

CRESCENTA VALLEY WATER DISTRICT

2700 Foothill Boulevard
La Crescenta, California

Agenda for the
Adjourned Regular Meeting of the Board of Directors
of the Crescenta Valley Water District
to be held on Tuesday, August 23, 2022, at 7:00 p.m.

Posted: Friday, August 19, 2022, at 3:30 p.m.

AUDIO & VIDEO CONFERENCING NOTICE

[This meeting will be held by audio & video conference only.]

Under AB 361 and District Resolution No. 772, the District will continue to hold Board and Committee meetings by teleconference, due to the continuing State of Emergency for COVID-19 and the ongoing imminent risks to the health or safety of the attendees from COVID-19.

Any member of the public may participate using a touchtone phone. You may select any of the following phone numbers (there are more than one for increased reliability during this time of increased phone traffic)

(669) 900-6833

(346) 248-7799

(929) 205-6099

(253) 215-8782

(301) 715-8592

(312) 626-6799

Then, enter Access Code: 884 2828 7718

Those members of the public who are able to and would like to additionally participate through computer may access the Zoom audio & video conferencing tool available at the following link:

<https://us02web.zoom.us/j/88428287718>

Public comment may be made either by emailing comments ahead of the meeting or by speaking over the phone. Emailed comments will be sent to the Board of Directors prior to the meeting and posted on the District's website. Comments may be sent to Christy Colby, Regulatory and Public Affairs Manager, at (818) 248-3925 or customerservice@cvwd.com by 3pm on August 23, 2022.

Any person may make a request for a disability-related modification or accommodation needed for that person to be able to participate in the public meeting by contacting the District by phone or in writing at the above email address. Requests must specify the nature of the disability and the type of accommodation requested. A telephone number or other contact information should be included so that District staff may discuss appropriate arrangements. Persons requesting a disability-related accommodation should make the request with adequate time before the meeting for the District to provide the requested accommodation.

Any written materials distributed to the Board in connection with this agenda will be made available at the same time for public inspection at the District office located at the above address and posted on the District's website.

Call to Order and Determination of Quorum

Pledge of Allegiance

Adoption of Agenda

Public Comments

At this time, the public shall have an opportunity to comment on any non-agenda item relevant to the subject matter jurisdiction of the Board. This opportunity is non-transferable, and speakers are limited to one three-minute (3) comment. Under the provisions of the Brown Act, the Board is prohibited from taking action on items not listed on the agenda, except under certain circumstances.

Foothill Municipal Water District Report

1. Report on activities at Foothill Municipal Water District.

Consent Calendar

1. Consideration and approval of the Minutes of the Adjourned Regular Board Meeting on July 26, 2022.
2. Ratification of Disbursements for July 2022.
3. Consideration and approval for the continuation of remote meetings.

Action Calendar

The public shall have an opportunity to comment on any action item as each item is considered by the Board. This opportunity is non-transferable, and speakers are limited to one two-minute (2) comment.

1. **Completion of Disinfection Conversion to Chloramines, Project E-1052** – Consideration and motion to authorize the General Manager to enter an agreement with Brown and Caldwell (BC) to provide professional consulting services for the completion of the disinfection conversion to chloramines at a cost not-to-exceed \$99,940 and to establish a contingency amount of \$9,994 (10% of contract) to cover the cost of unforeseen or additional work.
2. **Update on MWD Emergency Repair and Related Conservation Efforts** – Update and possible action related to Metropolitan Water District (MWD) emergency repair.
3. **Approve the 2022 CVWD Strategic Plan Update**
4. **Steel Reservoir Rehabilitation at Goss Canyon No. 1 Reservoir, Project E-1053** – Consideration and motion to authorize the General Manager to enter into an agreement with Harper & Associates Engineering, Inc. to provide professional engineering services for the design of steel reservoir rehabilitation at Goss Canyon No. 1 Reservoir for a cost of \$17,300 and establish a contingency amount of \$1,730 (10% of contract) to cover the cost of unforeseen or additional work.
5. **Nominations for LAFCO Special District Voting Representative** – Consideration and possible motion to authorize a member of the Board to submit their name for nomination for the office of LAFCO Special District Voting Member.

Information Items

Written Communications to District/Board of Directors

General Manager's Report

Attorney Report

Reports of Committees

- Engineering Committee
- Finance Committee
- Employee Relations Committee
- Policy Committee
- Community Relations/Water Conservation Committee
- Emergency Planning Committee
- Technology Committee

Directors' Oral Reports – Reports on issues, meetings, or activities attended by Directors.

Board Members' Request for Future Agenda Items

Closed Session

Adjournment

g:\management\agenda\adjourned\22-23\08232022aa.doc



CRESCENTA VALLEY WATER DISTRICT
ADJOURNED REGULAR MEETING, BOARD OF DIRECTORS
July 26, 2022

Pursuant to the order of the Board of Directors of the Crescenta Valley Water District made at the Regular Meeting on July 12, 2022, an Adjourned Regular Meeting was held on July 26, 2022, at 7:00 p.m. through audio and video conference. A call-in number was clearly noted on the meeting Agenda, posted in accordance with the Brown Act, due to the COVID-19 pandemic, with President James D. Bodnar presiding.

At roll call, the following Directors and staff members were online:

Directors:

James D. Bodnar
Kerry D. Erickson
Ken R. Putnam
Sharon S. Raghavachary
Judy L. Tejeda

Attorney:

Tom Bunn

General Manager:

Nem Ochoa (absent)

Director of Finance & Administration: **James Lee**

Director of Operations & Engineering: **David Gould**

Staff Members:

Brook Yared, Engineering Manager
Arturo Montes, Finance & Administration Manager
Christy Colby, Regulatory & Public Affairs Manager
Darlene Telles, Operations & Maintenance Manager
Kellen Boyce, System & Operations Manager
Adam Sutphin, Analyst
Tessa Allmon, Customer Service Lead

Public Participation:

Frank Colcord

PLEDGE OF ALLEGIANCE

Director Raghavachary opened the meeting by leading the Directors and staff in reciting the Pledge of Allegiance.

ADOPTION OF AGENDA

It was moved by Director Raghavachary, seconded by Director Erickson, and carried by a 5-0 roll call vote that the Agenda for the Adjourned Regular Meeting of July 26, 2022, be adopted as presented.

AYES: Director Bodnar
Director Erickson
Director Putnam
Director Raghavachary
Director Tejeda

NOES: None

PUBLIC COMMENTS – None

FOOTHILL MUNICIPAL WATER DISTRICT REPORT – No report

CONSENT CALENDAR

It was moved by Director Tejeda, seconded by Director Raghavachary, and carried by a 5-0 roll call vote to approve the Minutes of the Regular Board Meeting held on July 12, 2022, through audio and video conference, ratify the disbursements for June 2022 as presented and to reaffirm Resolution No. 772 to find that (1) Los Angeles County officials have imposed or recommended measures to promote social distancing; and (2) meeting in person would present imminent risks to the health and safety of attendees.

Payment of demands against the Crescenta Valley Water District on or before June 2022, the same having been approved by the General Manager, and heretofore paid, are to be ratified and approved subject to audit, in the aggregate sum of One Million, Five-Hundred, Ninety-Three Thousand, Nine-Hundred Eighty-Six Dollars and Forty-Five Cents (1,593,986.45), which is composed of the individual items set forth herein.

AYES: Director Bodnar
Director Erickson
Director Putnam
Director Raghavachary
Director Tejeda

NOES: None

ACTION CALENDAR

Professional Engineering Services for the Design of FY 22/23 Pipeline Replacement, Project E-1046
Mr. Gould stated that in May 2022 a request for proposal (RFP) was sent to six (6) consulting engineering firms to prepare design plans and specifications for the pipelines scheduled to be replaced on the 2600 & 2700 Blocks of Orange Ave. and 4800 block of Adobe Lane. Mr. Gould provided a project location map, consultant ranking table, CVWD's RFP, and Cannon's proposal dated July 20, 2022. Mr. Gould said that staff reviewed each proposal and determined that Cannon's proposal addressed the District's design needs and was the highest ranked consultant.

Following discussion:

It was moved by Director Erickson, seconded by Director Raghavachary, and carried by 5-0 roll call vote to authorize the General Manager to enter into an agreement with Cannon Corporation to provide professional engineering services for said project at a cost of \$105,016 and establish a contingency amount of \$10,500 (10% of contract) to cover the cost of unforeseen or additional work. The project is exempt from the California Environmental Quality Act (CEQA) pursuant to Section 15301 of the CEQA Guidelines.

AYES: Director Bodnar
 Director Erickson
 Director Putnam
 Director Raghavachary
 Director Tejada

NOES: None

Advanced Metering Infrastructure (AMI) Customer Engagement Portal, Project E-1035 – Mr. Gould provided a Power Point presentation of CVWD’s AMI Customer Engagement Portal. Mr. Gould highlighted many of the features available for CVWD customers including the ability for a customer to log onto their account to see hourly, daily, or monthly water usage, set their own limits on water use with alerts, and see if there is a leak at their property. Mr. Gould stated that the portal also provides suggestions for fixing a leak, and provides a link to pay their bill. Mr. Gould said that CVWD can also post information regarding water conservation regulations, notify the customer of a water main leak or other events on the portal.

INFORMATION ITEMS – None

WRITTEN COMMUNICATIONS TO DISTRICT – Letter from DWR regarding Urban Water Management plan requirements

REPORTS OF PERSONNEL – None

GENERAL MANAGER – Mr. Lee stated that the comments received on the 2022 Strategic Plan Update draft will be incorporated into the final version and redistributed at the August 26, 2022 Board meeting. Mr. Lee announced that CVWD customers will be asked to not irrigate outdoors during the MWD planned shutdown from September 6-20, 2022. Mr. Montes shared that the first annual family movie night under the stars was held at the Glenwood Plant on Friday, June 22, 2022. Mr. Lee reminded the Board of Directors to file their Form 470 no later than August 1, 2022. Mr. Lee invited the Directors to attend the ACWA Region 8 meeting in Pasadena on Friday, August 12, 2022. Mr. Boyce announced that the water production for the first 25 days of July was 93.7 MGD representing a 55/45 split.

ATTORNEY – Mr. Bunn announced that Lagerlof, LLP will be one of the hosts at the ACWA Region 8 “Adapting to Climate Change and Innovations in Conservation” educational event in Pasadena on August 12, 2022.

REPORTS OF COMMITTEES

Engineering Committee – Director Erickson reported that the Committee had not met; however, an audio/video conference meeting will be scheduled as needed.

Finance Committee – Director Bodnar reported that the Committee had not met; however, an audio/video conference meeting will be scheduled as needed.

Employee Relations Committee – Director Erickson reported that the Committee had not met; however, an audio/video conference will be scheduled as needed.

Policy Committee – Director Putnam reported that the Committee had not met; however, an audio/video conference will be scheduled as needed.

Community Relations/Water Conservation Committee – Director Tejeda reported that the Committee had met not met; however, an audio/video conference will be scheduled as needed.

Emergency Planning Committee – Director Putnam reported that the Committee had not met; however, an audio/video conference meeting will be scheduled as needed.

Technology Committee – Director Raghavachary reported that the Committee had not met; however, an audio/video conference meeting will be scheduled as needed.

Executive Committee – Director Bodnar reported that the Committee had not met; however, an audio/video conference meeting will be scheduled as needed.

DIRECTORS' ORAL REPORTS

Director Raghavachary – No report

Director Bodnar – Reported that he had mailed Form 470 using certified mail and filed for re-election on the website.

Director Erickson – No report

Director Putnam – No report

Director Tejeda – No report

BOARD MEMBERS' REQUESTS FOR FUTURE AGENDA ITEMS – Director Bodnar requested the following items for discussion 1) MWD scheduled shutdown for repairs, 2) Measures used to prevent fraud

CLOSED SESSION – None

ADJOURNMENT

There being no other business to come before the Board, at 8:10 p.m., the meeting was adjourned to August 16, 2022, at 7:00 p.m.

APPROVED

James D. Bodnar
President

James Lee
Director of Finance & Administration

CASH DISBURSEMENT LIST

July 2022



<u>Check#</u>	<u>Check Date</u>	<u>Payable To</u>	<u>Description</u>		<u>Water Amount</u>	<u>Wastewater Amount</u>
0	7/28/2022	CalPERS	PERS contributions - June 2022	398967.00	239,218.20	159,478.80
0	7/28/2022	CalPERS	CalPERS Annual Payment		2,407.20	1,604.80
0	7/28/2022	CalPERS	CalPERS Annual Payment		23,823.99	12,320.60
0		Los Angeles County Public Works	Excavation permits - June 2022		3,115.00	
44715	7/14/2022	ACWA Joint Powers Ins. Authority	Group Health - July 2022		35,120.29	23,299.47
44716	7/14/2022	ADS, LLC	Sewer Flow Monitoring & Wastewater Sampling - June 2022			1,130.00
44717	7/14/2022	Aflac	Employee paid insurance - June 2022		1,032.28	
44718	7/14/2022	Airgas USA, LLC	Well #2 - Carbon dioxide rental tank - June 2022		286.12	13.16
44719	7/14/2022	Aqua - Metric Sales, Co.	Annual AMI Network Services Contract renewal		15,586.48	
44720	7/14/2022	ARC	Monthly MPS billing - June 2022		107.09	35.70
44721	7/14/2022	Associated Soils Engineering	E-1033 & D-21-G2 - soil analysis - June 2022		2,585.00	
44722	7/14/2022	AT&T Mobility	Voice Communication - June 2022		615.80	483.84
44723	7/14/2022	Best Best & Krieger	Watermaster counsel - June 2022		623.86	136.94
44724	7/14/2022	Bridgmore Consulting, Inc.	Consulting services for employee training/development - June 2022		1,660.00	340.00
44725	7/14/2022	BSK Associates	Water sampling - June 2022		6,496.75	
44726	7/14/2022	California Data Collaborative	CaDC Annual Membership renewal - FY 22/23		4,150.00	850.00
44727	7/14/2022	CCS Interactive, Inc.	Monthly web hosting, water waster forms, & analytics - June/July 2022		255.00	85.00
44728	7/14/2022	City of Glendale Finance Dept.	City of Glendale Tax - April 2022		42,747.04	
44729	7/14/2022	City of Glendale Water & Power	Purchased Power - June 2022		31,465.63	
44730	7/14/2022	Colonial Life & Accidents Ins.	Employee paid insurance - July 2022		223.67	
44731	7/14/2022	Consolidated Electrical Distributors, Inc.	E-939 - Misc. SCADA equipment		108.80	
44732	7/14/2022	County Clerk of Los Angeles	E-1046 - County Clerk NOE processing fee		75.00	
44733	7/14/2022	Cypress Ancillary Benefits	Group Dental - July 2022		1,992.67	1,250.24
44734	7/14/2022	Diggs Organization, Inc.	Consulting sevices for maint., production & standby SOP's - June 2022		315.40	64.60
44735	7/14/2022	Direct Connection	Printing and postage for water quality reports		1,940.24	1,864.15
44736	7/14/2022	Emins Air Conditioning & Heating	Office - replaced wall thermostat		225.00	75.00
44737	7/14/2022	Eurofins Eaton Analytical, Inc.	Water analysis - May 2022		696.00	
44738	7/14/2022	Foothill Car Wash, Lube & Oil	Unit #44 & 48 - Oil change		131.17	80.39
44739	7/14/2022	Foothill Municipal Water	Water delivery - June 2022		273,014.53	
44740	7/14/2022	Full Source, LLC	Misc. safety equipment - June 2022		24.23	7.24

44741	7/14/2022	Grainger	Misc. equipment - pressure relief valve, concrete saw	1,687.22	
44742	7/14/2022	Gsolutionz Professional Services	Voice communication - June 2022	379.06	297.84
44743	7/14/2022	Haaker Equipment Company	Unit #53 - Chassis & truck service		5,668.99
44744	7/14/2022	Highroad Information Technology	Managed services, support & computer hardware - July 2022	10,580.25	3,526.75
44745	7/14/2022	Pete Hilke	Reimbursement for ESRI training San Diego Conference	154.79	51.60
44746	7/14/2022	InfoSend, Inc.	Printing and postage for billing - June 2022	1,981.67	1,903.96
44747	7/14/2022	International Air Tool & Industrial Supply Co.	Pavement breaker, backfill tamper, & lift assist - June 2022	4,398.36	
44748	7/14/2022	Jay & J Janitorial Services	Janitorial services - July 2022	494.00	156.00
44749	7/14/2022	John Robinson Consulting, Inc.	E-985 - Stormwater Recharge & M-965 - Grant assistance - July 2022	6,000.00	
44750	7/14/2022	Liebert Cassidy Whitmore	Annual Employment Relations Consortium Membership renewal	3,960.60	869.40
44751	7/14/2022	Lincoln Financial Group	Life & Disability Insurance - July 2022	787.50	524.98
44752	7/14/2022	Moine Brothers	Diesel storage tank services - June 2022	213.00	87.00
44753	7/14/2022	Office Depot	Misc. office supplies - June 2022	205.26	189.47
44754	7/14/2022	One Ring Networks, Inc.	Office/Glenwood - data communication - July 2022	1,012.50	337.50
44755	7/14/2022	O'Reilly Auto Parts	Misc. materials for Fleet - June 2022	66.30	40.63
44756	7/14/2022	Paper Cuts, Inc.	Paper shredding - June 2022	2.60	2.40
44757	7/14/2022	Paveco Construction, Inc.	Pavement repairs - June 2022	12,606.65	
44758	7/14/2022	Public Water Agencies Group	Quarterly PWAG Assessment - July 2022	919.38	919.37
44759	7/14/2022	Ramco	Mixed Bobtail - June 2022	904.84	139.82
44760	7/14/2022	SoCal Gas	Plant - purchased gas - June 2022	20.23	6.39
44761	7/14/2022	Spectrum Business	Office - wireless communication - July 2022	1,048.50	349.50
44762	7/14/2022	Spectrum Business	Office - voice communication - July 2022	454.32	356.97
44763	7/14/2022	Spectrum Business	Lowell - data communication - July 2022	88.79	31.19
44764	7/14/2022	Tri-Xecutex Corp.	Security alarm monitoring - July/Sep 2022	153.36	62.64
44765	7/14/2022	Underground Service Alert	Underground notifications - July 2022	255.00	120.01
44766	7/14/2022	UniFirst Corporation	Uniform rentals - June 2022	407.70	121.78
44767	7/14/2022	Vision Service Plan Co.	Group Vision - July 2022	242.76	149.94
44768	7/14/2022	Vulcan Materials Company	Mixed crushed base - June 2022	2,227.64	
44769	7/14/2022	Waste Management	Office disposal - July 2022	247.52	78.17
44770	7/14/2022	Water Environment Federation	Yared - Annual Membership Renewal Fee	249.00	83.00
44771	7/14/2022	Western Water Works	E-1021 - air relief valve	1,765.81	
44772	7/15/2022	Pete Hilke	Reimbursement ESRI training San Diego	38.55	12.85
44773	7/15/2022	Home Depot Credit Services	Misc. hardware - June 2022	578.36	
44774	7/22/2022	Wayne Boyce	Wellness reimbursement	225.00	75.00
44775	7/22/2022	Raymond Dodge	Wellness reimbursement	225.00	75.00
44776	7/22/2022	Jude Herrera	Wellness reimbursement	206.25	68.75
44777	7/22/2022	David Inman	Wellness reimbursement	171.54	57.18
44778	7/22/2022	James Lee	Wellness reimbursement	225.00	75.00

44779	7/22/2022	Arturo Montes	Wellness reimbursement	225.00	75.00
44780	7/22/2022	Adam Sutphin	Wellness reimbursement	37.50	12.50
44781	7/25/2022	Steve Kim	Claim for property repair	473.92	
44782	7/26/2022	Bonnors Equipment Rentals	Employee recognition event	36.00	24.00
44783	7/27/2022	Maritess Allmon	Tri State Per Diem for Tessa Allmon	181.13	60.37
44784	7/27/2022	Jennifer Bautista	Tri State Per Diem for Jennifer Bautista	232.88	77.62
44785	7/27/2022	Wayne Boyce	Tri State Per Diem for Wayne Boyce	181.13	60.37
44786	7/27/2022	Seth Jones	Tri State Per Diem for Seth Jones	181.13	60.37
44787	7/27/2022	Arturo Montes	Reimbursement for BM Dinner on 7/26/22	12.54	6.18
44788	7/27/2022	Darlene Telles	Tri State Per Diem for Darlene Telles	232.88	77.62
44789	7/27/2022	Robert Wood	Tri State Per Diem for Rob Wood	181.13	60.37

Total Disbursements for July 2022

\$ 747,201.99 220,073.41

967,275.40

Payroll Report

Directors	1,250.00
Office Regular Payroll	151,038.00
Office OT	4,633.00
Plant Regular Payroll	96,749.00
Plant OT & Standby	16,030.00
Employer Payroll Taxes	20,013.00
Payroll Service Charges	443.00
Total Payroll for July 2022	<u>290,156.00</u>

CRESCENTA VALLEY WATER DISTRICT

BOARD OF DIRECTORS – STAFF REPORT

To: Honorable President and Members of the Board of Directors
From: Thomas Bunn – General Counsel
Subject: **Approve continuation of remote meetings as described in AB 361 and make required findings**

DISCUSSION :

At the September 28, 2021 Board meeting, pursuant to AB 361, the Board of Directors adopted Resolution No. 772, which authorized the Board to continue to have remote meetings based upon the continued state of emergency for COVID-19, and made findings that (1) Los Angeles County officials have imposed or recommended measures to promote social distancing; and (2) meeting in person would present imminent risks to the health and safety of attendees. In order to continue to have remote meetings, AB 361 requires that the Board reaffirm one or both of those findings within 30 days after the first remote meeting, and every 30 days thereafter, provided that a state of emergency continues to be in place.

At the time this report was prepared, there is a continued state of emergency for COVID-19. This item is on the agenda for the Board to consider whether to reaffirm the resolution and make the required findings to continue to have remote meetings for an additional 30 days. The resolution authorizes the Board to extend the resolution by motion.

FINANCIAL CONSIDERATIONS

None.

RECOMMENDATION

The Board of Directors reaffirm Resolution No. 772 and find that (1) Los Angeles County officials have imposed or recommended measures to promote social distancing; and (2) meeting in person would present imminent risks to the health and safety of attendees.

CRESCENTA VALLEY WATER DISTRICT

BOARD OF DIRECTORS - STAFF REPORT

Action Item No. 1
August 23, 2022

To: Honorable President and Members of the Board of Directors
From: David S. Gould, P.E. – Director of Engineering & Operations
Subject: Award of Contract for Completion of Disinfection Conversion to Chloramines, Project E-1052

ACTION ITEM:

Completion of Disinfection Conversion to Chloramines Project E-1052 - Consideration and motion to authorize the General Manager to enter an agreement with Brown and Caldwell (BC) to provide professional consulting services for the completion of the disinfection conversion to chloramines at a cost not-to-exceed \$99,940 and to establish a contingency amount of \$9,994 (10% of contract) to cover the cost of unforeseen or additional work.

BACKGROUND:

Staff reported in August 2018, that CVWD was experiencing high levels of Total Trihalomethanes or TTHMs due to CVWD using free chlorine as a disinfection, chloramines from imported water from FWMD/MWD and reaction to naturally occurring organic matter (NOM) in imported water. As detailed in the staff report for the August 28, 2018 Board Meeting (see attached), TTHMs form due to several factors, such as the amount and type of organic material present in water, temperature, pH level, chlorine dosage, contact time, and bromide concentration in the water.

Starting in September 2018, staff worked with Dr. Issam Najm from Water Quality & Treatment Solutions (WQTS), Carollo Engineers, and Hazen & Sawyer on the installation of a new chloramination system which combines chlorine and ammonia to create chloramines. This included installation of new ammonia injection systems at four (4) sites, new mixers in four (4) reservoirs, new chlorine analyzers and upgrades to the SCADA system to monitor chloramine levels. The installation of the new equipment and SCADA was completed in 2020 with Department of Drinking Water (DDW) approving an amendment to CVWD's Water Supply permit.

Staff also implemented a water quality sampling plan to measure levels of TTHM's on a weekly basis to ensure CVWD's was in compliance with DDW's Disinfection By-product Rule. As shown on the attached charts, since August 2018, CVWD's TTHM quarterly running annual average level was below the maximum contaminate level (MCL) of 80 micrograms/liter.

DISCUSSION:

Contributing to the formation of TTHM's are higher summer temperatures coupled with lower demands due to the on-going drought and an increase in the imported water. Staff has observed that the TTHM levels have begun to rise. Since the instrumentation and equipment have been installed, it is the District's best interest to complete the chloramine conversion project. Because staff has limited experience with chloramination, several water quality consultants were solicited to provide technical assistance in the chloramine conversion project. Since the beginning of the project, it was anticipated that additional technical and operational guidance would be needed once the conversion took place.

