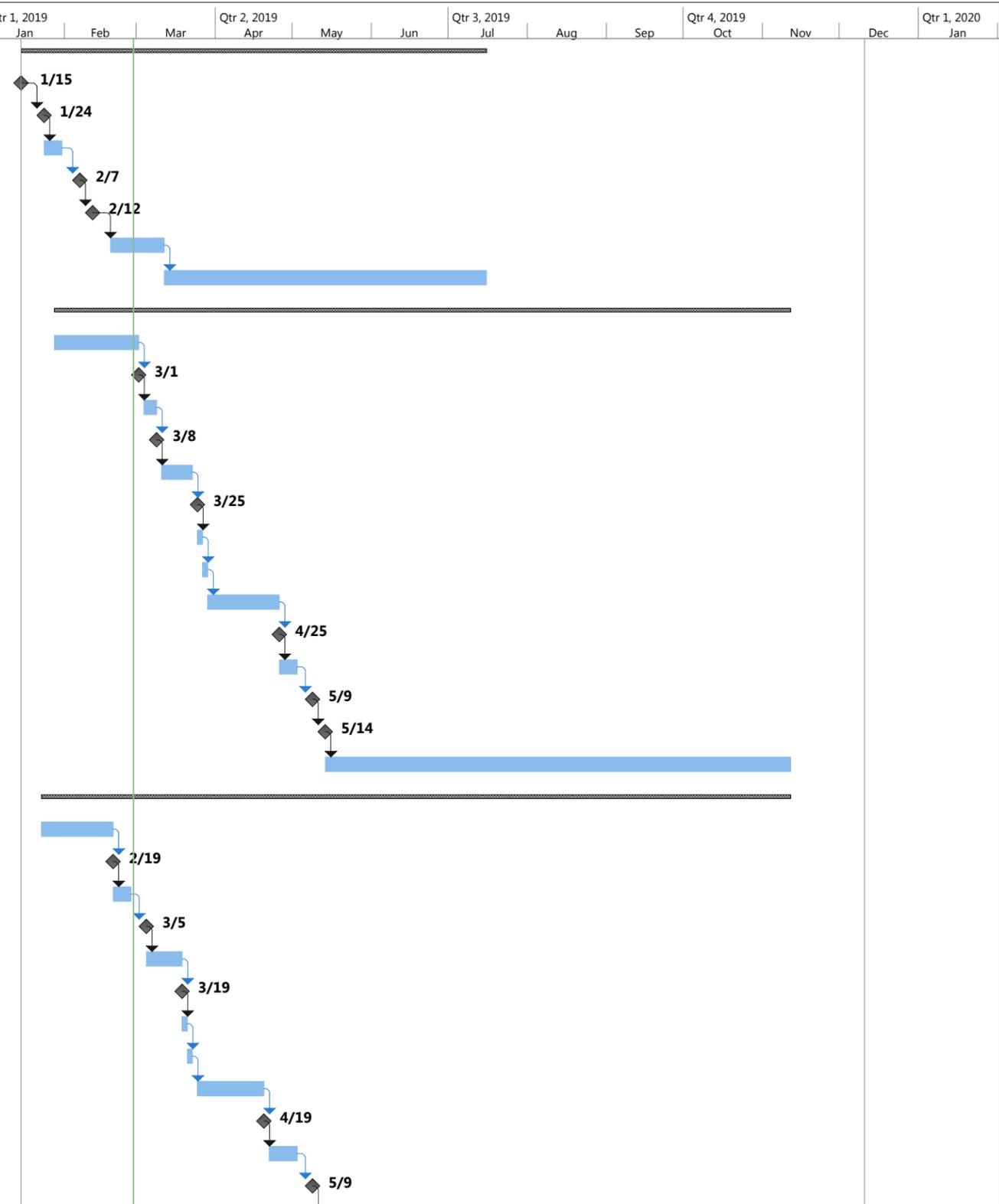
Staff recommends that the Board approve an increase of \$75,000 in the time and materials budget for EKI's CIP support work, as recommended in EKI's proposal dated March 5, 2019 (Exhibit 3).

Fiscal Impact:

Cost of \$75,000, to be funded from the FY18/19 and FY19/20 expense budget for Studies/Surveys/Consulting (Account 5318).

**DRAFT CIP IMPLEMENTATION PLAN
ACTIVE PROJECTS
COASTSIDE COUNTY WATER DISTRICT
February 28, 2019**

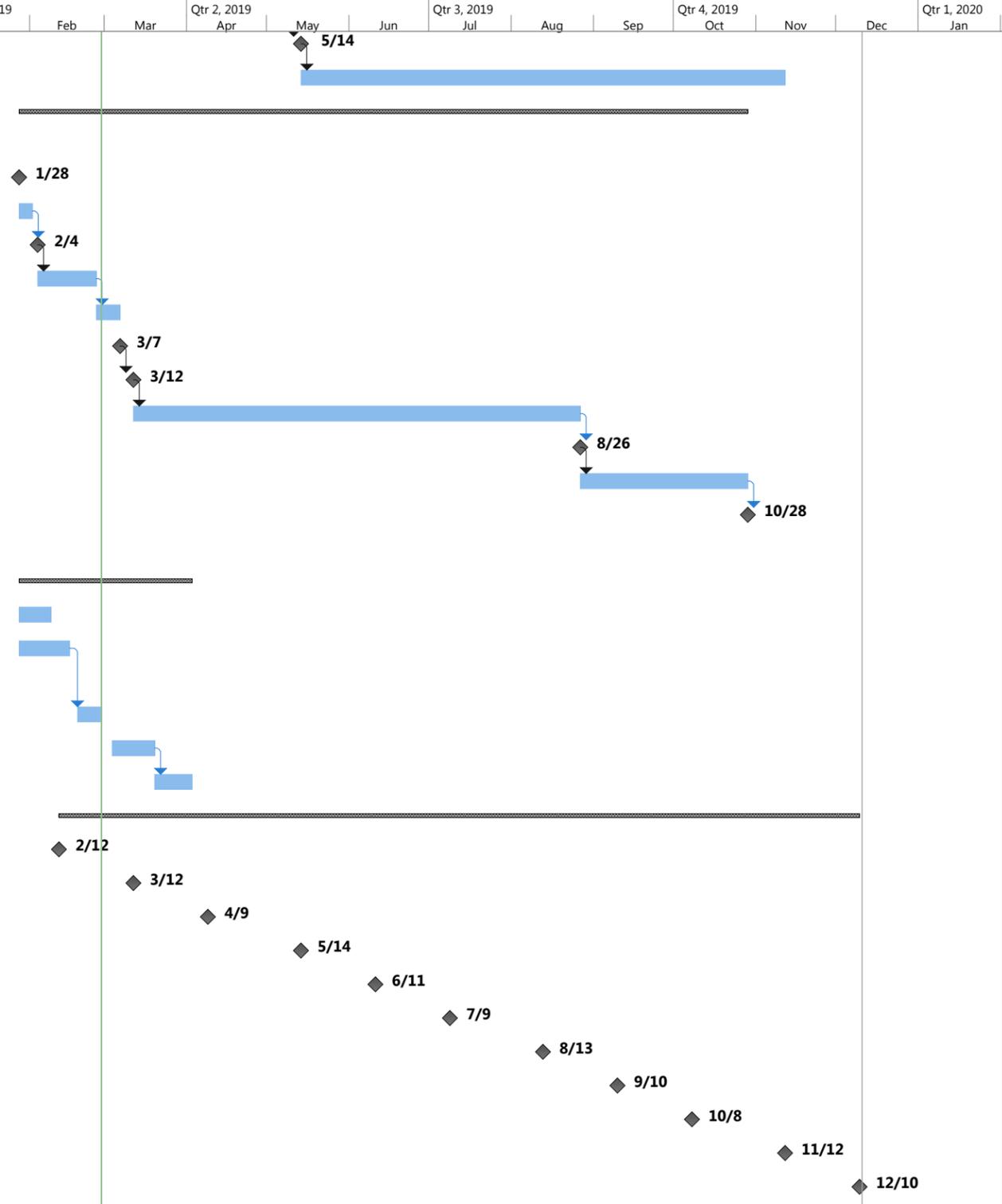
ID	Task Name	Duration	Start	Finish	Dec	Qtr 1, 2019		Feb	Mar	Qtr 2, 2019		Jun	Qtr 3, 2019		Aug	Sep	Qtr 4, 2019		Nov	Dec	Qtr 1, 2020		
					Jan	Jan	Apr	May	Jul	Oct	Jan												
1	07-04 Bell Moon	130 days	Tue 1/15/19	Mon 7/15/19																			
2	Receive Bid Documents	0 days	Tue 1/15/19	Tue 1/15/19																			
3	Receive Bid from Contractor	0 days	Thu 1/24/19	Thu 1/24/19																			
4	Prepare Staffing Report	5 days	Thu 1/24/19	Wed 1/30/19																			
5	Submit Staffing Report	0 days	Thu 2/7/19	Thu 2/7/19																			
6	Award Contract (February 2019 Board Meeting)	0 days	Tue 2/12/19	Tue 2/12/19																			
7	Easements	15 days	Tue 2/19/19	Mon 3/11/19																			
8	Construction	90 days	Tue 3/12/19	Mon 7/15/19																			
9	14-31 Ferdinand	206 days	Mon 1/28/19	Mon 11/11/19																			
10	Prepare 50% Design (Including Site Walk with District)	25 days	Mon 1/28/19	Fri 3/1/19																			
11	Submit 50% Design to District	0 days	Fri 3/1/19	Fri 3/1/19																			
12	District Review Period	5 days	Mon 3/4/19	Fri 3/8/19																			
13	Review Meeting with District	0 days	Fri 3/8/19	Fri 3/8/19																			
14	Prepare 100% Design	10 days	Mon 3/11/19	Fri 3/22/19																			
15	Submit 100% Design to District	0 days	Mon 3/25/19	Mon 3/25/19																			
16	District Review Period	2 days	Mon 3/25/19	Tue 3/26/19																			
17	Finalize Design	2 days	Wed 3/27/19	Thu 3/28/19																			
18	Bidding Period	20 days	Fri 3/29/19	Thu 4/25/19																			
19	Bid Opening	0 days	Thu 4/25/19	Thu 4/25/19																			
20	Review Bids and Prepare Staffing Report	5 days	Fri 4/26/19	Thu 5/2/19																			
21	Submit Staffing Report	0 days	Thu 5/9/19	Thu 5/9/19																			
22	Award Contract (May 2019 Board Meeting)	0 days	Tue 5/14/19	Tue 5/14/19																			
23	Construction	130 days	Tue 5/14/19	Mon 11/11/19																			
24	14-32 Casa Del Mar PRVs and Pipe & 19-03 Grand Blvd PRV	209 days	Wed 1/23/19	Mon 11/11/19																			
25	Prepare 50% Design (Including Site Walk with District)	20 days	Wed 1/23/19	Tue 2/19/19																			
26	Submit 50% Design to District	0 days	Tue 2/19/19	Tue 2/19/19																			
27	District Review Period	5 days	Wed 2/20/19	Tue 2/26/19																			
28	Review Meeting with District	0 days	Tue 3/5/19	Tue 3/5/19																			
29	Prepare 100% Design	10 days	Tue 3/5/19	Mon 3/18/19																			
30	Submit 100% Design to District	0 days	Tue 3/19/19	Tue 3/19/19																			
31	District Review Period	2 days	Tue 3/19/19	Wed 3/20/19																			
32	Finalize Design	2 days	Thu 3/21/19	Fri 3/22/19																			
33	Bidding Period	20 days	Mon 3/25/19	Fri 4/19/19																			
34	Bid Opening	0 days	Fri 4/19/19	Fri 4/19/19																			
35	Review Bids and Prepare Staffing Report	9 days	Mon 4/22/19	Thu 5/2/19																			
36	Submit Staffing Report	0 days	Thu 5/9/19	Thu 5/9/19																			



Task Milestone summary

**DRAFT CIP IMPLEMENTATION PLAN
ACTIVE PROJECTS
COASTSIDE COUNTY WATER DISTRICT
February 28, 2019**

ID	Task Name	Duration	Start	Finish	Dec	Qtr 1, 2019			Qtr 2, 2019			Qtr 3, 2019			Qtr 4, 2019			Dec	Qtr 1, 2020	
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Jan				
37	Award Contract (May 2019 Board Meeting)	0 days	Tue 5/14/19	Tue 5/14/19																
38	Construction	130 days	Tue 5/14/19	Mon 11/11/19																
39	Tank Rehabilitation Evaluation HMB 2, & 3, (11-05; 11-06), Cahill (08-16), and Miramar (19-XX)	196 days	Mon 1/28/19	Mon 10/28/19																
40	Submit Draft RFP for Structural Engineer to District	0 days	Mon 1/28/19	Mon 1/28/19																
41	District Review Period	5 days	Mon 1/28/19	Fri 2/1/19																
42	Issue RFP	0 days	Mon 2/4/19	Mon 2/4/19																
43	Proposal Response Period	16 days	Mon 2/4/19	Mon 2/25/19																
44	Evaluate proposals	7 days	Tue 2/26/19	Wed 3/6/19																
45	Select Structural Firm (Send Evaluation to District)	0 days	Thu 3/7/19	Thu 3/7/19																
46	Award Contract (March 2019 Board Meeting)	0 days	Tue 3/12/19	Tue 3/12/19																
47	Structural Evaluation	120 days	Tue 3/12/19	Mon 8/26/19																
48	Report of Structural Evaluation	0 days	Mon 8/26/19	Mon 8/26/19																
49	Develop Rehabilitation Approach based on Structural Evaluation	45 days	Tue 8/27/19	Mon 10/28/19																
50	Submit Tech Memo that presents the detailed approach to the Rehabilitation of all of the Tanks	0 days	Mon 10/28/19	Mon 10/28/19																
51	Hydraulic Modeling	47 days	Mon 1/28/19	Tue 4/2/19																
52	Determine sizing and pressure settings for the PRV's	10 days	Mon 1/28/19	Fri 2/8/19																
53	Investigate operation of Alves and EG-1 at a lower elevation (or removal of EG-1)	15 days	Mon 1/28/19	Fri 2/15/19																
54	Prepare Technical Memo	7 days	Tue 2/19/19	Wed 2/27/19																
55	Updating pump characteristics in model	12 days	Mon 3/4/19	Tue 3/19/19																
56	Evaluating Alves Tank booster pump station alternatives	10 days	Wed 3/20/19	Tue 4/2/19																
57	2019 Board Meetings	215 days	Tue 2/12/19	Tue 12/10/19																
58	February 2019 Meeting	0 days	Tue 2/12/19	Tue 2/12/19																
59	March 2019 Meeting	0 days	Tue 3/12/19	Tue 3/12/19																
60	April 2019 Meeting	0 days	Tue 4/9/19	Tue 4/9/19																
61	May 2019 Meeting	0 days	Tue 5/14/19	Tue 5/14/19																
62	June 2019 Meeting	0 days	Tue 6/11/19	Tue 6/11/19																
63	July 2019 Meeting	0 days	Tue 7/9/19	Tue 7/9/19																
64	August 2019 Meeting	0 days	Tue 8/13/19	Tue 8/13/19																
65	September 2019 Meeting	0 days	Tue 9/10/19	Tue 9/10/19																
66	October 2019 Meeting	0 days	Tue 10/8/19	Tue 10/8/19																
67	November 2019 Meeting	0 days	Tue 11/12/19	Tue 11/12/19																
68	December 2019 Meeting	0 days	Tue 12/10/19	Tue 12/10/19																



Task Milestone summary

DRAFT – 28 February 2019

MEMORANDUM

To: James Derbin, Coastside County Water District
David Dickson, Coastside County Water District

From: Jonathan Sutter, PE, EKI Environment & Water, Inc.
Tina Wang, PE, EKI Environment & Water, Inc.

Subject: Hydraulic Modeling Evaluation for Pressure Reducing Valve Projects and Tank Rehabilitation (EKI B80108.01)

EKI Environment & Water, Inc. (EKI) is pleased to submit this technical memorandum to Coastside County Water District (CCWD or District) summarizing hydraulic modeling evaluations EKI performed to:

- Confirm the sizing and settings for the proposed pressure reducing valves (PRVs) to be installed as part of the Casa Del Mar and Grand Boulevard PRV Projects (Capital Improvement Projects 19-03 and 14-32); and
- Evaluate the impacts on system operations of lowering the maximum operating level in Alves Tank and decommissioning El Granada 1 (EG-1) Tank based on findings from recent seismic evaluations.

The two evaluations were performed in accordance with EKI's scopes of work dated 3 January 2019 and 23 January 2019.

1. HYDRAULIC MODEL UPDATE

Prior to conducting the hydraulic modeling evaluations described herein, EKI updated the District's existing hydraulic model¹ to incorporate recent capital improvement projects (CIPs) and current system operational settings. The District's existing model was developed in the WaterCAD modeling software package and was last updated by West Yost Associates in August 2018. EKI performed the following model updates:

- Added recent CIPs including the El Granada Pipeline Replacement Project Final Phase and the Downtown 2-inch Water Main Replacement Project using as-built records and the District's water system GIS;

¹ The District provided the existing hydraulic model to EKI on 27 November 2018.

Mr. James Derbin
Coastside County Water District (EKI B80108.01)
DRAFT – 28 February 2019
Page 2 of 9

- Verified District-wide pipe alignments, connectivity, and sizing were consistent with water system GIS;
- Confirmed and updated system settings (e.g., which valves are maintained closed) per information provided by District on 29 January 2019.

The model included an existing demand set for 2018 average day demands (ADD) that totaled 1,279 gallons per minute (gpm). For the analyses described herein, EKI generated 2018 maximum day demand (MDD) and peak hour demand (PHD) sets using peaking factors of 1.5 and 2.9, respectively, resulting in a total MDD of 1,918 gpm and a PHD of 3,708 gpm. The peaking factors were derived from the 2000 demand sets in the existing model. The resulting MDD is consistent with the observed 2017 MDD of 2.79 million gallons per day (MGD), based on 2 September 2017 production data, as documented in an email exchange between the District and West Yost Associates in March 2018.

In addition to these updates, EKI also reviewed the results of calibration hydrant testing that was performed in June 2018. EKI is aware that significant differences between model results and flow testing results remain unreconciled and cannot be calibrated by adjusting friction factors alone. Possible reasons for the discrepancies between measured and modeled pressures could be a result of valve closures during testing that were inconsistent with the test plan, faulty valves, or miscalculated fire flow measurements. However, the model results were consistently more conservative than the flow testing results (i.e., the model predicted lower pressures than those that were measured in the field). Thus, the results presented herein should conservatively estimate system performance. EKI will review these calibration testing results in more detail as part of future analyses.

2. CASA DEL MAR PRVS (CIP 14-32) & GRAND BLVD PIPELINE/PRV LOOP ANALYSIS (CIP 19-03)

2.1. Project Background

The Casa Del Mar neighborhood is located between Wave Ave and Kehoe Ave in the City of Half Moon Bay. The neighborhood's water distribution system consists of 6- to 10-inch cast iron mains that are connected directly to the 16-inch transmission line on Highway 1 through four connections on Wave Avenue, Beach Avenue, Casa Del Mar Drive, and Kehoe Avenue. Existing pressures in this neighborhood are very high (>130 psi) due the low elevations relative to the hydraulic grade level of the pressure zone, and PRVs are installed on each customer service connection to reduce service pressure below 80 psi. These high pressures, coupled with the aging cast iron mains, have resulted numerous water main leaks in this area.

District staff proposed regulating water pressure in this area by installing PRV stations on the water mains connecting to the transmission line on Wave Avenue and Kehoe Avenue, while isolating the connections at Beach Avenue and Casa Del Mar Drive. The District proposed

installing a new 8-inch water line between Beach Avenue and Casa Del Mar Drive on Frontage Road to maintain a loop between Beach Avenue and Casa Del Mar Drive. The purpose of this project is to reduce pressures in this neighborhood and extend the life of the existing water mains.

Additionally, the downtown Half Moon Bay pressure zone (Zone 1R) currently has two connections to the 16-inch transmission line, one on Belleville Boulevard and another on Main Street, which include PRVs to reduce pressures from the main pressure zone (Zone 1). The District is considering adding a third connection with a PRV station on Grand Boulevard for additional system resiliency.

Illustrations of the current and proposed water system in these areas are included in Attachment A.

2.2. Evaluation Criteria

EKI conducted hydraulic modeling to confirm available fire flow with the above proposed CIPs and determine the appropriate sizing and setting of the proposed PRVs. Specifically, EKI modeled normal operating pressures and available fire flow with the existing system and the proposed improvements to confirm that the following:

Casa Del Mar PRVs:

1. Determine the appropriate pressure settings to balance the flows through each PRV station and provide a maximum pressure of approximately 80 psi during PHD conditions.
2. Determine the appropriate hi-flow and low-flow bypass PRV sizing such that low-flow bypass can provide the total PHD flows and the total PRV station capacity can provide fire flow demands.
3. Confirm that with the improvements the system can still achieve a residential fire flow availability² at each hydrant of at least 1,000 gpm during MDD conditions.

Grand Boulevard PRV:

1. Determine the appropriate pressure settings match the hydraulic grade level of Zone 1R and to balance the flows through the proposed Grand Boulevard and existing Belleville Boulevard PRV during PHD conditions.
2. Determine the appropriate hi-flow and low-flow bypass PRV sizing such that low-flow bypass can provide the total PHD flows and the total PRV station capacity can provide fire flow demands.
3. Calculate the fire flow availability and document fire flow improvements.

² Fire flows must be provided in conjunction with MDD conditions while maintaining a minimum residual pressure of 20 pounds per square inch (psi) at all system service connections.

Mr. James Derbin
Coastside County Water District (EKI B80108.01)
DRAFT – 28 February 2019
Page 4 of 9

EKI also modeled the PHD and fire flow availability for the existing system as a baseline to compare results with the proposed improvements.

2.3. Hydraulic Modeling Results

Hydraulic modeling results for the PRV projects are shown in Attachment B and discussed below.

PRV Pressure Settings

In the Casa Del Mar area, modeling of the existing system showed high system pressures of around 130 psi under PHD conditions (Figure B-1a). In order to maintain pressures at approximately 80 psi in the neighborhood (Figure B-1b) and balance flows between the two PRVs, the recommended PRV settings are 71 psi on Wave Ave and 75 psi on Kehoe Ave.

