



## **MEINERS OAKS WATER DISTRICT BOARD OF DIRECTORS** **REGULAR MEETING AGENDA**

Due to the ongoing COVID-19 pandemic, all meetings of the Board will be conducted via teleconference until further notice, in accordance with CA AB 361.

**JOIN BY COMPUTER:** <https://meet.goto.com/251559557>

**DIAL-IN (US TOLL-FREE):** [1 877 309 2073](tel:18773092073)

**ACCESS CODE:** 251-559-557

*If you require special accommodations for attendance at or participation in this meeting, please notify our office 24 hours in advance at (805) 646-2114.*

*(Govt. Code Section 94594.1 and 94594.2 (a))*

**February 15, 2022 at 6:00 pm.**

- 1. Call meeting to order**
- 2. Roll call**
- 3. Approval of the minutes:** January 18, 2022, Regular Meeting
- 4. Public comment for items not appearing on the agenda**

Right to be heard: Members of the public have a right to address the Board directly on any item of interest to the public that is within the subject matter jurisdiction of the Board, provided that no action shall be taken on any item not appearing on the agenda unless the action is otherwise authorized by subdivision (b) of Section 54954.2.

Please Note: If you have comments on a specific agenda item(s), please fill out a comment card and return it to the Board Secretary. The Board President will call on you for your comments at the appropriate time, either before or during the Board's consideration of that item.

**Closed Session Agenda** - Adjourn to Closed Session (**6:10 pm**): *It is the intention of the Board of Directors to meet in Closed Session to consider the following items:*

### **5. Closed Session Items**

- a) The Board of Directors may hold a closed session to discuss personnel matters or litigation, pursuant to attorney/client privilege, as authorized by Government Code Section 54957, 54956.8, & 54956.9 and 54957.
  - State Case: SBCK vs. SWRCB, San Francisco Superior Court, Case # CPF-14-513875
  - Meiners Oaks Water District vs. Moll, Ostling and Ojai Vista Farms 56-2018-00515474-CU-OR-VTA/
  - Personnel Matters

**Regular Agenda (\*\*Reconvene Regular Meeting, Estimated Time 6:45 p.m.\*\*\*)**

*Agenda, Regular Board Meeting*

*February 15, 2022*

## 6. Financial matters

Approval of Payroll and Payables from January 16, 2022, to February 15, 2022, in the amount of:

Payables –	\$ 150,036.99
Payroll –	\$ 40,608.38
Total –	<u>\$ 190,645.37</u>

## 7. Board action and/or discussion

- a) Approve Resolution 20220015: AB 361 – Brown Act: Remote Meetings During a State of Emergency, subsequent to Resolution 20220118. (Ward) – Attachment  
Recommended Action: Approve Resolution 20220215: AB 361.
- b) Discuss and provide direction on development of policy for New Meters & Expansion of Services, moratorium on new meters. (Kentosh) – Attachments  
Recommended Action: Provide direction on moratorium for new meters and development of policy.
- c) Discuss Interim Will Serve Request Procedures. Approval of pending Will Serve request for 142 S. Poli. (Engle/Kentosh) – Attachments  
Recommended Action: Discuss, provide direction and approval of pending Will Serve Request.
- d) Discuss long range planning for District projects and goals. (Kentosh/Engle/Martinez) – No Attachments  
Recommended Action: Discuss and provide direction.
- e) Receive update and discuss proposed schedule for new rates and fees. (Kentosh/Martinez) – Attachments  
Recommended Action: Receive update, discuss and provide direction.
- f) Discuss and select the engineering firm for design of the replacement treatment plant, or provide direction to staff. (Kentosh/Martinez) – Attachments  
Recommended Action: Discuss proposals and approve selection and expense for engineering firm design of replacement treatment plant.

## 8. General Manager's Report

The Board will receive an update from the General Manager on District Operations and Maintenance.

## 9. Board Secretary's Report

The Board will receive an update from the Board Secretary on District Administrative and related matters.

## 10. Board Committee Reports



- Executive Committee
- UVRGA
- Allocation Program Committee
- Budget/Rate Committee
- Emergency Management Committee
- Staff Procedures Ad-hoc Committee
- New Meters & Expansion of Services Committee
- Grants

#### **11. Old Business**

- State Water
- Matilija Dam Removal Update
- Nitrate Removal – CA Wildlife Conservation Grant
- Meiners Road pressure zones. (Kentosh)

#### **12. Director Announcements/Reports**

**13. Adjournment** The next scheduled Regular Board meeting is March 15, 2022.

Regular Meeting  
January 18, 2022  
6:00 pm

Meiners Oaks Water District  
202 W. El Roblar Drive  
Ojai, CA 93023-2211

## **Minutes**

The meeting was called to order at 6:02 pm.

1. **Call to Order**

The meeting was called to order by the Board Vice President, Jim Kentosh, at 6:02 pm via teleconference.