Brown and Caldwell (BC) provided a proposal with a detailed scope of work (see attached) that included project management activities such as reviewing existing documentation, preparing a Project Management Plan and Quality Control Plan, assigning resources, monitoring progress, and providing on-site assistance.

Key Tasks Include:

1. Document Review provide quality reviews of the existing documents already prepared including:
 - Control Strategy at the Glenwood Water Treatment Plant (October 2019)
 - Nitrification Prevention, Monitoring, and Control Plan (June 2020)
 - Design documents of the chloramination facilities
 - Operational guidelines of the chloramination facilities
 - CVWD's amended DDW water supply permit

2. Data Analysis: Review water quality evaluations to identify potential challenges associated with the conversion to chloramines and the potential for nitrification
3. Review of System Preparation: Evaluate equipment and processes that have been completed by CVWD including cleaning of storage tanks, pipe flushing, customer notifications, or others
4. Chloramine Conversion Plans: Develop a Chloramine Conversion Plan (CCP) for CVWD's distribution system including a description of the pressure zone areas, proposed procedures to conduct before, during, and after the chloramine conversion
5. Training of Staff: Provide guidelines and assistance to CVWD staff who may not be familiar with the nuances of forming chloramines or operating a chloraminated system. Staff training will be important to make sure that everyone understands the challenges of chloramination, as well as the opportunities and benefits.

Ms. Helene Baribeau, BC's project manager, has over 20 years of experience in water quality and specifically converting similar water distribution systems from free chlorine to chloramines. In addition, she will be providing on-site field observation to assist CVWD's water system operators. Christy Colby and Kellen Boyce will be the project managers for CVWD.

The project schedule entails preparing for the conversion from October 2022 to January 2023 and converting the distribution system in the Spring of 2023. In addition, staff will prepare and present to the Board of Directors, a Public Notification and Outreach Plan prior to the conversion.

ENVIRONMENTAL REVIEW:

California Environmental Quality Act (CEQA) is not applicable to this project.

RECOMMENDATION:

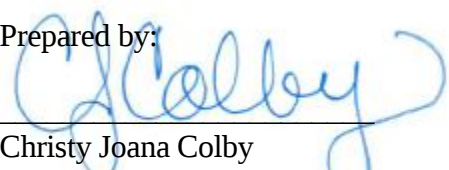
It is staff's recommendation to authorize the General Manager to enter into an agreement with Brown and Caldwell to provide professional consulting services for said project at a cost of \$99,940 and establish a contingency amount of \$9,994 (10% of contract) to cover the cost of unforeseen or additional work. This project was a budgeted project as part of the FY 22/23 CIP budget.

FUNDING AVAILABILITY:

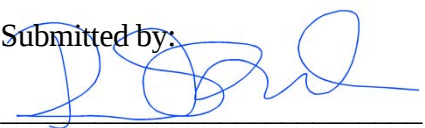
The following table shows that there are sufficient funds available for the project:

Account Description	Amount
FY 22/23 - CIP Budget - Water Treatment	\$100,000
Cost for Consulting Services + 10% Contingency	(\$109,934)
Misc Costs for contract administration and CVWD labor	(\$15,000)
Total Cost Estimate	(\$124,934)
Amount Remaining	(\$24,934)
Note: FY 22/23 CIP budget will be adjusted for the additional costs	

Prepared by:


Christy Joana Colby
Regulatory and Public Affairs Manager

Submitted by:


David S. Gould, P.E.
Director of Engineering & Operations

Attachments:

1. August 28, 2018, Board Staff Report
2. TTHM Compliance Charts
3. Brown & Caldwell Proposal dated 08/01/22

CRESCENTA VALLEY WATER DISTRICT

BOARD OF DIRECTORS - STAFF REPORT

Action Item No. 1

August 28, 2018

To: Honorable President and Members of the Board of Directors**From:** Christy J. Scott**Subject:** **Award of Contract** – Technical Support Services for TTHM Mitigation and Chloramine Conversion, Project E-995

ACTION ITEM:

TTHM Mitigation and Chloramine Conversion, Project E-995 - Consideration and motion to authorize the General Manager to enter into an agreement with Water Quality & Treatment Solutions, Inc. (WQTS) to provide technical support services for TTHM mitigation, assistance on public notification, and chloramine conversion at a cost of \$99,800 and establish a contingency amount of \$9,980 (10% of contract) to cover the cost of any additional work.

BACKGROUND:

The District is currently using chlorine as a disinfectant to treat drinking water. Chlorine can create chemicals during treatment as it reacts with naturally occurring organic materials in the untreated water. CVWD has seen a steady rise in the concentration of these byproducts, known as total Trihalomethanes or TTHMs in the water served to customers. The amount of organic material in water varies by source. Groundwater from our local Verdugo Basin has less organic materials than the imported water we purchase from Foothill Municipal Water District.

The imported supply either comes from the Colorado River (CRW) or the State Water Project (SWP). SWP water has a higher concentration of organic materials than CRW water. The District typically uses a blend of 60 percent groundwater and 40 percent purchased imported water to meet customer demands.

Because groundwater levels have not yet recovered from the latest drought, the blends are now closer to 30 percent groundwater and 70 percent imported water. The increase in imported water, coupled with the additional chlorine required to maintain a chlorine residual in the system, has led to an increase in disinfection by-product levels in the distribution system.

DISCUSSION:

Dr. Najm has been working with the District under a separate contract to assist in providing immediate, short, and long term TTHMs mitigation options. In his current proposal, Dr. Najm has provided a “Draft” TTHMs Mitigation Option Decision Tree that lays out a course of action and encompasses tasks to begin chloramine conversion, including public outreach material, participation in public meetings, staff and operator training, Department of Drinking Water (DDW) permitting support, and development of necessary mitigation plans and 30% design plans and specifications for chloramine conversion, which are shown below:

- ***Task 1 – Develop Nitrification Monitoring & Control Plan:*** Nitrification in stored water containing chloramine is inevitable, and many water agencies in Southern California experience it. It is the primary downside to chloramine in distribution systems. Water agencies mitigate nitrification by increased monitoring and taking specific actions when detected. In this task, WQTS will develop a Nitrification Monitoring & Control Plan (NMCP) for the District to implement. The NMCP will include specific water quality monitoring activities and their schedule, as well as specific actions to be taken based on triggers of nitrite (an indicator of possible nitrification), ammonia and total chlorine residual levels in the samples collected.

- **Task 2 – Conduct Staff Training on Chloramine Chemistry & Nitrification.** WQTS will prepare and give two training classes to District operations and water quality staffs focused on chloramine chemistry and nitrification monitoring and control. These classes will also be an opportunity to discuss the specifics of the NMCP developed under Task 1 and how to use the analytical instruments to be purchased for nitrite and ammonia field monitoring.

- **Task 3 – Develop Chloramine Boosting Plan and Calculator.** Maintaining an elevated chloramine residual is critical to minimizing the occurrence of nitrification in reservoirs. WQTS will work with District staff to identify means of chloramine boosting at each individual storage tank in the system, and then develop a boosting calculator that helps District staff feed the proper amount of chlorine to the inlet to the reservoir, if accessible, to boost the chloramine to a target level.

- **Task 4 – Participate in Two (2) Public Meetings & Three (3) Board Meetings.** As requested by District staff, WQTS will participate in two public meetings to answer any questions that may arise about the implementation of chloramine conversion in the system. For budgeting purposes, WQTS will also assume that WQTS staff will attend three Board of Directors meetings during the course of this effort to update the Board on the progress and answer any questions.

- **Task 5 – Permitting Support.** DDW staff indicated to District staff that a permit amendment is only required if and when the District adds ammonia to its groundwater supplies. If the District implements ammonia addition, WQTS will support the District’s permitting effort by participating in one DDW meeting and reviewing the permit amendment application documents

- **Task 6 – Assist with Startup of Chloramine Conversion Activities.** If the District implements chloramine conversion after October 1, WQTS will provide technical support during the first month of operation on an on-call basis to support District staff in the water quality monitoring activities, the interpretation of the results, and the troubleshooting and mitigation of any water quality challenges that may arise during that period.

- **Task 7 – Develop 30% Design of Ammonia Feed Systems.** WQTS proposes to complete 30% design of the ammonia feed systems and have them ready by October 1st to hand off to a design-build entity that can implement them expeditiously without the need for full engineering design plans and specifications. To complete this effort, WQTS will retain the services of Carollo Engineers as a subcontractor to develop the 30% plans.

The “Draft” TTHMs Mitigation Option Decision Tree identifies a need for public notification, which will be discussed further at the Board meeting.

ENVIRONMENTAL REVIEW:

N/A

FUNDING AVAILABILITY:

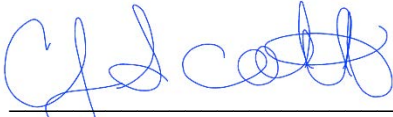
There are sufficient funds available in the following account for the project:

Account Description	Amount
FY 18/19 Administrative Consultants - Balance as of 8/24/18	\$72,000
Technical support for TTHM mitigation and Chloramine Conversion	<\$99,800>
Contingency amount to cover the cost of additional work	<9,980>
Total Cost	<\$109,780>
Request to transfer funds from Water Fund Reserves to Administrative Consultants	\$45,000
Amount Remaining in FY 18/19 Administrative Consultants	\$7,220

RECOMMENDATION:

It is staff's recommendation to authorize the General Manager to enter into an agreement with WQTS to provide technical support services for TTHM mitigation, assistance on public notification, and chloramine conversion at a not-to-exceed cost of \$99,800 and with a contingency of \$9,980. This item was reviewed at the Engineering Committee and the Committee concurred with staff's recommendation.

Prepared by:



Christy J. Scott

Submitted by:



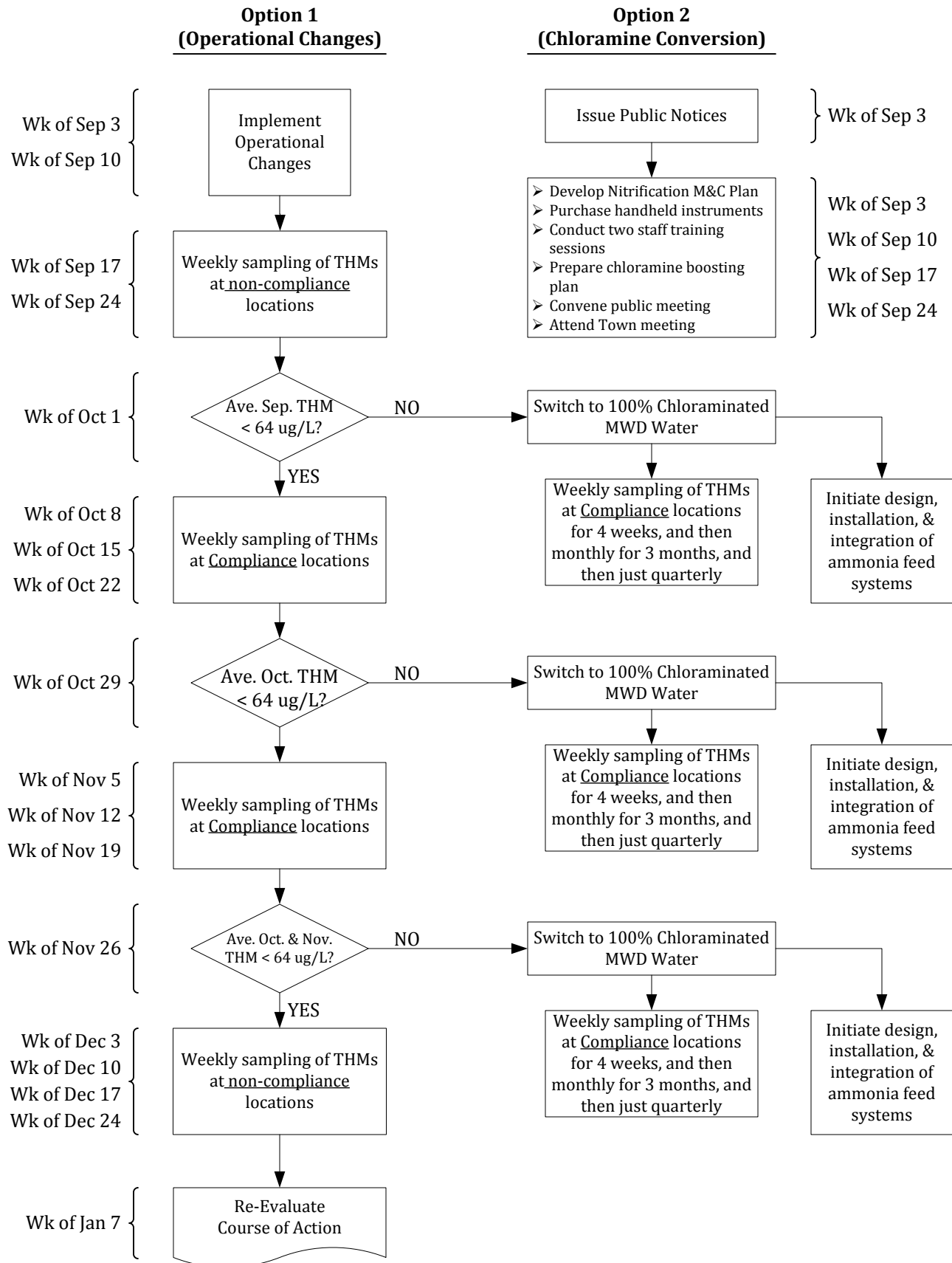
Nem Ochoa
General Manager

Attachments:

1. "Draft" TTHMs Mitigation Option Decision
2. WQTS – Proposal dated August 24, 2018

Crescenta Valley Water District DBP Mitigation Plan & Schedule

DRAFT



August 24, 2018

Mr. Nemesciano Ochoa
General Manager
Crescenta Valley Water District
2700 Foothill Blvd.
La Crescenta, California 91214

Subject: *Proposal for Technical Support Services in Preparation for Chloramine Conversion in the District's Distribution System*

Dear Mr. Ochoa:

On behalf of Water Quality & Treatment Solutions, Inc. (WQTS), I am pleased to submit to you this proposal to provide the Crescenta Valley Water District (CVWD) staff with technical support in preparation for the conversion of the District's distribution system from free chlorine to chloramine. The objective of this conversion is to reduce the formation of disinfection by-products, primarily trihalomethanes (THMs), which have been on the rise and are threatening to exceed their regulatory limit.

Attached is our proposed scope of work, budget cost, and anticipated schedule. The goal is to complete the activities and be prepared to convert the system on or before October 1, 2018, and then follow up with technical support during the initial month of operation.

In the preparation of this proposal, a number of assumptions were made in order to prepare the potential project cost. We look forward to discussion these assumptions with you and making any necessary modifications before the proposal is submitted to the Board for approval.

Thank you for considering WQTS for your project, and we look forward to working with you on this important effort.

Respectfully Yours,
Water Quality & Treatment Solutions, Inc.



Issam Najm, Ph.D., P.E.
President

TECHNICAL SUPPORT SERVICES IN PREPARATION FOR CHLORAMINE CONVERSION IN THE DISTRICT'S WATER DISTRIBUTION SYSTEM

Technical Proposal

BACKGROUND

The Crescenta Valley Water District (CVWD) serves a blend of local groundwater and treated surface water purchased from the Metropolitan Water District of Southern California (MWD) through the Foothill Municipal Water District (FMWD). The District's groundwater is chlorinated, while the purchased MWD water contains chloramine. Unfortunately, blending of chloramine with chlorine would result in the rapid loss of disinfectant residual (both chlorine and chloramine) in the distribution system. For this reason, the District either has to add chloramine to its groundwater to blend with the chloraminated MWD water or convert the chloraminated MWD water to chlorine to blend with the chlorinated groundwater. The District has thus far chosen the latter and implemented breakpoint chlorination of the MWD water to destroy the chloramine and convert it to chlorine, which allowed the District to maintain free chlorine in its distribution system.

Unfortunately, free chlorine contact with water containing elevated levels of natural organic matter (NOM) results in the formation of elevated levels of disinfection by-products, DBPs, including two regulated DBPs: trihalomethanes, THMs, and haloacetic acids, HAAs. While the District's groundwater is low in organic content, the NOM levels in the imported MWD water are significantly higher. The MWD water also contains elevated levels of bromide, Br^- , which is a benign ion. However, bromide enhances the formation of THMs and HAAs in chlorinated water.

In past years, the District relied more heavily on its groundwater supply than on the imported MWD supply. Unfortunately, due to the continued drought conditions, the District has been increasing its reliance on MWD water to the point where it currently represents approximately 70% of the District's water supply. With the increase proportion of MWD water in the system, the levels of DBPs, primarily THMs, have been increasing. Figures 1 and 2 show the compliance levels of THMs in the District's drinking water at two compliance sampling locations as compared to the regulatory limit of 80 $\mu\text{g/L}$. As shown in both figures, it is industry standard to utilize 80% of the regulatory limit, which is 64 $\mu\text{g/L}$, as the maximum desired operational goal in order to maintain a sufficient distance between the occurrence of THMs and the regulatory limit. While the District has not – to our knowledge – adopted such an operational goal, it is recommended as a criterion moving forward.

Based on the results to-date and the apparent increasing trend in THM levels, there is a real possibility that the District's drinking water may exceed the THM regulatory limit in the 4th quarter when the next round of sampling is conducted. This would be a violation and require public notification. For this reason, the District needs to implement mitigation strategies sooner than later aimed at lowering the THM levels in the distribution system.

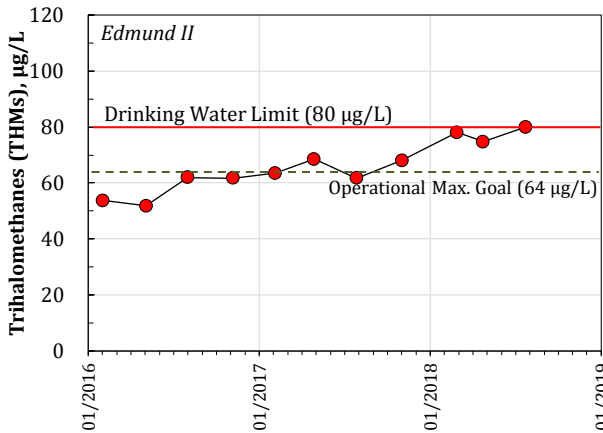


Figure 1 – THM Profile for the Edmund II Compliance Point

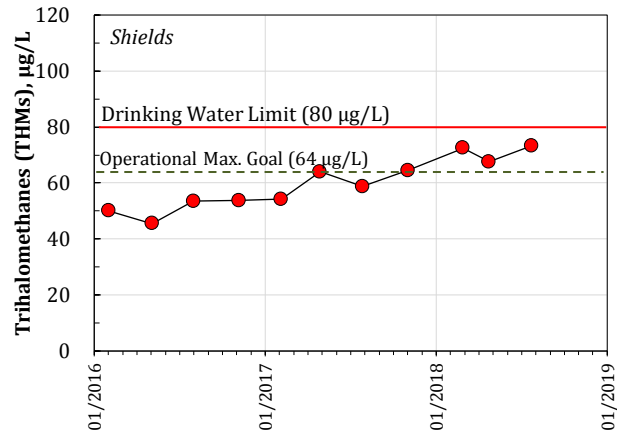


Figure 2 – THM Profile for the Shields Compliance Point

Based on discussions with District staff, there are two options being considered for implementation before the start of the 4th quarter (i.e., October 1) or during the first month of the quarter:

- Option 1 – Continue breakpoint chlorination of the MWD water and keep the system on chlorine while implementing operational changes to help lower the formation of THMs.
- Option 2 – Convert the distribution system from chlorine to chloramine by terminating the breakpoint chlorination of the MWD water and converting the well water to chloramine.

Option 1 includes lowering the chlorine dose applied to achieve breakpoint chlorination and increasing the cycling of water in the reservoirs to reduce stagnation time, thus reducing the THM levels. Activities under this option are being undertaken by District staff. If these activities result in a satisfactory reduction in THM formation, then the District will likely continue with this option. The criterion for “satisfactory” reduction is discussed in the next section.

Under Option 2, the District would convert its distribution system to chloramine. To implement this option, the District needs to undertake a number of steps to prepare for chloramine conversion, which are time-consuming. These include:

1. Issue public notification and conduct a public information campaign.
2. Purchase a set of hand-held instruments needed to measure chloramine and ammonia in the distribution system.
3. Develop a Nitrification Monitoring & Control Plan (NMCP).
4. Train water quality and operations staffs on understanding and troubleshooting chloramine chemistry.
5. Train water quality and operations staffs on understanding and managing nitrification occurrence and control in the distribution system.

6. Support the District's permit application process to DDW
7. Design ammonia-feed systems to be installed at three locations of groundwater entry into the distribution system.
8. Install three ammonia feed systems and integrate them into the District's SCADA system.
9. Apply for and obtain an amended Water System Operating Permit to account for the installation and operation of the new ammonia feed systems.

Steps 1 through 5 need to be implemented before the system can receive chloraminated water. If Option 1 is deemed unsuccessful and the system needs to be converted to chloramine quickly, it would be advantageous to have these steps already completed. WQTS has already completed and submitted to the District the various communication documents to be submitted to the District's customers and businesses; including a Press Release, and a Q&A document to answer customers' questions about chloramine. This completes the material needed for Item 1. WQTS will assist the District with identifying the instruments to be purchased by the District under Item 2. The activities proposed in this scope of work cover items 2 through 7 in the above list. WQTS staff will conduct items 2 through 6, while item 7 will be subcontracted to an engineering design firm. It should be emphasized that even if chloramine conversion is implemented, other long-term THM mitigation strategies, such as spray aeration, may be implemented, which would allow the District to go back to chlorine if so desired.

TIMELINE & DECISION CRITERIA

As noted above, there are many moving parts to the decision to implement Option 1 or 2, and a number of activities have to be completed before others can begin. Figure 3 provides a comprehensive flowchart of the recommended timeline, milestones, and activities to be conducted beginning the first week of September. The following is a chronological summary of the activities.

- During the month of September, activities under Options 1 and 2 will proceed in parallel.
- Under Option 1, District staff will implement operational changes during the first two weeks, and then conduct weekly THM sampling from non-compliance points to determine if the changes have lowered THM formation.
- During the same period, Option 2 activities will be conducted, including public notification about the pending chloramine conversion, the development of the Nitrification Monitoring and Control Plan, purchase of field instruments, Staff training, and preparation of a chloramine boosting plan.
- On October 1, if the average of the THM samples collected from each individual location during the last two weeks of September is less than 64 µg/L (i.e., less than 80% of the regulatory limit of 80 µg/L), then chloramine conversion will be held off to see how the October results come out as shown in Figure 3.
- If the average is higher than 64 µg/L, then the decision will be made to switch to chloramine at that time. However, since no ammonia feed systems will be in place by then, the conversion will take place by shutting off the District's groundwater supply and serving 100% chloraminated MWD water into the system. At that time, the design, construction, and programming of the ammonia feed systems will be initiated.