At the dead end of the Grand Boulevard, the existing system pressures are modeled to be approximately 87 psi (Figure B-2a). EKI recommends a PRV setting at the proposed Grand Boulevard PRV of 89 psi to match the hydraulic grade line of the downstream Zone 1R and balance flows with the similarly-sized Belleville PRV (Figure B-2b). This PRV and new loop will increase normal pressures slightly (by approximately 2 psi) on Grand Boulevard near Highway 1.

PRV Sizing

Considering the flow rate through these PRVs could be over 1,000 gpm during fire flow conditions and 0 to 94 gpm during normal operating conditions, it is recommended that each of the Casa Del Mar and Grand Blvd PRV stations include a 6-inch high-flow PRV and a 2-inch low-flow bypass PRV. This sizing is based on Cla-Val Model 90-01 Pressure Reducing Valve selection chart (see Attachment C). The 2-inch PRV would be set at the pressures listed in the section above to convey flow during normal operating conditions. The 6-inch PRV would be set at slightly lower pressures (approximately 2 psi lower) so that they would only open to meet large intermittent demands such as fire hydrant flows.

EKI will incorporate this recommend PRV station sizing into the design of the Casa Del Mar and Grand Blvd PRV projects, which is currently underway.

Fire Flow Results

In the Casa Del Mar area, existing available fire flows are greater than 3,000 gpm at all hydrants under MDD conditions (Figure B-1c). With the proposed Casa Del Mar PRV Project, minimum available fire flow was observed at the hydrant near Casa Del Mar and Frontage at 1,359 gpm, meeting the District's residential fire flow requirement of 1,000 gpm (Figure B-2d).

In the vicinity of Grand Boulevard, the available fire flow during MDD conditions at the hydrant near Grand and Ralston is modeled to be 1,575 gpm (Figure B-2c). With the proposed connection,

available fire flow improved in the hydrant to over 3,000 gpm (Figure B-2d). Fire flow availability at other nearby hydrants was also moderately improved.

3. ALVES & EG 1 TANKS REDUCED OPERATION / REHABILITATION ANALYSIS

3.1. Project Background

As part of the District's ongoing effort to rehabilitate existing tanks, the District performed a structural review and seismic evaluation on its EG-1 and Alves Tanks in 2018. Recommendations from the evaluation included a series of retrofits to the tanks. Alternatively, the District could operate Alves tanks at a lower maximum elevation or decommission either of the tanks. Per direction from the District, EKI conducted the following evaluations to determine the impacts of (1) lowering the maximum operating water level at Alves Tank by five feet and decommissioning EG-1 Tank; or (2) decommissioning both EG-1 and Alves Tanks.

Alves Tank has a 2.0 million-gallon (MG) capacity and is located on the southern end of the downtown Half Moon Bay pressure zone (Zone 1R). It was constructed in approximately 1970 with the intention to serve the downtown Half Moon Bay area. The water from the tank also pumps up to the Miramontes Tank and upper pressure zone that has a small ADD of 30 gpm.

System modifications overtime have made the maximum elevation of the Alves tank lower than the hydraulic grade line of Zone 1R. As shown in Attachment D, the hydraulic grade line at Zone 1R is controlled by its PRVs, which are set at 242 feet, which is much higher than the existing maximum elevation of Alves at 199 feet. Therefore, the tank is not able to provide water to any services in Zone 1R and thus does not have any functionality under normal operations besides serving as a clear well to pump to Miramontes Tank. Alves Tank could provide emergency storage in case there was a supply interruption to Zone 1R. This is consistent with the District's observation that the tank does not turn over and has had water quality issues.

The current configuration of the EG-1 Tank, a 0.2 MG tank in Zone 1, is similar to that of Alves Tank, in that EG-1 Tank's maximum water elevation of 259 feet is below the hydraulic grade line of the connected transmission main at 343 feet. Therefore, the EG-1 can only serve as a pressure break prior to pumping to EG-2, which is in a higher zone (Zone 2).

3.2. Storage Analysis

As part of this analysis, EKI evaluated the impacts on the District-wide storage capacity of decommissioning EG-1 Tank and either reducing the maximum operating level or decommissioning Alves Tank. Treated water storage capacity includes operational (or equalization) storage, fire storage, and emergency storage components. EKI evaluated the District's available emergency storage capacity with these potential changes.

Operational storage is the storage volume used to meet high demand periods and is required by Title 22 to supply at least four hours of PHD. For this analysis, the fire storage volume is conservatively assumed to be equal to a concurrent residential fire (1,000 gpm for two hours) and a commercial/industrial fire (1,500 gpm for two hours). The resulting operational and fire storage requirements are 0.89 and 0.3 MG, respectively. The remainder of system-wide storage is attributed to emergency storage to meet demands during supply interruptions. Typically, other Bay Area communities maintain at least one day of ADD as emergency storage.

As shown in Table 1 below, the District currently operates eleven tanks with a total storage of 8.05 MG. On top of meeting the District’s operational and fire storage requirements, there remains 6.86 MG of emergency storage, which is equivalent to 3.7 days of ADD (see Table 2).

As shown in Table 2, lowering the maximum water elevation in Alves Tank by five feet and decommissioning EG-1 reduces the available emergency storage to 6.16 MG, or 3.3 days of ADD. The emergency storage is further reduced to 4.66 MG or 2.5 days of ADD if both Alves and EG-1 Tanks are decommissioned.

Table 1. Summary of CCWD Active Storage Tanks

Tank Name	Zone	Minimum Elevation (ft)	Operational Elevation (ft)	Operational Storage Volume (MG)
Denniston	Zone-1	325	347.5	1.5
Hazens	Zone-1	300	315.5	0.05
EG-1	Zone-1	233	252	0.2
EG-2	Zone-2	438	454	0.15
EG-3	Zone-3	665	681	0.25
Miramar	Zone-1	310	326	1
HMB 1, 2, 3 ³	Zone-1	335	358.5	2.5
Alves	Zone-1R	175	200.5	2
Miramontes	Zone-1R	289	308.5	0.4
Total				8.05

³ Half Moon Bay tanks 1,2, and 3 are represented as a single tank in the hydraulic model

Table 2. Comparison of District-wide Storage under Existing and Proposed Tank Operations

		Existing	Lower Alves and Remove EG-1	Remove both Alves and EG-1
System-wide Storage (MG)		8.05	7.35	5.85
Operational Storage Requirement (MG)¹		0.89	0.89	0.89
Fire Storage Requirements (MG)²		0.3	0.3	0.3
Remaining Emergency Storage	(MG)	6.86	6.16	4.66
	Equivalent Days of ADD	3.7	3.3	2.5

Notes:

1. Operational storage requirement is equal to four hours of PHD per Title 22.
2. Assumed to be equal to required flows to fight concurrent two-hour residential (1,000 gpm) and commercial (1,500 gpm) fires.

EKI recommends that the District decommission EG-1 and reduce the maximum water level in Alves Tank by five feet as proposed in the seismic evaluation. While Alves Tank does not currently provide much operational functionality and the District appears to have adequate emergency storage without Alves Tank, EKI does not recommend decommissioning Alves Tank for the following reasons:

1. Even at its reduced capacity of approximately 1.5 MG, Alves Tank is a significant asset with a high replacement cost.
2. Without Alves Tank, there would be no emergency storage for the southern portion of the District in case of a supply interruption to the Zone 1R.
3. The District is initiating seismic evaluations of three other treated water storage tanks (Half Moon Bay #2 and #3 and Miramar Tanks) with a total capacity of 2.1 and these evaluations could recommend reductions in maximum storage elevations in these tanks and further reduce the District’s available storage.

Instead, EKI will review options as part of a future modeling evaluation for improving the operations of Alves Tank, including potentially adding a booster pump station to increase the hydraulic grade level and pump from Alves Tank back to downtown Half Moon Bay.

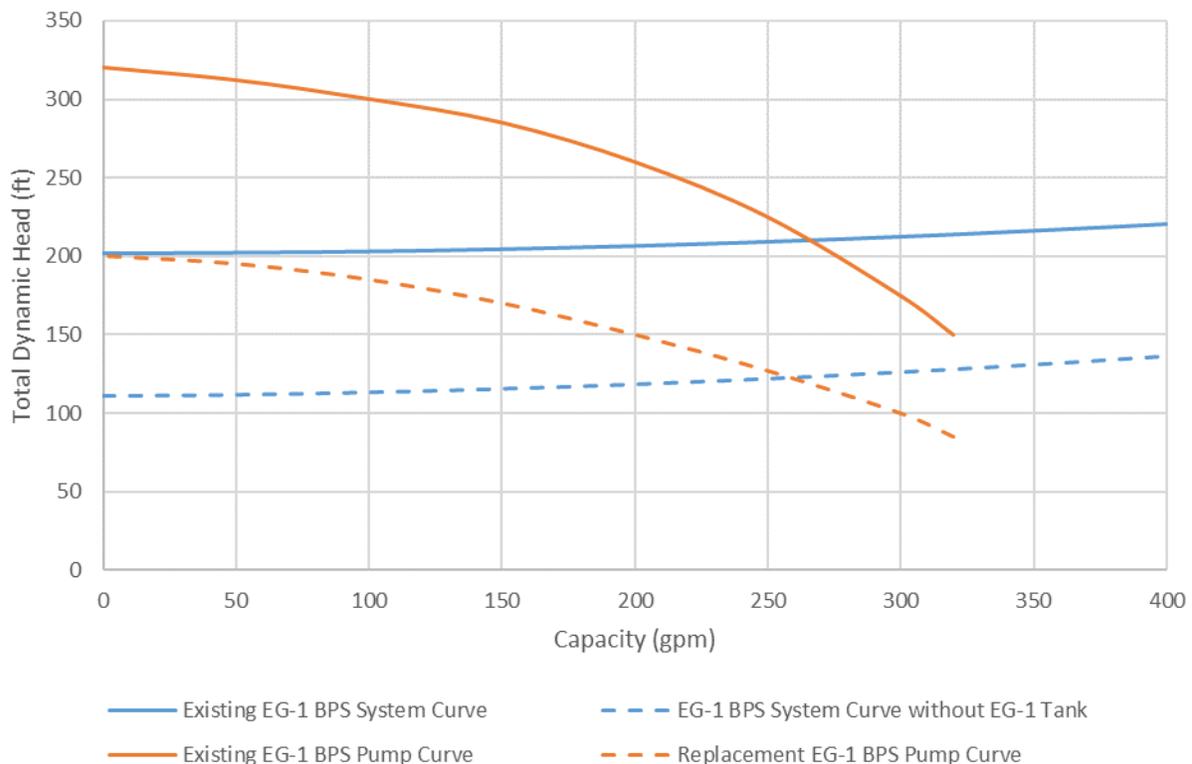
3.1. Hydraulic Analysis

Because the Alves and EG-1 Tanks currently do not provide any operation benefit, there should not be any affect to system performance by lowering the maximum water elevation in Alves Tank and abandoning EG-1 Tank. These changes will, however, affect the head conditions at the Alves and EG-1 booster pump stations.

Lowering the maximum water elevation in Alves Tank will slightly reduce the maximum suction head (thereby increasing the minimum static head) at the Alves Pump Station. However, the Alves booster pumps will still be running in their normal operating range and no pump modifications will be necessary. EKI understanding that the District is planning to recoat Alves Tank and recommends that a temporary tank and bypass line being installed during the process, so that normal operations of the Alves Pump Station is unaffected.

However, the EG-1 booster pumps (Goulds 46SV at 60 Hz, 3,500 rpm with three total and two reduced stages) have a design point of 225 gpm at 230 feet of total dynamic head (TDH). After EG-1 Tank is abandoned, the EG-1 pump station suction piping would require modification to pump directly from the former tank feed line, pressurized at approximately 48 psi. This would reduce the TDH requirement to approximately 120 feet at 225 gpm and cause the existing pumps to operate well off their pump curves (see Figure 1). EKI confirmed with the pump manufacturer that it is not advisable to operate the existing pumps this far off its pump curves and also confirmed that the existing pumps cannot be “destaged” to lower the pump curve. EKI recommends that the District replace the existing pumps with the same model pump with two total and two reduced stages when EG-1 is abandoned. The new system curve and proposed replacement pump curves are shown on Figure 1.

Figure 1. System Curve and Pump Curves at EG-1 Booster Pump Station (BPS) with and without EG-1 Tank



4. CONCLUSIONS AND RECOMMENDATIONS

EKI determined that the proposed Casa Del Mar and Grand Boulevard PRV Projects satisfies the District’s design criteria as proposed. As shown on Table 3 and described below, EKI recommends the PRV sizes and pressure settings shown in Table 3.

Table 3. Recommended PRV Sizes and Pressure Settings

PRV Location	PRV Sizes		Pressure Settings (psi)	
	High-Flow	Low-Flow Bypass	High-Flow	Low-Flow Bypass
Wave Avenue	6"	2"	69	71
Kehoe Avenue	6"	2"	73	75
Grand Boulevard	6"	2"	87	89

EKI has also confirmed that EG-1 Tank can be decommissioned and the maximum water level in Alves Tank can be lowered by five feet without significant storage losses or hydraulic performance impacts. EKI recommends that the District proceed with these recommendations. As part of the abandonment of EG-1, the District will need to modify the suction piping for the EG-1 booster pump station to pump directly from the lower pressure zone and replace the existing pumps with smaller pumps such as the Goulds 46SV at 60 Hz, 3,500 rpm with two total and two reduced stages. EKI also proposes to evaluate options to make better use of Alves Tank including adding a booster pump station to pump from Alves Tank back to downtown Half Moon Bay.

Attachments

- Attachment A. Proposed Casa Del Mar and Grand Boulevard CIPs
- Attachment B. Hydraulic Modeling Results for the Casa Del Mar and Grand Boulevard CIPs
- Attachment C. Cla-Val Model 90-01 Pressure Reducing Valve Selection Chart
- Attachment D. CCWD Water System Schematic Diagram, Annotated by EKI

Attachment A
Proposed Casa Del Mar and Grand Boulevard CIPs

CIP Project 19-03 Grand Pipeline/PRV Loop



Exhibit 2

Figure 2. Project Scope for CIP 19-03.

Attachment B
Hydraulic Modeling Results for the Casa Del Mar and Grand Boulevard CIPs

Figure B-1a. Modeled existing system pressure in the Casa Del Mar area

Exhibit 2



Figure B-1b. Modeled system pressure in the Casa Del Mar area with proposed PRVs



Figure B-1c. Modeled existing available fire flow in the Casa Del Mar area



Figure B-2a. Modeled existing system pressure in the Grand Boulevard area



Figure B-2c. Modeled existing available fire flow in the Grand Boulevard area



Figure B-2d. Modeled available fire flow in the Grand Boulevard area with proposed PRVs



Attachment C
Cla-Val Model 90-01 Pressure Reducing Valve Selection Chart

90-01 Valve Selection	100-01 Pattern: Globe (G), Angle (A), End Connections: Threaded (T), Grooved (GR), Flanged (F) Indicate Available Sizes																			
	Inches	1	1¼	1½	2	2½	3	4	6	8	10	12	14	16	18	20	24	30	36	
	mm	25	32	40	50	65	80	100	150	200	250	300	350	400	450	500	600	750	900	
Basic Valve 100-01	Pattern	G, A	G, A	G, A	G, A	G, A	G, A	G, A	G, A	G, A	G, A	G, A	G, A	G, A	G	G	G, A	G	G	
	End Detail	T	T	T, F, Gr*	T, F, Gr	T, F, Gr*	T, F, Gr	F, Gr	F, Gr	F, Gr*	F, Gr*	F	F	F	F	F	F	F	F	F
Suggested Flow (gpm)	Maximum	55	93	125	210	300	460	800	1800	3100	4900	7000	8400	11000	14000	17000	25000	42000	50000	
	Maximum Intermittent	68	120	160	260	370	580	990	2250	3900	6150	8720	10540	13700	17500	21700	31300	48000	62500	
	Minimum	1	1	1	1	2	2	4	10	15	35	50	70	95	120	150	275	450	650	
Suggested Flow (Liters/Sec)	Maximum	3.5	6	8	13	19	29	50	113	195	309	442	530	694	883	1073	1577	2650	3150	
	Maximum Intermittent	4.3	7.6	10	16	23	37	62	142	246	387	549	664	863	1104	1369	1972	3028	3940	
	Minimum	.03	.03	.03	.06	.09	0.13	0.25	0.63	0.95	2.2	3.2	4.4	6.0	7.6	9.5	17.4	28.4	41.0	

100-01 Series is the full internal port Hytrol. For Lower Flows Consult Factory *Globe Grooved Only

Notes:

- For sizes 18 through 36-inches / 450 mm though 900 mm, use 90-66 E-Sheet
- Many factors should be considered in sizing pressure reducing valves including inlet pressure, outlet pressure and flow rates.
- For sizing questions or cavitation analysis, consult Cla-Val with system details.

Pilot System Specifications



Adjustment Ranges

- 2 to 30 psi
- 15 to 75 psi
- 20 to 105 psi
- 30 to 300 psi*
- 150 to 600 psi (CRD-18)

*Supplied unless otherwise specified

Temperature Range
Water: to 180°F

Materials

Standard Pilot System Materials

- Pilot Control: Low Lead Bronze
- Trim: Stainless Steel Type 303
- Rubber: Buna-N® Synthetic Rubber

Optional Pilot System Materials

Pilot Systems are available with optional Stainless Steel or Monel materials.

Note: Available with remote sensing control.

Pilot Approvals



NSF/ANSI 372: National Lead Free Mandate
"Reduction of Lead in Drinking Water Act"

When Ordering, Specify:

1. Catalog No. 90-01
2. Valve Size
3. Pattern - Globe or Angle
4. Pressure Class
5. Threaded, Flanged or Grooved
6. Trim Material
7. Adjustment Range
8. Desired Options
9. When Vertically Installed

Main Valve Options

EPDM Rubber Parts

Optional diaphragm, disc and o-ring fabricated with EPDM synthetic rubber

Viton® Rubber Parts - suffix KB

Optional diaphragm, disc and o-ring fabricated with Viton® synthetic rubber

Epoxy Coating - suffix KC

NSF 61 Listed and FDA approved, fusion bonded epoxy coating

Dura-Kleen® Stem - suffix KD

Fluted design prevents dissolved minerals build-up on the stem

LFS Trim

Designed to regulate precisely and smoothly at typical flow rates as well as lower than the industry standard of 1 fps, without decreasing the valve's capacity

Valve Options

X141 Pressure Gauge



X101AR Valve Position Indicator with Air Release



X101 Valve Position Indicator



X144 e-FlowMeter



X43H Strainer



Stainless Steel Pilot

Attachment D
CCWD Water System Schematic Diagram, Annotated by EKI

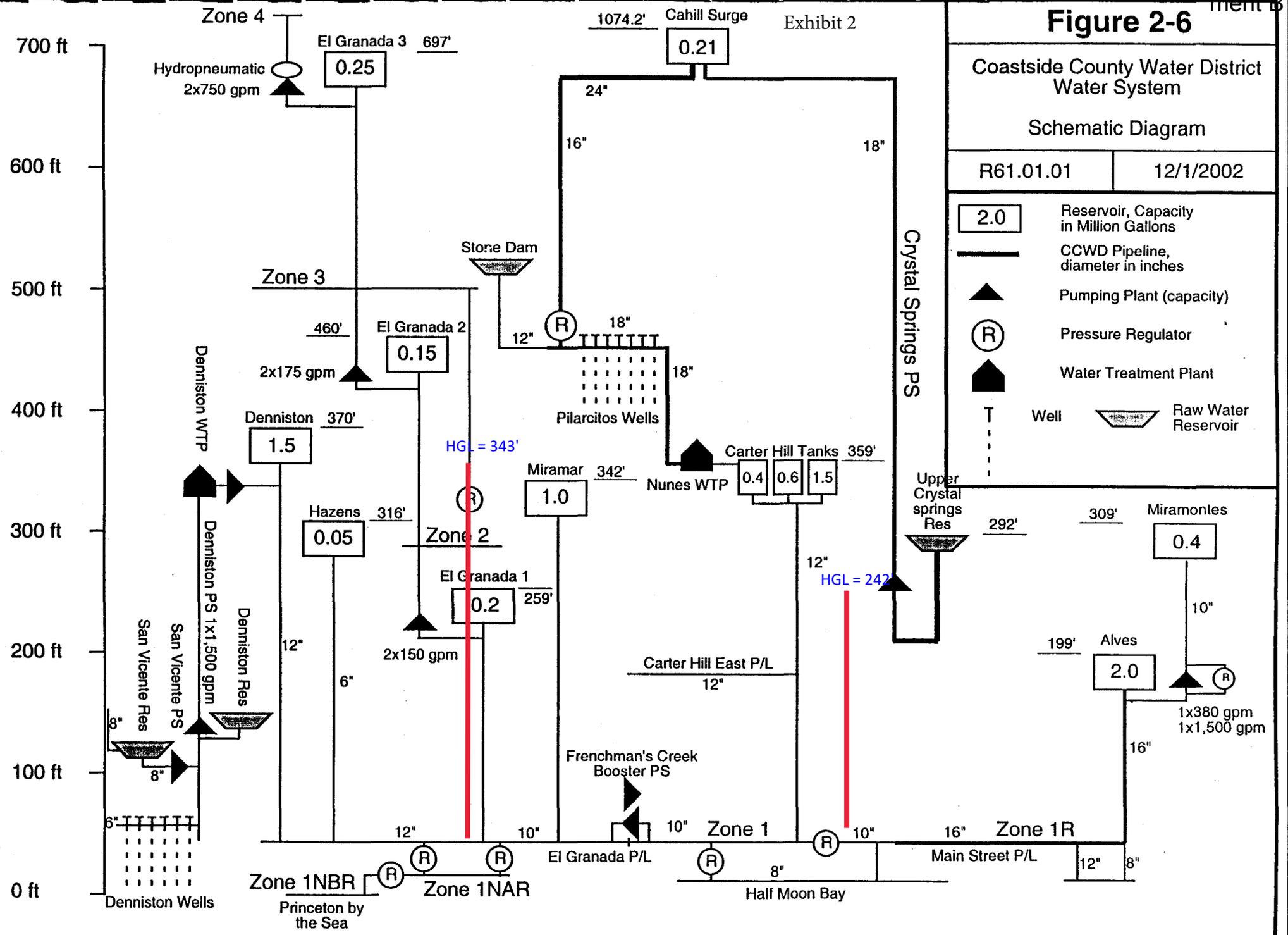
Figure 2-6

Coastside County Water District Water System Schematic Diagram

R61.01.01

12/1/2002

- 2.0 Reservoir, Capacity in Million Gallons
- CCWD Pipeline, diameter in inches
- Pumping Plant (capacity)
- R Pressure Regulator
- Water Treatment Plant
- Well
- Raw Water Reservoir



Annotated by EKI, 28 February 2019

Corporate Office
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Burlingame, CA 94010
(650) 292-9100
ekiconsult.com

5 March 2019

Mr. David Dickson
Ms. Mary Rogren
Coastside County Water District
766 Main St.
Half Moon Bay, CA 94019

Subject: Proposal for Continuing Capital Project Management Support
Coastside County Water District, Half Moon Bay, California
(B8-195)

Dear Mr. Dickson:

EKI Environment & Water, Inc. ("EKI") is pleased to provide this proposal for continuing to provide consulting services to assist Coastside County Water District ("District") with the management of the District's Capital Improvement Program ("CIP"). This work would be performed under the terms of our 19 October 2018 consulting agreement with the District.