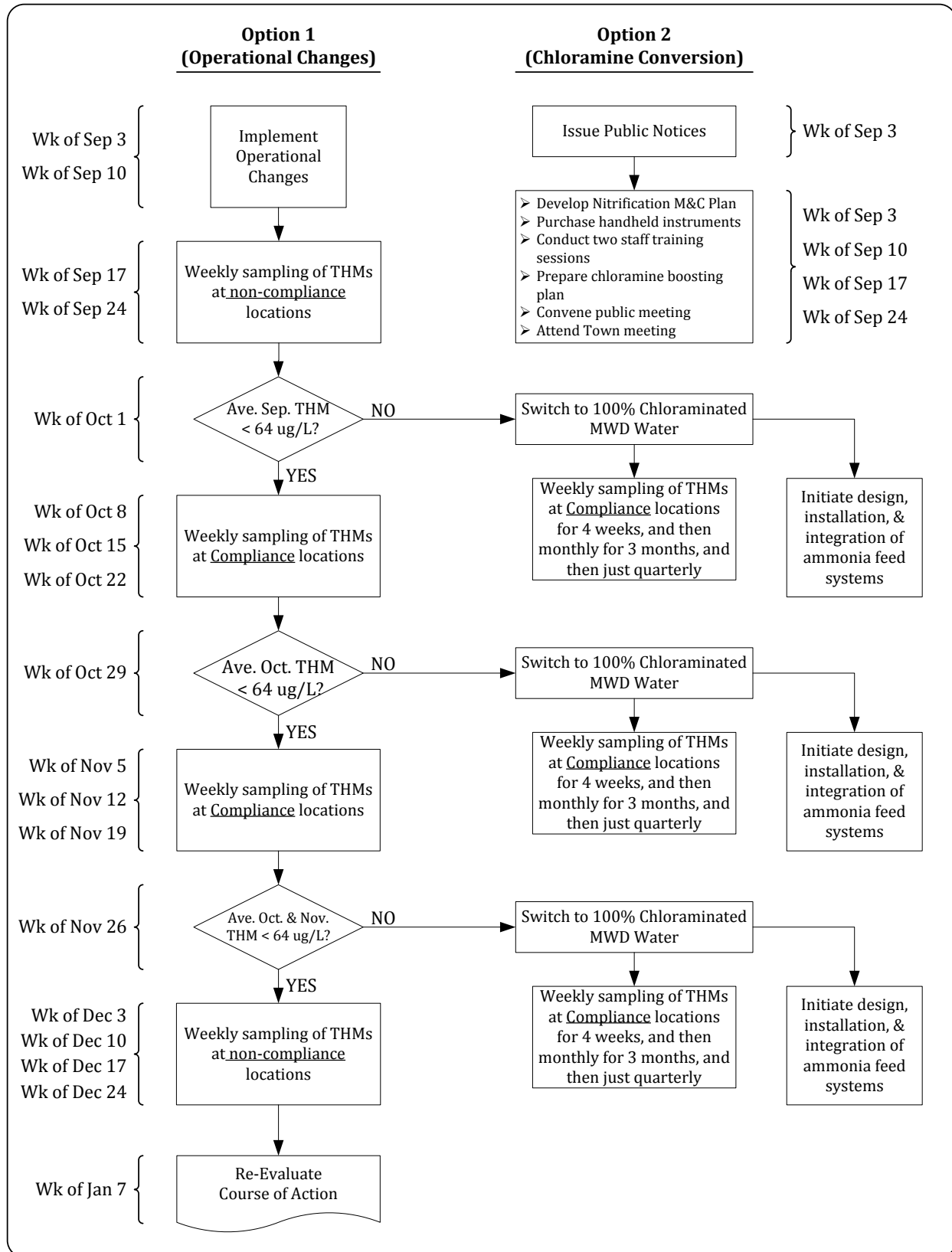


Figure 3 – Mitigation Option Decision Tree & Associated Schedule

SCOPE OF WORK

This section presents the specific tasks to be conducted by WQTS and includes discussion of the activities to be conducted under each task. This information is primarily provided as a basis for the cost information provided in the next section. The following tasks will be conducted:

- Task 1 – Develop Nitrification Monitoring & Control Plan
- Task 2 – Conduct Staff Training on Chloramine Chemistry & Nitrification
- Task 3 – Develop Chloramine Boosting Plan and Calculator
- Task 4 – Participate in two Public Meetings & Three Board Meetings
- Task 5 – Permitting Support
- Task 6 – Assist with Startup of Chloramine Conversion Activities
- Task 7 – Develop 30% Design of Ammonia Feed Systems

The following are discussions of the activities under each task.

Task 1 – Develop Nitrification Monitoring & Control Plan. Nitrification in stored water containing chloramine is inevitable, and many water agencies in Southern California experience it. It is the primary downside to chloramine in distribution systems. Water agencies mitigate nitrification by increased monitoring and taking specific actions when detected. In this task, WQTS will develop a Nitrification Monitoring & Control Plan (NMCP) for the District to implement. The NMCP will include specific water quality monitoring activities and their schedule, as well as specific actions to be taken based on triggers of nitrite (an indicator of possible nitrification), ammonia and total chlorine residual levels in the samples collected.

Task 2 – Conduct Staff Training on Chloramine Chemistry & Nitrification. WQTS will prepare and give two training classes to District operations and water quality staffs focused on chloramine chemistry and nitrification monitoring and control. These classes will also be an opportunity to discuss the specifics of the NMCP developed under Task 1 and how to use the analytical instruments to be purchased for nitrite and ammonia field monitoring.

Task 3 – Develop Chloramine Boosting Plan and Calculator. Maintaining an elevated chloramine residual is critical to minimizing the occurrence of nitrification in reservoirs. WQTS will work with District staff to identify means of chloramine boosting at each individual storage tank in the system, and then develop a boosting calculator that helps District staff feed the proper amount of chlorine to the inlet to the reservoir, if accessible, to boost the chloramine to a target level.

Task 4 – Participate in two Public Meetings & three Board Meetings. As requested by District staff, WQTS will participate in two public meetings to answer any questions that may arise about the implementation of chloramine conversion in the system. For budgeting purposes, WQTS will also assume that WQTS staff will attend three Board of Directors meetings during the course of this effort to update the Board on the progress and answer any questions.

Task 5 – Permitting Support. DDW staff indicated to District staff that a permit amendment is only required if and when the District adds ammonia to its groundwater supplies. If the District implements ammonia addition, WQTS will support the District’s permitting effort by participating in one DDW meeting and reviewing the permit amendment application documents.

Task 6 – Assist with Startup of Chloramine Conversion Activities. If the District implements chloramine conversion after October 1, WQTS will provide technical support during the first month of operation on an on-call basis to support District staff in the water quality monitoring activities, the interpretation of the results, and the troubleshooting and mitigation of any water quality challenges that may arise during that period. For budgeting purposes, WQTS assumed 32 hours of Dr. Issam Najm’s time, and 64 hours of an engineer’s time to support monitoring activities.

Task 7 – Develop 30% Design of Ammonia Feed Systems. If the District converts to 100% MWD water and purchases 600 gpm of additional flow from FMWD, it will purchase an additional 80 acre-feet (AF) of water in one month. At \$1,100/AF, this translates into an additional cost of approximately \$90,000. For this reason, every measure should be taken to minimize the time between going to 100% MWD water and being ready to feed ammonia to the groundwater supplies. To help with this goal, WQTS proposes to complete 30% design of the ammonia feed systems and have them ready by October 1st to hand off to a design-build entity that can implement them expeditiously without the need for full engineering design plans and specifications. To complete this effort, WQTS will retain the services of Carollo Engineers as a subcontractor to develop the 30% plans.

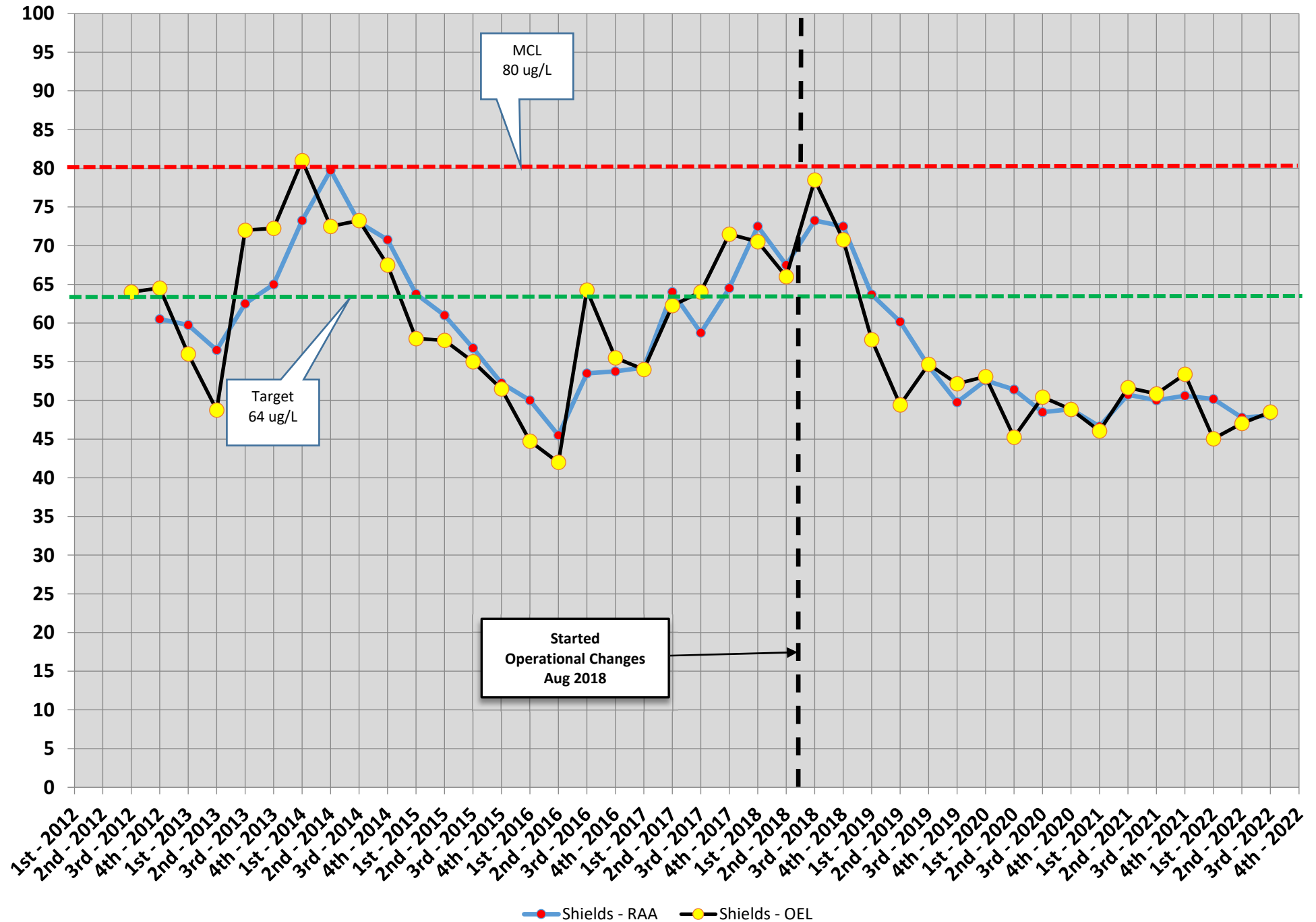
BUDGET

The cost of these services is summarized in Table 1 below. The total cost is projected at \$99,800 based on our understanding of the level of services required to complete these tasks. We realize that the District wishes to minimize the cost whenever possible. To that end, WQTS will provide its services on a Time-and-Material basis, and to the extent services are completed below budget, the final cost will be lower.

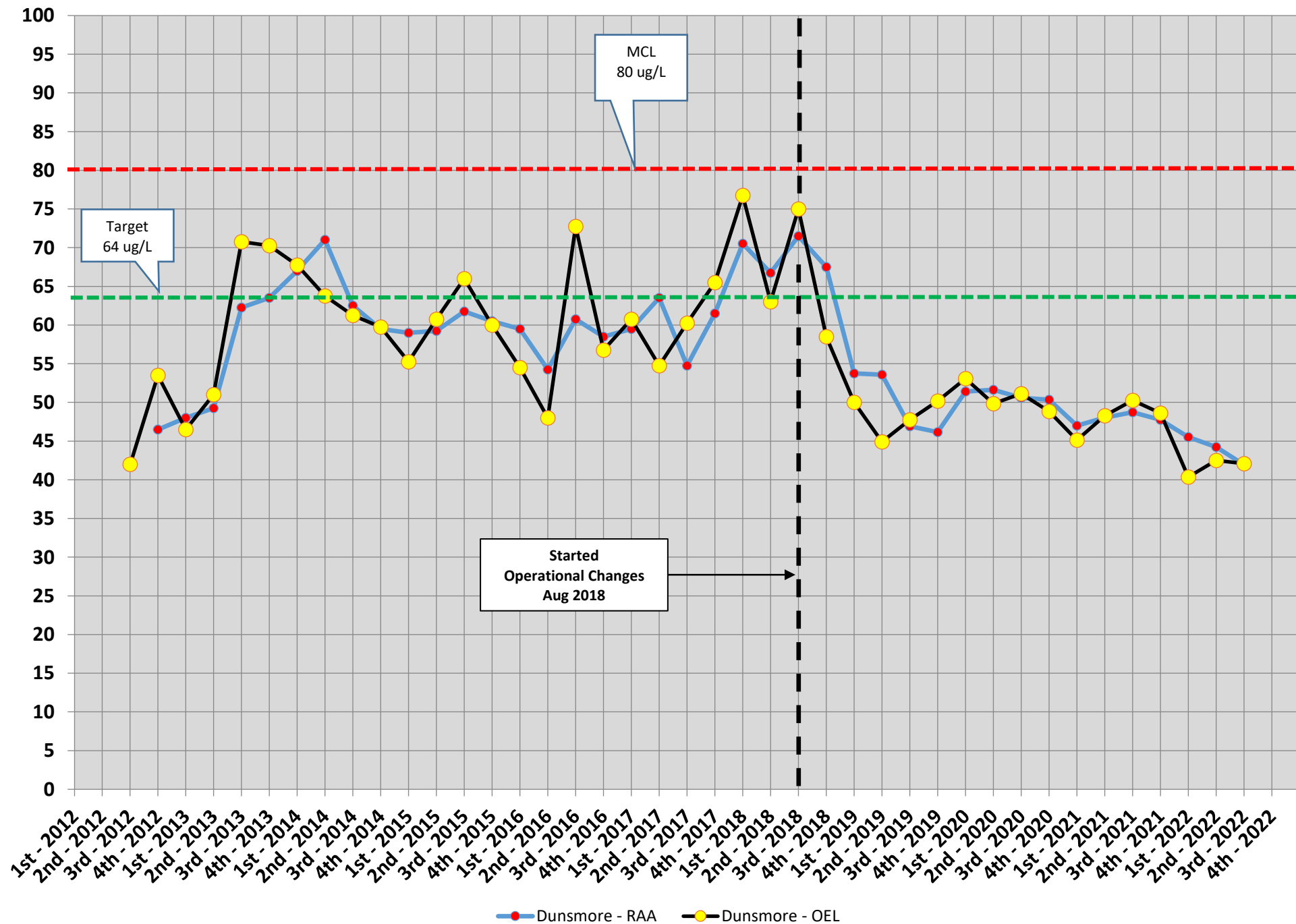
Table 1 - Breakdown of Anticipated Cost

Task		WQTS Labor	Outside Cost	Task Total
1	Develop Nitrification Monitoring & Control Plan	\$15,700	\$0	\$15,700
2	Conduct Staff Training	\$8,000	\$1,100	\$9,100
3	Develop Chloramine Boosting Plan & Calculator	\$5,300	\$0	\$5,300
4	Participate in 2 Public Meetings & 3 Board Meetings	\$5,000	\$0	\$5,000
5	Permitting Support	\$3,500	\$0	\$3,500
6	Assist with Startup of Chloramine Conversion	\$16,700	\$0	\$16,700
7	Develop 30% Ammonia System Design	\$6,000	\$38,500	\$44,500
Total		\$60,200	\$39,600	\$99,800

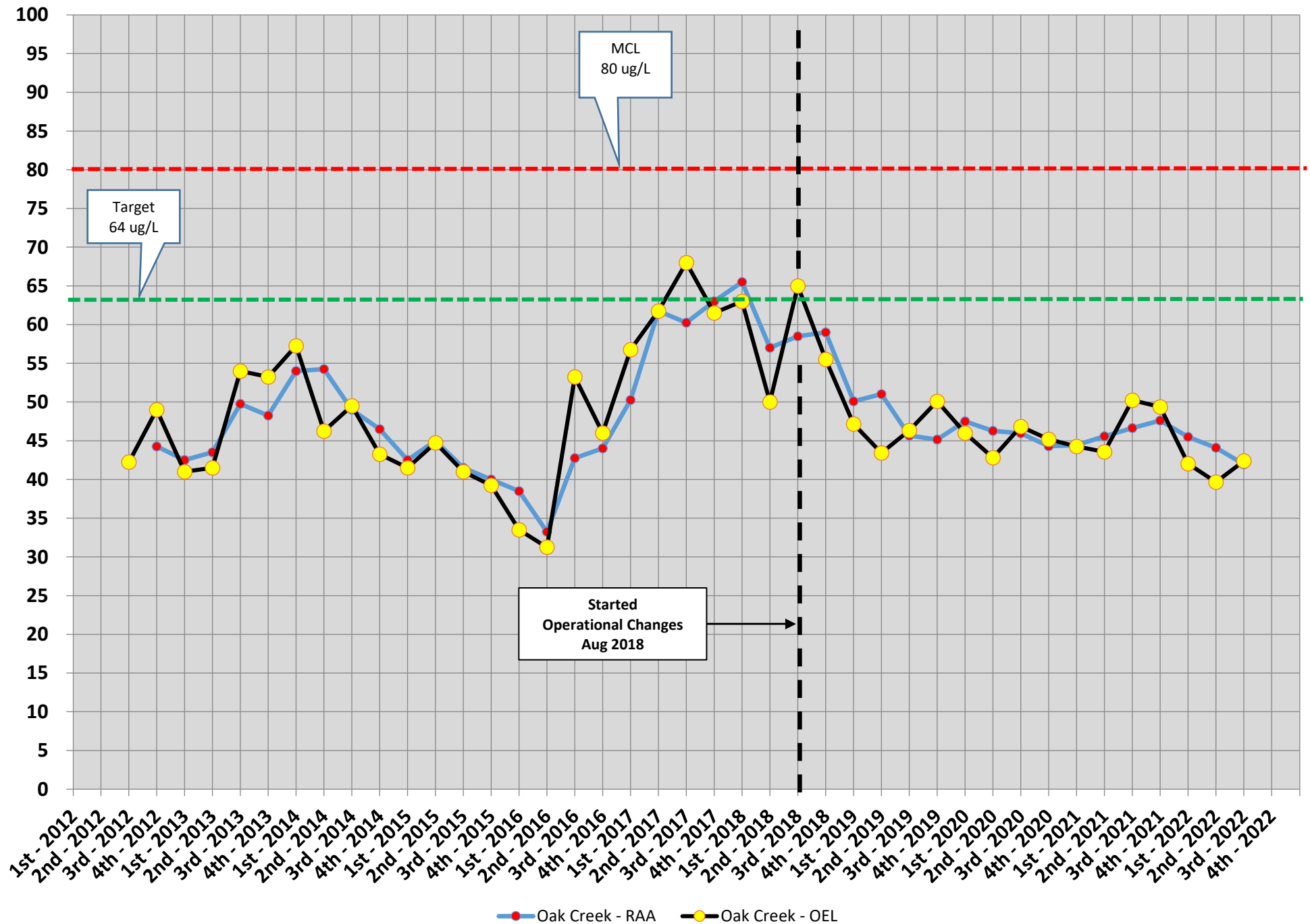
Shields - Quarterly TTHM - Running Annual Average 2012 - 2022



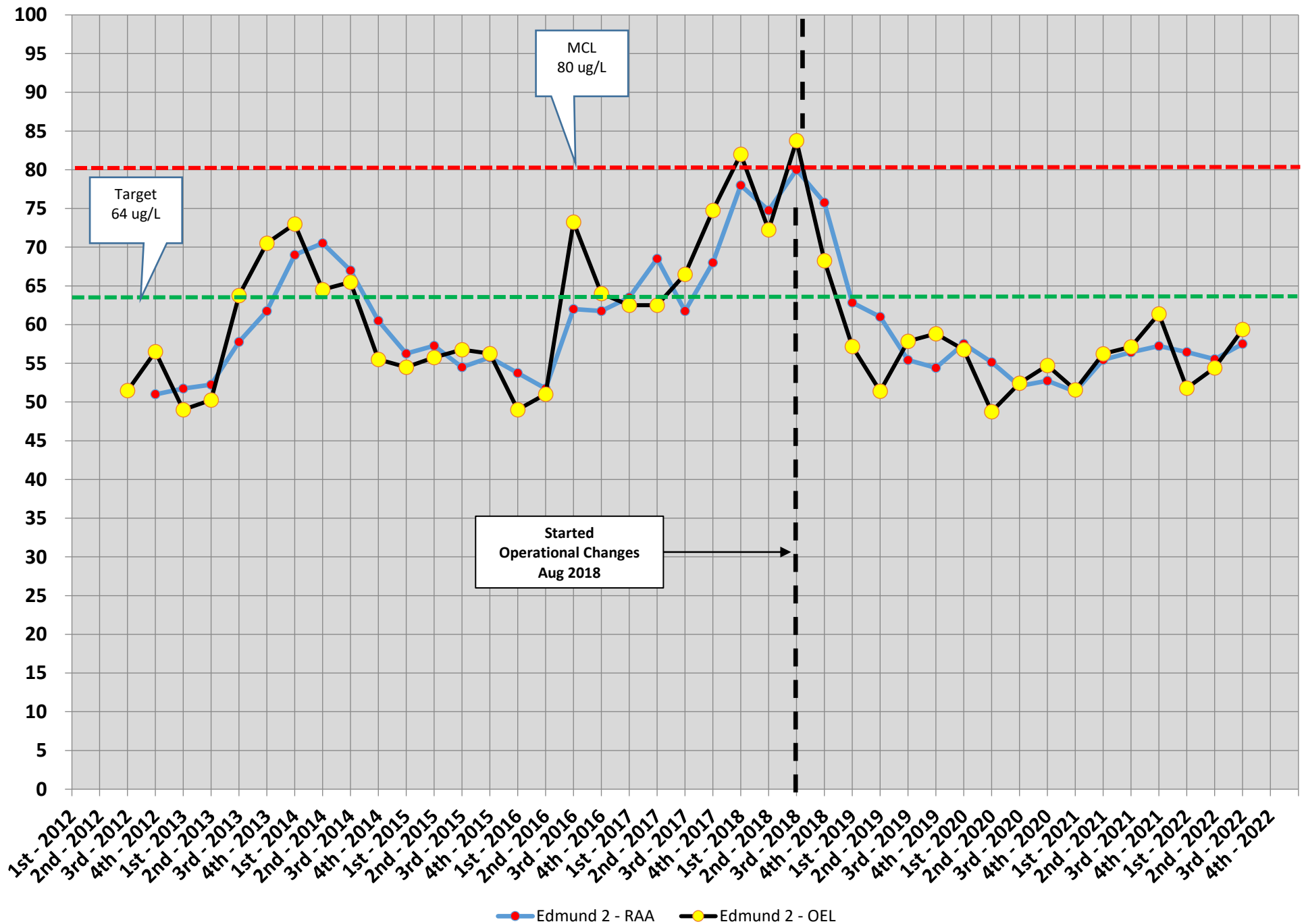
Dunsmore - Quarterly TTHM - Running Annual Average 2012 - 2022



Oak Creek - Quarterly TTHM - Running Annual Average 2012 - 2022



Edmund II - Quarterly TTHM - Running Annual Average 2012 - 2022





Assistance During the Chloramine Conversion



August 1, 2022

Phone: 213-271-2234



August 1, 2022

Mr. David Gould, PE
Crescenta Valley Water District
2700 Foothill Boulevard
La Crescenta, California 91214

SID 103269

Subject: Proposal for Assistance During the Chloramine Conversion

Dear Mr. Gould:

Brown and Caldwell (BC) is pleased to submit this proposal which includes the Scope of Work (SOW) that lays out the tasks proposed by BC to assist Crescenta Valley Water District (CVWD) during its chloramine conversion. The proposed project team is also included in the attached proposal, along with a schedule and a budget.

My first conversations with CVWD regarding a possible conversion from free chlorine to chloramine as distribution system residual disinfectant date back of summer 2016. At the time, CVWD was beginning to assess the impact of this treatment change on operation, water quality, and the distribution system in general. I commend CVWD staff for moving cautiously towards the conversion of the distribution system to chloramine. This proposal was developed after recent discussions with CVWD.

We welcome the opportunity to discuss this proposal with you and look forward to our continued discussions on chloramine conversion and assisting you in this important step. You can reach me at HBaribeau@BrwnCald.com or 858.571.6713.

Very truly yours,

Brown and Caldwell

A handwritten signature in black ink, reading 'Hélène Baribeau'.

Hélène Baribeau, PhD, PE, Project Manager
Project Manager

cc: Laurie Sullivan, PE, Brown and Caldwell
Damon Roth, PE, BCEE, Brown and Caldwell

Attachment: Proposal for Assistance During the Chloramine Conversion

Proposal

Assistance During the Chloramine Conversion

The Crescenta Valley Water District (CVWD) provides drinking water to approximately 33,200 people in the unincorporated communities of La Crescenta, Montrose, and Verdugo City in California, as well as a small portion of the City of La Canãda-Flintridge. Neighboring water agencies include the City of Glendale and the Foothill Municipal Water District (FMWD).

CVWD serves a blend of local groundwater and imported treated surface water from the Metropolitan Water District of Southern California (MWD) via FMWD. The groundwater is extracted through wells located in the Verdugo Basin. Because most of the wells contain elevated nitrate concentrations, most wells are treated prior to their point of entry (POE) to the distribution system. Wells 8, 10, 12, 14 and 16 are treated at the Glenwood Ion-Exchange (IX) Water Treatment Plant (WTP) (Wells 6 and 15 can also be treated at this plant but are currently inactive), while Well 2 is treated by the Aronite™ Biological WTP. Wells 1, 7 and 9 are treated at the Mills WTP. Wells 5 and 11 are blended with water treated by either the Mills WTP or the Glenwood IX Treatment Plant. Groundwater from the Pickens Tunnels is disinfected in a separate facility before entering the distribution system.

While the imported surface water is chloraminated, to date CVWD has been breakpoint chlorinating the monochloramine (chloramine) of the imported water to free chlorine, with the goal of maintaining a free chlorine residual in its distribution system. However, given an observed steady rise in disinfection byproduct (DBP) concentrations, CVWD has decided to convert the distribution system from free chlorine to chloramine. Thus, beginning in 2023, CVWD will add chlorine and ammonia to its groundwater to form chloramine before it is blended with the chloraminated MWDSC water.

This proposal presents the Scope of Work (SOW) for Brown and Caldwell (BC) to assist CVWD during the conversion from free chlorine to chloramine as distribution system residual disinfectant. This proposal also includes project team members, a schedule, and budget.

Scope of Work

This SOW includes project management, review and analysis of key documents to make sure that BC is properly informed about recent developments at CVWD and can support CVWD during the chloramine conversion, development of chloramine conversion plans, and staff training. Task 5 is reserved for BC to provide assistance to CVWD on an as-needed basis, based on available funds.

Task 1 – Project Management

Task 1.1 – Project Administration

Over the course of this project, BC will provide project management activities including preparing a Project Management Plan and Quality Control Plan, assigning resources, monitoring progress, provide quality reviews of the deliverables, and preparing monthly invoices with summary of work conducted during the month.

Deliverables

- Monthly invoices with summary of work conducted

Assumptions

- Project duration was estimated to be 1 year, unless funds are exhausted within that timeframe

Task 1.2 – Meetings

This SOW includes one (1) project kickoff meeting and eight (8) progress meetings before, during and after the chloramine conversion to provide continued assistance to CVWD.

The kickoff meeting will be held in person and will include a visit of the sites most relevant to the chloramine conversion. At a minimum, the Glenwood IX WTP, the Mills WTP, the Aronite™ WTP, and the Pickens Tunnels disinfection facility will be visited.

For the progress meetings, the team will review tasks recently conducted either at CVWD or by BC. Observations made will be shared and participants will discuss whether changes are needed. To estimate BC's effort for this project, two (2) in-person meetings are proposed, and six (6) will be held virtually using Microsoft Teams.

BC will prepare and circulate meeting agendas via email at least three working days ahead of each meeting. BC will prepare meeting notes with action items and circulate via email within five working days following each meeting.

Deliverables

- Meeting agendas
- Meeting notes in draft and final forms

Assumptions

- BC will submit one draft of meeting notes and will address one set of comments from CVWD before submitting final meeting notes
- Progress meetings will be attended by relevant CVWD staff and no more than two BC staff
- The kickoff meeting was assumed to be one hour and will be following by a visit of the sites most relevant to the chloramine conversion
- Each progress meeting was assumed to be one hour or less

Task 2 – Document Review and Analysis

Task 2.1 – Document Review

BC will review documents relevant to the chloramine conversion, which include the following:

- Technical Memorandum (TM) titled “Recommended Modification to the Chlorine & Ammonia Feed System Operation & Control Strategy at the Glenwood Water Treatment Plant” (October 2019)
- “Nitrification Prevention, Monitoring, and Control Plan” (June 2020)
- Design documents of the chloramination facilities, as available
- Operational guidelines of the chloramination facilities, as available
- CVWD's revised permit that specifically addresses chloramination of the distribution system
- Others as appropriate

The purpose of this review is **not** to challenge these documents but rather to understand the work that has been completed thus far and information already available at CVWD, and to suggest additional resources if necessary. Additional resources that may be needed will be listed in a TM and discussed in meetings.

Task 2.2 – Data Analysis

Any substantial changes made by a water system, which includes converting from free chlorine to chloramine, requires a thorough understanding of distribution system water quality to make sure that the proposed change will not compromise water quality at customer taps.

In this task, BC will review water quality evaluations that may have been conducted by CVWD or its consultants to identify potential challenges associated with the conversion to chloramines. The main water quality challenge of chloraminating systems is the potential for nitrification to develop. Corrosion is also impacted by distribution system residual disinfectant.

BC will also assess water quality data collected at the distribution system POE and throughout the distribution system to identify potential challenges. The following parameters will be examined at a minimum: water temperature, pH, disinfectant residual, naturally occurring ammonia, organic material (such as total organic carbon or TOC, ultraviolet light absorbance at 254 nm, or others as available), alkalinity, hardness, chloride and sulfate. Data will be analyzed in light of the target chlorine and ammonia doses, and chlorine-to-ammonia-N ratio. A minimum of two years of data will be analyzed. BC will provide a data-request list to help CVWD gather the necessary data. Potential distribution system

upset that may arise during and after the conversion will be highlighted. Observations made will be summarized in a TM.

If needed, BC will also recommend additional water quality analyses to be conducted before, during and after the conversion to make sure that unexpected challenges do not occur when chloramine is introduced in the distribution system.

Task 2.3 – Review of System Preparation

BC will evaluate actions CVWD has already undertaken to prepare its water system for the chloramine conversion, which may include cleaning of storage tanks, pipe flushing, customer notifications, or others. Additional actions that may be found necessary will be summarized in a TM and discussed with CVWD.

Task 2.4 – Summary of Observations

The list of additional resources that may be needed (from Task 2.1) will be presented in a TM, along with observations made during the data analysis (Task 2.2) and review of system preparation (Task 2.3). This TM is intended to be brief and to the point, and if agreeable to CVWD, may be presented in Microsoft PowerPoint format (i.e., slidedoc) in lieu of a Microsoft Word document.

A draft TM will be submitted to CVWD according to the schedule shown in Attachment A. A review period of two (2) weeks will be provided for CVWD to comment. BC will revise the TM with comments received and submit a final TM within two (2) weeks after receiving CVWD's comments.

Deliverables for Task 2

- Draft TM summarizing observations made in Tasks 2.1, 2.2 and 2.3
- Final TM after incorporating CVWD's comments on the draft TM

Assumptions for Task 2

- CVWD will provide all documents in electronic format
- Water quality data will be provided in Microsoft Excel format
- Water quality analyses recommended by BC will be performed by CVWD or an analytical laboratory contracted by CVWD; costs for additional water quality analyses that may be recommended by BC are not included in this SOW
- Additional studies that may be found necessary, such as a corrosion control study to comply with the Lead and Copper Rule requirements, are not included in this SOW
- BC will submit one draft TM and will address one set of comments from CVWD before submitting the final TM

Task 3 – Chloramine Conversion Plans

Despite its relatively small size, CVWD's distribution system includes a large number of pressure zones (i.e., 11) that are served by multiple pumping stations and 17 storage reservoirs. Groundwater enters in Zones 1, 2, and 4, while the imported surface water enters in Zones 1 and 4. Water is then pumped progressively to the higher elevation zones. Water from the Pickens Tunnels enters the distribution system in Zone 11. Changing the disinfectant residual in such distribution system will require a systematic approach documented by a clear plan.

In this task, BC will use information gathered in Task 2 to develop Chloramine Conversion Plans for CVWD's distribution system. Each Plan will consist of a brief description of the distribution area or pressure zone, along with the proposed procedures to conduct before, during and after the chloramine conversion, such as:

- Distribution system and storage tank preparation (i.e., pipe flushing, tank cleaning, and others as needed)
- Hydraulic consideration such as flow conditions (based on information provided by CVWD), pumping rates, and tank water level
- Monitoring parameters (operational and water quality) to be collected prior to, during, and after the conversion
- Data reporting sheets

The Plans will also highlight potential challenges that may be encountered during the conversion and options to limit their impact. The Plans will be presented in a report format.

Task 3.1 – Draft Plans

BC will draft comprehensive Chloramine Conversion Plans for groups of pressure zones. The following three (3) Plans are proposed:

- Zones 1, 2 and 11 are distribution system entry points that should require the same approach, and thus, could be grouped in a single Plan.
- Zones 3, 4, 5, 6, 8 and 9 are intermediate zones that receive water from a lower zone and supply water to higher zones without receiving additional chlorine or ammonia. These intermediate pressure zones could use the same Plan.
- Zones 7 and 10 are terminal pressure zones for which the same Plan should apply.

Task 3.2 – Final Plans

The draft Chloramine Conversion Plans will be submitted to CVWD according to the schedule shown in Attachment A. A review period of three (3) weeks is proposed for CVWD's review, after which BC will revise the Plans based on comments received. The final Plans will be submitted within three (3) weeks after receiving CVWD's comments.

Deliverables for Task 3

- Draft Chloramine Conversion Plans in a report format
- Final Chloramine Conversion Plans after incorporating CVWD's comments on the draft Plans

Assumptions for Task 3

- CVWD will provide distribution system schematics
- CVWD will provide information about hydraulic conditions between the pressure zones
- CVWD will provide information about the current operational practices
- The draft Chloramine Conversion Plans will be presented in a report format and submitted in electronic format
- BC will submit one draft of each Plan and will address one set of comments from CVWD before submitting the final Plans

Task 4 – Training

Recognizing that CVWD staff may not be familiar with the nuances of forming chloramines or operating a chloraminated system, staff training will be important to make sure that everyone understand the challenges that chloramine present, as well as opportunities and benefits.

Task 4.1 – Development of Training Materials

BC will develop training material that will include the following information at a minimum:

- Background information on chloramines, and differences with free chlorine
- Review of chloramination process and breakpoint chlorination
- Introduction to nitrification, which is the main water quality challenge associated with chloramine
- Impact of chloramine on corrosion control treatment
- Water quality and monitoring considerations specific to chloramine
- Proper practices for sample collection and handling, water quality analysis, and data analysis
- Operational practices specific to chloramine

The proposed training material will be discussed with CVWD during one of the progress meetings and revised accordingly.

Task 4.2 – Staff Training

Recognizing that it may not be possible to train all staff at the same time because CVWD does not have a large pool of staff, BC proposes to provide training in two (2) sessions of two (2) hours each. For example, half of the staff could participate in the first session in the morning and the other half of the staff could participate in the same session in the afternoon. A similar approach could be used for the second session, which could be provided at a later time to allow CVWD staff to assimilate the information from the first session.

Deliverables for Task 4

- Draft training materials, including PowerPoint slides and additional documentation, as needed
- Final training materials after incorporating CVWD's comments on the draft training materials
- Four sessions of two hours each (two sessions for the first half of the material, and two sessions for the second half) provided over two days.

Assumptions for Task 4

- No more than two (2) training sessions, each consisting of two (2) separate presentations to CVWD staff, will be provided

Task 5 – As-needed Assistance

As shown in the schedule presented in Attachment A, BC will review existing documents relevant to CVWD's chloramine conversion and analyze data (Task 2), prepare Chloramine Conversion Plans (Task 3), and train staff (Task 4) in Fall 2022, to bring CVWD to a point where it is ready to convert to chloramine. The conversion is expected to be in February 2023, consistent with our discussion with CVWD. Effort allocated for Task 5 will allow BC to remain available to answer questions or be present onsite during and after the conversion, until funds are exhausted.

Deliverables

- As-needed assistance to CVWD during and after the chloramine conversion

Assumptions

- The estimated budget presented in Attachment B proposes a number of hours to provide as-needed assistance during and after the conversion to chloramine; additional effort that may be needed is not included in this SOW

Schedule

A proposed schedule is shown in Attachment A. This schedule assumes that the project will begin on October 1, 2022, that the conversion will occur in February 2023, and the total project duration will be one (1) year from Notice to Proceed.

Project Team

The following BC staff are proposed to provide the assistance that CVWD needs to convert its distribution system to chloramine. Additional BC staff may be included based on project needs. A brief bio of the proposed staff is presented here, and an abbreviated resume of the Technical Project Manager, H  l  ne Baribeau, is shown in Attachment B.

Hélène Baribeau, PhD, PE

Hélène will serve as Technical Project Manager for this project. She will be involved in all project tasks and will provide the proposed training sessions (Task 4).

Hélène is BC's Distribution System Water Quality Leader. Her background and experience include engineering, chemistry, and microbiology, which give her the skills to address the complex challenges that are encountered in the water industry. Hélène started working in the drinking water industry in 1989. Throughout her career, she has developed a keen understanding of disinfection processes and disinfection byproducts (DBPs), microorganism inactivation and control, corrosion control, impact of treatment processes on distribution system water quality, and regulatory compliance.

Hélène's first conversations with CVWD date back of summer 2016 when CVWD was considering converting its distribution system from free chlorine to chloramine. At the time, CVWD was beginning to assess the impact of this treatment change on operation, water quality and the distribution system in general. Subsequently, Hélène provided assistance to CVWD following the detection of coliforms in CVWD's distribution system.

Damon Roth, PE, BCEE

Damon will provide assistance in relation to the design and operation of CVWD's chloramination systems.

Damon Roth has managed or served as project engineer on treatment studies, designs, and construction projects for drinking water, wastewater, and stormwater treatment projects through the United States. He is experienced in managing distributed teams of subject matter experts to provide solutions to municipal clients, particularly in areas related to drinking water system planning and treatment optimization, including treatment feasibility evaluations, corrosion control treatment, and capital improvement planning.

Laurie Sullivan, PE

Laurie will provide assistance and review of all project tasks, and as such, will service as Quality Controller. Laurie will also provide the training sessions with H  l  ne.

Laurie Sullivan is a highly skilled and trusted senior engineer with nearly 30 years of experience in consultative engineering for public utilities. Laurie delivers expertise as a project manager, a leader in water compliance and drinking water facility assessments, financial management, and operator training. During her work on studies over time, many of the project she has worked on included distribution system studies. She is well versed in distribution system operations and has conducted treatment plant operator training across the country on many topics. She has managed several nitrification control studies.

Mia Vijanderan

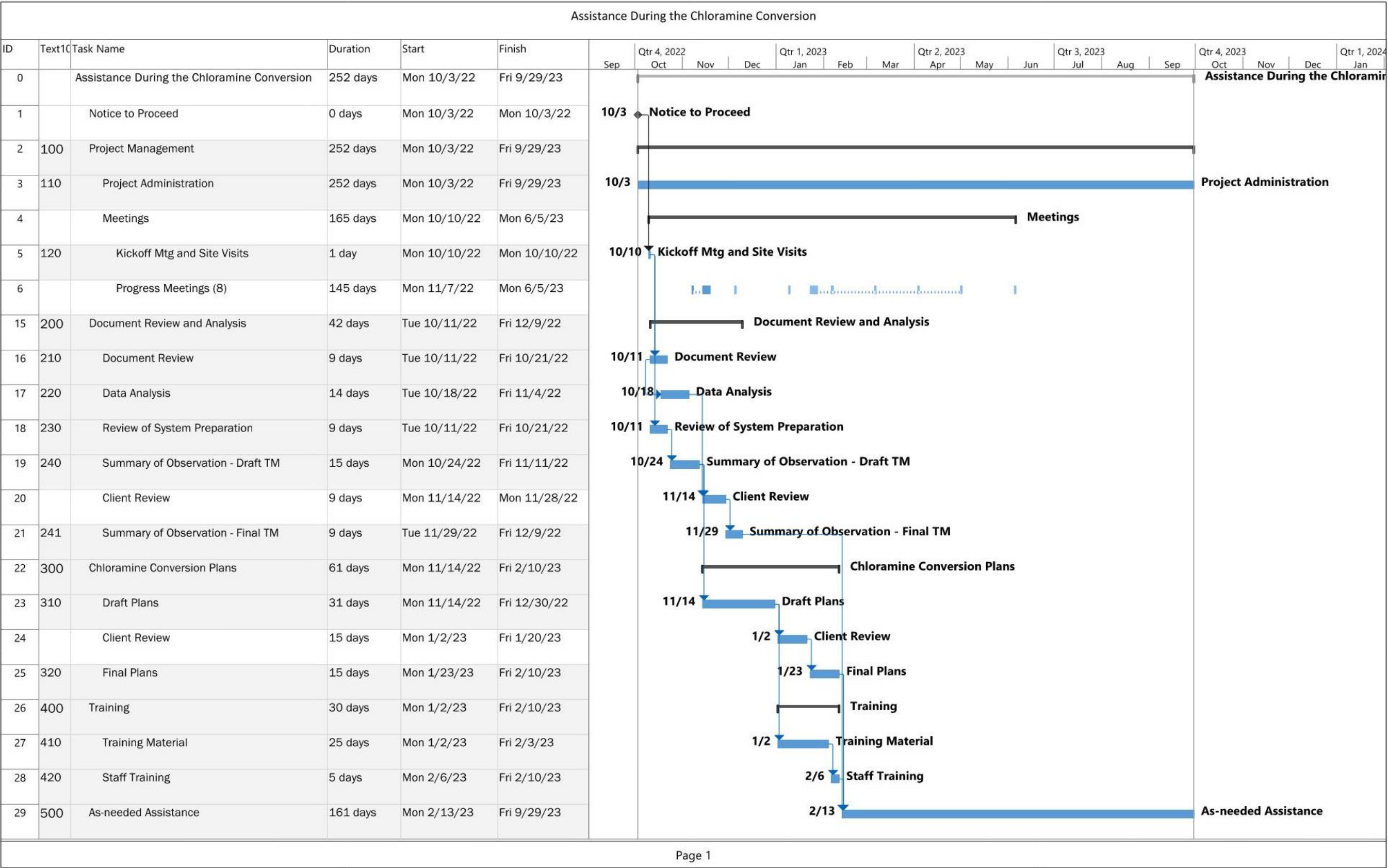
Mia will conduct all necessary data analyses and be involved in the preparation of all project deliverables with H  l  ne.

Mia is an environmental engineer with experience in drinking water treatment, water quality assessment, and bench to pilot scale testing. At BC, Mia supports a variety of drinking water and planning projects, including a large drinking water program management team in the Pacific Northwest and various corrosion control treatment projects throughout the United States. Mia has worked with H  l  ne on distribution system water quality data evaluations for other clients.

Budget

BC will perform the work described in the above SOW on a time-and-materials basis, for a limiting fee not to exceed \$99,940. Requested work that exceeds this budget will require an amendment. Although items are estimated by tasks, BC may transfer funds between tasks as project developments require. Attachment C presents the estimated hours by task and the estimated other direct charges.

Attachment A – Schedule



Attachment B – Resume of Technical Project Manager

The resume of H             is shown on the next pages.

Experience Summary

Dr. Baribeau's background and experience include engineering, chemistry, and microbiology, which give her the skills to address the complex challenges that are encountered in the water industry. Hélène focuses on disinfection processes and disinfection byproducts (DBPs), microorganism inactivation and control, corrosion control, impact of treatment processes on distribution system water quality, and regulatory compliance, mainly for drinking water, but also for recycled water. Because her work experience included academic institutions (during her studies and research projects), a water provider (Metropolitan Water District of Southern California, MWD), engineering firms (Carollo Engineers, as an independent consultant, and now with Brown and Caldwell), and a regulatory agency (California's Division of the Drinking Water of the State Water Resources Control Board), Hélène can understand the multiple facets of water supply and water quality.

Examples of Relevant Projects

Water System Operations Plan. Daly City, CA

Project Engineer. BC is preparing an operations plan for the City's potable water distribution system. The plan is consistent with request received from the California State Water Resources Control Board's Division of Drinking Water (DDW) and applicable requirements of the California regulations. Among others, the plan documents groundwater well operation, inspection and maintenance schedule; storage tank inspection, cleaning and maintenance schedule; valve maintenance and exercise program; distribution system mains and fire protection systems flushing, along with procedure for dechlorination and disposal of the flushed water; water main disinfection and repair procedures; plan and procedures for responding to water supply emergencies; plan and procedures for responding to consumer complaints; and schedule and procedures for testing backflow prevention assemblies. Hélène is participating in all steps of the project.

Assignment

Technical Project Manager

Education

*Ph.D., Civil Engineering-
Environment, Ecole Polytechnique
of Montreal, Quebec, Canada,
1995*

*M.A.S., Civil Engineering-
Environment, Ecole Polytechnique
of Montreal, Quebec, Canada,
1992*

*B.S., Civil Engineering, Ecole
Polytechnique of Montreal,
Quebec, Canada, 1990*

Registration

*Professional Engineer, Civil,
California, No. C60630*

*Advanced Water Treatment
Operator – Grade 3, California,
No. 151*

*Water Treatment Operator –
Grade 3, California, No. 21876*

*Water Laboratory Analyst Grade 1,
American Water Works
Association, California-Nevada,
No. 20327*

Experience

32 years

Joined Firm

2019

Corrosion Inhibitor Study, Pinellas County, FL

Project Engineer. BC is assisting the County in evaluating corrosion inhibitors and determining optimized corrosion control treatment (CCT) for compliance with the Lead and Copper Rule (LCR) and Lead and Copper Rule Revisions (LCRR). The project will be conducted in two phases. Phase 1 includes a review and analysis of County data, development of a bench-scale test plan and conducting bench testing to evaluate different orthophosphate-based corrosion inhibitor formulations and determine if point-of-use water softeners may impact the efficacy of corrosion inhibitors in controlling lead and copper solubility at customers' taps. In Phase 1, BC will also design a pilot-scale test apparatus consisting of a flow-through pipe rig combined with an in-line weight-loss coupon test rig to evaluate different CCT, and provide engineering assistance during the construction of the test apparatus. Hélène is participating in all steps of the project, either as lead engineer or technical assistant.

Technical Assistance for Implementation of the Lead and Copper Rule Revisions, City of Columbus, OH

Project Engineer. BC is providing technical assistance to help the City prepare for and meet the regulatory requirements of the LCRR. The project includes the preparation of a Regulatory Roadmap to provide an executive-level overview of milestones and activities required for LCRR compliance, identification of activities and resources needed to achieve compliance with each of the regulatory requirements identified in the Regulatory Roadmap, a Gap Analysis that highlights additional tasks the City should undertake to meet the LCRR requirements, and an Implementation Roadmap that addresses the gaps identified and provide recommendations and timeline for filling those gaps. Hélène is responsible for the preparation of some of the deliverables, including the Regulatory Roadmap.

Optimum Corrosion Control Study, City of Sunrise, FL

Project Engineer. This study is reviewing the existing corrosion control treatment strategy and, where necessary, establish updated optimum water quality parameters (OWQPs) for the control of lead and copper corrosion under the current treatment schemes. This study is also reviewing data and developing strategies to enhance control of iron and manganese. Supplemental bench-scale testing is also to be conducted to simulate the corrosion of various materials of interest (i.e., iron, lead, copper) in a laboratory setup and test the relative influence of various water quality conditions on corrosion rates. Lastly, the project will determine an appropriate corrosion control strategy and propose optimum corrosion control treatment (OCCT) with OWQPs to achieve continued compliance with the LCR/LCRR. Hélène is responsible for the evaluation and development of strategies to control iron and manganese, and provides technical assistance to the other project tasks.

Bacteriological Sample Siting Plan (BSSP), City of Daly City, CA

Technical Leader. California's Division of Drinking Water (DDW) required the City to prepare a BSSP in conformance with the California regulations, Bacteriological Sample Siting Plan Guidelines, and other DDW requirements. In this project, Hélène assessed the City's sampling program and sampling sites for disinfectant residual and bacteriological samples, and determined whether they met regulatory requirements while allowing the City to capture its water's bacteriology quality in its distribution system. The plan also included all relevant forms. Hélène was responsible for conducting the evaluation and preparing the deliverables.

Distribution System Water Quality Evaluation, City of Roseville, CA

Technical Leader. The City has relied on treated surface water to supply potable water to its residents. The City can also pump groundwater from six wells, four of which have Aquifer Storage and Recovery (ASR) capacity. Although the City has already stored water, it has not relied on the wells for extraction of groundwater. Thus, the distribution system has not received a significant amount of groundwater yet. With worsening drought conditions and potential impacts to surface water supplies, the City plans to extract from the wells for extended periods, which may impact distribution system water quality. Hélène led the evaluation of water quality for the individual water sources and their anticipated blends, focusing on corrosion and metal release in light of distribution system characteristics, entry points of surface and ground water supplies, and pipe materials.

Vistancia Water Quality Evaluation for the Agua Fria Booster Pump Station/Lone Mountain Waterline and Lead and Copper Sampling Plan, City of Peoria, AZ

Technical Leader. The City's western system (also known as the Vistancia system) has been supplied by groundwater wells. However, these wells were not intended as a long-term supply water source for this system and the Vistancia system was expected to be supplied by surface water treated at the Pyramid Peak Water Treatment Plant (WTP). The transition from a groundwater supplied system to a surface water supplied system may upset distribution system "ecology", which can lead to metal release, discolored water, tastes and odors, and other water quality challenges. For this reason, the Lead and Copper Rule (LCR) mandates water systems that change water source to evaluate the impacts on distribution system corrosion control. The purpose of this project was to conduct a desktop corrosion control study consistent with the LCR requirements. Subsequently, BC revised and combined the LCR Sampling Plans of the City's systems into a single plan. Hélène oversaw all technical aspects of the project.