PROJECT UNDERSTANDING

EKI has been assisting the District with the management of its 3-year CIP including prioritization of the various projects. To date, EKI has initiated the following tasks: development of a revised CIP schedule and projected cash flow; design of Casa Del Mar and Grand Boulevard PRV Stations Project ("PRV Project") and Ferdinand Avenue Water Main Replacement Project; preparation and elevation of an RFP for the selection of a structural engineer firm for performing a seismic evaluation of 4 potable water storage tanks; hydraulic model updates and evaluations of the proposed PRV Project and modifications to Alves and El Granada 1 ("EG-1") Tanks; and review of the West Yost Feasibility report for the replacement of the 12-inch pipeline along Highway 92.

The District requested that EKI continue assisting with the management of its 10-year CIP. Therefore, EKI has prepared this proposal for the scope of work described in the following sections.

PROPOSED SCOPE OF WORK

EKI will provide the District continued consulting services for implementing the District's CIP. Specific tasks to be performed by EKI are anticipated to include those described below. However, the task list for each project may evolve as the projects progress.

Program Management

EKI will coordinate and participate biweekly update meetings with the District. The meeting will include updates on the schedule and budgets statuses for ongoing projects and discussions of any current or anticipated issues. In addition, EKI and the District will discuss the anticipated scopes, schedules, and budgets for future upcoming projects. EKI and the District will establish priorities for completing future projects that do not have established schedules. EKI will document the meeting discussions with summary emails.

Implementation of Pipeline Projects

For ongoing on upcoming pipeline projects, EKI will perform the management to support District staff. EKI's efforts may include the following:

- Coordinate the completion for the design of the *Pilarcitos Canyon Pipeline Replacement Project (CIP Project 07-03)* including incorporating SFPUC requirements (including required engineering investigations and calculations) and CEQA requirements in the project documents being prepared by District staff and assist the District staff in negotiations with the contractor.
- Retain a CEQA consultant to prepare the appropriate CEQA documents and California Fish and Wildlife permit application for the *Pilarcitos Creek Crossing Project (CIP Project 13-02)*. Assist the District with the submission of the permit application to California Fish and Wildlife and to City of Half Moon Bay (Coastal Development Permit).
- Coordinate the inclusion of the CEQA, Fish and Wildlife permit, City of Half Moon Bay (Coastal Development) permits. and any other agency requirements into the final design plans and specifications for the *Pilarcitos Creek Crossing Project (CIP Project 13-02)*.
- Manage the preparation of design documents for the other pipeline projects: Pine Willow Oak Pipeline Replacement (CIP 18-01), Grandview 2-inch Replacement (CIP 14-27), Jack and Bore at Grandview, Terrace, and Silver Streets (CIP XX-XX) which are to be implemented using the Design, Bid, Build delivery method.
- Assist District staff in coordinating with the City of Half Moon Bay (Costal Development Permit) and San Mateo County for their permit/California Environmental Quality Act ("CEQA") needs for the other pipeline projects (we would assume these are categorically exempt).
 - Also coordinate paving requirements for these two entities.
- Validate project costs with District staff and other recently bid projects.

Note that EKI will manage the implementation of the Replacement of Highway 92 12-Inch Water Main under a separate scope of work.

Implementaion of Tank Seismic Evaluation/Coating and Rehabilitation Projects

EKI will assist the District staff in the implementation of the seismic evaluation of the four tanks: Half Moon Bay (“HMB”) 1 and 2, Cahill, and Miramar Tanks including managing the selected structural engineer and coordinating with the District regarding next steps once the structural evaluation has been completed. EKI will also assist the District to implement recommendations for Alves Tank and EG-1. Specific tasks can include:

- Plan approach to abandon EG-1 Tank and implement EG-1 pump station modifications recommended by the hydraulic modeling analysis.
- Plan approach for the coating of Alves Tank and maximum water level modifications.
- Using information from the other tank seismic evaluations, evaluate operational implications for any lower maximum operating using District’s hydraulic model.
- Plan approach to the selected structural upgrades of the tanks and the coating of the tanks.
- Develop tank rehabilitation designs, as recommended by structural evaluation, considering one of the alternatives being operation of the tanks at lower water levels.
- Manage the resulting tank design and construction projects.

Hydraulic Model Analysis

EKI will continue efforts to update the District’s hydraulic model. Specific tasks may include the following:

- Update the pump curves in the model with manufacturer’s pump curves.
- Perform model validation based on recent SCADA historian data.
- Attempt to reconcile results from recent hydrant flow tests and potentially identify new calibration tests.
- Evaluate potential for installing a new booster pump station at Alves Tank to serve the Half Moon Bay pressure zone. EKI will evaluate if the pump station can improve turnover in Alves Tank and improve pressures at the southern end of the District.

PROJECT SCHEDULE

EKI will continue to perform this scope of work in accordance with a mutually agreeable schedule.

COMPENSATION FOR CONSULTING SERVICES

We propose that compensation for consulting services by EKI be on a time and expense reimbursement basis in accordance with the terms of our 19 October 2018 Professional

Services agreement and our current Schedule of Charges, dated 1 January 2019. We propose a budget of \$75,000 to perform portions of the scope of work described above. EKI anticipates that this budget will cover our services through the end of June 2019. EKI will not exceed the budget without authorization from the District.

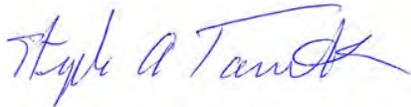
TERMS AND CONDITIONS

Other than the scope of work, budget, and schedule herein, the work will be performed in accordance with our current Agreement.

Thank you for the opportunity to work with the District on this Project. Please contact Jonathan Sutter or Stephen Tarantino at 650-292-9100 with any questions.

Very truly yours,

EKI Environment & Water, Inc.



Stephen A. Tarantino, P.E.
Vice President



Jonathan Sutter, P.E.
Project Manager

STAFF REPORT

To: Coastside County Water District Board of Directors

From: David Dickson, General Manager

Agenda: March 12, 2019

Report

Date: March 5, 2019

Subject: Approval of Professional Services Agreement with TJC and Associates, Inc. for Water Tank Seismic Evaluations

Recommendation:

Authorize the General Manager to execute a Professional Services Agreement with TJC and Associates, Inc. (TJCAA) for seismic evaluations of four steel storage tanks, at a time-and-materials cost not to exceed \$90,333.

Background:

Beginning with the Alves Tank and El Granada Tank No. 1 in 2018, staff has established the practice of performing seismic evaluations of storage tanks scheduled for recoating and rehabilitation. Bringing our storage tanks up to current seismic standards is an essential element of improving the District's ability to continue service after an earthquake and will reduce risks to life and property that would result from earthquake-induced structural failures.

Based on a recommendation from District engineering consultant EKI, we have taken the approach of combining seismic evaluations of four tanks scheduled for rehabilitation under the currently approved Capital Improvement Program (CIP): Cahill Tank, Miramar Tank, and Half Moon Bay Tanks 2 and 3. EKI prepared and distributed a request for proposals for seismic evaluation services, and we received responses from three well qualified firms, Kennedy Jenks Consultants, TJC and Associates, Inc., and Cornerstone Structural Engineering Group.

Staff and EKI evaluated and discussed the engineering proposals in detail, considering approach, experience, staff qualifications, schedule, and other factors. We ranked TJCAA's proposal higher than the others and thus recommend awarding the work to TJCAA. Attachment A presents their proposal dated February 25, 2019. Their cost proposal, included as Attachment B, summarizes costs and levels of effort by task, for a total cost of \$90,333.

Fiscal Impact:

Cost of \$90,333. Funded from design costs budgeted for tank projects.



$$\Delta C_c = \begin{cases} \text{if } f_1 \leq 0.064 \\ 0.72 \cdot \left(\frac{P}{E} \cdot \left(\frac{R}{t_r} \right)^2 \right)^{0.22} \\ \text{else} \\ \min \left(\left(0.045 \cdot \ln \left(\frac{P}{E} \cdot \left(\frac{R}{t_r} \right)^2 + 0.0018 \right) \right) + 0.194, (0.22) \right) \end{cases}$$

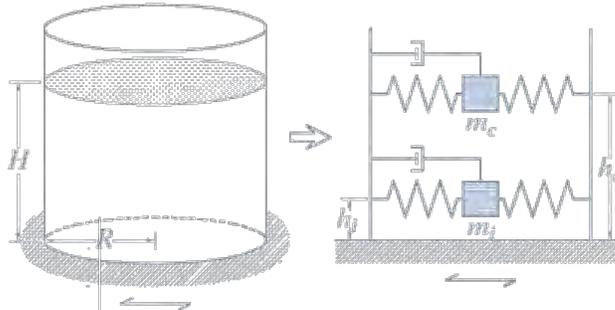
$$\delta_s = 0.42 D S_{ac}$$

$$X_{top} = \begin{cases} \text{if } \frac{D}{H} \geq 1.333 \\ 0.375 \cdot \left(1.0 + 1.333 \cdot \left(\frac{0.866 \cdot \frac{D}{H}}{\tanh \left(0.866 \cdot \frac{D}{H} \right)} - 1.0 \right) \right) \cdot H \\ \text{else} \\ \left(0.5 + 0.06 \cdot \frac{D}{H} \right) \cdot H \end{cases}$$

Stability ⇒ "REQUIRES ANCHORING"

$$J = \frac{M_0}{D^2 \cdot (w_1 \cdot (1 - 0.4 \cdot A_1) + w_2)}$$

$$\text{Stability} = \begin{cases} \text{if } J \leq 0.785 \\ \text{"NO UPLIFT"} \\ \text{also if } 0.785 < J \leq 1.54 \\ \text{"UPLIFT"} \\ \text{else} \\ \text{"REQUIRES ANCHORING"} \end{cases}$$



Proposal

for

Professional Engineering Services for Water Tank Seismic Evaluations

in

Half Moon Bay, Miramar, Princeton by the Sea, and El Granada, CA

February 25, 2019

$$X_{top} = \begin{cases} \text{if } \frac{D}{H} \geq 1.333 \\ 0.375 \cdot \left(1.0 + 1.333 \cdot \left(\frac{0.866 \cdot \frac{D}{H}}{\tanh \left(0.866 \cdot \frac{D}{H} \right)} - 1.0 \right) \right) \cdot H \\ \text{else} \\ \left(0.5 + 0.06 \cdot \frac{D}{H} \right) \cdot H \end{cases}$$

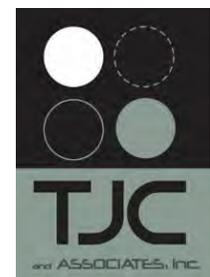
$$X_{top} = \left(1.0 - \frac{\cosh \left(\frac{3.67 \cdot H}{D} \right) - 1.937}{\left(\frac{3.67 \cdot H}{D} \right) \cdot \sinh \left(\frac{3.67 \cdot H}{D} \right)} \right) \cdot H$$

$$M_{top} = \sqrt{(A_1 \cdot (W_1 \cdot X_1 + W_2 \cdot H_r + W_3 \cdot X_{top}))^2 + (A_1 \cdot W_4 \cdot X_{top})^2}$$

AWWA STANDARD
WELDED CARBON STEEL TANKS FOR WATER STORAGE
ANSI/AWWA D100-11

This MATHCAD template is based on the criteria set forth in the AWWA Standard D100.

$$IR_{\sigma_{top}} = \begin{cases} \text{if } \sigma_{top} \leq \sigma_{allow} \\ \text{"ACCEPTABLE"} \\ \text{else} \\ \text{"UNACCEPTABLE"} \end{cases} \leftarrow IR_{\sigma_{top}} = \text{"ACCEPTABLE"}$$



TJC and Associates, Inc.
2890 North Main St, Suite 303
Walnut Creek, CA 94597
(925) 357-2676
www.tjcaa.com



Table of Contents

Cover Letter

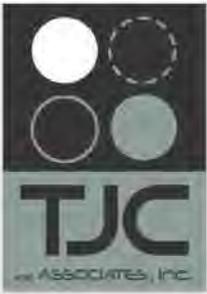
Section 1: Introduction	1
1.1 Project Understanding	1
1.2 Firm Profile	2
Section 2: Project Approach	3
2.1 Technical Approach	3
2.2 The TJCAA Team’s Distinguishing Factors	4
2.3 Project Management Approach.....	4
2.4 CCWD Terms and Conditions	5
Section 3: Scope of Work	6
Section 4: Project Schedule	9
Section 5: Statement of Qualifications	11
5.1 Representative Projects	11
Section 6: Project Team	13
6.1 Key TJCAA Staff	14
6.2 Subconsultants	15
6.3 Staff Availability.....	15
6.4 Past Performance	15

Appendices

Appendix A – Resumes



February 25, 2019



David Dickson
 General Manager
 Coastside County Water District
 766 Main Street
 Half Moon Bay, CA 94019

Structural
Engineering

SCADA

Electrical
Engineering

Instrumentation

Controls

Control Systems
Programming

Subject: Proposal for Professional Engineering Services for Water Tank Seismic Evaluations in Half Moon Bay, Miramar, Princeton by the Sea, & El Granada, CA

Dear Mr. Dickson:

TJC and Associates, Inc. (TJCAA) is pleased to submit the attached proposal to the Coastside County Water District (CCWD) for Water Tank Seismic Evaluations in Half Moon Bay, Miramar, Princeton by the Sea, and El Granada. TJCAA is excited about this project, for which we can provide an experienced team. Our firm is proficient in performing seismic assessments and retrofit designs, and we have exceptional, appropriate expertise for successfully executing the scope of work identified in CCWD's Request for Proposal.

TJCAA is a small business enterprise, providing engineering services to California clients, as well as clients throughout the United States. Founded by Terence Cavanagh, S.E. and Gianna Zappettini as a structural engineering firm in 1998, TJCAA now offers multidiscipline design solutions in Structural Engineering, Electrical Engineering, Instrumentation and Controls, and Control Systems Programming. TJCAA's head designer, Terence Cavanagh, was a principal and design leader for an international environmental engineering firm in California's Bay Area. Mr. Cavanagh has more than 30 years of experience in delivering creative problem-solving for special districts, municipalities, and commercial/industrial clients.

The TJCAA Team also includes Leslie Scott of Tank Industry Consultants (TIC). As detailed in our proposal, selecting the TJCAA Team provides the District with qualified engineers that are experienced with the project requirements. Selecting TJCAA will benefit CCWD in the following ways:

Technical Expertise: We have the right engineers with the right experience. We have the specific technical expertise required to prepare a seismic evaluation and condition assessment of the four CCWD tanks and make recommendations for remediation measures, if necessary. Our team has performed numerous seismic assessments for structures similar to CCWD's, the most recent of which was for three welded steel tanks in the Westborough Water District. We are experts in the design of water facilities, and our team includes professionals to evaluate the structural integrity of the tanks.

Efficiency: TJCAA is a well-established, yet nimble firm that can accomplish the assessment efficiently. Our team understands that CCWD wants a qualified, responsive consultant that can accomplish the design in a cost-effective and timely manner. By applying the exceptional in-house resources of our small, experienced firm, with team members from TIC, we can provide an excellent value for the District.

Implementable Solutions: Our approach features meetings at key points to help focus our recommendations by involving you, our client! By enhancing our engineers' technical solutions with your staff's local knowledge, we can provide CCWD with a clear, usable set of recommendations that are consistent with system operational and maintenance requirements.

Sacramento Office:
 2356 Gold Meadow Way,
 Suite 250
 Gold River, CA 95670
 p 916.853.9658

Oakland Office:
 1330 Broadway,
 Suite 1101
 Oakland, CA 94612
 p 510.251.8980

Walnut Creek Office:
 2890 North Main St.,
 Suite 303
 Walnut Creek, CA 94597
 p 925.357.2676

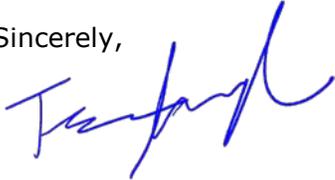
f 800.948.5604

www.tjcaa.com

The TJCAA Team is a highly qualified and experienced seismic evaluation and mitigation service provider, operating from fully equipped design offices in the San Francisco Bay Area. Our team has completed numerous seismic evaluation projects in and around the Bay Area.

Again, thank you for the opportunity to submit this proposal, which presents TJCAA's proposed project team and related experience and demonstrates our ability to deliver a successful project. We look forward to discussing our capabilities and approaches for this project in the very near future. Feel free to call me at (925) 357-2676 should you have any questions or require any further information.

Sincerely,

A handwritten signature in blue ink, appearing to read "Terence Cavanagh", with a stylized flourish at the end.

Terence Cavanagh, S.E.
Owner and Senior Vice President
TJC and Associates, Inc.



Section 1: Introduction

TJC and Associates, Inc. (TJCAA) is pleased to submit this Proposal to Coastside County Water District (CCWD) for Professional Engineering Services for Water Tank Seismic Evaluations in Half Moon Bay, Miramar, Princeton by the Sea, and El Granada, CA. This Proposal is divided into sections to address specific items as requested in CCWD’s Request for Proposal (RFP):

- Section 1 – Introduction (this Section)
- Section 2 – Project Approach
- Section 3 – Scope of Work
- Section 4 – Project Schedule
- Section 5 – Statement of Qualifications
- Section 6 – Project Team

We have provided detailed staff resumes in Appendix A. Our Cost Proposal is provided in a separate sealed envelope.

1.1 PROJECT UNDERSTANDING

This proposal presents the capabilities and qualifications of the TJCAA project team to conduct seismic evaluations of four CCWD water tanks (the project). This effort is to include a seismic evaluation in accordance with the AWWA D100-11 standard, *Welded Carbon Steel Tanks for Water Storage*, an assessment of the tanks’ existing structural condition, and development of recommendations for addressing the tanks’ needs. This section of our proposal presents our understanding of the project and introduces our team.

We understand that CCWD is rehabilitating its aging water tanks as part of its capital improvement program, and this project represents the first phase for the Miramar Water Tank, the Cahill Water Tank, and for Half Moon Bay (HMB) Water Tanks #2 and #3, all welded steel water tanks within the water supply and distribution system. The tanks have capacities as follows:

1. Miramar Tank – 1 million gallon (MG)
2. Cahill Tank – 0.21 MG
3. HMB #2 – 0.6 MG
4. HMB #3 – 1.5 MG

TJCAA understands that CCWD has concerns regarding corrosion that may compromise the structural integrity of the tanks. Due to the tanks’ ages, the coastal environment of the tanks, and our experience with other steel reservoirs within 10 miles of these tanks, TJCAA anticipates significant corrosion within the steel elements of the tanks.

The seismic evaluation and condition assessment may determine that tank modifications are necessary to address concerns such as seismic vulnerability or excessive corrosion. The project includes the development of conceptual alternatives for addressing needs at each tank, and will include modifications to safe water level elevations within the tanks as potential alternatives.

TJCAA has assembled a team that we believe is best qualified for the proposed project. TJCAA will lead the team, which includes our Structural Engineers along with technical experts from Tank Industry Consultants. Our extensive experience with evaluations and assessments on similar projects will provide CCWD with an efficient, yet thorough structural evaluation with clear results and recommendations.





1.2 FIRM PROFILE

TJCAA is a small business enterprise providing engineering services to California clients, as well as clients throughout the United States. Founded by Terence Cavanagh, S.E. and Gianna Zappettini as a structural engineering firm in 1998, TJCAA now offers multidiscipline design solutions in Structural Engineering, Electrical Engineering, Instrumentation and Controls, and Control Systems Programming. Our team for this project features our structural group.



TJCAA Walnut Creek Office

All of the engineers within our structural group are licensed Structural Engineers. TJCAA's head designer, Terence Cavanagh, provides over 30 years of experience in delivering creative problem-solving for special districts, municipalities, and commercial/industrial clients. Our primary focus is on the design of environmental structures for water and wastewater treatment plants and distribution systems.

Tank Industry Consultants (TIC) is the nation's leading engineering company specializing in water storage tanks. TIC has provided professional engineering services to the water storage tank industry for nearly 4 decades. TIC was founded in 1979 by Mr. E. Crone Knoy, P.E., when he became aware of a need within the water storage industry for professional, unbiased, third-party information about the condition of water storage tanks. Since that time, TIC has grown to become a nationally recognized leader in evaluation and design of steel plate and concrete structures of all types.

Leslie Scott, P.E., with TIC, brings over 38 years of tank experience. Mr. Scott is a nationally recognized expert in the field of erected tanks and has been an active member of the AWWA standards committee for over 30 years. Mr. Scott is an expert in both seismic evaluation and condition assessment of welded steel storage tanks.

Our team understands that the primary goal of this project is to perform seismic evaluations for the Miramar, Cahill, HMB #2, and HMB #3 tanks and provide assessments of their condition. The project deliverables include documentation of our evaluation and a set of recommendations for operational and/or structural modifications to the tanks if they are needed. We are highly experienced at providing this type of evaluation and analysis, and have a track record of developing rehabilitation and operational solutions that are well-suited to the unique needs of each water system.





Section 2: Project Approach

This project requires seismic evaluation of four tanks according to AWWA D100-11, assessment of the physical condition of the tanks, and development of recommendations for operational adjustments or rehabilitation. While our team's tasks are defined in detail within the scope of work (Section 3), this section summarizes our approach.

2.1 TECHNICAL APPROACH

Review Existing Documents and Inspect Tanks

TJCAA will perform a desk review of existing documentation. Upon completion of the desktop review, TIC will inspect the interiors and exteriors of the tanks. Due to the need to keep the tanks in service during these inspections, a remotely operated underwater vehicle will be used to evaluate the interior of each tank. TIC will prepare detailed documentation summarizing any deficiencies of the tank components with respect to sanitary, structural, safety, corrosion, and code compliance issues.