Terry Ranch Water Supply Inspection Activities, Water Quality Evaluation, City of Greeley, CO

Water Quality Evaluation and Corrosion Control Treatment. The purpose of this study was to evaluate the impact of a new groundwater supply on an existing distribution system that has been receiving treated surface water from two water treatment plants that produce water with very different chemical compositions. The study considered three scenarios involving different blends of water sources and aimed to identify fatal flaws and, if possible, potential options to mitigate the challenges identified. The evaluation focused on corrosion and metal release. The study also included a cursory assessment of chlorine residuals throughout the distribution system and options to mitigate the low residuals that have been observed in some areas. Hélène oversaw all technical aspects of the study.

North Pleasant Valley Groundwater Desalter – Corrosion Control Study, City of Camarillo, CA

Corrosion Control Study Leader. BC designed a groundwater desalter facility to maximize local groundwater resources and reduce reliance on imported water supplies. The desalter facility is being designed to treat 4,500 acre feet per year of brackish groundwater to potable water standards and master planned to ultimately treat 9,000 acre feet per year. Treatment processes include pretreatment greensand filtration, RO,

decarbonation, post-treatment stabilization and disinfection, and treated water distribution. The new facility will include all utilities, structures, and mechanical processes to remove salinity and other contaminants of concern from two wells to produce high quality drinking water. DDW required the City to conduct a corrosion control study (CCS) prior to pumping desalter-treated water into its distribution system. The CCS investigated the effectiveness of proposed post-treatment strategies, identified the type and level of galvanized iron pipe management that may be needed, and determined the need for a follow-up pipe-loop study. The CCS involved bench-scale coupon testing of selected conditions and distribution system materials. Hélène oversaw all technical aspects of the CCS. Hélène is currently participating in desalter commissioning, which includes the preparing of a thorough water quality monitoring program and desalter startup program to ensure that the desalter will have minimum impact on distribution system water quality.

Nitrification Monitoring and Response Plan Revision, East Orange County Water District, CA

Project Manager. Wet winter conditions and continuing conservation efforts that started in 2014-2015 have resulted in lower water demands in EOCWD's distribution system, which have led to nitrification throughout sections of the service area. To address the problem, EOCWD applied the recommendations of its nitrification monitoring and response plan, but without success. These results highlighted that the nitrification plan was outdated and no longer aligned with recent changes to EOCWD's distribution system and operational procedures. The purpose of this project was to revise and update EOCWD's nitrification monitoring and plan. The revised nitrification plan includes a brief description of EOCWD's water system and background on nitrification, the proposed nitrification monitoring program, nitrification prevention and control strategies, and findings and recommended actions. The plan is supported by appendices that provide additional information and results of the extensive data analysis that was conducted as part of this project. Hélène was responsible for all aspects of this project.

Desktop Corrosion Control Study, Las Virgenes Municipal Water District, CA

Project Manager. The District primarily distribute treated surface water from the Metropolitan Water District of Southern California (MWD). In 2014, drought conditions required MWD to change water source. The difference in water quality between these two sources upset the distribution system, which resulted in higher lead and copper concentrations at consumer taps. In addition, monitoring results showed that the difference between the 90th percentile for lead and the highest sources and distribution system entry point concentration was greater than the detection limit for purpose of reporting. This condition mandated the District to conduct a Corrosion Control Study and resume Standard Tap Monitoring for lead and copper. The purpose of this project is to incorporate results from the recent years of sampling and revise the Corrosion Control Study Report. Hélène was responsible for overseeing all aspects of the project.

Water Quality in Low Demand Conditions, East Orange County Water District, CA

Project Engineer responsible for Water Quality. Wet winter conditions and continuing conservation efforts since 2014-2015 have resulted in lower water demands throughout Southern California, and the District has been particularly impacted by this trend. The purpose of this study was to examine options for the District to decrease water age and improve water quality in its distribution system. The project uses a combination of water quality analyses and distribution system hydraulic simulations to develop suitable options. Hélène contributed to the development and calibration of the distribution system hydraulic model with IDModeling-Sedaru staff. She prepared monitoring plans to capture distribution system water quality in low-demand conditions and to conduct limited bench-scale tests. Data obtained prior to and during the project, along with existing District documents, were used to develop strategies to preserve distribution system water quality under low-demand conditions.

Assessment of Nitrification in the Potable Water System, Las Virgenes Municipal Water District, CA

Project Manager. The District's distribution system has experienced decreases in chloramine residuals and nitrification. LVMWD has developed a Nitrification Control Monitoring Plan, but this document has raised concerns from the Division of Drinking Water of the State Water Resources Control Board, mainly because of the trigger levels that are proposed. The goal of this project was to provide an overall assessment of the nitrification problem in the District's distribution system. Hélène was responsible for all of the following project tasks: 1) use information that was already available at the District to assess the severity of the nitrification problem, 2) identify potential causes such as water sources or system operations, 3) review the District's monitoring program and Nitrification Control Monitoring Plan, including the corrective and response strategies that have been used by the District, and 4) identify future steps that should be undertaken by the District to limit nitrification in its distribution system.

Water Quality and Sampling Assessment Study, Crescenta Valley Water District, CA

Project Manager. Following the sudden occurrences of positive samples for total coliform and *Escherichia coli* throughout its distribution system, CVWD conducted a thorough review of its entire treatment process and system operation. Hélène assisted CVWD in its review of trends in water quality, distribution system hydraulic conditions, monitoring and sampling strategies, and evaluation of all potential sources of contamination.

Desktop Corrosion Control Study, City of Torrance, CA

Project Manager. The City was mandated by DDW to conduct a Corrosion Control Study because it had not completed such study before, and the corrosion control treatment used were not optimum with regards to the City's water quality and distribution condition. Moreover, the City was planning on starting to use water from two new groundwater wells. Hélène was responsible for the first part of the City's Corrosion Control Study, which included an assessment of the corrosiveness and aggressiveness of the City's water sources with regards to distribution system piping materials, an examination of lead and copper data and customer complaints, and identification of the most suitable corrosion control strategies to limit water corrosiveness and metal release. Her recommendations made ensured that the proposed corrosion control strategies would not conflict with the City's overall water quality goals and compliance with drinking water regulations.

Nitrification Control Study, Mesa Water District, CA

Project Engineer. Mesa Water has been experiencing periodic nitrification events that have impacted its storage reservoirs and localized areas of its drinking water distribution system. To limit the extent of nitrification, Mesa Water has used a Nitrification Monitoring and Action Plan along with routine monitoring to determine the onset of nitrification and actions to undertake. However, nitrification has persisted in Mesa Water's distribution system. The goal of this project was to develop a dynamic plan to control nitrification, preserve disinfectant stability, and limit microbial growth in Mesa Water's distribution system. The project assessed the extent of the nitrification problem in Mesa Water's distribution system and its impact on water quality, identified the causes of nitrification and options to eliminate or limit the problem, and determined the most suitable preventive and corrective measures with cost estimates for the system changes that were identified. Hélène was the Nitrification Lead for this project. She was responsible for the water quality data review and analysis, bench-scale testing, distribution system sample collection, and development of the Nitrification Mitigation and Prevention Plan. She also led the preparation of all reports.

Corrosion Control Study, Nitrification Monitoring and Action Plan, and Blending of Free Chlorinated and Chloraminated Water, City of Sierra Madre, CA

Project Manager. Early October 2013, drought conditions forced the City to shut down its groundwater wells and start importing treated surface water from MWD. MWD water exhibits different characteristics than the City's ground water. In addition, MWD uses monochloramine as distribution system residual disinfectant with a relatively high residual whereas the City uses a low dose of free chlorine. The introduction of a new water source with such different quality led to red and yellow water events, despite all efforts by the City to prevent them. This project was separated in three parts, and Hélène conducted all project tasks. The first part assisted the City in its efforts to eliminate the corrosion and red/yellow water problems in the potable water distribution system and prepared a Corrosion Control Study Report. In the second part, guidance to help control nitrification in the distribution system and storage reservoirs were provided, and a Nitrification Monitoring and Control Plan was developed considering that the City had not used chloraminated water before. The third part examined consequences and options available to the City if it were to blend water sources with different disinfectants (i.e., free chlorine and chloramine).

Optimizing Chloramine Treatment, WRF, U.S.

Co-principal Investigator. In consideration for the increased utilization of monochloramine for drinking water distribution system disinfectant residual in the U.S., WRF (the American Water Works Association Research Foundation, AwwaRF, at the time of the study) funded the preparation of a manual titled Optimizing Chloramine Treatment in 1993 to bring together pertinent information and data on chloramination for use by the water industry. In early 2000, WRF recognized the need to update this manual, with the goal of synthesizing all relevant research, operational, and practical information on the use of chloramines in water treatment and developing new utility case studies. For this project, Hélène participated in the literature review, and was responsible for conducting a detailed survey of 68 utilities and case studies on the design and implementation of chloramination systems.

Attachment C – Estimated Budget

Crescenta Valley Co Water Dist (CA) – Assistance to Chloramine Conversion																
		Barbeau, Helene	Phin, Gail M	Roth, Dianon K	Sullivan, Lauren	Vigander, Mia	Suro, Lindsay B			Other Travel		Company Vehicles				
Phase	Phase Description	PM	PA	Process Eng	QC	WQ & Analyses	Billr	Total Labor Hours	Total Labor Effort		Total ODCs		Total Unit Pricing Effort	Total Expense Cost	Total Expense Effort	Total Effort
		\$275.70	\$126.00	\$242.31	\$315.21	\$132.57	\$100.68									
100	Project Management	52	16	0	0	0	16	84	17,963	0	0	0	0	0	0	17,963
110	Project Administration	24	16	0	0	0	16	56	10,244	0	0	0	0	0	0	10,244
120	Kickoff Meeting	8	0	0	0	0	0	8	2,206	0	0	0	0	0	0	2,206
121	In-Person Progress Meetings (2)	8	0	0	0	0	0	8	2,206	0	0	0	0	0	0	2,206
122	Virtual Progress Meetings (6)	12	0	0	0	0	0	12	3,308	0	0	0	0	0	0	3,308
200	Document Review and Analysis	44	0	6	4	48	0	102	21,209	0	0	0	0	0	0	21,209
210	Document Review	8	0	2	0	2	0	12	2,955	0	0	0	0	0	0	2,955
220	Data Analysis	16	0	2	1	32	0	51	9,453	0	0	0	0	0	0	9,453
230	Review of System Preparation	8	0	2	1	2	0	13	3,271	0	0	0	0	0	0	3,271
240	Summary of Observation - Draft TM	8	0	0	1	8	0	17	3,581	0	0	0	0	0	0	3,581
241	Summary of Observation - Final TM	4	0	0	1	4	0	9	1,948	0	0	0	0	0	0	1,948
300	Chloramine Conversion Plans	64	0	2	4	82	0	152	30,261	0	0	0	0	0	0	30,261
310	Draft Plans	40	0	2	2	58	0	102	19,832	0	0	0	0	0	0	19,832
320	Final Plans	24	0	0	2	24	0	50	10,429	0	0	0	0	0	0	10,429
400	Training	48	0	0	24	8	0	80	21,859	1,800	1,800	206	206	1,800	2,006	23,865
410	Training Material	32	0	0	8	8	0	48	12,405	1,800	1,800	206	206	1,800	2,006	14,411
420	Staff Training	16	0	0	16	0	0	32	9,455	0	0	0	0	0	0	9,455
500	As-Need Assistance	16	0	4	4	0	0	24	6,641	0	0	0	0	0	0	6,641
****	Default Task	16	0	4	4	0	0	24	6,641	0	0	0	0	0	0	6,641
GRAND TOTAL		224	16	12	36	138	16	442	97,934	1,800	1,800	206	206	1,800	2,006	99,940
Hours and Dollars are rounded to nearest whole number.																

Los Angeles

1000 Wilshire Blvd, Suite 1690

Los Angeles, CA 90017

T 213.271.2234



CRESCENTA VALLEY WATER DISTRICT

BOARD OF DIRECTORS - STAFF REPORT

To: Honorable President and Members of the Board of Directors
From: Nem Ochoa, P.E. – General Manager
Subject: MWD Emergency Repairs

Action Item No. 2
August 23, 2022

ACTION ITEM:

Update and possible action related to Metropolitan Water District (MWD) Emergency Repair

BACKGROUND:

CVWD relies on both imported water and local groundwater to meet the current water needs of the community. The imported water is managed and delivered through MWD's complex conveyance system comprised of large-diameter pipelines traversing hundreds of miles.

One of the pipelines needed to convey imported water to this region is in urgent need of repair. MWD has been planning and preparing to conduct the repair in the most effective and efficient manner, while coordinating in advance with all water agencies that will be affected. The repair will start on September 6th and last through September 20th.

During this time MWD has requested that all affected communities, including CVWD's service area suspend outdoor watering for a 15-day period beginning on September 6th.

DISCUSSION:

CVWD has been working closely with Foothill Municipal Water District (FMWD) and the local retail agencies to ensure that a consistent message is relayed to the communities we serve. All FMWD retail agencies, City of Glendale, and City of Pasadena are requesting their customers to suspend outdoor watering from September 6th – September 20th. CVWD plans to utilize its website, social media accounts, and customer email accounts to notify customers of the request. In addition, CVWD has partnered with City of Glendale and FMWD on a joint press release and will be placing an ad in the CV Weekly the week prior to the shutdown.

RECOMMENDATION:

Discuss MWD Emergency Repairs and current actions

ENVIRONMENTAL REVIEW:

Not applicable

FUNDING AVAILABILITY:

Not applicable.

Submitted by:

A handwritten signature in blue ink, appearing to read "Nem Ochoa", is written over a horizontal line.

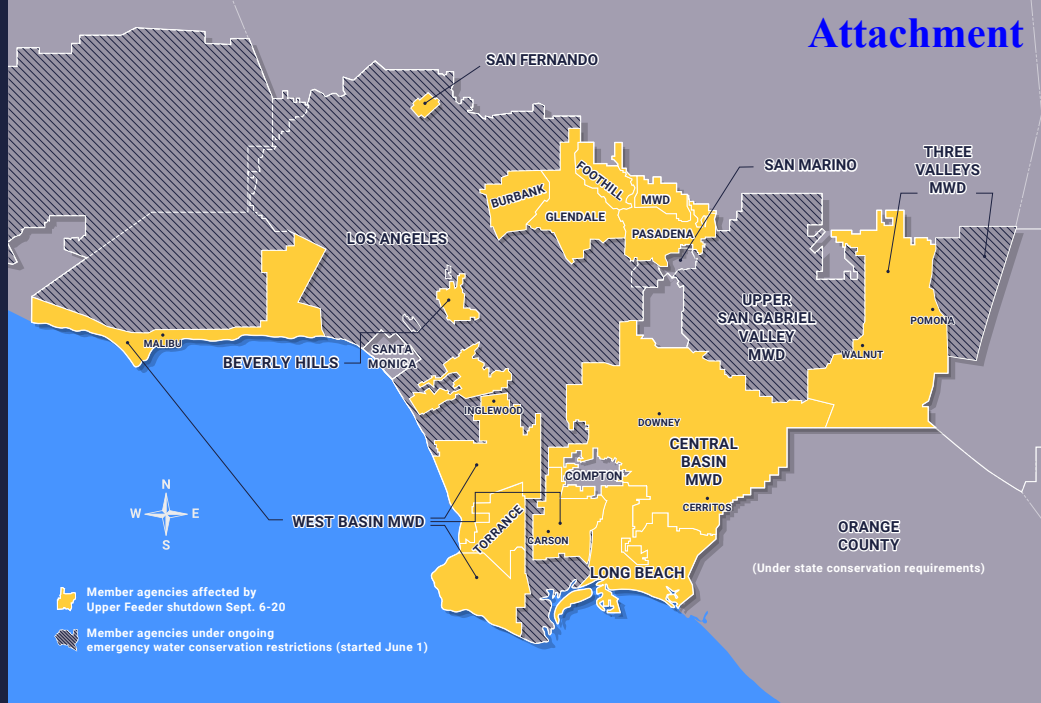
Nem Ochoa, P.E.
General Manager

Attachment(s):

1. MWD Upper Feeder Shutdown Notification



Emergency Repair to Upper Feeder Pipeline



Urgent Call for Action: Sept. 6-20, 2022 NO OUTDOOR WATERING for 15 days

Starting Tuesday, Sept. 6, residents and businesses in portions of greater Los Angeles County are being called on to suspend outdoor watering for 15 days as a critical imported water pipeline is shut down for emergency repairs. The Metropolitan Water District is joined by its member agencies and local retail water agencies in making this urgent water-saving call to maintain and stretch Southern California's severely limited water supplies while Metropolitan repairs this critical pipeline.

Understanding the Shutdown

- The 36-mile Upper Feeder pipeline is an important part of Metropolitan's regional water system, delivering Colorado River water into the region before it is treated and distributed to communities throughout Los Angeles County.
- After a leak was discovered in the pipeline earlier this year, Metropolitan made a temporary repair and began operating the pipeline at a reduced capacity while a more permanent fix was developed.
- Agencies under the water-saving request include the cities of Beverly Hills, Burbank, Glendale, Long Beach, Pasadena, San Fernando and Torrance, as well as Central Basin Municipal Water District, Foothill Municipal Water District, Three Valleys Municipal Water District and West Basin Municipal Water District.
- Residents and businesses who want to know more about how the shutdown will affect them should contact their water provider or email communityrelations@mwdh2o.com.
- Consumers under emergency conservation since June 1 will maintain the existing watering restrictions from their local agencies (see map).
- For the latest information about the shutdown visit: mwdh2o.com/shutdown

Metropolitan, its member agencies and local retailers thank residents and businesses in advance for their cooperation as we repair this critical pipeline. Following are tips on how to prepare your landscaping for no watering Sept. 6-20, and what to do indoors to reduce water usage.

Helpful Tips to Manage Through 15-Day Shutdown

PRIOR TO SHUTDOWN

General Landscaping

- Delay new plantings until after Sept. 20
- Avoid fertilizing lawns and plants prior to the shutdown
- Weed your garden to help make more water available for your plants
- Set your sprinkler timer to the "OFF" position on the evening of Sept. 5

Lawns

- Aerate your lawn and add compost two weeks prior to the shutdown
- Cycle and soak. Short bursts of watering allow time for water to soak into the soil instead of running off your lawn
- Set mowers for a higher cut than normal. Longer blades of grass help reduce evaporation. Or avoid mowing altogether
- Do a normal watering of your lawn according to your agency's watering schedule

Shrubs/Flowers/Ground Covers

- Water deeply and early the morning of Monday, Sept. 5, or on the last day hand watering is allowed in your community before the shutdown
- Add mulch around your plants three inches from the stem. Do not irrigate mulch, pull it away while watering then put back into place
- Shade your plants where possible. Shading can be done with sun cloth, canopy tents or umbrellas
- Water succulents and other desert plants as normal. Do not overwater as that could harm them

Trees

- On Monday, Sept. 5, or on the last day hand watering is allowed in your community before the shutdown, deep-water your trees and shrubs by either hand watering, setting out soaker hoses or watering with a regular hose on a slow trickle. Water until the soil is soaked to a depth of about 8–12 inches
- Surround the tree with mulch before watering for added moisture retention. Make sure the mulch is three inches from the trunk

DURING SHUTDOWN (Sept. 6-20)

Outdoors

- Eliminate all outdoor watering
- Remember, **two weeks of no watering will not kill your lawn.** Though you will see a noticeable yellowing, it will improve once your previous watering schedule resumes
- Do not mow your lawn. Minimize the use — playing, parking vehicles

Indoors

- Put a bucket in your shower to collect water as the shower warms up. Use this water to hand water houseplants and sensitive outdoor plants as well as areas of the lawn that may show excessive stress (the hot spots)
- Take short showers (5-minute max)
- Do not leave water running when washing dishes. Fill a small bin or bucket with water to wash your dishes in. When you're done, use that water for trees or lawns
- Run only full loads in washing machine and dishwasher
- Do not leave water running when brushing your teeth or shaving

bewaterwise.com®
FOR WATER-SAVING TIPS & REBATES

About Metropolitan

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



**BE INFORMED,
BE INVOLVED**

www.mwdh2o.com



@mwdh2o

CRESCENTA VALLEY WATER DISTRICT

BOARD OF DIRECTORS - STAFF REPORT

To: Honorable President and Members of the Board of Directors
From: Nem Ochoa, P.E. – General Manager
Subject: CVWD Strategic Plan Update

Action Item No. 3
August 23, 2022

ACTION ITEM:

Approve the 2022 CVWD Strategic Plan Update

BACKGROUND:

In October of 2019, the CVWD Board of Directors approved the 2020 Strategic Plan after a year-long planning process that utilized the Effective Utility Management (EUM) planning framework developed jointly by the American Water Works Association and the United States Environmental Protection Agency. CVWD staff and Board identified the following strategic goals as the highest priority for the District to pursue over the planning horizon, from 2020 through 2025:

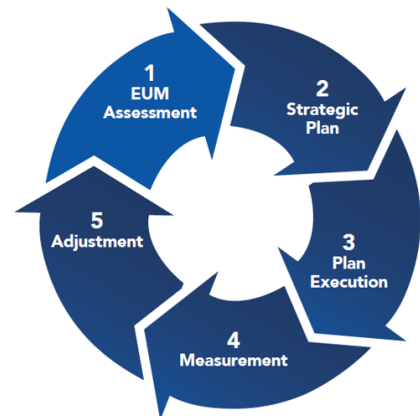
- Reliable Water and Wastewater Service
- Exceptional Customer and Community Service
- Efficiency through Technology
- Fiscal Responsibility
- Protection of Public and Environmental Health
- Regional Collaboration and Synergy
- Employer and Workforce Excellence

DISCUSSION:

As with any plan, it is important to evaluate the progress of its implementation and adapt to changing conditions if necessary. The Strategic Plan Update provides an opportunity for that reassessment to occur (Figure 1), in addition to informing the Board and the community on progress made on the Strategic Plan Goals.

CVWD has made significant progress on the Strategic Plan Goals. The Strategic Plan Update lists over 100 goals and initiatives that were completed over the last two years. These accomplishments are listed in the green-shaded areas of the Strategic Plan Update starting on Page 16.

Figure 1. EUM Planning Feedback Loop



The Strategic Plan Update also evaluates whether new conditions or challenges are impacting the District. Since the approval of the original plan, new or more prominent challenges have emerged:

- Persistent drought impacting all water supply sources (State Water Project, Colorado River and local groundwater)
- Supply chain issues causing delays in construction and operations
- Significant inflation for the cost of goods and services (for construction, operations and maintenance)
- Lower than expected revenues due to drought and conservation
- Global pandemic impacting operational resilience and mission efficacy

The Update reprioritizes and develops new initiatives to mitigate the current challenges. This adaptive approach is necessary to maintain the plan's viability and utility. The updated initiatives are listed in the blue-shaded areas of the Strategic Plan Update starting on Page 17.

The District is on course to execute the updated goals and successfully implement the Strategic Plan Update. Through the acceptance and approval of this plan, the District is confirming its commitment to the community of accomplishing its mission and vision:

Mission: To provide quality water and wastewater services to the Crescenta Valley community in a dependable and economically responsible manner.

Vision: Secure sustainable water supplies and ensure infrastructure reliability, while furthering our commitment to accountability, transparency, and cost-effectiveness.

RECOMMENDATION:

Approve the 2022 CVWD Strategic Plan Update

ENVIRONMENTAL REVIEW:

Not applicable

FUNDING AVAILABILITY:

Not applicable.

Submitted by:



Nem Ochoa, P.E.
General Manager

Attachment(s):

1. Crescenta Valley Water District 2022 Strategic Plan Update



2022 STRATEGIC PLAN UPDATE

2700 Foothill Boulevard, La Crescenta, CA 91214
818.248.3925 | www.cvwd.com



A vertical blue graphic on the left side of the page, featuring a dynamic splash of water with bubbles and ripples, creating a sense of movement and freshness.

TABLE OF CONTENTS

Letter from the Board of Directors and the General Manager	4
About Crescenta Valley Water District	6
Mission, Vision, Values and Guiding Principles	8
Executive Summary	10
Planning Process	11
Strategy Map	12
Goal Update	13
Strategic Goals and Objectives	16-36
Conclusion	38

Final Version Completed August 2022

Crescenta Valley Water District (CVWD or District) is pleased to present the following 2022 Strategic Plan Update, demonstrating our progress on the 2020 Strategic Plan. We are proud to have completed most of the original goals well within the five-year planning horizon.

The following update represents a reassessment of the goals set forth in the 2020 Strategic Plan. It is designed to supplement the original plan and respond to new challenges that the District has successfully navigated over the past two years, including:

-
-  **Persistent drought** impacting all water supply sources (State Water Project, Colorado River and local groundwater)
 -  **Supply chain issues** causing delays in construction and operations
 -  **Significant inflation** for the cost of goods and services (for construction, operations and maintenance)
 -  **Lower than expected revenues** due to drought and conservation
 -  **Global pandemic** impacting operational resilience and mission efficacy
-

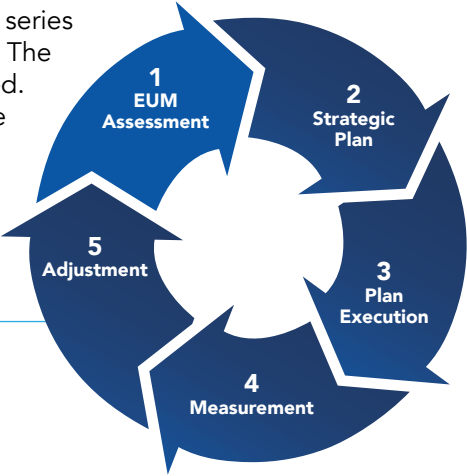
As with any planning process, it is important to evaluate and adjust to changing conditions. This update provided an opportunity to determine how unexpected events may have altered the District's course and which additional goals would most appropriately further the District's mission now and in the future.

In addition to responding to the issues listed above, the update is consistent with the closing step of the Effective Utility Management (EUM) feedback loop. EUM is a framework designed specifically to measure the performance of water utilities, and was used to inform and develop the 2020 Strategic Plan.



As part of the process and in line with the EUM framework, CVWD conducted a series of planning workshops earlier this year to inform the development of the update. The update highlights our plan execution through the goals we have accomplished. The update also reprioritizes existing goals and creates fresh tactics in response to new circumstances, all while continuing to pursue “best-in-class” culture and performance.

Through these deliberate planning efforts and actions, CVWD will continue to meet its mission and strive toward its vision.



BOARD MEMBERS



James Bodnar



Kerry D.
Erickson



Kenneth R.
Putnam



Sharon S.
Raghavachary



Judy L. Tejeda



Nem Ochoa

**GENERAL
MANAGER**

About the District

Formed in 1950 by a vote of residents, Crescenta Valley Water District (CVWD or District) is located in the Crescenta Valley area of Los Angeles County, in the foothills of the San Gabriel Mountains, between the San Fernando and San Gabriel valleys. The District provides water distribution and wastewater collection services to the unincorporated communities of La Crescenta, Montrose and Verdugo City, and small areas within the City of La Cañada Flintridge and the City of Glendale.

CVWD serves about 33,000 people across 4 square miles, in relatively steep terrain ranging from 1,200 feet to almost 3,000 feet above sea level.

Learn more about CVWD and its history at www.cvwd.com/history.



Water At-A-Glance

-  **60%** imported water
-  **40%** local groundwater from the Verdugo Basin
-  **8,000** accounts
-  **12** wells
-  **17** reservoirs
-  **96** miles of water pipelines
-  **11** pressure zones
-  **34** booster pumps
-  **651** fire hydrants
-  **\$23.1 million** facilities asset value¹

Note: The ratio between imported water and local groundwater can vary based on groundwater availability. The 60-40 split can change to 40-60 when there is ample groundwater supply.

Wastewater At-A-Glance

-  **6,300** accounts
-  **92** miles of sewer pipelines
-  **1** lift station
-  **1** monitoring station
-  **1.6 million** gallons per day average flow
-  **\$16.8 million** facilities asset value¹

Mission, Vision, Values and Guiding Principles

MISSION

To provide quality water and wastewater services to the Crescenta Valley community in a dependable and economically responsible manner.

VISION

Secure sustainable water supplies and ensure infrastructure reliability, while furthering our commitment to accountability, transparency, and cost-effectiveness.

VALUES

TEAMWORK

INTEGRITY

PROFESSIONALISM

INNOVATION



GUIDING PRINCIPLES



As debuted in the 2020 plan, the inverted pyramid represents the principle that customers are the highest priority; and that CVWD, its Board of Directors and its employees, are here to serve the community first and foremost.

Executive Summary

In 2019, CVWD undertook an extensive process to develop a comprehensive Strategic Plan. The plan serves as a blueprint for success as the District, like other California water providers, faces a growing number of challenges that affect the cost of providing reliable service.

At the time of the plan's original development, these issues included escalating energy costs, expanding regulatory costs, rising imported water costs, growing cumulative costs of deferred facility maintenance, increasing construction costs, a changing climate, and declining revenues due to conservation measures mandated by the state. Since the creation of the 2020 Strategic Plan, challenges have expanded to include severe drought, supply chain issues, inflation, economic pressure associated with deepening drought and higher conservation and a global pandemic threatening operational resilience.

While addressing these issues, the District must also remain focused on accomplishing its mission and moving toward its vision, as well as maintaining its values and guiding principles.

This 2022 Strategic Plan Update builds upon and realigns the 2020 Strategic Plan in response to changing circumstances, providing an update on goal progress and a guide to short- and long-term decision making.

To view the original 2020 Strategic Plan, go to www.cvwd.com/strategic-plan.



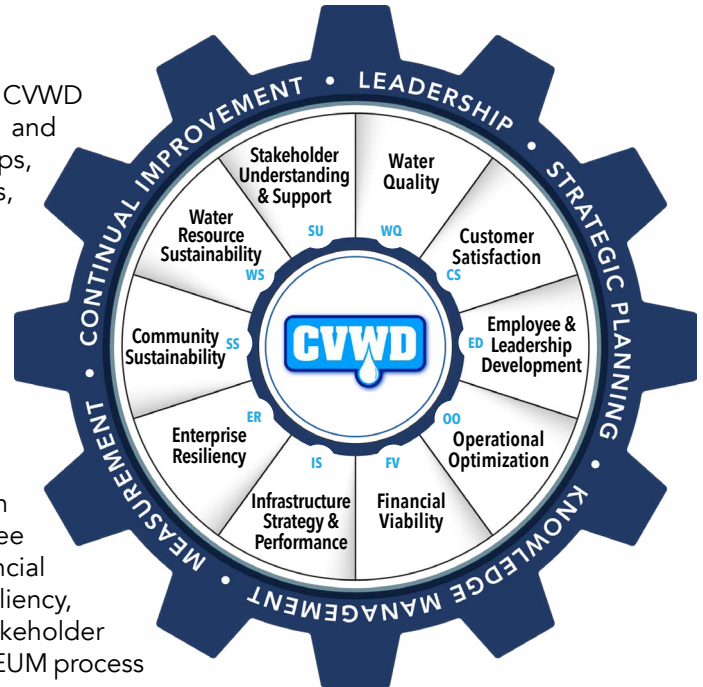
Planning Process

To create the 2020 Strategic Plan and this corresponding update, CVWD formed a planning group consisting of District Board members and staff. The original planning process included structured workshops, surveys and exploration of the District's perceived Strengths, Weaknesses, Opportunities and Threats (SWOT).

Plan development also included a comprehensive effort derived from Effective Utility Management Principles (EUM), which is an industry standard in performance benchmarking in key areas for water and wastewater utilities. EUM was created by utility/regulatory-leading agencies, including the United States Environmental Protection Agency and the American Water Works Association. Research determined that the efficacy of a water utility can be measured by its collective performance in 10 key areas: Water Quality, Customer Satisfaction, Employee and Leadership Development, Operational Optimization, Financial Viability, Infrastructure Strategy and Performance, Enterprise Resiliency, Community Sustainability, Water Resource Sustainability, and Stakeholder Understanding and Support. Detailed information about CVWD's EUM process and results is available in the 2020 Strategic Plan.

Part of an effective EUM process includes continued measurement and adjustment of the Strategic Plan and its goals to ensure successful and appropriate implementation. The EUM cycle on page 5 shows the continued effort toward improvement.

To inform this 2022 Strategic Plan Update, CVWD conducted a series of planning workshops to evaluate how changing circumstances and new challenges impacted CVWD and how the District could maintain alignment with its mission and vision.



Strategy Map

As part of the 2020 Strategic Plan development process, CVWD created the strategy map below to illustrate how it will progress from accomplishing its mission to actualizing its vision. The map illustrates how each strategic goal and objective moves the District from mission to vision (from left to right on the map).



Goal Update

Over the past two years, CVWD made significant progress on the goals identified in the 2020 Strategic Plan. Below is an update on completed initiatives, as well as the direction we are headed as we look toward the 2025 Strategic Plan. The information below also reflects new strategies that were developed during strategic planning sessions conducted in early 2022, in response to new challenges facing the water and wastewater industry.





GOAL OUTLINE



Goal 1 - Reliable Water & Wastewater Service

16



Goal 2 - Exceptional Customer & Community Service

19



Goal 3 - Efficiency Through Technology

23



Goal 4 - Fiscal Responsibility

27



Goal 5 - Protection of Public & Environmental Health

31



Goal 6 - Regional Collaboration & Synergy

33



Goal 7 - Employer & Workforce Excellence

34

GOAL 1 - RELIABLE WATER & WASTEWATER SERVICE



Ensure infrastructure reliability and performance

2020 Strategic Plan Achieved Goals



- ✓ Developed and implemented an infrastructure reliability plan called the "Road Map"
- ✓ Developed a finance plan to support the Road Map
- ✓ Secured a \$5M bond and a 3-year rate increase to support the Road Map
- ✓ Implemented first phase of the Road Map Capital Improvement Plan (CIP)
- ✓ Developed system isolation plan for planned and emergency shutdowns at key reservoirs
- ✓ Completed SCADA upgrades at key facilities
- ✓ Developed and implemented maintenance programs (motor, pumps, MCC, treatment process equipment)
- ✓ Created training modules for specialized operations (control valves, chemical feeds, Allen Bradley communication equipment)
- ✓ Procured on-call emergency construction services contracts
- ✓ Created 30 standard operating procedures (SOPs) on proper inspection, maintenance, and operation of critical infrastructure
- ✓ Completed Glenwood Forebay inspection and cleaning
- ✓ Inspected and serviced back-up generators
- ✓ 2020-2021 Maintenance Activities:
 - ✓ Sewer pipe cleaned: 106,700 feet
 - ✓ Sewer pipe inspected: 10,648 feet
 - ✓ Water services replaced: 126
 - ✓ Water meters replaced: 438
 - ✓ Water mains repaired: 7
 - ✓ Water hydrants replaced: 11
 - ✓ Water hydrants painted: 60
 - ✓ Water valves exercised: 825
 - ✓ Water valves replaced: 4
- ✓ 2020-2021 Completed CIP:
 - ✓ 1.5 miles of Pipeline Replacement
 - ✓ 8" Main Replacement on Brookhill
 - ✓ 8" Main Replacement on La Crescenta
 - ✓ 8" Main Replacement on Janet Lee
 - ✓ 8" Main Replacement on Rosemont
 - ✓ 10" Main Replacement on Encinal
 - ✓ 8" Main Replacement on El Caminito
 - ✓ 3 Reservoir Rehabilitations
 - ✓ Oak Creek Reservoir Rehabilitation
 - ✓ Markridge Reservoir Rehabilitation
 - ✓ Rosemont Reservoir Rehabilitation

GOAL 1 - RELIABLE WATER & WASTEWATER SERVICE *(continued)*



Ensure infrastructure reliability and performance

**Strategic
Plan Update
New Goals**



- ☐ Develop and implement preventative/predictive maintenance schedules for all assets
- ☐ Perform condition assessment on critical infrastructure
- ☐ Implement 2022-2024 Road Map CIP
- ☐ Develop and implement a progressive wastewater system maintenance and safety training program
- ☐ Standardize facility inspections and reports
- ☐ Continue development of SOPs on critical operations and maintenance
- ☐ Develop a scalable CIP with project prioritization capable of adapting to changing conditions
- ☐ Evaluate long-term water treatment needs and options
- ☐ Evaluate current and long-term specialized equipment needs to increase efficiency and safety during operations and maintenance activities



GOAL 1 - RELIABLE WATER & WASTEWATER SERVICE *(continued)*

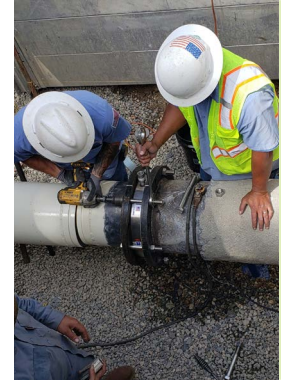


Develop long-term water supply reliability

2020 Strategic Plan Achieved Goals



- ✓ Maintained current level of water efficiency and conservation which exceeds current regulatory requirements
- ✓ Initiated program objectives to facilitate potential stormwater recharge in the Verdugo Basin
- ✓ Initiated a monthly meeting to strategize on local Water Supply Development and Management (WSDM)
- ✓ Implemented increasing conservation levels to support regional efforts to mitigate drought and climate change



Strategic Plan Update New Goals



- ☐ Continue pursuit of stormwater recharge project
- ☐ Evaluate and restructure contracts and agreements to maximize water supply reliability, cost-efficiency, and equity
- ☐ Evaluate alternative water supply options, including conjunctive use and indirect potable reuse (to maximize groundwater storage and production)
- ☐ Reconcile water rights to support conjunctive use programs and other beneficial use
- ☐ Evaluate wastewater treatment and recycled water options
- ☐ Prepare an Integrated Resources Plan (IRP)
- ☐ Establish working groups to facilitate regional water resource planning and development
- ☐ Analyze and develop an operational plan that meets the State Water Resources Control Board emergency curtailment regulation for meeting only "health and safety" water demands - which includes domestic supply, fire protection, and sanitation.

GOAL 2 - EXCEPTIONAL CUSTOMER & COMMUNITY SERVICE



Increase customer awareness

2020 Strategic Plan Achieved Goals



- ✓ Developed and implemented outreach plan to increase public awareness on water issues (e.g. Road Map, aging infrastructure, drought, climate change, state of the District)
- ✓ Developed and deployed customer survey to optimize communication strategy
- ✓ Established Community Advisory Committee to educate and solicit feedback from rate payers on key issues and policy development
- ✓ Deployed technology upgrades to automate communication (increase efficiency and enhance customer outreach)
- ✓ Assessed and upgraded usability and functionality of CVWD website
- ✓ Designed and began construction of the Water Education Center at the main office
- ✓ Created on-line bill calculator/estimator
- ✓ Attended public outreach events such as Crescenta Valley Hometown Country Fair
- ✓ Published monthly and quarterly ads in local newspaper to increase public awareness on District and regional water issues
- ✓ Developed a presence on social media, e.g. Facebook

Strategic Plan Update New Goals



- ☐ Host a CVWD Facilities Tour for the community
- ☐ Complete the Water Education Center
- ☐ Implement new District logo/rebranding
- ☐ Create welcome package for new customers
- ☐ Automate after-hours messages on email
- ☐ Develop and promote water and wastewater education videos that are accessible online
- ☐ Upgrade the weather-based irrigation controller (WBIC) program
- ☐ Increase water education outreach in schools
- ☐ Evaluate and deploy District's presence on other social media outlets
- ☐ Increase community awareness on CVWD services, mission, vision, and values
- ☐ Update FAQs and "cheat sheet" for staff to answer common questions from the public
- ☐ Develop and host a community emergency preparedness event, e.g. "What happens after the Big One - Maintaining essential services during and after an emergency event"
- ☐ Develop a quarterly District newsletter for the community

GOAL 2 - EXCEPTIONAL CUSTOMER & COMMUNITY SERVICE

(continued)



Improve customer service

2020 Strategic Plan Achieved Goals



- ✓ Developed and implemented various online customer service features (e.g. payment, notification, new accounts)
- ✓ Developed webpage to improve consultant, contractor, and developer experience
- ✓ Assessed efficacy of third-party billing provider
- ✓ 2020-2021 Customer Service Activities:
 - ✓ New service requests: 2,148
 - ✓ Meter downloads: 1,104
 - ✓ Meter rereads: 3,056
 - ✓ Fire flow tests: 81



Strategic Plan Update New Goals



- ☐ Improve customer service delivery through professional development training programs, continued interagency idea-sharing, cross-training, and completing/implementing department SOPs
- ☐ Initiate WaterSmart AMI customer engagement



GOAL 2 - EXCEPTIONAL CUSTOMER & COMMUNITY SERVICE

(continued)



Improve emergency preparedness

2020 Strategic Plan Achieved Goals

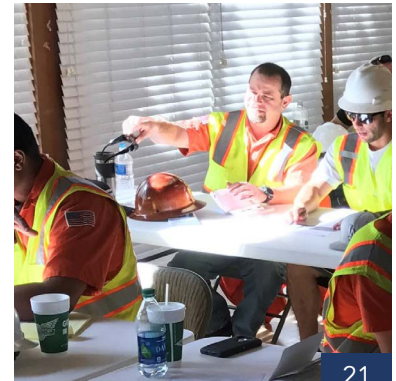


- ✓ Conducted National Incident Management System (NIMS) and Incident Command System (ICS) Training
- ✓ Updated Employee IDs and badges for site access during emergencies
- ✓ Provided magnetic CVWD car decals for personal vehicles for site access during emergencies
- ✓ Implemented pandemic emergency procedures and policies
- ✓ Developed and implemented alternate work schedules during the pandemic
- ✓ Completed the District's Local Hazard Mitigation Plan (LHMP)
- ✓ Completed the District's Operational Contingency & Resiliency Plan

Strategic Plan Update New Goals



- ☐ Conduct emergency table-top exercise with regional stakeholders
- ☐ Establish and equip an Emergency Operations Center (EOC)/Incident Command Center (ICC)
- ☐ Prepare EOC/ICC operation manuals
- ☐ Prepare CVWD emergency plan
- ☐ Participate in the Community Emergency Response Team (CERT) program
- ☐ Conduct training and table-top simulation for sanitary sewer overflow (SSO) response



GOAL 2 - EXCEPTIONAL CUSTOMER & COMMUNITY SERVICE

(continued)



Improve community stewardship

2020 Strategic Plan Achieved Goals



- ✓ Hosted multiple regional blood drives
- ✓ Hosted multiple regional can food (and clothes) drives
- ✓ Implemented the High School Student Leadership and Scholarship Program

Strategic Plan Update New Goals



- ☐ Conduct Veterans Day fundraiser for VFW
- ☐ Participate in Wounded Warrior Project
- ☐ Partner with Woman's Club for "Woman in Water"- event highlighting the successful careers of women at CVWD
- ☐ Continue annual programs:
 - ☐ Blood Drive
 - ☐ Canned Food and Clothes Drives
 - ☐ High School Student Program

GOAL 3 - EFFICIENCY THROUGH TECHNOLOGY

Evaluate automated metering infrastructure (AMI)

2020 Strategic Plan Achieved Goals



- ✓ Developed and approved business case for AMI
- ✓ Completed backbone network and infrastructure for AMI
- ✓ Selected customer engagement platform for AMI

Strategic Plan Update New Goals



- ☐ Complete AMI deployment
- ☐ Evaluate options to accelerate AMI deployment
- ☐ Use smart meters to push important updates to customers (e.g. high water use, leak detection, emergency notification)



Develop energy efficiency measures

2020 Strategic Plan Achieved Goals



- ✓ Evaluated energy provider options (Southern California Edison and Clean Power Alliance)
- ✓ Evaluated Demand Response Program

Strategic Plan Update New Goals



- ☐ Perform energy audit to identify potential cost-savings
- ☐ Evaluate renewable energy options (e.g. solar)



GOAL 3 - EFFICIENCY THROUGH TECHNOLOGY *(continued)*

Optimize business software to maximize functionality

2020 Strategic Plan Achieved Goals

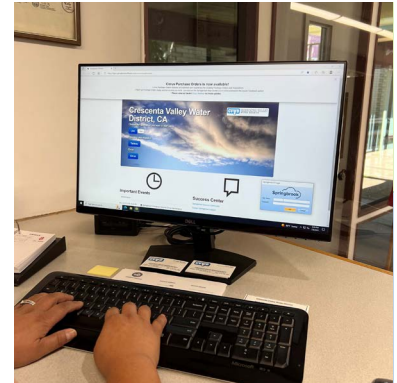


- ✓ Implemented updates to customer service and accounting information system (Springbrook)

Strategic Plan Update New Goals



- ☐ Implement modules to facilitate asset management and operational efficiency
- ☐ Automate and optimize Accounts Payable (AP)
- ☐ Automate payroll processing
- ☐ Evaluate project management software for interdepartmental use



SCADA program

2020 Strategic Plan Achieved Goals

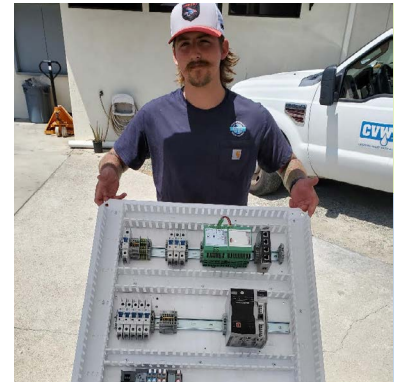


- ✓ Improved efficiency, reliability, and long-term management of SCADA hardware, programming, and integration
- ✓ Migrated to open-source SCADA platform

Strategic Plan Update New Goals



- ☐ Complete SCADA builds and upgrades



GOAL 3 - EFFICIENCY THROUGH TECHNOLOGY *(continued)*



Improve communication reliability

2020 Strategic Plan Achieved Goals



- ✓ Upgraded connectivity and reliability of District communication network
- ✓ Completed Information Technology (IT) Master Plan

Strategic Plan Update New Goals



- ☐ Fully implement voice over internet protocol (VOIP)
- ☐ Implement on-going IT security maintenance and upgrades
- ☐ Complete site-to-site communication upgrades
- ☐ Update HAM Radio System and participate in regional table-top exercises



Improve database management

2020 Strategic Plan Achieved Goals



- ✓ Streamlined data input and reporting
- ✓ Deployed use of handheld devices

Strategic Plan Update New Goals



- ☐ Streamline water quality data input and reporting
- ☐ Audit and reconcile customer account information
- ☐ Fully utilize handheld devices for data management

GOAL 3 - EFFICIENCY THROUGH TECHNOLOGY *(continued)*



Develop geographic information system (GIS)

2020
Strategic Plan
Achieved
Goals



- ✓ Developed and refined GIS system and database
- ✓ Partnered with FMWD for GIS tasking and staffing needs

Strategic
Plan Update
New Goals



- ☐ Deploy full implementation of GIS program
- ☐ Fully leverage GIS capability to assist all departments



Develop decision-support modeling tools

2020
Strategic Plan
Achieved
Goals



- ✓ Updated water system hydraulic model
- ✓ Developed water system optimization model

Strategic
Plan Update
New Goals



- ☐ Develop sewer system model and complete sewer master plan
- ☐ Leverage water system optimization model
- ☐ Update groundwater model
- ☐ Train staff to run hydraulic modeling software
- ☐ Refine demand forecast model to develop and track relationship between water demand, production, revenue, and other external factors (e.g. temperature and rainfall)
- ☐ Partner with the California Data Collaborative to compile and leverage available data sets to facilitate effective data management and data-driven decision-making and policy development

GOAL 4 - FISCAL RESPONSIBILITY



Improve financial stability

2020 Strategic Plan Achieved Goals

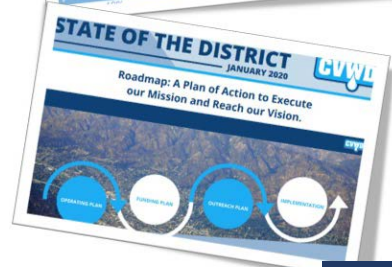


- ✓ Reduced District obligation for future Other Postemployment Benefits (OPEB)
- ✓ Reviewed and revised reserve target policies
- ✓ Obtained a higher credit rating with Standard and Poors
- ✓ Obtained a \$5M bond to fund infrastructure reliability projects
- ✓ Implemented a three-year rate increase to fund infrastructure reliability projects

Strategic Plan Update New Goals



- Evaluate and develop department budgets
- Evaluate and consider drought rate/surcharge
- Perform energy audit with SoCalRen to identify potential energy cost-saving measures
- Evaluate bond finance to keep pace with Road Map CIP (to mitigate lower revenues due to drought and increased conservation)
- Reevaluate the level of fixed-cost in rate structure



GOAL 4 - FISCAL RESPONSIBILITY *(continued)*



Ensure equitable cost of service

2020 Strategic Plan Achieved Goals



- ✓ Completed Cost-of-Service Study
- ✓ Updated development fees for cost recovery