Our team will perform a visual inspection of the roof for those elements that can be seen from the roof access hatch and any findings will be included within TIC's report.

Seismic Evaluation of The Tanks

TJCAA has developed custom tools to perform seismic evaluations in accordance with AWWA D100-11. These tools allow for rapid evaluation, while providing all of the required analyses. Using information obtained from document review and field investigations, we will apply our custom-built analysis package to perform a seismic evaluation according to AWWA D100-11. Structural calculations will be developed and reviewed for technical accuracy by our Structural Engineer tasked with QA/QC for the project.

Our analysis will develop the hydrodynamic sloshing forces within the tank, determine anticipated slosh heights, and if necessary, adjust hydrodynamic sloshing forces applied to the tank to account for lack of available freeboard. This last step, which is a peer-reviewed approach to seismic evaluation of tanks without sufficient freeboard, is not presented within AWWA D100 but is critical to the proper evaluation of water tanks in high seismic areas. We will determine the overturning and sliding forces applied to the tank and determine whether anchoring is required per AWWA D100. We will also determine hydrodynamic hoop tensile stresses over the height of the tank and hydrodynamic compressive stresses at the base of the shell, which is a critical location due to the potential for "elephant's foot" during a seismic event.

Upon completion of the evaluation, TJCAA proposes a meeting to update CCWD on our findings and brainstorm options for moving forward. This will allow the team to better understand any restrictions CCWD may have regarding remediation options so we can focus our next task on implementable solutions.





Develop Remediation Strategies

TJCAA will develop remediation strategies for any deficiencies found during its investigations. The team will work with CCWD to develop strategies that are not only structurally feasible but also operationally practical for the facilities. TJCAA's team has been in the environmental engineering industry for over 3 decades and will use this knowledge of treatment and distribution systems and operations (along with input from CCWD) to propose strategies that work!

Prepare Evaluation Report

TJCAA will present its findings and recommendations in an evaluation report. TJCAA will work with CCWD, through meetings and phone conversations, to develop a report that presents the information needed to carry over to the next step of implementing the selected remediation actions.

2.2 THE TJCAA TEAM'S DISTINGUISHING FACTORS

Three factors distinguish our approach and will help to ensure project success:

- **Applying Experience** – The TJCAA team's extensive experience with evaluations such as those required for the project will benefit CCWD in that we can identify potential issues quickly and focus on results.
- **Performing Efficiently** – The TJCAA team will apply customized tools to perform seismic evaluations efficiently and in accordance with AWWA D100-11.
- **Delivering Clear, Useful Results** – The TJCAA team understands water supply and distribution systems, and will produce organized, readable reports that will allow CCWD to review and consider the analysis recommendations and make decisions about the results with confidence. To create documentation of the project that is clear and well-organized, our reports and meeting minutes will be reviewed by our technical editor before submitting to CCWD.

2.3 PROJECT MANAGEMENT APPROACH

TJCAA manages all its projects using an Earned Value System that is integrated into our accounting system. As project manager, Richard Thow will monitor the project status, project schedule, and project budget. TJCAA will invoice CCWD monthly and will issue narrative progress and cost reports for the project with each invoice. Progress reports will describe the following:

1. Specific accomplishments during the reporting period
2. Problems encountered or anticipated along with plans for resolution of problems
3. Accomplishments scheduled for the next reported period
4. Results of any significant activities

Cost reports will present the following:

1. Current budget status (current period and cumulative expenditures to date)
2. Estimated cost to complete and estimated cost at completion
3. Current schedule status and estimated date to complete
4. Approved budget and approved contract amount

A comparison of the estimated cost at completion with the approved budget to show any variance.





The contents of these reports can be flexible and can be customized to meet CCWD's requirements. TJCAA will accompany each invoice with a cost breakdown showing the specific persons and classifications being billed for the period by task.

While modern day communication requires email correspondence, Terry Cavanagh prefers a combination of emails and phone calls. Terry stresses this with all of our employees and often emphasizes the benefits of picking up a phone and talking directly with a person to exchange information quickly and clearly. For the critical milestones, TJCAA proposes to meet directly with CCWD at its offices. We believe this face-to-face communication at the critical decision points will be essential for focusing on each tank's unique needs and discussing any constraints associated with the preliminary alternatives. Clear communication will be important for meeting the project schedule. Our proposed schedule is aggressive, but it will allow our team to meet the project requirements.

Our team understands the benefits of picking up a phone and talking directly with a person to exchange information quickly and clearly.

2.4 CCWD TERMS AND CONDITIONS

TJCAA is comfortable with the contract language in the Agreement for Professional Services included with CCWD's RFP. We are willing to accept the terms and conditions and have no exceptions to CCWD's Agreement for Professional Services.





Section 3: Scope of Work

TJCAA has identified the following key tasks for this project:

1. Review Available Water Tank Documents
2. Perform a Site Visit to Observe Tanks' Existing Structural Conditions
3. Perform an AWWA D100 Seismic Evaluation for Each Tank
4. Document Existing Conditions and Develop Potential Remediation Strategies for Each Tank
5. Prepare Draft and Final Report Documenting the Results of the Evaluation

Task 1 – Review Available Water Tank Documents

TJCAA will review all applicable documents, including available reports, construction documents, and/or shop drawings associated with each tank being evaluated.

Task 1 Assumptions

- As-built or construction documents are available and will be provided by CCWD.

Task 1 Deliverables

- No deliverable is anticipated for this Task.

Task 2 – Perform a Site Visit to Observe Tanks' Existing Structural Conditions

The TJCAA team will perform a detailed visual inspection of both the interior and exterior of each tank. TJCAA understands that the tanks will not be taken out of service during the inspection and therefore proposes the use of a remotely operated underwater vehicle to perform the interior inspections. Specific inspection activities include the following:

- Identify safety, sanitary, and operational deficiencies.
- Measure shell thicknesses.
- Document observed structural deterioration.
- Document observed irregularities or unusual circumstances.
- Photograph the existing condition of the tank.
- Develop a detailed report presenting the findings of the inspection.

Task 2 Assumptions

- TJCAA assumes access will be provided to the tank site and the area just inside the roof hatch.
- Confined space entry permits will not be required for visual inspection from the roof hatch.

Task 2 Deliverables

- A summary report of our findings will be developed and presented as an appendix of the final Evaluation Report developed under Task 5.



Task 3 – Perform an AWWA D100 Seismic Evaluation for Each Tank

Based on the information developed during Tasks 1 and 2, TJCAA will perform an evaluation (using a seismic importance factor of 1.5 per the RFP) to assess the structural integrity of each existing tank when subjected to a code-level seismic event. This evaluation will include current Code requirements for various loads and load combinations. Hydrodynamic forces will be determined to assess the internal stresses in the tank during the design seismic event. Hydrodynamic sloshing heights will also be developed to assess Code-required freeboard. As part of this evaluation, TJCAA will rerun the analysis to determine a maximum safe water level at which the tank could be operated.

Task 3 Assumptions

- The original design of all four tanks was in general compliance with industry standards at the time of construction.
- Ringwall foundation information is available and will be provided by CCWD.
- Geotechnical parameters for the project sites are such that special foundation systems (such as piles) will not be required to support the tanks.
- Geotechnical information is not available for each site and parameters used during evaluation will be based on Code minimums presented in the California Building Code.
- Seismic design parameters will be based on current USGS data for the specific tank sites.

Task 3 Deliverables

- While calculations will be developed as part of this Task, TJCAA's findings will be presented within the Evaluation Report developed under Task 5.

Task 4 – Document Existing Conditions and Develop Potential Remediation Strategies for Each Tank

Using information and findings gathered/developed under Tasks 1, 2, and 3 above, TJCAA will perform the following for the Miramar, Cahill, and HMB #2 and #3 Tanks:

1. Document existing conditions.
2. Develop a seismic risk assessment.
3. Develop potential remediation strategies for each tank.
4. Document corrosion-related concerns, including their potential impacts on the structural integrity of the tank.

As part of this task, our team will provide a qualitative description of conceptual seismic rehabilitation measures, as well as condition rehabilitation approaches and strategies. TJCAA will also provide a conceptual opinion of probable construction cost for each seismic and condition rehabilitation alternative.

TJCAA will meet with CCWD, either in person or via conference call, to review the findings and preliminary alternatives. The goal of this meeting/conference call will be to review the preliminary alternatives to determine whether any of them are "non-starter" alternatives that will not be considered by CCWD. As an example of a "non-starter," if CCWD determined that it would be unacceptable to lower the water level to comply with the Code's freeboard requirements and it would also be unacceptable to raise the tank height to accommodate the required freeboard, TJCAA would eliminate those alternatives from consideration and determine other feasible approaches, if possible.





Task 4 Assumptions

- None

Task 4 Deliverables

- Presentation of Preliminary Alternatives (via meeting or conference call)

Task 5 – Prepare Draft and Final Report Documenting the Results of the Evaluation

TJCAA will incorporate the results of our review, inspection, evaluation, and assessment, along with the results of our discussions surrounding the preliminary alternatives, into a draft report for CCWD review. Five or more working days after delivery of the draft report, TJCAA will attend a meeting at the CCWD offices, to present our findings and recommendations, as documented by the draft report.

Within five days of the draft report review meeting, TJCAA will provide a draft set of minutes from the meeting, for review by CCWD. Within five days of receipt of CCWD comments, TJCAA will issue final meeting minutes.

Within ten days of issuance of the final meeting minutes, TJCAA will provide CCWD with four copies of the final report.

Task 5 Assumptions

- None

Task 5 Deliverables

- Draft Evaluation Report
- Draft Meeting Minutes
- Final Meeting Minutes
- Final Evaluation Report.





Section 4: Project Schedule

The TJCAA team proposes an aggressive schedule for this project (see next page). TJCAA finds that having an aggressive schedule keeps the team focused on the tasks at hand and results in a project that meets the success goals of quality, budget, and schedule. Should CCWD wish to adjust to the schedule, TJCAA will adjust as necessary to meet CCWD's needs.





Section 5: Statement of Qualifications

TJCAA is well regarded as a firm that provides quality service, on time and under budget. Due to the specialty aspects of the project, TJCAA has teamed with TIC, a firm that specializes in specific areas of the project. The members of the TJCAA team respect each other’s abilities and work well together, resulting in quality projects for our clients. The following is a brief list of relevant projects for our team. TJCAA has broad experience performing seismic evaluations, including recent assessments of three welded steel tanks within 10 miles of the CCWD service area. TIC has completed, or is in the process of completing, over 50 tank projects over the last 18 months. Obviously, we have not been able to include all of them so we have selected a small sampling that represents the team’s California experience.

Well-established, yet nimble firm that can accomplish the evaluation efficiently.

5.1 REPRESENTATIVE PROJECTS

Skyline Tanks Condition Assessment, Westborough Water District

TJCAA performed an assessment of the as-built condition of three welded carbon steel water storage tanks for the feasibility of upgrades to meet current seismic standards. The tanks



Skyline Tank No. 1

included in this project were Skyline Tanks No. 1 (1.52 MG, constructed in 1964), No. 2 (2.75 MG, constructed in 1989), and No. 3 (1.88 MG, constructed in 1999). TJCAA performed field inspection, review of structural design drawings, condition assessment, and seismic evaluation and coordinated an evaluation of tank paint and coating systems and ultrasonic thickness measurements. To address the structural vulnerabilities in the tanks, TJCAA developed and evaluated alternatives for tank retrofits and operational changes.

Cunningham Water Tank No. 1 Seismic Evaluation, City of San Bruno

TJCAA provided structural engineering services associated with upgrade of the Cunningham Water Tank No. 1, built in 1964, a 2-MG, 116-foot-diameter, welded carbon steel tank. TJCAA performed a seismic evaluation of the tank roof and other structural members and its coating against code-mandated design forces to identify any potential areas of seismic vulnerability. Investigations included both review of design drawings and observation of field conditions. The evaluation found that the tank walls were under-designed for code-mandated forces and that piping connections in and out of the tank were rigid and could rupture during a seismic event. Recommendations from TJCAA’s evaluation included reducing operating levels and installing flexible couplings as intermediate measures to allow the tank to operate until the City replaced it. TJCAA provided engineering services associated with installation of EBBA Flex Couplings—flexible expansion joints—on the Cunningham Tank inlet and outlet pipes. The design team for this project developed a partial model of the tank shell and piping attachment and coordinated the installation of the expansion joint, including the preparation of installation details.





California American Water, Montgomery Tank

This project included tank evaluation, specifications for full rehabilitation, repainting, and coating, as well as safety, sanitary, and structural upgrades including seismic upgrades and foundation reconstruction for a 1.2-MG ground storage tank.

California American Water, Segunda No. 1 Tank

TIC performed a tank evaluation, specifications for full rehabilitation, repainting, and coating, as well as safety, sanitary, and structural upgrades for a 1.5-MG storage steel tank.

California American Water - Los Robles No. 1 Tank

This project includes evaluation, engineering, and site construction management services to remove an outdated, bolted tank and replace it with a new, welded steel ground storage tank on auger cast piles.

San Jose Water Company

TIC provided engineering evaluation for four storage tanks ranging from 1 to 10 MG in size. TIC's work included seismic, OSHA, sanitary, structural, and coating evaluations. TIC also developed design specifications for the necessary seismic and rehabilitation upgrades for all four tanks.

Montgomery Watson Americas, Inc., Davis, California

This project consisted of a detailed evaluation and seismic analysis of a 0.2-MG elevated water storage tank. The work included preparing design specifications for a seismic retrofit of the tank, as well as safety, sanitary, and coating upgrades.

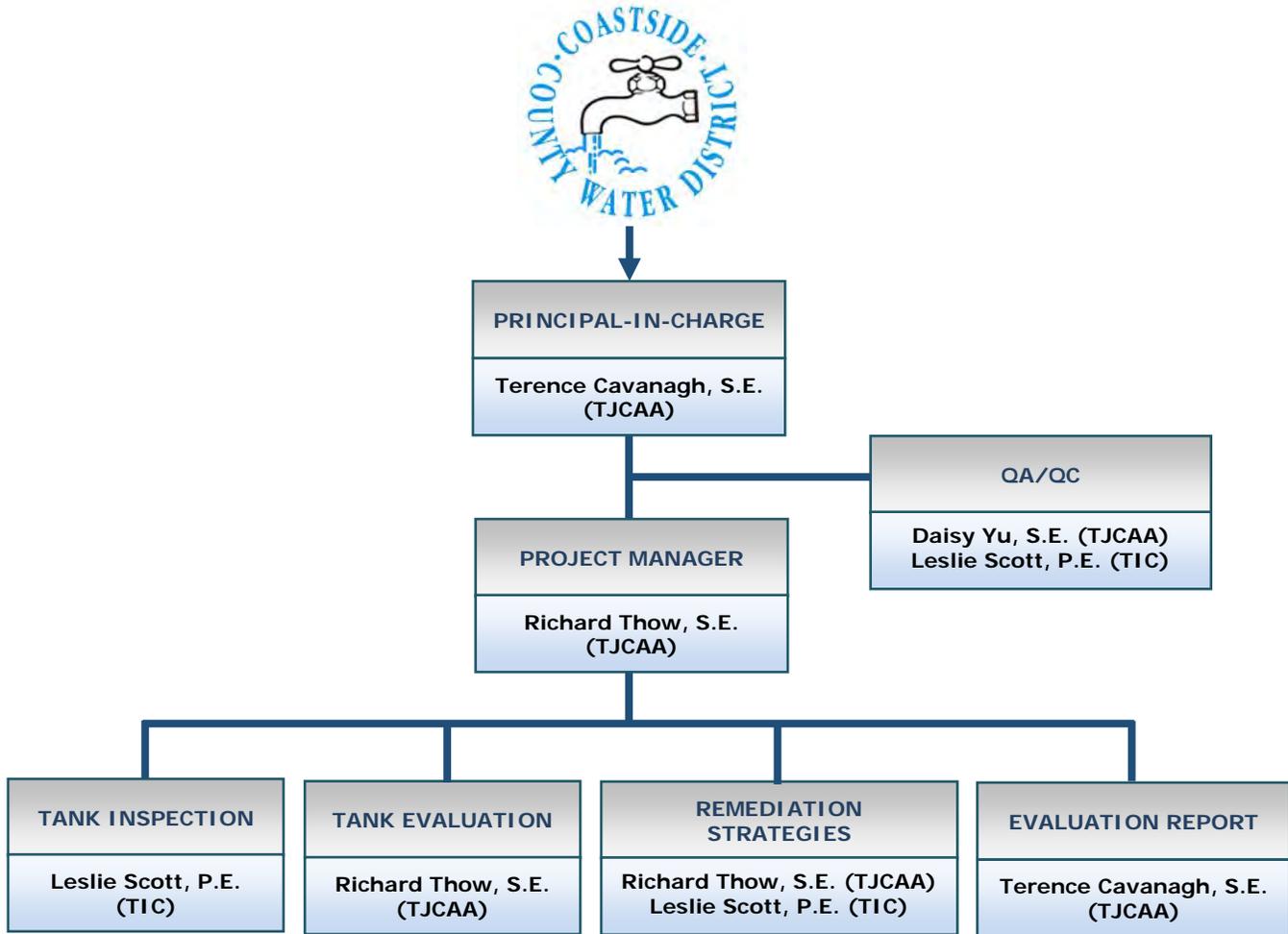




Section 6: Project Team

TJCAA recognizes that CCWD wishes to have the right engineers with the right experience, delivering quality results. This is the reason TJCAA has selected Structural Engineers who specialize in the specific elements of this project. TJCAA will provide the bulk of the investigation, evaluation, and development of recommendations. Our experience with the design and evaluation of steel tanks makes us the right engineers for these elements.

The TJCAA team has completed over 50 tank projects in California over the past 18 months.



TJCAA’s lead Structural Engineer, Terence “Terry” Cavanagh, S.E. has been performing seismic evaluations of welded steel water tanks since 1987 and has delivered numerous projects similar to this one over the past 30-plus years. His familiarity with the California Building Code, with AWWA D100-11, and with tanks similar to CCWD’s allows him to focus quickly on efficient analysis and cost-effective solutions.

Richard Thow, S.E. has been with TJCAA since 1999 and has performed seismic evaluation of welded steel water tanks over the past 20 years. Most recently, Richard completed the seismic evaluation and condition assessment of three welded steel storage tanks for Westborough Water District. All of the Westborough tanks are within 10 miles of the CCWD tanks and have a higher anticipated ground acceleration than any of the four CCWD tanks.





While Terry and Richard are fully capable of performing the scope of this project, TJCAA has added Leslie Scott, with over 38 years in the tank industry, to lead TIC staff during tank inspections and provide technical review of the Evaluation Report to be delivered at the end of the project. Mr. Scott will also act as a technical advisor should questions pop up during the evaluation phase of the project.

TJCAA will act as the overall project managers for the project. The bios below summarize the expertise of the TJCAA team we propose for this Project. Appendix A includes detailed resumes for our team members.

6.1 KEY TJCAA STAFF

Terence J. Cavanagh, S.E. - TJCAA, Principal in Charge



Terence Cavanagh is a registered Structural Engineer and is an expert in the design of water and wastewater treatment plant structures. He leads structural design and seismic evaluation projects for a variety of facility types. Since 1983, he has evaluated and designed facilities such as water and wastewater treatment plants, storage tanks/reservoirs, chemical facilities, commercial and industrial buildings, and bridges. His in-depth experience allows him to anticipate and address potential design challenges effectively and to thoroughly evaluate the ability of a structure to withstand various stresses. Mr. Cavanagh is a proven project director and manager; he is able to address client requirements while ensuring the project stays on budget and schedule.

Richard K. Thow, S.E. - TJCAA, Project Manager

Richard Thow is a registered Structural Engineer and has worked in the structural design and seismic evaluation fields since 1986. He has designed and evaluated facilities including water treatment plant structures, wastewater treatment plant structures, chemical storage facilities, pump stations, and storage tanks/reservoirs. Mr. Thow's experience also comprises extensive evaluation and analysis for nuclear facilities, including regulatory interpretation and compliance, structural evaluation, and facility design and modification.



Daisy M. Yu, S.E., LEED AP – TJCAA, QA/QC



Ms. Yu has extensive experience in seismic evaluation and retrofit design and in the design of large, multistory, steel-framed structures. Her design experience also includes water and wastewater treatment facilities such as reinforced concrete reservoirs, reinforced masonry pump stations, and chemical storage facilities. As a LEED accredited professional, she is recognized as having a background and understanding of the principles that go into designing structures with a minimal impact on the environment, and that promote energy efficiency and a healthy environment for their occupants.



6.2 SUBCONSULTANTS

Leslie Scott, P.E. – TIC, Project Engineer and Technical Advisor

Leslie Scott is a nationally recognized expert in the field-erected tank and shop-fabricated storage tank industries. Leslie’s work experience has included a wide variety of assignments encompassing numerous aspects of the field-erected and shop-built storage tank business including engineering, detailing, fabrication and construction processes, coatings, project management, inspection, and estimating functions. Leslie’s experience includes projects conforming to AWWA, API, ASME, NFPA, FM, UL, STI/SPFA, and fire code standards.



6.3 STAFF AVAILABILITY

The staff proposed for this project is available and fully committed to meet the quality aspects of the project and schedule presented in Section 4.

6.4 PAST PERFORMANCE

The TJCAA team strives to provide a high-quality product that’s delivered on time and within budget. The sample projects listed in Section 5 are examples of our commitment to meeting our client’s expectations. Below is a list of references that the District may contact to hear firsthand how TJCAA and TIC are regarded as professional firms providing a quality product and service.

Darryl Barrow
General Manager
Westborough Water District
2263 Westborough Boulevard
So. San Francisco, CA 94080
(650) 589-1435

Jimmy Tan
Public Works Director
City of San Bruno
567 El Camino Real
San Bruno, CA 94066
(650) 616-7065

Matt Zucca, P.E.
Deputy Director of Public Works
City of San Mateo
330 W 20th Avenue
San Mateo, CA 94403
(650) 522-7300

Chris Hentz, PE
Engineering Manager
Contra Costa Water District
PO Box H20
Concord, CA 94524
(925) 688-8396

Mandeep Chohan
Public Works Department
City of Yuba City
1201 Civic Center Blvd.
Yuba City, CA 95993
(530) 822-7448



AWWA STANDARD
WELDED CARBON STEEL TANKS FOR WATER STORAGE
ANSI/AWWA D100-11

This MATHCAD template is based on the criteria set forth in the AWWA Standard D100.

$$AC_c := \begin{cases} \text{if } f_i \leq 0.064 \\ \left| 0.72 \cdot \left(\frac{P}{E} \cdot \left(\frac{R}{t_s} \right)^2 \right) \right| \\ \text{else} \\ \left| \min \left(\left(0.045 \cdot \ln \left(\frac{P}{E} \cdot \left(\frac{R}{t_s} \right)^2 + 0.0018 \right) \right) + 0.194, (0.22) \right) \right| \end{cases}$$

$$X_{top} := \begin{cases} \text{if } \frac{D}{H} \geq 1.333 \\ \left| 0.375 \cdot \left(1.0 + 1.333 \cdot \left(\frac{0.866 \cdot \frac{D}{H}}{\tanh \left(0.866 \cdot \frac{D}{H} \right)} - 1.0 \right) \right) \cdot H \right| \\ \text{else} \\ \left| \left(0.5 + 0.06 \cdot \frac{D}{H} \right) \cdot H \right| \end{cases}$$

$$J := \frac{\delta_s M_c 0.42 D S_{ac}}{D^2 \cdot \left(W_c \cdot (1 - 0.4 \cdot A_r) + W_L \right)}$$



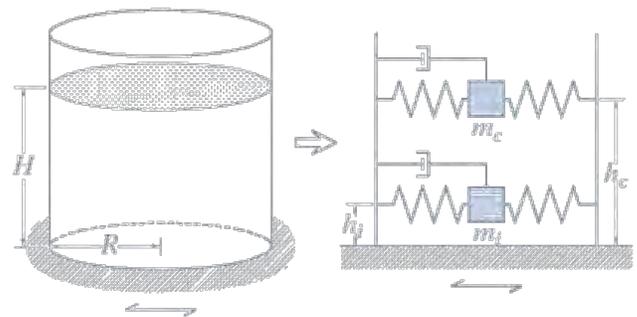
Appendix A

Resumes

$$\text{Stability} := \begin{cases} \text{if } J \leq 0.785 \\ \text{"NO UPLIFT"} \\ \text{also if } 0.785 < J \leq 1.54 \\ \text{"UPLIFT"} \\ \text{else} \\ \text{"REQUIRES ANCHORING"} \end{cases}$$

$$X_{top} := \begin{cases} \text{if } \frac{D}{H} \geq 1.333 \\ \left| 0.375 \cdot \left(1.0 + 1.333 \cdot \left(\frac{0.866 \cdot \frac{D}{H}}{\tanh \left(0.866 \cdot \frac{D}{H} \right)} - 1.0 \right) \right) \cdot H \right| \\ \text{else} \\ \left| \left(0.5 + 0.06 \cdot \frac{D}{H} \right) \cdot H \right| \end{cases}$$

$$X_{bot} := \left(1.0 - \frac{\cosh \left(\frac{3.67 \cdot H}{D} \right) - 1.937}{\left(\frac{3.67 \cdot H}{D} \right) \cdot \sinh \left(\frac{3.67 \cdot H}{D} \right)} \right) \cdot H$$



$$M_{top} := \sqrt{\left(A_r \cdot (W_c \cdot X_c + W_r \cdot H_r + W_L \cdot X_{top}) \right)^2 + \left(A_c \cdot W_c \cdot X_{top} \right)^2}$$

AWWA STANDARD
WELDED CARBON STEEL TANKS FOR WATER STORAGE
ANSI/AWWA D100-11

This MATHCAD template is based on the criteria set forth in the AWWA Standard D100.

$$X_{top} := \begin{cases} \text{if } \frac{D}{H} \geq 1.333 \\ \left| 0.375 \cdot \left(1.0 + 1.333 \cdot \left(\frac{0.866 \cdot \frac{D}{H}}{\tanh \left(0.866 \cdot \frac{D}{H} \right)} - 1.0 \right) \right) \cdot H \right| \\ \text{else} \\ \left| \left(0.5 + 0.06 \cdot \frac{D}{H} \right) \cdot H \right| \end{cases}$$

$$IR_{\sigma_{top}} := \begin{cases} \text{if } \sigma_{top} \leq \sigma_{allow} \\ \text{"ACCEPTABLE"} \\ \text{else} \\ \text{"UNACCEPTABLE"} \end{cases} \leftarrow IR_{\sigma_{top}} = \text{"ACCEPTABLE"}$$



Terence J. Cavanagh, S.E.
Vice President

Experience

Mr. Cavanagh, a licensed engineer since 1985, is an expert in the design of water and wastewater treatment plant structures. He specializes in the structural design and seismic evaluation of facilities including water and wastewater treatment plants, reservoirs and storage tanks, pump stations, ozone treatment facilities, chemical storage and containment facilities, and operations centers/laboratories. He provides significant design expertise with all conventional building materials used for water and wastewater treatment facilities. Mr. Cavanagh's specific project experience includes the following:

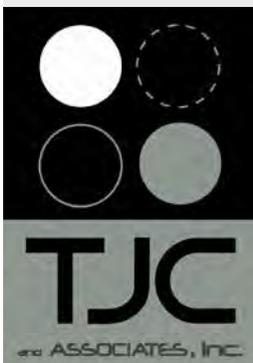
Education

MS, Structural Engineering/Structural Mechanics; University of CA, Berkeley; 1984
 BS, Civil Engineering; University of CA, Berkeley; 1982

Professional Registrations

Structural: CA, HI, ID, IL, KY, NH, OR, UT, WA, WY
 Civil: AL, AZ, AR, CA, CO, CT, DE, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, ND, NE, NV, NH, NJ, NM, NY, NC, OH, OK, OR, PA, RI, SC, SD, TX, UT, VA, VT, WA, WI, WV, WY

- ***Ironhouse Wastewater Treatment Plant (WWTP) Expansion; Oakley, CA; Structural Engineer of Record.*** Responsible for the structural design of a 9-mgd expansion, including an influent pump station, headworks, anoxic/aeration basins, membrane bioreactors, backpulse tank, blower/electrical/generator/chemical building, UV/Effluent pump station, and a solids handling building.
- ***Rinconada Water Treatment Plant (WTP) Reliability Improvement Project; Santa Clara Valley Water District; Los Gatos, CA; Project Manager/Principal in Charge.*** Structural design for a new ozone generation building, LOX facility, flocculation/sedimentation basins, filters, washwater recovery facility, chlorine contact basin, and an elevated concrete platform to support electrical equipment. The structures are part of this major project to improve reliability at the Rinconada WTP, which is the main water treatment plant serving the western service area for the District. Providing engineering services during construction.
- ***Bridge Condition Assessment and Temporary Structure Design; Pasadena Water and Power; Pasadena, CA; Project Manager/Principal in Charge.*** Performed structural evaluations of three existing bridges and designed temporary structures to support movement of heavy construction equipment during the City of Pasadena's Arroyo Seco Canyon Project. The bridge designs included a repurposed flatbed railroad car and a field-fabricated, wide-flange steel beam bridge.
- ***Rinconada Water Treatment Plant Residuals Management Project; Santa Clara Valley Water District; Los Gatos, CA; Principal in Charge.*** Responsible for the structural design of new gravity thickeners, a two-story concrete building housing new centrifuges and electrical equipment, and a steel-frame load-out structure.
- ***Pasadena Recycled Water Project-Phase I; Pasadena Water and Power; Pasadena, CA; Project Manager/Principal in Charge.*** Provided structural design for an 11,000-square-foot CMU pump station with a concrete roof and two monorails for equipment movement. The design also included a 0.5-MG, rectangular, buried concrete reservoir; a horizontal, hydro-pneumatic tank; and a concrete foundation for a prefabricated FRP building that will provide shelter and secondary containment for stored chemicals.



- **Pump Station Facilities Repair; Delta Diablo; Various Locations; Principal in Charge.** Structural condition assessments for five pump stations in the Delta Diablo wastewater collection system: Pittsburg, Antioch, Bridgehead, and Shore Acres Pump Stations; and the Broadway Diversion Facility. Determined the condition and integrity of equalization storage basins, wetwells, influent structures, roofs, and diversion structures and provided recommendations and designs for repairs.
- **WWTP Expansion; City of Brentwood; Principal in Charge.** Structural design for expansion of a 10-mgd WWTP originally designed by TJCAA in 2000. This design includes new aeration basins, a blower building, a maintenance shop, a secondary clarifier, a return activated sludge pump station, a waste activated sludge storage basin, a 5,000-square-foot biosolids drying facility, and a 15,000-square-foot biosolids storage facility. The design addresses soils that are subject to liquefaction.
- **WWTP Improvements; City of Jackson, CA; Principal in Charge/Project Manager.** Structural design for upgrades to an existing WWTP, including accessibility platforms around clarifiers, a disk filter structure, a UV disinfection facility, replacement of biosolids mechanical dewatering equipment, and a new CMU electrical building. Provided engineering services during construction.
- **Structural On-Call Services; Central Contra Costa Sanitary District, Martinez, CA; Principal in Charge.** Provided on-call design services for a hazardous waste containment canopy, installation of a manhole at the Influent Junction Structure as part of the 7311 Safety Enhancements Project, and an air-handling unit as part of an equipment replacement project.
- **Siphon Repair; Contra Costa Water District, Pittsburg, CA; Expert Witness.** Provided expert consultation for repair of a reinforced concrete pipeline damaged during construction of a local freeway on-ramp.
- **Influent Junction Box Condition Assessment; City of San Mateo, CA; Project Manager/Project Engineer.** Provided condition assessment and a preliminary design report for a deteriorating influent junction box at a WWTP.
- **WTP Chlorine Gas to Hypochlorite Conversion Project; City of Benicia, CA; Principal in Charge/Project Manager.** Provided structural design for addition of a chemical containment area and new chemical tanks at a water treatment plant.
- **Murray Reservoir Demolition and Murray Hydro-Pneumatic Zone Upgrades; Pasadena Water and Power; Pasadena, CA; Project Manager/Principal in Charge.** Provided a structural design for a CMU pump station and hydro-pneumatic tank to be located over a demolished in-ground reservoir.
- **Non-Potable Water Tank and Recycled Water Pump Station; City of Brentwood, CA; Principal in Charge/Project Manager/Structural Engineer of Record.** Provided structural design for a new 3-MG non-potable water storage tank, a 500-square-foot CMU pump control building featuring temperature control, and a recycled water pump station. Providing engineering services during construction.
- **South-End (Phase 2C) Recycled Water Main Extension Project; Newhall County Water District, Santa Clarita, CA; Principal in Charge/Project Manager.** Reviewed design of two bridges (one Caltrans bridge, one local jurisdiction bridge) to evaluate whether the bridges could support a new pipeline. Provided details for pipeline supports.
- **Skyline Tanks Condition Assessment; Westborough Water District; South San Francisco, CA; Principal in Charge.** Assessment of welded carbon steel water tanks: Skyline Tanks No. 1 (1.52 MG, constructed in 1964), No. 2 (2.75 MG, constructed in 1989), and No. 3 (1.88 MG, constructed in 1999). Performed condition assessment and seismic evaluation. Developed and evaluated alternatives for tank retrofits and operational changes.
- **West Ranch Recycled Water Main Extension Project; Castaic Lake Water Agency; Santa Clarita, CA; Principal in Charge/Project Manager/Project Engineer.** Structural design for a recycled water pumping station: a 15 x 17-foot CMU building

housing four vertical turbine pumps and featuring an exterior hydro-pneumatic tank. The building design featured a wood truss roof with gable ends, and because of its location in a residential area, the site design included aesthetic screening.

- **Arroyo Booster Station Upgrades; Water Division, Pasadena Water and Power; Pasadena, CA; Principal in Charge/Project Manager/Project Engineer.** Structural design for a potable water pumping station in a high seismic area with significant ground motion. The 22 x 14-foot CMU building houses three vertical turbine pumps, features a removable 13 x 8-foot roof hatch, and is adjacent to an existing well station.
- **Gauntlett and Iversen Reservoir Roofs Assessment Project; City of Healdsburg, CA; Principal in Charge.** Performed analyses, recommendations, and construction cost-benefit analysis for replacing the roof of the Gauntlett Reservoir (a lined earthen reservoir 109 feet by 88 feet by 20 feet deep) and rectification options for the metal deck roofing for Iversen Reservoir (a lined earthen reservoir 130 feet by 224 feet by 20 feet deep). Assessed reservoirs' condition, and identified/evaluated options for the roofs, including potential options for supporting photovoltaic arrays.
- **La Cresta Tank No. 2 Dimple Investigation; Purissima Hills Water District; Los Altos Hills, CA; Principal in Charge.** Investigated and developed recommendations for addressing a dimple in the steel wall of Purissima Hills Water District's La Cresta Tank No. 2, a 16-foot-high, 98-foot-diameter potable water storage tank. Inspected the tank, coordinated a survey during a tank fill operation, and performed structural analysis.
- **Pump Station M Upgrades; EBMUD; Alameda, CA; Principal in Charge.** Structural evaluation and design services for rehabilitation of a wastewater pump station constructed in 1977, including a wet well, dry well with four centrifugal pumps, control building, and a hypochlorite storage and pumping system. Providing seismic evaluation of the 25'-6" x 25'-6" x 30' deep, below-grade concrete wet and dry well structure.
- **Woodbury Well Upgrades; Water Division, Pasadena Water and Power; Pasadena, CA; Principal in Charge/Project Manager/Project Engineer.** Providing seismic evaluation and design for a 17 x 35-foot concrete building that had been modified for operational purposes. The design includes a structural steel frame and watertight roof system that can be temporarily removed to facilitate well removal.
- **Calera Creek Water Recycling Plant Condition Assessment; Pacifica, California; Principal in Charge.** Providing ASCE/SEI 41 Tier 1 Screening and Tier 2 Deficiency-Based Evaluation assessments and repair recommendations for the Calera Creek Water Recycling Plant and the Anza, David Davis, Linda Mar, Rockaway, Sharp Park and Skyridge Pump Stations. Project elements include concrete, masonry, and light wood-framed structures.
- **Napa MST Recycled Water Project; Napa Sanitation District; Napa, CA; Principal in Charge.** Project includes structural design of a 40 x 60-foot concrete masonry pump station and electrical equipment room, as well as four pipe crossings over existing creeks.
- **Upper Llagas Creek Flood Protection Project; Santa Clara Valley Water District; Morgan Hill, CA; Principal in Charge.** Provided design engineering for wing walls and head walls for Upper Llagas Creek culverts and other conveyance structures at roads and bridge crossings.
- **West Antioch Creek Channel Improvement Project; City of Antioch, CA; Principal in Charge.** Provided design engineering for inlet and outlet head walls for four 50-foot-long, 14 x 7-foot box culverts, placed side by side at a flood channel road crossing.
- **Sewer Pipe Bridge Crossings; Central Contra Costa Sanitary District; Martinez, Orinda, Lafayette, Alamo, Danville, and San Ramon, CA; Principal in Charge.** Provided structural engineering support for condition assessment, modifications, and retrofits for 11 sewer pipe bridge crossing at sites throughout the Central Contra Costa Sanitary District. Pipe sizes ranged from 6 to 48 inches. Provided engineering support during construction.

- **Advanced Floatation Tank Replacement Project; City of Sunnyvale, CA; Principal in Charge.** This structural evaluation included field investigation of tank vulnerability to seismic events. The final design required sequencing considerations to maintain plant operations throughout the various tank retrofits, maintaining at least two tanks in operation at all times.
- **Wastewater and Recycled Water Facility Upgrade; Novato Sanitary District; Novato, CA; Principal in Charge.** Performed a structural analysis to verify that Digester No. 1 will meet code requirements. Evaluation included destructive testing, exterior inspection, and analysis. The project included an interior inspection and a peer review of the design for the digester's new aluminum roof.
- **Headworks Project; Sausalito-Marin City Sanitary District; Sausalito, CA; Project Manager.** Providing structural design for facility improvements as part of a WWTP expansion design on a highly constrained site adjacent to San Francisco Bay.
- **WWTP Expansion; Delta Diablo Sanitation District; Structural Engineer of Record.** Designed structural elements for a 12.2-mgd WWTP expansion to include a recycled water facility to service two power generation facilities. Design of this multimillion-dollar facility, which was completed within 6 months, included a 1.8-MG welded steel tank for recycled water storage. Mr. Cavanagh provided engineering services during construction.
- **C Street Pump Station; City of Petaluma, CA; Project Manager.** Performed a seismic assessment and refurbishment design for a 1960s pump station to accommodate new pumps, improve Code compliance, and address architectural aesthetics.
- **Bridgehead Emergency Storage Basin and Pump Station; Delta Diablo Sanitation District; Oakley, CA; Structural Engineer of Record.** Structural design of a sewage pumping station and a 1-MG cast-in-place emergency storage basin. Design included a concrete building 26 feet below grade and a two-story, 1,720-square-foot masonry block building with a metal truss built-up roof.
- **Bisso O&M/Administration Buildings Emergency Generator Project; Contra Costa Water District, Concord CA; Principal in Charge.** Provided foundation design for Emergency Generators.
- **Water Distribution Pipe Bridge; St. Helena Hospital; St. Helena, CA; Principal in Charge.** Provided structural engineering design and drafting for a new pipe bridge carrying 10-inch and 6-inch potable water pipelines. The bridge spanned 42 feet 6 inches feet of Brook Creek in St. Helena, California. Provided engineering support during construction.
- **Seismic Assessments; Columbus Foods; South San Francisco, Hayward, and Bayfront Sites, CA; Project Manager.** Directed assessments and retrofit recommendation development for California Accidental Release Program seismic evaluations.
- **Yountville Veterans Home; Title 22 Upgrades and Recycled Water Expansion Project; Principal Engineer.** Design of a partially buried, 24 x 50-foot cast-in-place concrete chlorine contact basin with redwood baffle walls.
- **McCloud Reservoir Assessment; City of Pleasanton, CA; Principal in Charge.** Directed an assessment of a 2-MG, prestressed cast-in-place concrete tank. Directed and provided quality assurance/quality control for development of retrofit recommendations.
- **Vineyard Avenue Pump Station; City of Pleasanton, CA; Principal Engineer.** Provided engineering and construction services for the design of a 2,176-square-foot concrete masonry unit pump station/electrical building on a constricted site with strict architectural/aesthetic requirements.
- **Surface Water Treatment Facility, Phase I; City of Brentwood, CA; Principal Engineer.** Provided engineering for the design of a WTP expansion. Specific elements of the project included a 30 x 35-foot, 35-foot-deep wet well and concrete masonry block electrical building.

- **Recycled Water Project; Delta Diablo Sanitation District, Pittsburg, CA; Project Manager.** Provided structural design and construction services for a 1-MG welded steel recycled water tank and supporting pump stations.
- **Storm Water Pump Station Refurbishment; Central Sanitation District; Orinda CA; Project Manager.** Prepared seismic evaluations and retrofit designs for the upgrade of the Lower Orinda Pump Station. Expansion of this circa 1950 pump station increased its capacity from 14 mgd up to 21 mgd—the estimated capacity required for operation through 2035.
- **Austin Creek Pump Station; Vallejo Sanitation and Flood Control District; Vallejo, CA; Project Manager.** Performed preliminary structural evaluation of the existing Austin Creek Pumping Station, a 40 x 24-foot cast-in-place concrete structure constructed circa 1956. The evaluation assessed the structural condition of the existing building as it related to the need for repair or replacement.
- **WWTP Expansion; City of Brentwood; Structural Engineer of Record.** Design of a 10-mgd WWTP expansion. This substantially new, \$40 million facility included all elements of the process train and required consideration for mitigation of highly liquefiable soils. The selected mitigation measure included a combination of stone piles and dynamic compaction. Provided engineering services during construction.
- **Plant Operations Center; Delta Diablo Sanitation District; Structural Engineer of Record.** Responsible for the structural design of a 40,000-square-foot plant operations center consisting of a 28,000-square-foot, two-story, steel-framed office/lab structure and a 12,000-square-foot, tilt-up shop and warehouse facility.
- **Oxygen Reactors Improvements; City of Yuba City Public Works Utilities Division; Project Manager and Principal in Charge.** Designed isolated concrete masonry unit building for housing electrical switchgear equipment to support mechanical upgrades at the Wastewater Treatment Facility. Designed a coating rehabilitation for pure oxygen aeration system.
- **Coral Street and Fountain Avenue Pump Station Upgrades; Monterey Regional Water Pollution Control Agency, Monterey, CA; Principal in Charge.** Directed the seismic analysis and design for refurbishment of oceanside pump stations.
- **Ridgemark WWTP Expansion; Sunnyslope County Water District; Ridgemark, CA; Project Manager.** Lead and provided quality assurance/quality control reviews for the design of modification and expansion of the headworks, membrane bioreactors, blower building and solids handling storage tank on a fault rupture site.
- **Graham Hill WTP Electrical Improvements Project; City of Santa Cruz Water Department, Santa Cruz, CA; Principal in Charge.** Design of a new concrete masonry unit electrical building and retaining wall. Project included renovation, expansion of, and improvements to the electrical distribution system at the City's main Graham Hill WTP.
- **1630 East Recycled Water Pump Station; Cucamonga Valley Water District; Rancho Cucamonga, CA; Structural Quality Assurance Lead.** Structural design of a 40 x 74-foot concrete masonry unit pump station housing five pumps and an electrical equipment room. The structure consisted of masonry slumpstone walls with a metal truss pitched roof.
- **Palo Alto Regional Water Quality Control Plant Auxiliary Disinfection System and UV Disinfection System; City of Palo Alto, CA; Principal Engineer.** Design of chemical containment areas for new sodium hypochlorite and sodium bisulfite tanks, and design of a new, 75 x 35-foot, cast-in-place concrete UV disinfection structure, including influent and effluent basins, UV channels, pile supports, and support for the roof structure, which includes a bridge crane.
- **Domestic Water Connection and Distribution System Piping Project; Sacramento County Airport System; Project Manager.** Provided engineering for the design of prestressed concrete pile foundation system supporting two 1.5-MG prestressed concrete potable water storage reservoirs.