Strategic Plan Update New Goals



- ☐ Evaluate water-budget based rate structure
- ☐ Determine non-rate sources of revenue for low-income and other "affordability" programs

Crescenta Valley Water District

Water and Wastewater Rate Study



Implement asset management

2020 Strategic Plan Achieved Goals



- ✓ Evaluated fleet-lease option
- ✓ Implemented vehicle purchase schedule based on life-cycle cost analysis
- ✓ Completed first phase of Facility Site Inventory

Strategic Plan Update New Goals



- ☐ Develop Asset Management Plan for water and wastewater facilities
- ☐ Develop tools to maximize the useful life and benefit of all District assets
- ☐ Develop and implement preventative/predictive maintenance and replacement programs
- ☐ Evaluate equipment and parts inventory to optimize storage space
- ☐ Develop and implement an effective strategy to optimize real estate assets
- ☐ Evaluate and update competitive maintenance contracts on a periodic basis

GOAL 4 - FISCAL RESPONSIBILITY *(continued)*



Enhance financial reporting

2020 Strategic Plan Achieved Goals



- ✓ Improved job costing, tracking, and analytics
- ✓ Increased transparency, frequency, and accessibility of financial reporting (e.g. monthly dashboard, quarterly updates)

Strategic Plan Update New Goals



- ☐ Create an Investment Dashboard
- ☐ Update CIP Dashboard to facilitate project tracking
- ☐ Implement asset and project costing refinements

GOAL 4 - FISCAL RESPONSIBILITY *(continued)*



Identify cost-recovery or cost-saving measures

2020 Strategic Plan Achieved Goals



- ✓ Repurposed Mills Property for lease
- ✓ Reduced operating costs by \$850,000 per year through reorganization and FTE reduction
- ✓ Obtained federal grant for \$125,000 to prepare Local Hazard Mitigation Plan
- ✓ Obtained ACWA JPIA Wellness Grant for \$1,200
- ✓ Obtained \$75,000 grant for AMI meters
- ✓ Revised trench backfill requirement with LA County, lowering pipeline construction costs
- ✓ Evaluated and renegotiated contracts with suppliers, vendors, and service providers (including financial institutions)
- ✓ Reduced total uncollected revenue from delinquent accounts
- ✓ Recovered cost-of-water fee from LA County for street-cleaning activities
- ✓ Reduced the number of water quality compliance points with Division of Drinking Water
- ✓ Implemented a Meter Download Fee

Strategic Plan Update New Goals



- ☐ Evaluate current Engineering Design Standards & Approved Materials for potential cost-savings
- ☐ Ensure appropriate level of risk transfer with contractors and consultants by centralizing and updating professional services contracts
- ☐ Reduce banking charges
- ☐ Continue pursuit of grant funding
- ☐ Implement water system optimization
- ☐ Evaluate, develop, and implement procurement and contracting BMPs
- ☐ Implement business case analyses/processes throughout all departments
- ☐ Evaluate and implement annexation of 15 water services into City of Glendale
- ☐ Develop and deploy near-term action plan to reduce operating costs; mitigate revenue loss due to drought and increased conservation
- ☐ Pursue Arrearage Program funding for delinquent accounts
- ☐ Evaluate cell tower site leasing for passive income

GOAL 5 - PROTECTION OF PUBLIC & ENVIRONMENTAL HEALTH



Ensure water quality compliance

2020 Strategic Plan Achieved Goals



- ✓ Improved efficiency of samples required by Division of Drinking Water (DDW)
- ✓ Developed facilities to convert water system to chloramination
- ✓ Developed facilities to treat nitrate with bio-remediation technology
- ✓ Installed equipment to improve water circulation in reservoirs
- ✓ Implemented zero-waste hydrant flushing program
- ✓ Completed Division of Drinking Water Annual Water Facility Inspections
- ✓ 2020-2021 Compliance Activities:
 - ✓ Water quality samples taken: 2,148
 - ✓ Backflow connection tests: 248

Strategic Plan Update New Goals



- ☐ Update backflow software and training
- ☐ Update the District's hydrant flushing program
- ☐ Continue to monitor TTHM levels
- ☐ Convert water system to chloramination



GOAL 5 - PROTECTION OF PUBLIC & ENVIRONMENTAL HEALTH

(continued)



Ensure district-wide regulatory compliance

Strategic Plan Update New Goals



- ☐ Establish clearinghouse of all permits
- ☐ Create and implement a master schedule for all permits
- ☐ Establish and maintain clearinghouse to track employee certificates and licensure
- ☐ Cross-train staff in regulatory compliance
- ☐ Create SOPs for regulatory compliance processes
- ☐ Implement cloud-based LIMS (water quality database)
- ☐ Develop water quality dashboard for Operators



Evaluate green power alternatives

2020 Strategic Plan Achieved Goals



- ✓ Determined policy for level of green energy sourcing

Strategic Plan Update New Goals



- ☐ Evaluate renewable energy options (e.g. solar)



GOAL 6 - REGIONAL COLLABORATION & SYNERGY

 Develop and participate in programs to maximize regional collaboration

2020 Strategic Plan Achieved Goals



- ✓ Participated in regional multi-agency stakeholder meetings
- ✓ Established mutual aid agreements with regional stakeholders

Strategic Plan Update New Goals



- ☐ Create partnerships to optimize regional assets (supply, conveyance, and storage) and develop equitable contracts for cost recovery
- ☐ Create partnerships to realize economies of scale for procurement and construction projects
- ☐ Conduct field trips and meet with operational counterparts at other water agencies
- ☐ Develop interagency mixers and events for regional team-building (e.g. softball games)

GOAL 7 - EMPLOYER & WORKFORCE EXCELLENCE



Develop best-in-class culture

2020 Strategic Plan Achieved Goals



- ✓ Developed, adopted, and integrated organizational core values
- ✓ Implemented monthly All-Hands meetings
- ✓ Implemented annual 1-on-1 meetings with GM
- ✓ Implemented HR & Admin "tailgate" weekly meetings with Operations staff
- ✓ Established morale & team-building events (Chili Cook-off, Pancake Breakfast, Shelter-at-Home CVWD Cookbook, and Time Capsule)
- ✓ Revamped performance evaluation process to facilitate transparency and accountability using 360-feedback
- ✓ Encouraged outreach to qualified women and minorities in the workplace
- ✓ Conducted Diversity Awareness training through "Gumbo Event"
- ✓ Participated in 21-day Racial Equity & Social Justice Challenge
- ✓ Conducted 7-Day Effective Communications Challenge
- ✓ Implemented Wellness Program (weight-loss challenge, mind & soul forum, yoga in the park)
- ✓ Implemented Employee Spotlight of the Month

Strategic Plan Update New Goals



- ☐ Develop and implement a Diversity Equity and Inclusion (DEI) strategy
- ☐ Identify and develop employee recognition programs
- ☐ Develop District Employee Intranet
- ☐ Conduct HR Open House
- ☐ Conduct Wellness Webinars
- ☐ Establish team-building goals and programming
- ☐ Train all managers in HR fundamentals
- ☐ Develop and implement culture and morale assessment
- ☐ Improve communication and collaboration across organizational levels
- ☐ Create a committee made up of employees to develop programming to reach best-in-class culture

GOAL 7 - EMPLOYER & WORKFORCE EXCELLENCE *(continued)*



Develop safety-oriented workforce

2020 Strategic Plan Achieved Goals



- ✓ Performed on-going safety training

Strategic Plan Update New Goals



- ☐ Review and update safety program
- ☐ Assign safety program administrator
- ☐ Update safety program SOPs
- ☐ Identify needs for heavy equipment training as required by ACWA JPIA
- ☐ Digitize SDS (Safety Data Sheets)
- ☐ Review and update the Injury and Illness Prevention Program in partnership with JPIA
- ☐ Pursue JPIA Commitment to Excellence grant to fund best-in-class safety program initiatives

GOAL 7 - EMPLOYER & WORKFORCE EXCELLENCE *(continued)*



Productivity and mission efficacy

2020 Strategic Plan Achieved Goals



- ✓ Conducted organizational assessment required to implement Strategic Plan
- ✓ Successfully negotiated and approved the MOU between union employees and the District
- ✓ Successfully negotiated and approved the Terms of Employment with the Management group and the District
- ✓ Updated HR department processes, procedures, and programs to align with BMPs
- ✓ Implemented a 9/80 work schedule to increase efficiency and work-life balance
- ✓ Cross-trained staff to accelerate professional development and improve operational resilience
- ✓ Developed SOPs across all departments

Strategic Plan Update New Goals



- ☐ Assess department processes and compare with industry best practices
- ☐ Evaluate project management software for interdepartmental use
- ☐ Continue to implement succession planning in critical areas
- ☐ Update job descriptions consistent with mission and vision efficacy
- ☐ Develop and conduct resource needs assessment for each department to accomplish Strategic Plan
- ☐ Identify and implement computer training courses across all departments
- ☐ Develop and establish clearinghouse for District-wide SOPs
- ☐ Update HR department processes, procedures, and programs to be best-in-class
- ☐ Evaluate, update, and implement records retention policy
- ☐ Standardize record keeping
- ☐ Fully deploy Employee and Leadership Development Program
 - ☐ Create individualized leadership and career development training programs (for all employees)
 - ☐ Continue to develop and implement training that increases organizational awareness, collaboration, and communication
 - ☐ Set organization-wide goals in the number and types of certifications, licenses, and specialized training
 - ☐ Continue to develop and implement interdepartmental mentorship/cross-training programs to increase operational resilience and to heighten awareness of customer-service potential across departments
 - ☐ Implement career advancement ladders when feasible based on objective metrics/requirements and District need
 - ☐ Implement an on-boarding program for new employees that includes training in core competencies and administrative tasks to accelerate job efficacy
 - ☐ Continue to encourage extended learning and degree attainment in water related fields through CWWD's Tuition Reimbursement Program



CONCLUSION

Conclusion

As CVWD looks ahead to its next Strategic Plan, to be developed in 2025, this update provides a platform and guide to continue the District's trajectory in meeting its mission and realizing its vision. Inspired by Effective Utility Management (EUM) planning principles, CVWD has prioritized and reaffirmed the following overarching goals:



The District is committed to the execution of these goals and will continue to evaluate and adjust as needed to ensure the success and effectiveness of providing water and wastewater service.





2700 Foothill Boulevard, La Crescenta, CA 91214
818.248.3925 | www.cvwd.com

CRESCENTA VALLEY WATER DISTRICT

BOARD OF DIRECTORS - STAFF REPORT

Action Item No. 4
August 23, 2022

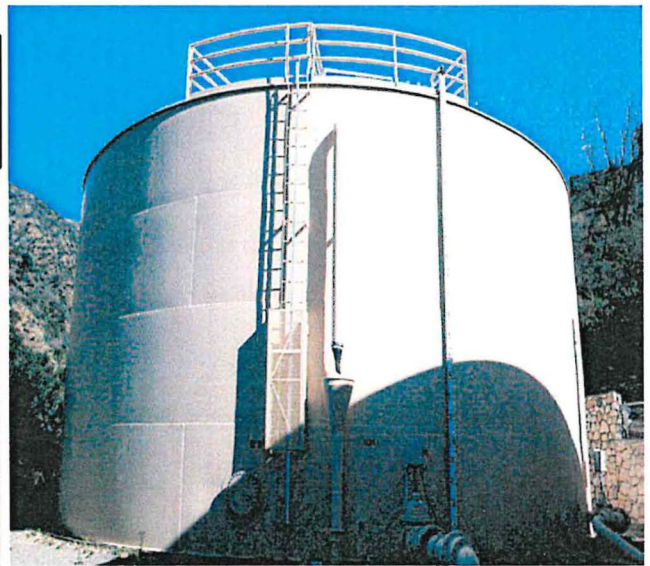
To: Honorable President and Members of the Board of Directors
From: Brook Yared, M.S., P.E. – Engineering Manager
Subject: Award of Contract – Engineering Services for Design of Steel Reservoir Rehabilitation at Goss Canyon No. 1 Reservoir, Project E-1053

AGENDA ITEM

Steel Reservoir Rehabilitation at Goss Canyon No. 1 Reservoir, Project E-1053 – Consideration and motion to authorize the General Manager to enter into an agreement with Harper & Associates Engineering, Inc. to provide professional engineering services for the design of steel reservoir rehabilitation at Goss Canyon No. 1 Reservoir for a cost of \$17,300 and establish a contingency amount of \$1,730 (10% of contract) to cover the cost of unforeseen or additional work.

BACKGROUND:

Crescenta Valley Water District (CVWD) owns the 0.42 MG steel tank at its Goss Canyon No. 1 Reservoir site located at top of Goss Canyon Avenue. The cylindrical steel tank has a diameter of 54 feet, was built in 1954 and is currently used to store and distribute water to customers. In 1996, an assessment was performed by Harper & Associates Engineering, Inc. (Harper) of the District's 17 reservoirs, and it was determined that the Goss Canyon No. 1 Reservoir needed to be re-coated to extend the life of the steel tank. The re-coating of the reservoir, which also included seismic structural upgrades was completed in 1999 and since that time, the interior & exterior of each reservoir have been inspected every five (5) years.



Location Map and Exterior View

In November 2015, the latest inspection revealed troubling data. As shown below, there was moderate to severe corrosion and delamination found on the center support plate. General corrosion was also found at the gusset plates and lower rafter flanges and on the majority of the interior surfaces. The underside of the exterior vent covers, and screens also had moderate to severe corrosion.

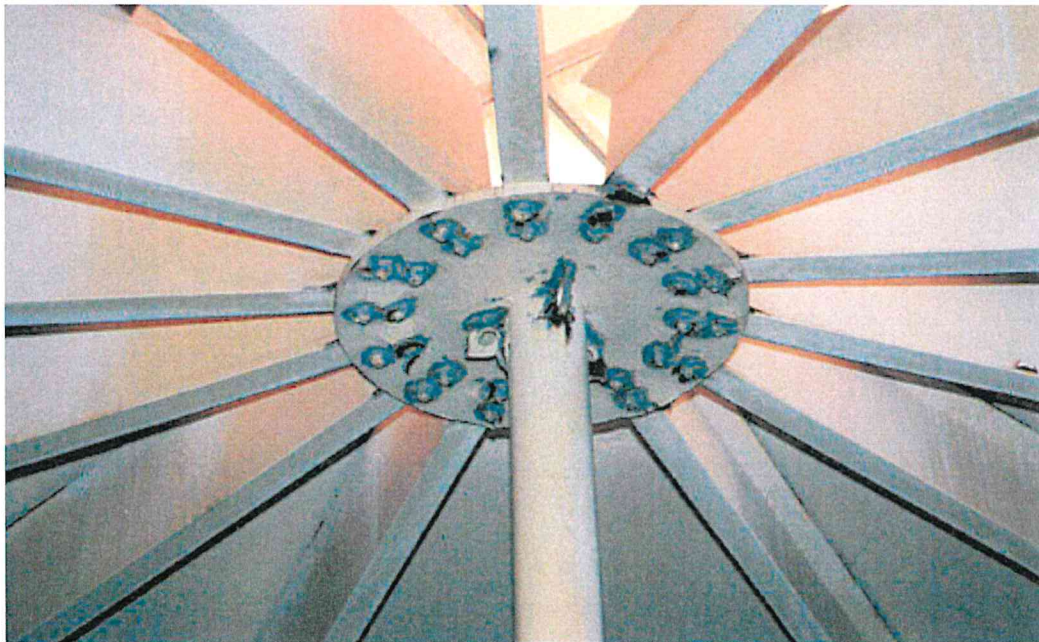


Goss Canyon No. 1 – 2015
Severe Corrosion gusset plate connector



Goss Canyon No. 1 – 2015
Anchor bolt missing at Ladder

In addition, the inspection report revealed severe to moderate corrosion on the roof and rafters above the water line. The report stated that the underside of the roof and structural elements are in poor condition. It was recommended to sand blast, remove the coating and corrosion, and re-coat the interior roof and shell. Additionally, any structural members damaged by the corrosion need to be replaced. The advanced corrosion in the open area above the water line is likely due to the airborne release of chlorine, also known as “off-gassing”, and insufficient ventilation. Poor air circulation traps the chlorine vapor, which should be released into the atmosphere, leading to corrosion above the surface of the water.



Goss Canyon No. 1 - 2015
Delamination on Center support plate and nuts and bolts

DISCUSSION:

An evaluation and inspection have been completed by Harper, as part of the annual 5-year inspection program, and it was recommended that the steel reservoir be rehabilitated. Based on the report’s findings, staff anticipates the condition of the roof and structural members above the water surface will worsen or fail. Staff & Harper recommend that Goss Canyon No. 1 Reservoir be re-coated as part of the FY 22/23 Capital Improvement Projects program.

Staff requested a proposal from Harper to provide engineering services for the design. Harper has been working on CVWD's reservoirs since 1996 and has provided high quality engineering and technical services to the District over the years.

A preliminary project schedule was reviewed and approved. The design plans and specifications will be completed by the mid-September 2022. Followed by advertise for bids in October 2022 and award the contract in November 2022. Construction is expected to start in January 2023, during the winter months, to take advantage of lower demands.

RECOMMENDATION:

Staff reviewed Harper's proposal and based on the understanding of the project, scope of work, consultant fee, project experience, project team qualifications, and project schedule, it is staff's recommendation to award a professional engineering services contract to Harper for the design of Steel Reservoir Rehabilitation at Goss Canyon No. 1 Reservoir at a cost of \$17,300. In addition, staff is requesting to establish a contingency amount of \$1,730 (10% of contract) to cover the cost of unforeseen or additional work.

Harper has intimate knowledge of CVWD's reservoirs including a good understanding of this project, the project cost and the project schedule, which meets the needs of the District.

Staff will have a design kick-off meeting within the next two weeks, which will lay out the project schedule and submittal dates. Christina Kopelman will be the project manager and Peter Hilke will assist with contract administration. This project will require specialty inspection for the re-coating process, and structural improvements, which will be discussed further after the design plans and specifications are completed.

ENVIRONMENTAL REVIEW:

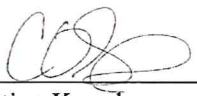
This project is exempt from the California Environmental Quality Act (CEQA) pursuant to Section 15301 of the CEQA Guidelines. This exemption covers the repair of existing facilities involving negligible or no expansion of existing use.

FUNDING AVAILABILITY:

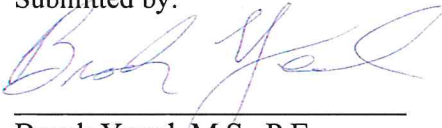
There are sufficient funds available in the following account for the project:

Account Description	Amount
FY 22/23 Water CIP– Water Storage	\$800,000
Cost for Design Services + 10% Contingency	(\$19,030)
Preliminary Cost Estimate for Contractor	(\$640,000)
Costs related to construction administration, materials & inspection services	(\$85,000)
Total Cost Estimate	(\$744,030)
Amount Remaining in Water CIP – Water Storage	\$55,970

Prepared by:

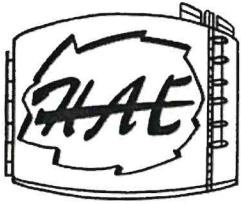

Christina Kopelman
Assistant Engineer

Submitted by:


Brook Yared, M.S., P.E.
Engineering Manager

Attachment:

1. Proposal for Professional Engineering Services for the design of steel reservoir rehabilitation at Goss Canyon No. 1 Reservoir
2. Project Location Map



HARPER & ASSOCIATES ENGINEERING, INC.

CONSULTING ENGINEERS

1240 E. Ontario Ave., Ste. 102-312 Corona, CA 92881-8671

Phone (951) 372-9196 Fax (951) 372-9198

www.harpereng.com

PROPOSAL TO

CRESCENTA VALLEY WATER DISTRICT

FOR

ENGINEERING CONSULTING SERVICES FOR PREPARATION OF TECHNICAL SPECIFICATIONS AND PLANS FOR A WELDED STEEL WATER RESERVOIR

I. PROJECT DESCRIPTION

A. The 0.42 MG (24' x 54') water storage reservoir is located on a District-owned site in La Crescenta, California and is designated as the Goss Canyon Reservoir #1.

B. SCOPE OF WORK – SPECIFICATIONS COST ESTIMATE AND BID PACKAGE

1. Meet with District to finalize the scope of work for the Reservoir, based on utilizing reports and estimated costs.
2. Accomplish site visit to gather needed dimensions and information for preparation of plans for structural modifications.
3. Prepare technical specifications covering interior coating and exterior painting for the reservoir.

- a. Paint Entire Exterior of Tank
- b. Remove Coal Tar Enamel Coating on Bottom

4. Prepare technical specifications and CAD drawings for the reservoir for the safety and health upgrades and structural modifications, including but not limited to the following:

- a. Minor Welding Repair
- b. Nuts and Bolts
- c. Tie-rods and lateral bracing
- d. Auxiliary Vents with solar powered fans
- e. Rafter Repairs
- f. Self-closing gate
- g. Vent Screens
- h. 3'x 3' roof hatch
- i. Staircase
- j. Personal Fall Restraint

- k. Grade Band
- l. Sample Ports

5. Prepare technical specifications and CAD drawings for a new galvanic cathodic protection system. Drawings to be accomplished in AUTOCAD.
6. Submit two copies of plans and specifications for 90%, and 100% review, and accomplish all revisions determined needed.
7. Upon approval of the plans and specifications, an electronic file in AutoCad of the plans and an electronic file in Word of the specifications shall be supplied to the District.
8. Prepare a bid package for the reservoir, including all District Boiler Plate, Technical Specifications, General and Special Provisions, for project and provide in an electronic file.
9. Furnish District with an engineer's estimate for project in accordance with the bid schedule generated.

B. SCOPE OF WORK - BIDDING ASSISTANCE

1. Furnish District with a list of potential bidders to forward the Notice of Inviting Bids to qualified contractors.
2. Provide telephone liaison with potential bidders as regards all matters concerning bidding of the project and preparation of addenda as required to document design changes or clarifications.
3. Assist District in conducting a Pre-Bid Conference for the project to ensure prospective bidders are totally aware of scope of work and local conditions.
 - a. Prepare minutes of Pre-Bid Conference covering all aspects of contractor's questions and clarifications of project to be emailed to Contractors and to become part of the contract documentation.
4. Assist District in evaluation of bids received and make recommendations for award or rejection.

II. SCHEDULE

- A. Work noted above would commence at a mutually agreed time upon execution of a written agreement and receipt of a Notice to Proceed.

III. DISTRICT RESPONSIBILITIES

- A. The District shall provide the following items, personnel and/or services to be utilized in connection with this work.
 1. The District shall make available to the Consultant reasonable and timely staff input for purposes of conference discussion, reviewing submissions from the Consultant, providing information and/or suggestions relating to the work in a manner such that

the Consultant may meet the project completion schedule.

2. The District shall provide designated water operations person for access to reservoir site upon request by the Consultant at time and in the manner mutually agreed upon as required to accommodate work of Consultant.
3. District will provide payment on monthly progress estimates to the Consultant based upon work accomplished during the previous month or portion thereof.

IV. WORK PRODUCT

- A. The District designee shall at all times have access to the work product of the Consultant while it is under preparation or in progress. Upon completion of the project, all drawings, documents, and notes shall become property of the District, including all sketches and correspondence.

V. DESIGNATED REPRESENTATIVES

- A. Project shall be under direct control of Ms. Krista Harper, P.E., to whom all questions may be directed. It is understood the District's representative will be Ms. Christina Kopelman, who will provide the interface between the District's Staff and Consultant.

VI. COST ESTIMATE

- A. Based on previously noted Scope of Work to update the project – SPECIFICATIONS, COST ESTIMATE AND BID PACKAGE, estimated cost for performing services would be \$17,300 based on the following:
 1. Coating, Painting, and Safety and Structural Specifications & Plans \$10,500
 2. Cathodic Protection Specifications and Plans \$3,000
 3. Preparation of the Bid Documents \$1,800
- B. Based on previously noted Scope of Work - BIDDING ASSISTANCE would not exceed \$2,000, based on work being accomplished with A. above.
- C. Additional meetings and work as directed by District = Hourly basis

VII. INSURANCE COVERAGES

- A. Consultant will provide and maintain in full force and effect, while operating under an agreement with District, a comprehensive liability insurance policy which shall include bodily injury, and property damage coverage of \$4,000,000 combined single limit, automobile liability insurance with limits of \$2,000,000, worker's compensation insurance with limits of coverage as prescribed by law, and an Errors and Omissions professional liability policy with a minimum limit of coverage of \$2,000,000. The above noted insurance coverages are currently in force with Consultant.

VIII. INDEMNITY

- A. District shall hold Harper & Associates Engineering, Inc., harmless from any and all liability to perform beyond the exact confines of the services offered in this proposal.