- **Drinking Water Improvement Project; City of Folsom, CA; Project Manager.** Provided engineering for the design of a 10-mgd WTP expansion. Specific elements included Actiflo pretreatment structure, filters, and partially buried prestressed concrete chlorine contact tank. Provided engineering services during construction.
- **WTP Seismic/Process Upgrades; Santa Clara Valley, CA; Structural Engineer.** Managed upgrades for three of Santa Clara Valley's WTPs. All three plants are within the seismically active Bay Area and required development of site-specific ground accelerations. Developed landslide mitigation measure recommendations for one of the plants sited on an active landslide.
- **Manufacturing Facility Seismic Evaluation/Retrofit; Raytheon; Mountain View, CA; Structural Design Engineer.** Performed seismic evaluations and prepared retrofit designs for Raytheon's manufacturing facility. Modifications to this one story, tilt-up structure included both the vertical and lateral load-carrying systems. Significant modification to the plant's HVAC and scrubber system required support without interruption of production within the building.
- **Automobile Service Station; United Oil; Cerritos, CA; Project Manager.** Performed a peer review of a 60 x 60-foot, triangular shaped building and 41 x 85-foot open canopy structure with integrated photovoltaic panels.
- **Groundwater Replenishment Project; Orange County Water District; Fountain Valley, CA; Task Manager and Structural Engineer of Record.** Provided engineering for the design of prestressed concrete pile foundations for all structures in the Advanced Water Treatment Facility of the Groundwater Replenishment Project.
- **Operations Building and Maintenance Shop; Washoe County Department of Water Resources; Reno, NV; Engineer of Record.** As part of a 6-mgd WTP project, designed a 6,700-square-foot concrete masonry block operations building and a 2,250-square-foot concrete masonry block maintenance shop.
- **Pump Station; Monte Vista Water District, Montclair, CA; Project Manager.** Provided engineering for the design of concrete masonry block pump station. The project was performed under a very aggressive schedule, completed within four weeks from start to finish.
- **Stormwater Wet Well and Pump Station; Alameda Transit Corridor; Los Angeles, CA; Structural Engineer of Record.** Responsible for the structural design of a below-grade stormwater wet well and masonry block pump station. The stringent schedule requirements of this multibillion-dollar project required the design of the wet well and pump station to be completed in 2 months.
- **WWTPs; Department of the Navy; Camp Pendleton, CA; Structural Engineer of Record.** Structural modifications to seven existing WWTPs and two existing lift stations for the Navy in Camp Pendleton, CA. Upgrades included addition of clarifiers, digesters, and pump stations. Additional modifications included accessibility improvements to various process units and upgrades to existing operations buildings. Provided engineering services during construction.
- **Water Pump Stations; Fountain Valley, CA.** Preliminary design and design for seismic upgrade and minor modifications for two existing pump stations.
- **Tolt WTP; Seattle, WA.** Responsible for the design of a 125-mgd water filtration plant. The Tolt WTP was one of the first large-scale Design-Build-Operate projects issued by a municipality.
- **Hyperion WWTP Expansion; Structural Design Engineer.** Prepared structural designs for a 12,000-square-foot, three-story, steel frame control building and a 15,000-square-foot, steel frame compressor building.

Publications

Moehle, Jack P. and Cavanagh, Terry. "Confinement Effectiveness of Crossties in RC." Journal of Structural Engineering, Vol. 3, No. 10. ASCE. October 1985.



Richard K. Thow, S.E.
Associate

Experience

Richard Thow has worked in the structural design and seismic evaluation fields since 1986. He has designed and evaluated facilities including water treatment plant (WTP) structures, wastewater treatment plant (WWTP) structures, bridges, chemical storage facilities, pump stations, and storage tanks/reservoirs. Mr. Thow's experience also comprises extensive evaluation and analysis for nuclear facilities, including regulatory interpretation and compliance, structural evaluation, and facility design and modification. His specific project experience includes the following:

- ***Pump Station Facilities Repair; Delta Diablo; Various Locations; Project Manager/Project Engineer.*** Structural condition assessments for five pump stations in the Delta Diablo wastewater collection system: Pittsburg, Antioch, Bridgehead, and Shore Acres Pump Stations; and the Broadway Diversion Facility. Determined the condition and integrity of equalization storage basins, wetwells, influent structures, roofs, and diversion structures and provided recommendations and designs for repairs.
- ***Ironhouse WWTP Expansion; Oakley, CA; Project Engineer.*** Responsible for the structural design of a 9-mgd expansion, including an influent pump station, headworks, anoxic/aeration basins, membrane bioreactors, backpulse tank, blower/electrical/generator/chemical building, UV/Effluent pump station, and a solids handling building.
- ***Lift Station Assessment and Master Plan Project; City of Richmond, CA; Project Manager.*** Provided structural engineering consulting services including ASCE 41 condition assessment of 14 Veolia Water and City of Richmond lift stations.
- ***Structural Engineering Support Services; Monterey One Water, Monterey, CA; Project Manager.*** Providing on-call structural engineering consulting services for facilities including Primary Clarifier No. 5 and trickling filters at Monterey One Water's Treatment Facility, Reeside and Castroville Pump Stations.
- ***Rinconada WTP Reliability Improvement Project; Santa Clara Valley Water District; Los Gatos, CA; Project Engineer.*** Structural design for a new ozone generation building, LOX facility, flocculation/sedimentation basins, filters, washwater recovery facility, chlorine contact basin, and an elevated concrete platform to support electrical equipment. The structures are part of this major project to improve reliability at the Rinconada WTP, which is the District's main WTP serving its western service area. Providing engineering services during construction.
- ***Skyline Tanks Condition Assessment; Westborough Water District; South San Francisco, CA; Project Manager.*** Assessment of welded carbon steel water tanks: Skyline Tanks No. 1 (1.52 MG, constructed in 1964), No. 2 (2.75 MG, constructed in 1989), and No. 3 (1.88 MG, constructed in 1999). Performed condition assessment and seismic evaluation. Developed and evaluated alternatives for tank retrofits and operational changes.

Education

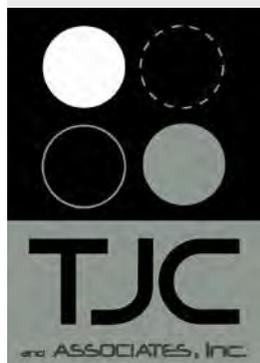
BS, Civil
Engineering,
with honors;
University of
Abertay,
Scotland; 1986

Professional Registrations

Structural: CA
Civil: CA

Specialized Training Certification

Confined Space
Entry: CA



- **Gauntlett and Iversen Reservoir Roofs Assessment Project; City of Healdsburg, CA; Project Manager.** Performed analyses, recommendations, and construction cost-benefit analysis for replacing the roof of the Gauntlett Reservoir (a lined earthen reservoir 109 feet by 88 feet by 20 feet deep) and rectification options for the metal deck roofing for Iversen Reservoir (a lined earthen reservoir 130 feet by 224 feet by 20 feet deep). Assessed reservoirs' condition, and identified/evaluated options for the roofs, including potential options for supporting photovoltaic arrays.
- **WWTP Expansion; City of Brentwood; Project Manager.** Structural design for expansion of a 10-mgd WWTP originally designed by TJCAA in 2000. This design includes new aeration basins, a blower building, a maintenance shop, a secondary clarifier, a return activated sludge pump station, a waste activated sludge storage basin, a 5,000-square-foot biosolids drying facility, and a 15,000-square-foot biosolids storage facility. The design addresses soils that are subject to liquefaction.
- **Bridge Condition Assessment and Temporary Structure Design; Pasadena Water and Power; Pasadena, CA; Project Engineer.** Performed structural evaluations of three existing bridges and designed temporary structures to support movement of heavy construction equipment during the City of Pasadena's Arroyo Seco Canyon Project. The bridge designs included a repurposed flatbed railroad car and a field-fabricated, wide-flange steel beam bridge.
- **Structural On-Call Services; Central Contra Costa Sanitary District, Martinez, CA; Lead Design Engineer.** Provided on-call design services for a hazardous waste containment canopy, installation of a manhole at the Influent Junction Structure as part of the 7311 Safety Enhancements Project, and an air-handling unit as part of an equipment replacement project.
- **Calera Creek Water Recycling Plant Condition Assessment; Pacifica, California; Structural Engineer.** Providing ASCE/SEI 41 Tier 1 Screening and Tier 2 Deficiency-Based Evaluation assessments and repair recommendations for the Calera Creek Water Recycling Plant and the Anza, David Davis, Linda Mar, Rockaway, Sharp Park and Skyridge Pump Stations. Project elements include concrete, masonry, and light wood-framed structures.
- **Structural On-Call Services; City of South San Francisco, CA; Lead Structural Engineer.** Provided design services for a soldier pile retaining wall, and a corporate yard soils stockpile canopy to be used as a best management practice for compliance with the City's Storm Water Permit issued by the Regional Water Quality Control Board.
- **Arcy Lane Influent Junction Structures; Delta Diablo, Antioch, CA; Lead Design Engineer. Arcy Lane Influent Junction Structures; Delta Diablo, Antioch, CA; Lead Design Engineer.** Provided structural material condition assessments and a repair design for influent junction structures accommodating 24 to 48-inch sewer pipes.
- **Flint Pump Station Upgrade Project; City of San Mateo, CA; Lead Design Engineer.** Provided construction services including bid support for reviewing structural submittals.
- **Coral Street and Fountain Avenue Pump Station Upgrades; Monterey Regional Water Pollution Control Agency, Monterey, CA; Project Manager.** Performed a seismic analysis and design for refurbishment of oceanside pump stations.
- **Upper Llagas Creek Flood Protection Project; Santa Clara Valley Water District, Morgan Hill, CA; Design Engineer.** Provided design engineering for Upper Llagas Creek culverts and other conveyance structures at roads and bridge crossings. Project included eight County bridges, one State bridge, and one Union Pacific Railroad bridge. Coordinated among multiple agencies and jurisdictions, including County of Santa Clara Department of Public Works and Caltrans.
- **West Antioch Creek Channel Improvement Project; City of Antioch, CA; Lead Design Engineer.** Provided design engineering for inlet and outlet head walls for four 50-foot-long, 14 x 7-foot box culverts, placed side by side at a flood channel road crossing.

- **Murray Reservoir Demolition and Murray Hydro-Pneumatic Zone Upgrades; Pasadena Water and Power; Pasadena, CA; Quality Assurance/Quality Control (QA/QC).** Provided a structural design for a CMU pump station and hydro-pneumatic tank to be located over a demolished in-ground reservoir.
- **Water Distribution Pipe Bridge; St. Helena Hospital; St. Helena, CA; Lead Structural Engineer.** Provided structural engineering design and drafting for a new pipe bridge carrying 10-inch and 6-inch potable water pipelines. The bridge spanned 42 feet 6 inches feet of Brook Creek in St. Helena, California. Provided engineering support during construction.
- **Sewer Pipe Bridge Crossings; Central Contra Costa Sanitary District; Martinez, Orinda, Lafayette, Alamo, Danville, and San Ramon, CA; Lead Structural Engineer.** Provided structural engineering support for condition assessment, modifications, and retrofits for 11 sewer pipe bridge crossing at sites throughout the Central Contra Costa Sanitary District. Pipe sizes ranged from 6 to 18 inches. Provided engineering support during construction.
- **Northern Burbank Recycled Water Main Extension Project; City of Burbank Water and Power, Burbank, CA; Lead Design Engineer.** Provided structural engineering and drafting services in support of the Burbank Western Channel Crossing. Project included traversing an existing flood channel and required collaboration with the US Army Corps of Engineers, Los Angeles District.
- **T4 3-MG Water Tank and Booster Pump Station Project; City of Fresno, CA; Project Engineer.** Provided engineering services during construction on behalf of the City of Fresno for design-build of a DN Tanks 3-MG prestressed concrete water tank.
- **Alta Vista Tank No. 2; Montara Water and Sanitary District, Montara, CA; Project Engineer.** Provided engineering services during construction on behalf of the Montara Water and Sanitary District for design-build of a DN Tanks 0.5-MG prestressed concrete water tank. Provided on-site inspections.
- **1630 East Recycled Water Pump Station; Cucamonga Valley Water District; Rancho Cucamonga, CA; QA/QC.** Structural design of a 40 x 74-foot concrete masonry unit pump station housing five pumps and an electrical equipment room. The structure consisted of masonry slumpstone walls with a metal truss pitched roof.
- **Glenview Water Storage Tank; City of San Bruno, CA; Project Engineer.** Provided structural engineering services for seismic assessment of a 2-MG prestressed concrete tank constructed in 1950, including peer review of seismic retrofit bid documents.
- **Cunningham Water Tank No. 1 Structural Assessment; City of San Bruno, CA; Project Engineer.** Provided structural assessment of a 1964 welded steel tank, with methods including non-destructive testing. Provided retrofit recommendations.
- **Donnelly Reservoir Refurbishment; City of Burlingame, CA; Project Engineer.** Provided structural consulting services in support of two existing welded steel tanks.
- **Clayton Regency Potable Water Storage Project; Contra Costa County, CA; Project Engineer.** Provided structural consulting services for a 1-MG bolted steel water tank.
- **Condition Assessment and Design; City of Sunnyvale, CA; Design Engineer.** Structural evaluation and design for repair of concrete, slide gate systems, and leaking pipes in the primary treatment systems at the city of Sunnyvale's Water Pollution Control Plant. This project is intended to extend the life of existing structures until they are replaced as part of the City's Master Plan and Primary Treatment Facility Design Project.
- **Pump Station; Monte Vista Water District, Montclair, CA; Project Engineer.** Provided engineering for the design of concrete masonry block pump station. The project was performed under a very aggressive schedule, completed within four weeks from start to finish.

- **Seismic Assessments; Columbus Foods in South San Francisco, Hayward, and Bayfront Sites, CA; Project Engineer.** Performed site inspections as part of seismic assessments to identify governing structural elements and areas of seismic vulnerability as part of California Accidental Release Program seismic evaluations.
- **Walnut Creek No. 1 and 2 Well Water Pumping Plant Electrical Safety Improvements; East Bay Municipal Utility District, Walnut Creek, CA; Project Engineer.** Designed slabs on grade for a 42,000-pound, pile-supported transformer and two switchgear pads. Fast track project for which design through construction was completed in 4 months.
- **C Street Pump Station; City of Petaluma, CA; Lead Design Engineer.** Performed a seismic assessment and refurbishment design for a 1960s pump station, to accommodate new pumps, improve Code compliance, and address architectural aesthetics.
- **Bridgehead Emergency Storage Basin and Pump Station; Delta Diablo, Oakley, CA; Project Engineer.** Structural design of a sewage pumping station and a 1-MG, cast-in-place emergency storage basin. Design included a concrete building 26 feet below grade and an above-grade, two-story, 1,720-square-foot masonry block building with a metal truss built-up roof.
- **McCloud Reservoir Assessment; City of Pleasanton, CA; Project Manager.** Provided an assessment of a 2-MG, prestressed, cast-in-place concrete tank. Developed retrofit recommendations.
- **Recycled Water Pipe Bridge Crossing; City of Santa Clara, CA; Lead Design Engineer.** Provided structural engineering design and drafting for a new, 12-inch recycled water pipeline across San Tomas Aquino Creek. Pipeline was attached to the existing Walsh Avenue Road Bridge. Provided engineering support during construction.
- **Recycled Water Pipe Bridge Crossings; Palo Alto–Mountain View, CA; Lead Design Engineer.** Provided structural engineering design for recycled water pipeline bridge crossings over Matadero and Adobe Creeks. Provided engineering support during construction.
- **Advanced Floatation Tank Replacement Project; City of Sunnyvale, CA; Design Engineer.** This structural evaluation included field investigation of tank vulnerability to seismic events. The final design required sequencing considerations to maintain plant operations throughout the various tank retrofits, maintaining at least two tanks in operation at all times.
- **Ridgemark WWTP Expansion; Sunnyslope County Water District, Ridgemark, CA; Design Engineer.** Provided structural engineering support for modification and expansion of the headworks, membrane bioreactors, blower building, and solids handling storage tank on a fault rupture site.
- **Headworks Project; Sausalito-Marin City Sanitary District, Sausalito, CA; Project Engineer.** Provided structural assessment, evaluated options for headworks structure improvements, and developed a design for a WWTP expansion on a highly constrained site adjacent to San Francisco Bay.
- **Vineyard Avenue Pump Station; City of Pleasanton, CA; Project Engineer.** Provided engineering and construction services for the design of a 2,176-square-foot concrete masonry unit pump station/electrical building on a constricted site with strict architectural/aesthetic requirements.
- **Northern Dougherty Valley Zone 3 Potable Water Facilities Reservoir 300B and Pump Station 300C; Dublin San Ramon Services District, CA; Project Engineer.** Provided engineering services during construction of a 1.5-MG, prestressed concrete potable water storage tank and masonry block pump station. Structural elements of this project were not designed by TJCAA.
- **Bisso O&M/Administration Buildings Emergency Generator Project; Contra Costa Water District, Concord CA; Project Engineer.** Provided foundation design for Emergency Generators.

- **Operations Building and Maintenance Shop; Washoe County Department of Water Resources, Reno, NV; Project Engineer.** As part of a 6-mgd water treatment plant project, designed a 6,700-square-foot concrete masonry block operations building and a 2,250-square-foot concrete masonry block maintenance shop.
- **Wastewater Treatment Facility Pure Oxygen Aeration System Rehabilitation; City of Yuba City, CA; Lead Design Engineer.** Performed inspections and evaluated alternatives for the rehabilitation of twelve 43-square-foot basins in a Pure Oxygen Aeration System at Yuba City's Wastewater Treatment Facility, to address deterioration of concrete walls, columns, and slabs.
- **Zone 1 Water System Improvement; City of Livermore, CA; Project Engineer.** Provided engineering for the structural design of a masonry block pump station and prestressed concrete water storage reservoir.
- **Dougherty Valley Reservoir 200B; Dublin San Ramon Services District, CA; Project Engineer.** Provided engineering associated with the development of a Performance Specification for a 1.5-MG potable water reservoir.
- **Domestic Water Connection and Distribution System Piping Project; Sacramento County Airport System, Sacramento, CA; Project Engineer.** Provided engineering for the design of prestressed concrete pile foundation system supporting two 1.5-MG prestressed concrete potable water storage reservoirs.
- **Oak Park Lane Traffic Bridge; Central Contra Costa County Sanitary District, Pleasant Hill, CA; Design Engineer.** Provided structural engineering services for a condition assessment of an existing traffic bridge in support of a sewer renovation project. Project included development of as-built drawings of the bridge and an assessment of its load-carrying capacity, specifically, its ability to handle daily construction traffic.
- **Surface Water Treatment Facility, Phase I; City of Brentwood, CA; Project Engineer.** Provided engineering for the design of a WTP expansion. Specific elements of the project included a 30 x 35-foot, 35-foot-deep wet well and concrete masonry block electrical building.
- **Austin Creek Pump Station; Vallejo Sanitation and Flood Control District, Vallejo CA; Project Engineer.** Performed a preliminary structural evaluation of the existing Austin Creek Pumping Station, a 40 x 24-foot cast-in-place concrete structure constructed circa 1956. The evaluation assessed the structural condition of the existing building as it related to the need for repair or replacement.
- **Airport Avenue Pump Station; City of Livermore, CA; Project Engineer.** Structural engineering consultation in support of the refurbishment of an existing pump station near the Livermore Airport in Livermore, California.
- **Drinking Water Improvement Project; City of Folsom, CA; Project Engineer.** Provided engineering for the design of a 10-mgd WTP expansion. Specific elements included Actiflo pretreatment structure, filters, and partially buried, prestressed concrete chlorine contact tank. Provided engineering services during construction.
- **Tank Inspection, Vopak Jet Fuel Storage Facility; Wilmington, CA; Project Engineer.** Performed structural assessment of three jet fuel storage tanks. The tanks experienced some degree of damage during the October 16, 1999 Hector Mine earthquake. The assessment was performed to ascertain whether damage to the interior aluminum floating cover was attributable to the seismic event.
- **Nuclear Medical Camera Installation; ADAC.** Structural design of support system for 6,500-pound nuclear imaging camera to be installed within an existing office building.
- **Stormwater Pump Station Refurbishment; Central Sanitation District, Orinda CA; Project Engineer.** Prepared seismic evaluations and retrofit designs for the upgrade of the Lower Orinda Pump Station. Expansion of this circa 1950 pump station increased its capacity from 14 to 21 mgd—the estimated capacity required for operation through 2035.

- **Groundwater Replenishment System; Orange County Water District and Orange County Sanitary District Joint Project, Fountain Valley, CA; Project Engineer.** Provided engineering for the design of 750 prestressed concrete pile foundations for all structures in the Advanced Water Treatment Facility.
- **Stormwater Wet Well and Pump Station; Alameda Transit Corridor, Los Angeles, CA; Project Engineer.** Provided engineering for the structural design of a below-grade storm water wet well and masonry block pump station. Specific elements included the design of 80-foot-deep concrete piers, intermediate support struts, above-grade concrete masonry unit structure, and intermediate platforms to accommodate process requirements.
- **WWTP Expansion; City of Brentwood, CA; Project Engineer.** Designed specific elements of a 10-mgd plant expansion. Basin designs included oxidation ditches, primary clarifiers, filter basins, and chlorine contact basins.
- **WWTP Expansion; Delta Diablo, Antioch, CA; Project Engineer.** Provided structural engineering support for design of a 12.2-mgd plant expansion to provide recycled water. Specific elements included filters, clarifiers, chlorine contact basins, and a 1.8-MG steel reservoir.
- **Wet Weather Facility Upgrade; City and County of San Francisco Department of Public Works, San Francisco, CA; Project Engineer.** Prepared seismic evaluations and retrofit designs for a conceptual design report for the upgrade of the North Point Wet Weather Facility.
- **Recycled Water Project; Delta Diablo, Pittsburg, CA; Project Engineer.** Provided structural design and construction services for a 1-MG welded steel recycled water tank and supporting pump stations.
- **Wastewater and Recycled Water Facility Upgrade; Novato Sanitary District; Novato, CA; Lead Design Engineer.** Provided a predesign evaluation to identify areas of seismic vulnerability and determine options for placement of new equipment in existing structures. Designed upgrades that accommodated continual plant operation and seismic concerns regarding differential settlement on Bay Mud.
- **Maintenance Rule Implementation; Various Nuclear Facilities; Lead Project Engineer.** Responsible for implementing 10 CFR 50.65 (the maintenance rule) at several commercial nuclear power plants, including Diablo Canyon Power Plant, CA; Indian Point Three, NY; and Cooper Nuclear Station, NE.
- **Engineering Research; Electric Power Research Institute; Lead Research Engineer.** Investigated a Nuclear Regulatory Commission notice suggesting that resistance temperature detectors in a nuclear power plant's reactor coolant system may experience non-conservative drift. Research indicated that the original Nuclear Regulatory Commission concerns were unfounded, resulting in millions of dollars saved by nuclear utilities.
- **Comanche Peak Steam Electric Station, Unit 1, TX; Project Engineer.** Responsible for developing cost-effective analytical methods using existing software for structural analysis of concrete walls for a nuclear facility. The analysis resulted in a program for control of rebar cuts during facility retrofits.
- **Comanche Peak Steam Electric Station, Unit 2, TX; Project Engineer.** Responsible for developing a technical approach for the generic seismic qualification of all Category II structural steel stairways in a nuclear facility.
- **Comanche Peak Steam Electric Station, Unit 1, TX; Engineer.** Performed manual analysis, both as originator and checker, of the seismic adequacy of the conduit supports at a commercial nuclear power facility. Ensured correct technical approach and adherence to quality assurance requirements. Responsible for training and coordinating staff and for "as-built" data review.