IX. ACCEPTANCE OF PROPOSAL

- A. The cost estimate, terms and conditions of this proposal are valid for sixty days from receipt of proposal. Acceptance shall be deemed valid upon receipt by Harper & Associates Engineering, Inc. of the original proposal executed by the District's authorized representative within noted time frame. Acceptance will be in whatever form is routinely used by District.

X. CONFIDENTIALITY OF PROPOSAL

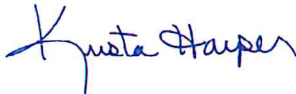
- A. The content of this proposal and any conversations with Consultant regarding this proposal are considered to be confidential and is not for publication, discussion or knowledge of any person or persons who are not employees of District.

XI. TERMINATION OF AGREEMENT

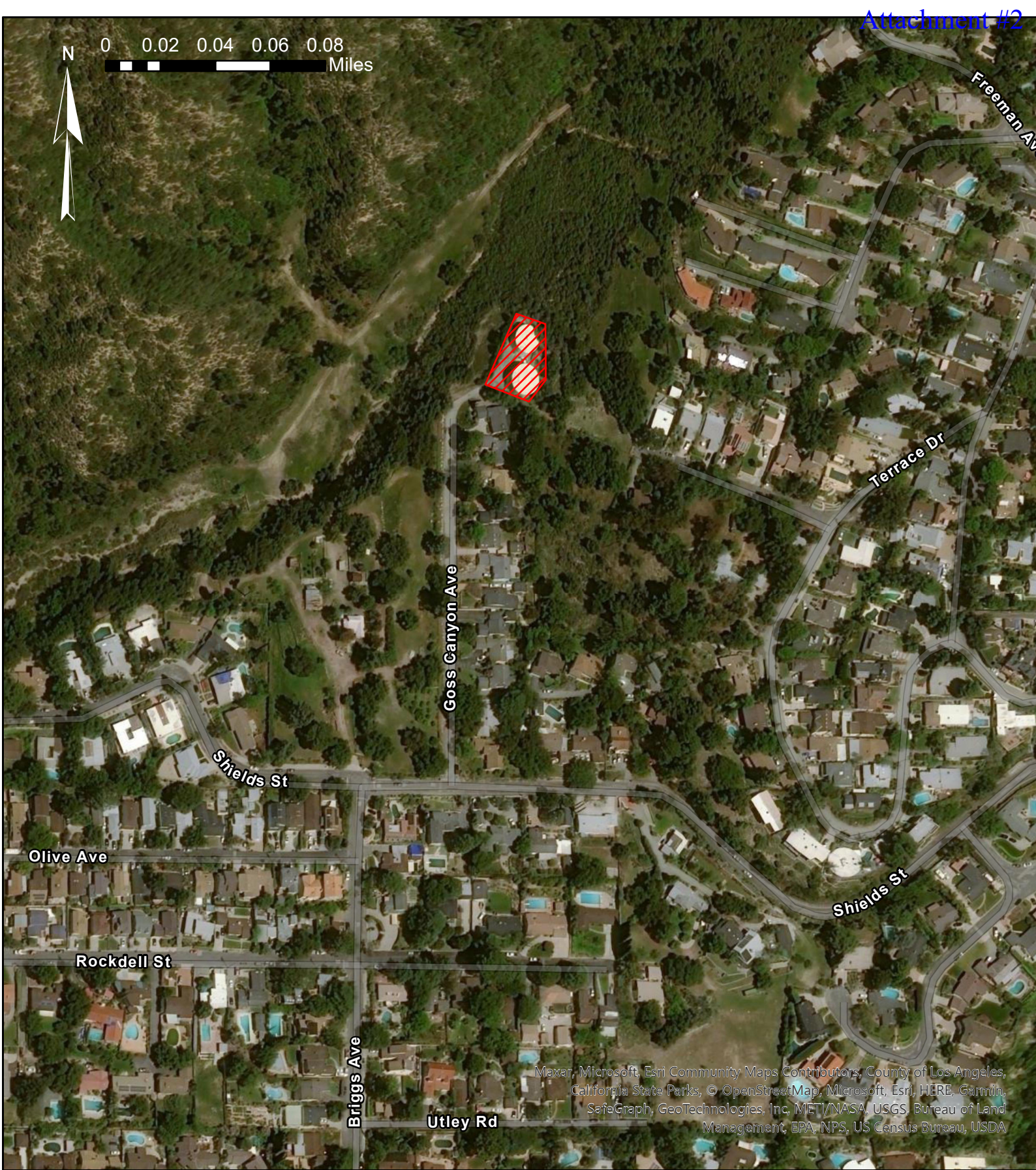
- A. District may terminate this agreement at any time prior to the completion of the services to be furnished by Harper & Associates Engineering, Inc., by giving a written notice of termination to Harper & Associates Engineering, Inc., in which event District shall only pay Harper & Associates Engineering, Inc., as provided herein for work done prior to receipt of such notice of termination, plus the necessary and reasonable cost of termination (not to exceed \$500.00).
- B. In the event District terminates this agreement, Harper & Associates Engineering, Inc., shall furnish District a copy of all work effort and product in progress to the date of termination.

Respectfully submitted,

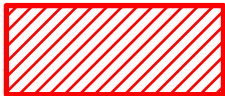
HARPER & ASSOCIATES ENGINEERING, INC.



Krista Harper
Vice President



Rehabilitation of Goss Canyon No.1 Reservoir, Project No. E-1053



Project Location -
Goss Canyon No.1



CRESCENTA VALLEY WATER DISTRICT

BOARD OF DIRECTORS - STAFF REPORT

Action Item No.5
August 23, 2022

To: Honorable President and Members of the Board of Directors
From: Nem Ochoa – General Manager
Subject: **Nominations of Candidates for LAFCO Special District Voting Member**

ACTION ITEM:

Nominations of Candidates for LAFCO Special District Voting Member Candidates –

Consideration and possible motion to authorize a member of the Board to submit their name for nomination for the office of LAFCO Special District Voting Member.

BACKGROUND:

On July 27, 2022, the District was informed that the LAFCO Special District Voting Member Representative, Mr. E.G. “Jerry” Gladbach, had passed away. Mr. Gladbach was elected in April 2022 to serve as Commissioner.

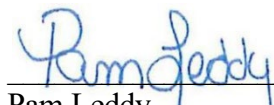
Since 1994, special districts in Los Angeles County have been represented by two voting and one alternate member of the Local Agency Formation Commission. The term of office held by E. G. “Jerry” Gladbach was to expire in May 2026.

By law, independent special district seats on LAFCO are filled by the Special District Selection Committee. That Committee is made up of presiding officers of each independent special district in Los Angeles County.

LAFCO has retained Mr. William Kruse of Lagerlof, LLP to conduct the nominations for the Special District Voting Member position. Included in this package are the forms to be used to nominate candidates for consideration for this position. After the nominations are received, each district will receive a complete package of nominee resumes, together with a ballot for consideration by the Board. Voting will be conducted by mailed ballot.

To be eligible, the nominee must be an elected official or appointed by the Board for a fixed term. Nominations must be received at the offices of Lagerlof, LLP no later than 5:00 p.m. on September 21, 2022.

Prepared by:



Pam Leddy
Administrative Assistant

Submitted by:



Nem Ochoa
General Manager

NOMINATION
OF
INDEPENDENT SPECIAL DISTRICT **VOTING MEMBER**
TO THE
LOS ANGELES COUNTY LOCAL AGENCY FORMATION COMMISSION

To: Independent Special District Selection Committee

From: _____

Date: _____

Name of Candidate: _____

_____ is pleased to nominate

_____ as a candidate for appointment as special district **voting**

member to the Los Angeles Local Agency Formation Commission. The nominee is an elected official or a member of the board of an independent special district appointed for a fixed term. For your consideration, we submit the following additional information together with a resume of the candidate's qualifications.

Elective office: _____

Agency: _____

Type of Agency: _____

Term Expires: _____

Residence Address: _____

Telephone: _____

PLEASE ATTACH RESUME OR CANDIDATE STATEMENT (limit one page)

(Name of Agency)

By: _____

Its: _____

Repairs to Pipeline Require Extreme Water Conservation



Already in an Orange Level of water conservation, residents are asked to conserve even more from Sept. 6 to Sept. 20 due to a pipeline repair.

Photo by Mary O'KEEFE

By Mary O'KEEFE

NASA missions explore the solar system for new worlds and water, or signs of ancient water sources, as evidence that indicates life. In fact, NASA's motto in exploration is "follow the water." Explorers of the universe know the value of finding water but for most people on Earth, water has been one of those elements that have been taken for granted ... but not so much anymore.

After decades-long drought, water levels in Lake Powell, the second largest human-made reservoir in the U.S., have shrunk to their lowest level since it was created more than 50 years ago, according to Environmental Site Assessment (ESA) Earth Observation.

Lake Mead, the largest U.S. reservoir, located on the Colorado River between Nevada and Arizona, has shrunk to historic low levels dropping to 30% of its capacity, according to a NASA/Jet Propulsion Laboratory.

The two lakes feed into the Colorado River, which is the water lifeline to California, Arizona and Nevada – all states dealing with historic droughts prompted by climate change.

Water conservation has been ordered by most water districts across affected states. For example, Crescenta Valley Water District is now at the Orange Level, which means outdoor irrigation is limited

to no more than two days per week. Outdoor irrigation is permitted on Tuesdays and Saturdays before 9 a.m. and after 5 p.m. However, from Sept. 6 to Sept. 20 extreme water conservation measures will be implemented due to repairs to a water pipeline that delivers water from the Colorado River to water customers in Glendale, Burbank and Crescenta Valley as well as many other districts across the region.

“Starting Tuesday, Sept. 6, most of Southern California residents and businesses are being called on to suspend outdoor watering for 15 days as a critical water pipeline is shut down for emergency repairs,” according to Glendale Water and Power.

The pipeline is part of the Metropolitan Water District’s regional water system. MWD is putting out an urgent water-saving call to stretch Southern California’s severely limited water supplies.

CVWD receives 50% of its water from MWD, GWP receives 60% and Burbank is 100% dependent on imported water. According to Burbank Water and Power, Burbank is 100% dependent on imported water from MWD, which is attained from the Colorado River via the Colorado River Aquaduct and northern California rivers via the State Water Project.

Drought conditions have severely impacted the supply of water available from the State Water Project. Burbank elected to limit the water taken from the State Water Project to ensure adequate water supply to other communities that are solely dependent on this source. This year Burbank has been depending on receiving water exclusively from the Colorado River; therefore, this major pipe repair will not allow water to flow to the Burbank area because the shutdown by MWD means that most Southern California cities must take water from the State Water Project.

But the shutdown is also a chance for people to practice water conservation. As the drought continues and climate change effects are here to stay, water conservation is something everyone will have to get used to.

The water districts have shared tips on how to prepare for this 15-day stretch of no outdoor watering:

Fill up rain barrels and cisterns with a hose now to store for watering during Sept. 6 and Sept. 20.

Deep water trees to allow roots to absorb more water ahead of the two-week restriction.

Adding four-inches of mulch around trees, shrubs and flowerbeds will help reduce water evaporation from the soil.

Aerate lawns and add compost two weeks prior to the shutdown. Cycle and soak; short bursts of watering allow time for water to soak into the soil instead of running off the lawn.

Set mowers for higher cut than normal. Longer blades of grass help reduce evaporation or avoid mowing altogether.

Glendale suggests during the shutdown to put a bucket in the shower to collect water as the shower warms up. Use that water for houseplants, sensitive outdoor plants and areas of the lawn that may show excessive stress or hot spots.

Take short showers, five-minute maximum, and do not leave water running when washing dishes. Fill a small bin or bucket with water to wash dishes. When done use that to water trees and grass.

For more water-saving tips, visit www.bewaterwise.com.



Repairs to Pipeline Require Extreme Water Conservation added by [CV Weekly](#) on August 18, 2022

[View all posts by CV Weekly](#) →

CRESCENTA VALLEY WATER DISTRICT

General Manager Report

GM Report

August 23, 2022

To: Honorable President and Members of the Board of Directors
From: Nem Ochoa, General Manager
Subject: **General Manager Report**

General Managers Report Topics:

- GM Activities

The following are some highlights in this month's report:

- Water Conservation & Public Affairs Report
- Maintenance & Operations Report
- Water Production, Hydrology, and Engineering Report

STAFFING

Two (2) employees have a work anniversary in August. Darlene Telles – 9 years and Seth Jones - 1 year.

As of August 18th, the District has gone 219 days without a lost time accident.

GENERAL MANAGER ACTIVITIES

Meetings:

FMWD Meeting to Discuss MWD Repairs (1 of 2)	- August 1 st
Interagency Water Supply Development Meeting	- August 3 rd
Weekly Managers Meeting	- August 8 th
FMWD Retail Agency Managers Meeting	- August 10 th
Assemblymember Friedman Webinar on Water	- August 11 th
Managers Workshop	- August 15 th
FMWD Meeting to Discuss MWD Repairs (2 of 2)	- August 16 th
Town Council Meeting	- August 18 th

Submitted by:



Nem Ochoa
General Manager

CRESCENTA VALLEY WATER DISTRICT

BOARD OF DIRECTORS - STAFF REPORT

August 23, 2022

To: Honorable President and Members of the Board of Directors
From: Christy J. Colby
Subject: Water Conservation and Public Outreach Update

Monitoring Report Submitted to State for July 2022:

Production Numbers

➤ Total Water Production July 2022:	347.5 AF
➤ Total Water Production July 2013:	467.3 AF
➤ Total Water Production July 2021:	404.5 AF
➤ Total Water Production July 2020:	426.5 AF

Compliance Reporting

➤ Days of outdoor Irrigation Allowed:	2
➤ Number of Water Waste Complaints:	
➤ Number of Follow-ups:	
➤ Number of Warnings:	
➤ Number of Penalties:	

Voluntary Water Reduction Goal, 20% from 2020 Usage

➤ Percent Reduction from 2013	25.6 %
➤ Percent Reduction from 2021	14.1 %
➤ Percent Reduction from 2020	18.5 %

Public Outreach for July 2022

- Face Book Posts, 1, and 2 new followers (we are up to 70)
- CV Weekly
 - 1 Ad - CVWD Board Elections
- Website
 - 3,077 website Visits, Home Page 3,785 Views
 - Most popular day, July 3, 2022
- Everbridge
 - 6 messages – 1 Emergency water shut offs and 3 planned outages, 2 Notice of Construction.

Field Maintenance and Operations Report

July 2022

0

Water Main Repairs

15

Water Service
12 Repairs/ 3 Replacements

4

After Hours Leaks/Repairs

17,231'

Sewer Maintenance
Cleaned: 13,889', Inspected: 3,342', Reports: 0

- **Field Maintenance Projects**

- * Valve Replacement Program

- New York & Brookhill - Removed

- New York & Henrietta - Replaced

- **Operations Report**

- * Glenwood Booster: #33 VFD service

- * Chlorination Equipment Maintenance: Wells 5 & 11

- * Well #2/Aronite Plant: Filter vessel repaired

- **Electrical/Telemetry**

- * E-939

- Programmed mods & calibration: Wells 5, 7, 8, 9, 11, 14, 16

- * La Granada Lift Station (E-962)

- Job Walk with AGS

- * Glendale Sewer Diverter Valve Station: Repaired generator & electric meter enclosure lock assemblies

- **Wastewater**

- * Lift Station visits: 4 (De-rag pumps, check valves & add degreaser)

Field Maintenance and Operations Report

July 2022

Days without a lost-time incident: 201

181

Water Quality Samples

93

Valves

Replace: 1, Exercise: 91, Remove: 1

35

Fire Hydrant Maintenance

Rebuild: 0, Replace: 2, Inspect: 33

40

Water Meter Replacement

¾": 38, 1": 2, 1.5": 0, 2": 0, 3": 0, 4": 0

- **Training/Cross Training**

- * Line Locating
- * Glenwood Plant

- **New Certification**

- * None to report

- **Safety**

- * Glenwood Plant
 - Trenching & Shoring

Engineering Report

August 23, 2022
Staff Report

To: Honorable President and Members of the Board of Directors
From: David S. Gould, P.E. – Director of Engineering & Operations
Subject: **Engineering Report – July 2022**

1. Water Production Report

- July 1 – 31 – Water production – 53%/47% split – 113.5 MG for the month
- Average use 16.6% less than 2021 and 16.7% less than 5-yr average

2. Rainfall Update

- 0.00” for July 2022
- Rainfall Total for Rainfall Year 2021/22 – 17.02”

3. Report on Engineering

- **FY 22/23 Capital Improvement Project**

- Project 1 – 2600 & 2700 Blocks of Orange Ave
 - Kickoff Meeting – 8/9/22
- Goss Canyon #1 Reservoir Rehabilitation – See Staff Report
- Conversion to Chloramination – See Staff Report

- **FY 21/22 Capital Improvement Projects**

- FY 21/22 – Pipeline Replacement Program
 - Project 1 – 2800 to 3100 Blocks of Los Olivos
 - Final Paving – Week of August 29, 2020.
 - Completion Date – September 9, 2022
 - Project 2 – 4700 & 4800 Blocks of Cheryl
 - Start Date, August 22, 2022
 - Completion Date – November 15, 2022
- SCADA System Upgrades – Under Design & Installation
- Wastewater Master Plan – In Progress
- Ramsdell Mixing Station/Pressure Reducing Station – In Progress
- Well 9 Rehabilitation – No Report
- Booster Pump 26 at Cresta Heights Rehabilitation – No Report

- **FY 20/21 Capital Improvement Projects**

- Emergency Generator at Sewer Lift Station
 - Under Construction
 - Completion – November 2022

- **Grant Program**

- Cal OES - New emergency generators and seismic feasibility study - submitted on 4/8/22
- USBR Small-Scale Water Efficiency Grant 2022 – 1-½-inch Meters submitted on 4/28/22
- USBR Small-Scale Water Efficiency Grant 2020 - 3” & 4” Meters – In Progress
- Stormwater Capture Project at Crescenta Valley County Park – No Report

- **AMI Customer Engagement Portal**

- Completed Phase 1 of software integration
- Phase 2 – Completed layout for customer engagement portal

4. **Developer Projects**

- D-21-G2 – Complete – Reimbursement Claim 2
- 2341 Mira Vista – New 4 Units – Reconciliation and Transfer of Ownership
- 4360 Ocean View – 3 Units upgraded to 7 units – Plan Check
- 2201 Honolulu – New 4" water main – Contractor Experience Review
- 2434 Foothill – 31 New Units – Hydraulic Modeling
- Waiting on Developer
 - 3037/3043 Foothill – New 38 Units and mixed commercial
 - 1961 Waltonia – New 6 units
 - 4521 Briggs/2413 Foothill – New 70 units
 - 3900 Park Place – New 28 units
 - 2345 Mira Vista – New 4 units

5. **FMWD** – Construction – Re-coating La Crescenta Reservoirs – one reservoir complete

CRESCENTA VALLEY WATER DISTRICT

WATER PRODUCTION REPORT

July 1 - July 31, 2022

Well Production:	54,180,570	Gals		
GWP Production:	4,679,000	Gals		
Gravity Production:	1,281,989	Gals	% GW	53%
FMWD:	53,349,641	Gals		
City of Glendale:	0	Gals	% Import	47%
TOTAL:	113,491,200	Gals		
	348.29	ac-ft		

Glenwood Nitrate Water

Reclamation Plant:*

0

*Included in Well Production

WATER DEMAND COMPARISON

Time Period	Average Daily Usage (gals)	Current Period Change
July 1 - July 31, 2022	3,561,132	
July 1 - July 31, 2021	4,269,687	-16.6%
5-yr Average - June 2017 - 2021	4,275,233	-16.7%

RAINFALL: July 1 - July 31, 2022

0.00"

Season-To-Date:

17.02"

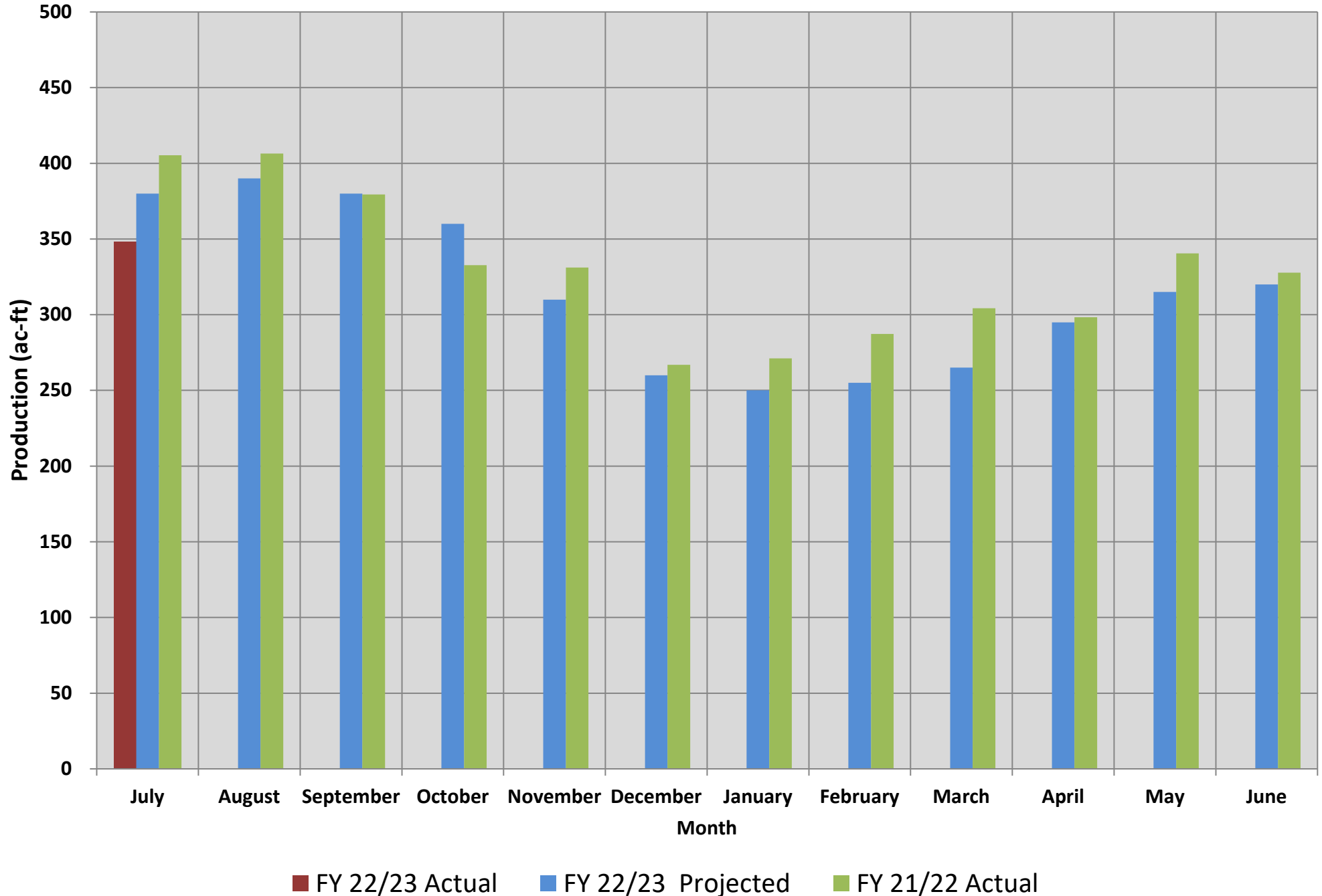
2022/23 Fiscal Year Water Production			WY 21/22 - Groundwater Production Water Rights		GWP (Well 16) Water Production - 2022		Purchased Water Production Tier 2 Allocation - 2022	
Month	Actual Total Water Production (ac-ft)	Projected Total Water Production (ac-ft)	Month	Month	Month	Well Production (ac-ft)	Month	Imported Water Production (ac-ft)
July	348	380	October	162	January	16	January	101
August		390	November	159	February	13	February	122
September		380	December	149	March	15	March	121
October		360	January	154	April	15	April	120
November		310	February	152	May	15	May	154
December		260	March	168	June	14	June	148
January		250	April	164	July	14	July	164
February		255	May	172	August		August	
March		265	June	166	September		September	
April		295	July	170	October		October	
May		315	August		November		November	
June		320	September		December		December	
Total to Date	348	380	Total to Date	1,617	Total to Date	102	Total to Date	930
Projected	3,748	3,780	Water Rights	3,294			Tier 2	2,154
% of Projected	9.2%	10.1%	% of Rights	49%			% of Allocation	43%
Remaining	3,432	3,400	Remaining	1,677			Remaining	1,224

NOTE:

1) Blue Numbers = Estimated Water Production

Monthly Water Production:

FY 22/23 Actual, FY 22/23 Projected & FY 21/22 Actual



Monthly Rainfall - 1963/64 - 2021/22 (Oct.- July)