Daisy M. Yu, S.E., LEED AP Senior Structural Engineer

Experience

Ms. Yu has extensive experience in seismic evaluation and retrofit design and in the design of large, multistory, steel-framed structures. Her design experience also includes water and wastewater treatment facilities such as reinforced concrete reservoirs, reinforced masonry pump stations, and chemical storage facilities. As a LEED accredited professional, she is recognized as having a background and understanding of the principles that go into designing structures with a minimal impact on the environment, and that promote energy efficiency and a healthy environment for their occupants. Ms. Yu is not only an experienced structural engineer, but also a proven project manager. Her specific experience includes the following:

- **Wastewater Treatment Plant (WWTP) Expansion; City of Brentwood; Project Engineer.** Structural design for expansion of a 10-mgd WWTP originally designed by TJCAA in 2000. This design includes new aeration basins, a blower building, a maintenance shop, a secondary clarifier, a return activated sludge pump station, a waste activated sludge storage basin, a 5,000-square-foot biosolids drying facility, and a 15,000-square-foot biosolids storage facility. The design addresses soils that are subject to liquefaction.
- **Rinconada Water Treatment Plant (WTP) Reliability Improvement Project; Santa Clara Valley Water District; Los Gatos, CA; Project Engineer.** Provided structural design for a new ozone generation building, LOX facility, flocculation/sedimentation basins, filters, washwater recovery facility, chlorine contact basin, and an elevated concrete platform to support electrical equipment. The structures are part of this major project to improve reliability at the Rinconada WTP, which is the main WTP serving the western service area for the District. Providing engineering services during construction.
- **RP-1 Headworks, Primary and Secondary Upgrades; Inland Empire Utilities Agency, Ontario, CA; Project Manager/Structural Engineer of Record.** Provided structural design for rehabilitation of deteriorating structures at a WWTP headworks. The design addressed severely degraded concrete structures, metal covers that had been compromised by field modifications, and modifications to the plant scum well to support mechanical upgrades.
- **Maintenance Facility; West County Wastewater District, Richmond, CA; Project Manager/Structural Engineer of Record.** Structural design of a 9,600-square-foot, at-grade, L-shaped, CMU building comprising two sections separated by a seismic expansion joint: a 26-foot-high main shop area and an 18-foot-height office building. The building roof design features open-web, steel joists with a metal deck and a membrane roof. Also providing a foundation design for metal canopy structures, with a design allowing for future installation of photovoltaic panels.

Education

MS, Structural Engineering;
University of CA, Berkeley; 1999
BS, Civil Engineering;
University of CA, Berkeley; 1994

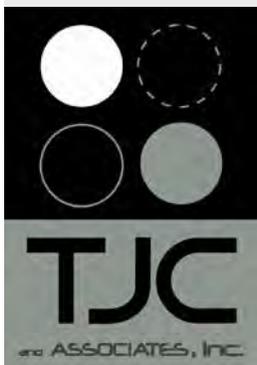
Professional Registrations

Structural: CA
Civil: CA

LEED Accredited Professional

Professional Memberships

Structural Engineers Association of Northern California
American Concrete Institute
American Institute of Steel Construction



- **Folsom Zone 6 Pump Station; City of Folsom, CA; Project Manager.** Provided structural design of a 26 x 94-foot booster pump station housing five vertical pumps and an electrical room. The single-story, CMU building has a prefabricated wood truss roof. Produced final designs and specifications under an aggressive schedule.
- **Pump Station M Upgrades; EBMUD; Alameda, CA; Project Manager.** Structural evaluation and design services for rehabilitation of a wastewater pump station constructed in 1977, including a wet well, dry well with four centrifugal pumps, control building, and a hypochlorite storage and pumping system. Providing seismic evaluation of the 25'-6" x 25'-6" x 30' deep, below-grade concrete wet and dry well structure.
- **Rinconada WTP Residuals Management Project; Santa Clara Valley Water District; Los Gatos, CA; Project Engineer.** Responsible for the structural design of new gravity thickeners, a two-story concrete building housing new centrifuges and electrical equipment, and a steel frame load-out structure. Provided engineering services during construction.
- **California Water Tank, Pump Station, and Transmission Main Project; City of Redwood City, CA; Project Manager/Structural Engineer of Record.** Provided structural design of a 26 x 19-foot CMU building with a steel truss roof, housing three vertical-turbine pumps, electrical equipment, and an emergency generator.
- **RP-1 Mixed Liquor Return Pumps Project; Inland Empire Utilities Agency, Ontario, CA; Project Engineer.** Structural design of 12 x 20-foot foundations for two motor control center buildings and structural pipe supports for the addition of six 200-foot lengths of 36-inch-diameter high-density polyethylene pipe. The pipe support elements were required to have flexibility to accommodate longitudinal expansion and contraction of the pipe while supporting the pipe and anchoring it to resist significant seismic and hydrodynamic forces.
- **Immediate Action Projects Package II WWTP; City of San Mateo, CA; Project Manager/Engineer of Record.** Performed structural analysis of existing sludge hopper platform, originally designed in the 1980s, for its ability to hold a second hopper and withstand seismic forces according to current Code. Provided structural design of an access platform for the new hopper.
- **Woodbury Well Upgrades; Water Division, Pasadena Water and Power; Pasadena, CA; Project Engineer.** Provided seismic evaluation and design for a 17 x 35-foot concrete building that had been modified for operational purposes. The design includes a structural steel frame and watertight roof system that can be temporarily removed to facilitate well removal.
- **Non-Potable Water Tank and Recycled Water Pump Station; City of Brentwood, CA; Project Engineer.** Provided structural design for a new 3-MG non-potable water storage tank, a 500-square-foot CMU pump control building featuring temperature control, and a recycled water pump station. Providing engineering services during construction.
- **WWTP Improvements; City of Jackson, CA; Project Engineer.** Structural design for upgrades to an existing WWTP, including accessibility platforms around clarifiers, a disk filter structure, a UV disinfection facility, replacement of biosolids mechanical dewatering equipment, and a new CMU electrical building. Provided engineering services during construction.

- **Gauntlett and Iversen Reservoir Roofs Assessment Project; City of Healdsburg, CA; Project Engineer.** Performed analyses, recommendations, and construction cost-benefit analysis for replacing the roof of the Gauntlett Reservoir (a lined earthen reservoir 109 feet by 88 feet by 20 feet deep) and rectification options for the metal deck roofing for Iversen Reservoir (a lined earthen reservoir 130 x 224 feet x 20 feet deep). Assessed reservoirs' condition and identified/evaluated options for the roofs, including potential options for supporting photovoltaic arrays.
- **La Cresta Tank No. 2 Dimple Investigation; Purissima Hills Water District; Los Altos Hills, CA; Project Manager.** Investigated and developed recommendations for addressing a dimple in the steel wall of Purissima Hills Water District's La Cresta Tank No. 2, a 16-foot-high, 98-foot-diameter potable water storage tank. Inspected the tank, coordinated a survey during a tank fill operation, and performed structural analysis.
- **Hilltop Green Lift Station Replacement; West County Wastewater District; Richmond, CA; Project Manager.** Provided structural design of a 22 x 14-foot, below-grade concrete wetwell approximately 22 feet deep and associated concrete valve vault.
- **Soscol Recycled Water Pump Station North-South Split; Napa Sanitation District; Napa, CA; Project Manager.** Foundation design for a 2,000-gallon vertical surge tank at the Soscol Recycled Water Pump Station. Provided engineering services during construction.
- **Napa MST Recycled Water Booster Pump Station No. 1 and Pipeline Project; Napa Sanitation District; Napa, CA; Project Engineer.** Structural design of a 40 x 60-foot CMU pump station and electrical equipment room, as well as four pipe crossings over existing creeks. Provided engineering services during construction.
- **Yountville WWTP Dissolved Air Flotation (DAF) Installation; Town of Yountville; Project Manager.** Structural design and construction services for a 10 x 23-foot concrete foundation slab, including anchorage requirements, for a DAF unit for solids thickening.
- **West Antioch Creek Channel Improvement Project; City of Antioch, CA; Project Engineer.** Provided engineering for modifications to an existing CMU building that needed to be partially demolished to make room for creek channel improvements.
- **Upper Llagas Creek Flood Protection Project; Santa Clara Valley Water District, Morgan Hill, CA; QA/QC.** Performed QA/QC of design engineering for wing walls and head walls for Upper Llagas Creek culverts and other conveyance structures at roads and bridge crossings.
- **Murray Reservoir Demolition and Murray Hydro-Pneumatic Zone Upgrades; Pasadena Water and Power, City of Pasadena, CA; QA/QC.** Performed QA/QC of design engineering for a 15 x 17-foot CMU building with a gabled, wood truss roof in a seismically active area.
- **Pump Station Q Force Main/Gravity Interceptor Reverse Flow Upgrades; East Bay Municipal Utilities District, Berkeley, CA; QA/QC.** Performed QA/QC of design engineering for five cast-in-place, below-grade vaults. These vaults provide locations for metering and diversion of flows, and pipe sizes accommodated by the vault designs ranged from 36 to 96 inches in diameter.
- **1630 East Recycled Water Pump Station; Cucamonga Valley Water District; Rancho Cucamonga, CA; Project Manager.** Structural design of a 40 x 74-foot CMU pump station housing five pumps and an electrical equipment room. The structure consisted of masonry slumpstone walls with a steel truss roof.

- **Wochhloz Wastewater Treatment Facility Improved Salinity Effluent Project; Yucaipa Valley Water District; Calimesa, CA; Project Manager.** Designed new loading dock and chemical storage areas for the addition of a reverse osmosis train to reduce salinity levels in the effluent water.
- **L.A. County Waterworks, District 29 Creek Crossing Repairs; Malibu, CA; Project Engineer.** Reviewed existing pipe crossing supports and designed repairs to strengthen deficiencies.
- **C Street Pump Station; City of Petaluma, CA; QA/QC.** Performed quality assurance/quality control reviews for a seismic assessment and refurbishment design of a 1960s pump station.
- **Wastewater and Recycled Water Facility Upgrade; Novato Sanitary District; Novato, CA; Design Engineer.** Provided a predesign evaluation to identify areas of seismic vulnerability and determine options for placement of new equipment in existing structures. Designed upgrades that accommodated continual plant operation and seismic concerns regarding differential settlement on Bay Mud.
- **Headworks Project; Sausalito-Marin City Sanitary District; Sausalito, CA; QA/QC.** Provided structural assessment and evaluated options for clarifier improvements for a WWTP expansion on a highly constrained site adjacent to San Francisco Bay. Performed QA/QC for the design.
- **Ridgemark WWTP Expansion; Sunnyslope County Water District; Ridgemark, CA; Design Engineer.** Provided structural engineering support for modification and expansion of the headworks, membrane bioreactors, blower building, and solids handling storage tank on a fault rupture site.
- **Yountville Veterans Home, Title 22 Upgrades and Recycled Water Expansion Project; Project Engineer and TJCAA Project Manager.** Design of a partially buried, 24 x 50-foot cast-in-place concrete chlorine contact basin with redwood baffle walls.
- **Ironhouse WWTP Expansion; Oakley, CA; Project Engineer.** Structural design of a 9-mgd expansion, including an influent pump station, headworks, anoxic/aeration basins, membrane bioreactors, backpulse tank, blower/electrical/generator/chemical building, UV/Effluent pump station, and a solids handling building.
- **Graham Hill WTP Electrical Improvements Project; City of Santa Cruz Water Department; Santa Cruz, CA; Project Engineer.** Renovation, expansion, and improvements to the electrical distribution system at the City's main Graham Hill WTP. This project included design of a new CMU electrical building and retaining wall.
- **Building A Seismic Retrofit; Columbus Foods; South San Francisco CA; Design Engineer.** Performed a seismic assessment and upgrade design for a 53,000-square-foot concrete tilt-up building at the Columbus Foods Forbes food processing facility.
- **Palo Alto Regional Water Quality Control Plant Auxiliary Disinfection System and UV Disinfection System; City of Palo Alto, CA; Project Engineer and TJCAA Project Manager.** Design of chemical containment areas for new sodium hypochlorite and sodium bisulfite tanks, and design of a new, 75 x 35-foot cast-in-place concrete UV disinfection structure, including influent and effluent basins, UV channels, pile supports, and support for the roof structure, which includes a bridge crane.
- **Tolt WTP; City of Seattle; Seattle, WA.** Performed structural design for the ozone contactor/flocculator structure and filters for a 125-mgd water filtration plant.
- **Pittsburg Water Storage Reservoir; Pittsburg, CA.** Structural design of 1-MG and 5-MG prestressed water storage reservoirs.

- **Crittenden Pump Station; Mountain View, CA.** Performed structural design for a pump station wet well and a CMU pump station building.
- **San Francisco Friends School; San Francisco, CA; Project Manager.** Structural design of the seismic upgrade and retrofit of this existing 85,000-square-foot, three-story timber building. The building has new steel concentrically braced frames, strengthened diaphragms, a new concrete mat foundation, and a new steel truss roof structure over the gymnasium and theatre.
- **Berkeley Community College; Peralta Community College District; Berkeley, CA; Project Manager/Engineer.** Structural analysis and design of this new six-story, 165,000-square-foot building. The structure is steel framed with concrete filled metal deck at the floors, concrete shear walls, and a drilled concrete pier foundation. A 60 x 80-foot elliptical skylight supported on steel tension rod trusses provides cover for the central atrium.
- **Science and Technology Center; Dominican University of California; San Rafael, CA; Project Manager/Engineer.** Structural analysis and design of this new 35,000-square-foot, two-story building with an L-shaped configuration. The structure is steel framed with concrete filled metal deck and steel concentrically braced frames. Coordinated work with design-build foundation contractor for implementing a Geopier foundation.
- **California Maritime Academy, Simulation Center; California State University; Vallejo, CA; Project Engineer.** Performed structural analysis and design of a new two-story, steel-framed building with steel concentrically braced frames and a drilled concrete pier foundation.
- **Portola Valley Town Center; City of Portola Valley; Portola Valley, CA; Project Engineer.** Performed the structural analysis and design for this project, which consists of five new one-story, wood-framed buildings with wood shear walls and concrete spread footings: a Town Hall, Community Hall, Library, Maintenance Building, and Restroom Building.
- **Olympic City Club Renovation; Olympic City Club; San Francisco, CA; Project Engineer.** Performed the structural analysis for the retrofit and seismic upgrade of a ten-story, concrete building with new concrete shear walls.
- **Contra Costa Community College Evaluations; San Pablo, CA; Project Engineer.** Performed preliminary seismic evaluations of 15 buildings on the college campus to identify seismic deficiencies using ASCE 31.
- **Cañada College Buildings 16, 17, and 18 Renovations; Redwood City, CA; Project Engineer.** Provided structural design support for renovations and improvements to existing concrete buildings.
- **Latimer Hall Seismic Upgrade, University of California at Berkeley; Berkeley, CA; Project Engineer.** Performed structural analysis and design of seismic retrofit of an 11-story concrete building with shear walls in one direction and concrete moment frames in the other direction.
- **Fremont Fire Stations Evaluations; Fremont, CA; Project Engineer.** Performed seismic evaluation of fire stations to identify deficiencies and retrofit options.

LESLIE D. SCOTT, P.E.

Chief Engineer

Education: B.S. Architectural Engineering, California Polytechnic State University at San Luis Obispo

Professional Registration

- Registered Professional Engineer
CA: Civil # 42920 NV: Civil # 26335 WA: Civil # 57300

Professional Affiliations

- American Water Works Association
- American Society of Mechanical Engineers
- American Society of Civil Engineers
- Structural Engineers Association of Southern California
- American Welding Society



Years of Tank Experience: 38+

Leslie Scott is a nationally recognized expert in the field-erected tanks and shop-fabricated storage tanks industries. Leslie's work experience has included a wide variety of assignments encompassing numerous aspects of the field-erected and shop-built storage tank business including engineering, detailing, fabrication and construction processes, coatings, project management, inspection, and estimating functions. Leslie's experience includes projects conforming to AWWA, API, ASME, NFPA, FM, UL, STI/SPFA, and fire code standards.

Leslie has been actively involved in numerous tank-related standards development committees/subcommittees of the American Water Works Association (AWWA) for over 33 years. His committee activities include:

- AWWA Standards Committee for Steel and Composite Water Storage Tanks
- Chair, AWWA Standards Subcommittee for Carbon Steel Flat-Bottom Welded Steel Tanks for Water Storage
- AWWA Standard for General Requirements for Water Storage Tanks Committee
- AWWA D100 Subcommittee – Standard for Welded Steel Tanks for Water Storage
- AWWA D102 Subcommittee – Standard for Coating Steel Water Storage Tanks
- AWWA D103 Subcommittee – Standard for Factory-Coated Bolted Carbon Steel Tanks for Water Storage
- AWWA New Standard Subcommittee – Standard for Stainless Steel Bolted Tanks for Water Storage
- AWWA D104 Subcommittee – Standard for Automatically Controlled, Impressed Current Cathodic Protection Systems for the Interior Submerged Surfaces of Steel Water Storage Tanks
- AWWA D106 Subcommittee – Standard for Sacrificial Anode Cathodic Protection Systems for the Interior Submerged Surfaces of Steel Water Tanks
- AWWA Standards Subcommittee for Welded Carbon Steel Elevated Tanks for Water Storage
- AWWA Subcommittee for Manual of Water Supply Practice, M42 – Steel Water Storage Tanks
- AWWA New Standard Subcommittee – Steel Tank Asset Management Guide

Prior to joining TIC, Leslie spent over three and a half decades providing technical support for engineering activities for several major tank fabricators and erectors. Projects completed include carbon steel and stainless steel storage tanks for a variety of storage applications including water, oil and oil processing, thermal storage, wine, chemical, fuels, waste water, and water and waste treatment. His expertise in tank design and engineering includes numerous projects involving seismic design and foundation systems.

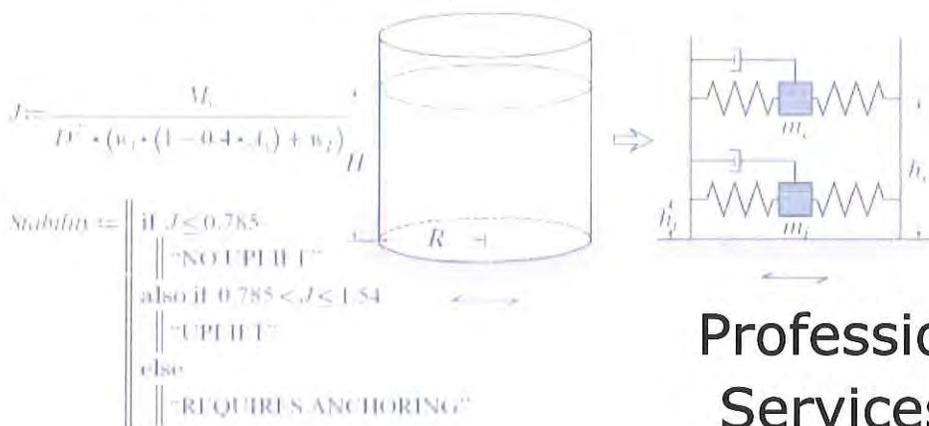


$$K = \begin{cases} \text{if } J \leq 0.064 \\ \left| 0.72 \cdot \left(\frac{P}{L} \cdot \left(\frac{R}{L} \right) \right) \right| \\ \text{else} \\ \left| \min \left(\left(0.045 \cdot \ln \left(\frac{P}{L} \cdot \left(\frac{R}{L} \right) \right) + 0.0015 \right) + 0.104 \cdot (0.22) \right) \right| \end{cases}$$

$$X_{inf} = \begin{cases} \text{if } \frac{D}{H} \geq 1.333 \\ \left| 0.375 \cdot \left(1.0 + 1.333 \cdot \left(\frac{0.866 \cdot \frac{D}{H}}{\tanh \left(0.866 \cdot \frac{D}{H} \right)} - 1.0 \right) \right) \right| \cdot H \\ \text{else} \\ \left| \left(0.5 + 0.06 \cdot \frac{D}{H} \right) \cdot H \right| \end{cases}$$

$$\delta_x = 0.42 D S_{uc}$$

Stability - REQUIRES ANCHORING



Cost Proposal for Professional Engineering Services for Water Tank Seismic Evaluations

in
Half Moon Bay, Miramar,
Princeton by the Sea, and
El Granada, CA

February 25, 2019

$$X_{inf} = \begin{cases} \text{if } \frac{D}{H} \geq 1.333 \\ \left| 0.375 \cdot \left(1.0 + 1.333 \cdot \left(\frac{0.866 \cdot \frac{D}{H}}{\tanh \left(0.866 \cdot \frac{D}{H} \right)} - 1.0 \right) \right) \right| \cdot H \\ \text{else} \\ \left| \left(0.5 + 0.06 \cdot \frac{D}{H} \right) \cdot H \right| \end{cases}$$

$$X_{top} = \left(1.0 \cdot \frac{\cosh \left(\frac{1.67 \cdot H}{D} \right) - 1.917}{\left(\frac{1.67 \cdot H}{D} \right) \cdot \sinh \left(\frac{1.67 \cdot H}{D} \right)} \right) \cdot H$$

$$M_{top} = \sqrt{(1 \cdot (H \cdot X_{top} + H \cdot H + H \cdot X_{inf}))^2 + (1 \cdot (H \cdot X_{top}))^2}$$

AWWA STANDARD
WELDED CARBON STEEL TANKS FOR WATER STORAGE
ANSI/AWWA D100-11

This MAINTENANCE template is based on the criteria set forth in the AWWA Standard D100

$$R_{top} = \begin{cases} \text{if } \sigma_{top} \leq \sigma_{allow} \\ \text{"ACCEPTABLE"} \\ \text{else} \\ \text{"UNACCEPTABLE"} \end{cases} \quad \leftarrow \quad R_{inf} = \text{"ACCEPTABLE"}$$



TJC and Associates, Inc.
2890 North Main St, Suite 303
Walnut Creek, CA 94597
(925) 357-2676
www.tjcaa.com



Proposal for Professional Engineering Services for Water Tank Seismic Evaluations in Half Moon Bay, Miramar, Princeton by the Sea, and El Granada, CA

Cost Proposal

TJC and Associates, Inc. (TJCAA) is pleased to submit the following cost proposal to perform the scope of work outlined in Section 3 of our Proposal.

1.1 HOURS AND FEES

The table below summarizes our proposed hours and fees for the project.

SUMMARY OF HOURS AND FEES FOR PROJECT Coastside County Water District

Water Tank Seismic Evaluations in Half Moon Bay, Miramar, Princeton by the Sea and El Granada, CA



Tasks		Labor Hours					Labor Fee	Expenses	Total	
No.	Description	Engineer 10	Engineer 8	Engineer 7	Engineer 2	Admin	Total Labor Costs	ODCs	Total Fee by Task	Total Fee Not to Exceed
		\$274	\$244	\$229	\$146	\$103				
Task 1	Review Available Water Tank Documents	2	8	0	0	0	\$2,499	\$27	\$2,527	\$90,333
Task 2	Perform a Site Visit to observe Tanks' Existing Structural Conditions	12	51	0	104	4	\$31,275	\$674	\$31,949	
Task 3	Perform AWWA D100 Seismic Evaluation for Each Tank	8	32	22	0	4	\$15,442	\$335	\$15,777	
Task 4	Document Existing condition and develop potential remediation strategies for each tank.	8	48	16	0	1	\$17,662	\$194	\$17,856	
Task 5	Prepare Draft and Final Report documenting the results of the evaluation.	11	46	0	6	10	\$16,141	\$343	\$16,484	
Task 6	Project Management	4	12	0	0	16	\$5,678	\$62	\$5,740	
TOTAL Design Services:		45	197	38	110	35	\$88,697	\$1,636	\$90,333	

COST PROPOSAL

1.2 RATE SCHEDULE

In addition to the specific hours and fees associated with each task, TJCAA has also provided its standard rate schedule (see next page), which will remain in effect for the duration of this agreement.

1.3 ADDITIVE TASKS

TJCAA has not identified any "Additive Tasks" for this project. We believe the scope of work as outlined in Section 3 will meet CCWD's objectives, resulting in a successful project.

1.4 FEE STRUCTURE

TJCAA understands that fees paid for services will be on a Time and Materials basis with an upper limit defined in section 1.1 above. Extra work will NOT be performed unless said work is pre-approved and authorized by CCWD in writing.

1





Schedule of Hourly Rates and Costs - 2019

TJC AND ASSOCIATES, INC.

Labor

Engineer

Level 10 (E10)	\$	274.00	/hour
Level 9 (E9)	\$	259.00	/hour
Level 8 (E8)	\$	244.00	/hour
Level 7 (E7)	\$	229.00	/hour
Level 6 (E6)	\$	214.00	/hour
Level 5 (E5)	\$	198.00	/hour
Level 4 (E4)	\$	183.00	/hour
Level 3 (E3)	\$	164.00	/hour
Level 2 (E2)	\$	146.00	/hour
Level 1 (E1)	\$	127.00	/hour

Drafting

Level 7 (C7)	\$	179.00	/hour
Level 6 (C6)	\$	155.00	/hour
Level 5 (C5)	\$	140.00	/hour
Level 4 (C4)	\$	131.00	/hour
Level 3 (C3)	\$	112.00	/hour
Level 2 (C2)	\$	94.00	/hour
Level 1 (C1)	\$	74.00	/hour

Administrative

Level 10 (A10)	\$	225.00	/hour
Level 9 (A9)	\$	188.00	/hour
Level 8 (A8)	\$	155.00	/hour
Level 7 (A7)	\$	134.00	/hour
Level 6 (A6)	\$	111.00	/hour
Level 5 (A5)	\$	96.00	/hour
Level 4 (A4)	\$	77.00	/hour
Level 3 (A3)	\$	66.00	/hour
Level 2 (A2)	\$	54.00	/hour
Level 1 (A1)	\$	40.00	/hour

Reimbursable Expenses

Auto Mileage:	Standard set by IRS
Outside Services:	Cost + 10%
Materials and Other Expenses	Cost + 10%

Notes

1. All hourly rates and costs are subject to change without notice.
2. Schedule shall be subject to adjustments annually to reflect current staff salaries and escalation.

STAFF REPORT

To: Coastside County Water District Board of Directors

From: James Derbin, Superintendent of Operations

Via: David Dickson, General Manager

Agenda: March 12, 2019

Date: March 5, 2019

Subject: Approval of Professional Services Agreement with TJC and Associates, Inc. for Denniston Water Treatment Plant and Pump Station Standby Power Design Services

Recommendation:

Authorize the General Manager to execute a professional services agreement with TJC and Associates (TJCAA) for engineering design and bid document services for the installation of two standby generators for the Denniston Water Treatment Plant (WTP) and Booster Pump Station (BPS) for a time-and-materials cost not to exceed \$46,850.

Background:

At the District's request, TJCAA has submitted the attached proposal for necessary design and engineering services to procure and install two standby generators with Automatic Transfer Switches (ATS) at the Denniston WTP and BPS. Staff proposes we utilize TJCAA's expertise in electrical design and bid document preparation to prepare the District to be able to run the Denniston WTP during an extended power outage.

The District currently has a single 75kW portable diesel generator that is well beyond its useful life. In order to be able to run the Denniston WTP and BPS while power is out, the District will need to procure and install two permanently installed standby generators, along with the electrical switchgear to transfer to auxiliary power automatically when the PG&E power fails.

Staff recommends awarding this work to TJCAA based on their reputation and experience with similar projects.

EKI has reviewed the proposal and agrees that the scope fits the District's needs for a successful project and that the cost of services is reasonable.

Fiscal Impact:

Funding for design of this project is included in the Board adopted Fiscal Year 2018/2019 Capital Improvement Program Budget in the amount of \$50,000.



March 5, 2019

Mr. James Derbin
Superintendent of Operations
Coastside County Water District
766 Main Street
Half Moon Bay, CA 94019

Structural
Engineering

SCADA

Electrical
Engineering

Instrumentation

Controls

Control Systems
Programming

Subject: Coastside Water District, Denniston Water Treatment Plant and Pump Station Standby Generators Project Engineering Design Services (TJCAA Project No. 119021)

Dear James:

The purpose of this letter is to provide a scope for electrical and structural engineering services as requested by Coastside County Water District (District) to provide new standby generators at the Denniston Pump Station and Denniston Water Treatment Plant (WTP). This letter summarizes the scope of work that will be provided by TJC and Associates, Inc. (TJCAA). Please review, and if acceptable, this letter may serve as the basis for a Scope of Work to be included in an agreement for engineering services.

Project Understanding

The Denniston Pump Station and WTP are potable water facilities for the District. Presently, the WTP has an existing standby generator (gen-set) that is reaching the end of its useful life. The Denniston Pump Station does not have a standby gen-set on site.

The Project aims to provide new standby diesel engine-generators and automatic transfer switches at each of the two locations to improve reliability by replacing aged equipment and to provide a local source of standby power to maintain operations during a utility outage.

Work by TJCAA to include

- Pre-design: Prepare generator sizing calculations to establish required gen-set size. Prepare preliminary plan drawings showing proposed locations of new equipment, site specific gen-set features and requirements, and prepare a preliminary opinion of probable cost for the Project
- Procurement Document: Prepare procurement technical specification package for the two new gen-sets suitable for the District to procure the equipment.
- Electrical Design Installation Documents: Prepare design drawings, specifications, and opinion of probable cost for installation of the District procured gen-sets.
- Structural Design Installation Documents: Establish and specify seismic anchoring criteria and prepare drawings and specifications for gen-set cast-in-place concrete slabs on grade.
- Provide services during gen-set procurement and installation package bidding

I. Scope of Services

Task 1. Pre-design

TJCAA will provide preliminary design engineering including generator sizing

Sacramento Office:
2356 Gold Meadow Way,
Suite 250
Gold River, CA 95670
p 916.853.9658

Oakland Office:
1330 Broadway,
Suite 1101
Oakland, CA 94612
p 510.251.8980

Walnut Creek Office:
2890 North Main St.,
Suite 303
Walnut Creek, CA 94597
p 925.357.2676

f 800.948.5604

www.tjcaa.com

calculations; site plan sketches or annotated photos showing proposed locations of new equipment and selective demolition of abandoned enclosures and concrete pads; summary specifications and design criteria; and opinion of probable Project cost.

Deliverable

A summary technical memorandum summarizing the design approach will be submitted to the District for review and comment.

Task 2. Procurement Specification

TJCAA will prepare a technical specification for the gen-sets suitable for direct procurement by the District. District preference is to prepare a sole source specification based on Cummins West equipment. Technical specification shall include but not be limited to equipment characteristics, submittal and shop drawings, air quality permitting, services during installation, testing, startup, and warranty.

Deliverable

Draft and final procurement documents shall be submitted for District review and comment.

Task 3. Design - Installation

TJCAA will provide engineering and drafting services necessary for installation of the District procured gen-sets. Submittals will be provided to the District in the following packages:

- Draft 90% (Draft) Design Package
- Final: 100% Design Package

The final installation design package will incorporate appropriate District comments based on the draft submittal and will update information accordingly. Design submittals will include elements as follows.

Deliverables Included in Submittals					
Submittal	Calculations (PDF)	Design Drawings ¹ (PDF)	Specs ³ (PDF)	Engineer's Opinion of Probable Cost (PDF)	Signed Copies ¹ (PDF)
Pre-design	✓	✓ ²		✓	
Draft-90%		✓	✓	✓	
Final-100%	✓	✓	✓	✓	✓

Notes:

1. Drawings will be provided in half-size (11 x 17) PDF format and delivered via e-mail; final drawings will be electronically stamped and signed.
2. Pre-design drawings will consist of figures and annotated photos indicating location of major equipment and extent of selective demolition.
3. Specifications will be provided in CSI format using MS-Word and delivered via e-mail.

Anticipated List of Specifications

Structural:

- 01612 – Seismic Design Criteria
- 01614 – Wind Design Criteria
- 02419 – Selective Demolition
- 03100 – Concrete Formwork
- 03200 – Reinforcing Steel
- 03300 – Cast-in-Place Concrete

Electrical:

- 16001 - Electrical - General Provisions
- 16145 - Automatic Transfer Switches
- 16350 – Standby Diesel Engine Generator Installation

Anticipated Sheet List

Structural:

- GS-1 – General Notes
- GS-2 – General Notes, Legend, and Abbreviations
- GS-3 – Standard Details – Concrete I
- S-1 – Standby Emergency Generator Slab on Grade

Instrumentation, Controls and Electrical:

- GE-1 Electrical Symbols and Abbreviations
- GE-2 Electrical Installation Details
- E-1 Site Plans (Partial) – Denniston Pump Station and WTP
- E-2 1-Line Diagrams (Partial) - Denniston Pump Station and WTP
- E-3 Electrical Equipment Elevations and Grounding Schematic
- E-4 Interconnection Diagrams
- E-5 Annotated Photographs: Demolition and Installation
- E-6 Electrical Panelboard and Circuit Schedules

Project Management

TJCAA will provide Project Management associated with its elements of the project, including but not limited to the following:

- Coordination with District throughout the duration of the project as well as Quality Assurance/Quality Control (QA/QC) activities for project deliverables.
- Management of team activities consistent with the direction from District to meet Project schedule and budgets.

Task 4. Bid Period Assistance

TJCAA engineers will be available to answer questions and clarify issues associated with aspects of the design within its Scope of Work. TJCAA will attend the pre-bid meeting and/or site walk-through. TJCAA does not anticipate any involvement in bid evaluations; however, TJCAA will be available for technical consultation on an as-needed basis.

Deliverable

Responses to bidder questions in electronic format for integration and formatting into a formal response by District.

Task 5. Engineering Services During Construction (ESDC)

NOT INCLUDED

II. Assumptions

The scope of work detailed above is based on TJCAA's current understanding of the project requirements and is based on the following assumptions.

A. General

- Procurement bid requirements, terms, and conditions shall be provided by the District.
- Installation package bidding and contractual "front-end" requirements shall be provided by the District.
- Copies of record drawings of the facility will be provided to TJCAA for reference.
- Generator sets shall have the following characteristics:
 - preferred gen-set supplier is Cummins-West; sole-sourced as authorized by the District.
 - skid mounted with integral diesel fuel tank less than 500 gallons in volume
 - weatherproof enclosure
 - marine resistant coatings and protection
 - sound attenuation enclosure at pump station (not required for WTP)
 - status monitoring to SCADA basic operating conditions (e.g., Run, Fail, Utility Power available)
- Assist District on an as-needed basis with possible "trade-in" of the existing WTP generator with selected genset supplier.
- Selective demolition shall be limited to removal of abandoned concrete pads and de-energized electrical enclosures.
- Pre-design technical memorandum will include development of generator sizing and load estimates, single line diagram and preliminary electrical plan. Technical memorandum will be a maximum of five (5) pages of text not including figures and supporting calculations.
- Standard EPA/CARB approved tier gen-set ratings are assumed. Additional air quality mitigation measures including catalytic converters, particulate filters, etc. will not be required.
- Conforming to requirements of the Bay Area Air Quality Management District Permit to Construct and Authority to Operate shall be included in the gen-set supplier's scope of work under the procurement specification or coordinated directly by the District. TJCAA will provide technical support for the air board certification process based on the specified equipment.
- Formal City or County building permit review, Title 24 energy calculations, and completion of forms will not be required.

- Design documents for civil, mechanical, and other disciplines will not be required.
- AutoCAD site and building plan drawings in “.DWG” format will be provided by District suitable for use as background files. If .DWG files are not available, PDF versions of the site will be imported into AutoCAD for the purposes of generating backgrounds. Civil surveying of the site to generate updated backgrounds will not be required.
- Design will comply with the requirements of the 2016 California Building Code and California Electrical Code.
- District review comments to the procurement and installation documents shall be provided in writing to TJCAA within two (2) weeks of submittal of documents. Design fees quoted assume that the design portion of the project will be completed in 2019.
- Drawings will be provided in TJCAA’s standard format, developed using AutoCAD.
- TJCAA assumes that geotechnical information is available for the Project area and will be provided to TJCAA before commencement of the work.
- Drawings will be submitted in electronic format for publishing and distribution by District. Printing costs are not included in this proposal.
- Special foundations systems (e.g., piers/piles) are not required and are not included within the Scope of Work or Design Fee quoted.
- Specifications will conform to CSI Traditional (16 Section) format, developed in MS-Word and will be provided to District via e-mail.
- Design calculations (if required) will be provided with the Bid Documents. Interim design calculations will not be provided.

B. Items that are NOT included within the Scope of Work

- In-person attendance by project structural engineer at project meetings and/or field visits.
- Assistance with obtaining construction permitting including responding to questions and/or comments generated during the permitting process or generated by the local jurisdiction.
- Anchorage design for Generator Set is a deferred submittal item and is the responsibility of the Contractor.
- Civil design including grading, paving, trenching, backfill, coatings.
- Mechanical design including fuel storage, pumping, or piping
- Geotechnical Services
- Arc-flash or other power analysis studies.
- Surveying and/or mapping.
- Engineering Services During Construction

III. Additional Services

No "Additional Services" are anticipated at this time. Should "Additional Services" be identified, TJCAA will perform such "Additional Services" only if mutually agreed to in writing by District and TJCAA.

TJCAA does not anticipate any involvement and/or support for Environmental Documentation filing activities. These activities have not been included within the Scope of Work detailed here or the Design Fee quoted.

IV. Deliverables

The Consultant will provide the items shown in the "**Deliverables Included in Submittals**" table and other deliverables noted to District as part of this agreement.

V. Consultant's Compensation

Based on the above understanding, scope, assumptions, and our conversations and e-mails with District, we propose to provide engineering services on a time and materials basis. Project invoicing shall be monthly with rates based on the TJCAA rate schedule in effect at the time work was performed. A current (2019) rate schedule is attached.

<i>Task 1</i>	
<i>Predesign Report</i>	
STRU (No Work Anticipated)	\$ - 0 -
ICE	\$7,800
TJCAA Sub-Total →	\$7,800
<i>Task 2</i>	
<i>Procurement Specification</i>	
STRU (No Work Anticipated)	\$ - 0 -
ICE	\$8,500
TJCAA Sub-Total →	\$8,500
<i>Task 3</i>	
<i>Design – Installation</i>	
STRU	\$9,750
ICE	\$18,700
TJCAA Sub-Total →	\$28,450
<i>Task 4</i>	
<i>Bid Period Assistance</i>	
STRU (No Work Anticipated)	\$ - 0 -
ICE	\$2,100
TJCAA Sub-Total →	\$2,100
TJCAA Total →→	\$46,850

VI. Schedule

TJCAA will coordinate the design schedule with the District before the start of design. TJCAA has assumed project duration shall be 16 weeks following receipt of Notice To Proceed. All work on the project shall be completed in the 2019 calendar year.

Thanks again for thinking of us. TJCAA looks forward to working with you on this project. Please feel free to call me at (510) 251-8980 should you have any questions or require any additional information.

Sincerely,

A handwritten signature in blue ink that reads "Paul J. Giorsetto". The signature is fluid and cursive, with a long horizontal stroke at the end.

Paul J. Giorsetto, P.E
Vice President
TJC and Associates, Inc.

file: 119021 - 1.02

Schedule of Hourly Rates and Costs - 2019

TJC AND ASSOCIATES, INC.

Labor

Engineer

Level 10 (E10)	\$ 274.00 /hour
Level 9 (E9)	\$ 259.00 /hour
Level 8 (E8)	\$ 244.00 /hour
Level 7 (E7)	\$ 229.00 /hour
Level 6 (E6)	\$ 214.00 /hour
Level 5 (E5)	\$ 198.00 /hour
Level 4 (E4)	\$ 183.00 /hour
Level 3 (E3)	\$ 164.00 /hour
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Drafting

Level 7 (C7)	\$ 179.00 /hour
Level 6 (C6)	\$ 155.00 /hour
Level 5 (C5)	\$ 140.00 /hour
Level 4 (C4)	\$ 131.00 /hour
Level 3 (C3)	\$ 112.00 /hour
Level 2 (C2)	\$ 94.00 /hour
Level 1 (C1)	\$ 74.00 /hour

Administrative

Level 10 (A10)	\$ 225.00 /hour
Level 9 (A9)	\$ 188.00 /hour
Level 8 (A8)	\$ 155.00 /hour
Level 7 (A7)	\$ 134.00 /hour
Level 6 (A6)	\$ 111.00 /hour
Level 5 (A5)	\$ 96.00 /hour
Level 4 (A4)	\$ 77.00 /hour
Level 3 (A3)	\$ 66.00 /hour
Level 2 (A2)	\$ 54.00 /hour
Level 1 (A1)	\$ 40.00 /hour

Reimbursable Expenses

Auto Mileage:	Standard set by IRS
Outside Services:	Cost + 10%
Materials and Other Expenses	Cost + 10%

Notes

1. All hourly rates and costs are subject to change without notice.
2. Schedule shall be subject to adjustments annually to reflect current staff salaries and escalation.

STAFF REPORT

To: Coastside County Water District Board of Directors

From: David Dickson, General Manager

Agenda: March 12, 2019

Report

Date: March 7, 2019

Subject: Approval of Interview and Selection Procedure for Candidates to Fill Board of Directors Vacancy

Recommendation:

Review and approve the attached Interview and Selection Procedure.

Background:

At the regular meeting of February 12, 2019, the Board discussed next steps in the process of filling the vacancy on the Board created by the resignation of Arnie Glassberg. Following the discussion, the Board directed the Human Resources Committee members to meet and review the interview and selection protocol utilized during the last Board vacancy and to make any changes that they feel appropriate, followed by the scheduling of a Special Board Meeting for the purpose of approving the protocol and interviewing the candidates.

The Human Resources Committee met on February 20, 2019. They reviewed the attached interview and selection procedure used for a previous Board vacancy in 2012 and recommend - subject to Board approval - that the procedure be used for the Special Board Meeting scheduled for March 12, 2019.

Board Candidate Interview and Selection Procedure
DRAFT, SUBJECT TO BOARD APPROVAL
March 12, 2019

1. The Board will interview all candidates at a special board meeting on March 12, 2019, beginning at 7:30 pm.
2. Interviews will be individual, with remaining candidates requested to remain out of the room.
3. Order of the interviews will be random.
4. Each director will come to the interview session with a question and at least one additional backup question. Directors will not reveal or share their questions in advance. To avoid duplication of questions, questioning in the first interview will proceed by director seniority, with each director asking one question. Each director will ask the same question in all subsequent interviews. Directors will not ask follow-up questions.
5. Interview time will be 15 minutes per candidate, allowing a 3 minute candidate opening statement and 3 minutes per question.
6. Following the interviews, staff will poll the directors to rank their top 3 candidates. [Note - all applicants may be present for the polling and subsequent discussion.]
7. Board discussion and selection of a candidate will follow the poll, with additional polling to be conducted as the Board may direct.

MONTHLY REPORT

To: David Dickson, General Manager
From: James Derbin, Superintendent of Operations
Agenda: March 12, 2019

Report
Date: March 5, 2019

Monthly Highlights

- Replaced 10 hydrants:
 - Kelly/Johnston
 - Main/Spruce
 - Main/Magnolia
 - Main/Kelly
 - 2170 S. Cabrillo Hwy
 - 2265 S. Cabrillo Hwy
 - 2220 S. Cabrillo Hwy
 - Strawflower by Safeway loading dock
 - 1590 Van Ness Ave./S. Cabrillo Hwy
 - 200 Troon Lane

- Replaced angle stop and meter at 1580 Mizzen Lane
- Relocated temporary tank at Alves tank site
- Clean and paint CSP
- Replaced caustic feed line at NWTP
- Replaced alum level sensors at NWTP

Sources of Supply

- February Sources:
 - Denniston Reservoir, Pilarcitos Lake/Wells

Projects

- Bell Moon Pipeline Replacement will proceed once easements are secured
- CSP Cla-Val Pump Control Valves on order
- Working with EKI on Casa Del Mar and Grand PRV Project and Ferdinand Pipeline Replacement project
- Working with Pakpour Consulting group on Alves Recoating project