2. **Roll Call**

**Present:** Board President, Mike Etchart (present 6:00-6:55 pm), Board Directors: James Kentosh, Diana Engle, Christian Oakland, and Loni Anderson. Staff Present: General Manager, Justin Martinez, and Board Secretary, Summer Ward. Attorney Present: Stuart Nielson, Jeanne Zolezzi (closed session only) and Greg Jones (closed session only).

**Absent:** None.

3. **Approval of the Minutes**

**Approval of December 21, 2021, Regular Meeting Minutes**

Director Engle made the motion to approve the December 21, 2021, Regular Meeting minutes. Director Anderson seconded the motion.

No public comment.

Engle/Anderson

**Roll Call Vote:**

Etchart - Y      Engle- Y      Kentosh - Y      Oakland – Y      Anderson - Y

All Ayes– M/S/C

4. **Public Comments** – None.

**\*\*The Board went into closed session at 6:04 pm\*\***

**\*\* G. Jones joined at 6:05 pm\*\* J. Zolezzi joined at 6:32 pm\*\***

5. **Closed Session:** The Board of Directors held a closed session to discuss litigation, pursuant to the attorney/client privilege, as authorized by Government Code Sections §54957 & 54956.8, 54956.9, and 54957.

- Meiners Oaks Water District v. Moll, Ostling and Ojai Vista Farms 56-2018-00515474-CU-OR-VTA/
- State case:SBCK vs. SWRCB, San Francisco Supreme Court, Case# CPF-14-513875

**\*\* G. Jones left at 6:38 pm \*\*J. Zolezzi left at 6:49 pm\*\***

**\*\*The Board adjourned closed session at 6:55 pm\*\***

Attorney S. Nielson stated that the Board discussed current ongoing litigation in closed session, and no actions were taken.

## 6. **Financial Matters**

**Approval of Payroll and Payables from December 16, 2021 to January 15, 2022, in the amount of:**

Payables:	\$108,913.91
Payroll:	<u>\$ 40,647.20</u>
Total:	\$149,561.11

Director Engle made the motion to the Payroll and Payables from December 16, 2021 to January 15, 2022. Director Anderson seconded the motion.

No public comment.

Engle/Anderson

### **Roll Call Vote:**

Etchart - Absent Engle- Y Kentosh - Y Oakland – Y Anderson - Y

4-Ayes, 0-No, 1-Absent – M/S/C

## 7. **Board Discussion/Actions**

### **a. Approve Resolution 20220118: AB 361 – Brown Act: Remote Meetings During a State of Emergency, subsequent to Resolution 20211221. (Ward)**

Director Kentosh presented Resolution 20220118: AB 361 - Brown Act: Remote Meetings During a State of Emergency, subsequent to Resolution 20211221.

Director Anderson made the motion to approve Resolution 20220118: AB 361 - Brown Act: Remote Meetings During a State of Emergency. Director Engle seconded the motion.

No Public Comment.

Anderson/Engle

**Roll Call Vote:**

Etchart - Absent      Engle- Y      Kentosh - Y      Oakland – Y      Anderson - Y

4-Ayes, 0-No, 1-Absent – M/S/C

**b. Public Hearing: Approval of Ordinance 22-01-18: Director Compensation, replacing Ordinance 98-10-20. (Etchart/Ward)**

Director Kentosh presented Ordinance 22-01-18: Director Compensation, replacing Ordinance 98-10-20. The public hearing notice was published in the Ojai Valley News on December 24 and 31, 2021.

Director Kentosh opened public comment: (1) public member present – no comment offered.

All Directors support the new Ordinance 22-01-18. The Ordinance, once approved, will enter a 60-day public comment period prior to becoming active, March 19, 2022.

Director Engle made the motion to approve Ordinance 22-01-18: Director Compensation, replacing Ordinance 98-10-20. Director Oakland seconded the motion.

Director Kentosh opened public comment again: (1) public member present – no comment offered.

No Public Comment.

Engle/Oakland

**Roll Call Vote:**

Etchart - Absent      Engle- Y      Kentosh - Y      Oakland – Y      Anderson - Y

4-Ayes, 0-No, 1-Absent – M/S/C

**c. Approve Resolution 20220118-1: Appointing UVRGA Director & Alternate Director for 2022-2024, replacing Resolution 042021. (Ward)**

Director Kentosh presented Resolution 20220118-1: Appointing UVRGA & Alternate Director for 2022-2024. This resolution was most recently passed in April 2021 when the Alternate Director was replaced. This updated resolution to meet the UVRGA time period of 2022-2024. No material changes were made to the updated resolution.

Director Anderson made the motion to approve Resolution 20220118-1: Appointing UVRGA Director & Alternate Director for 2022 – 2024, replacing Resolution 042021. Director Oakland seconded the motion.

No Public Comment.

Anderson/Oakland

**Roll Call Vote:**

Etchart - Absent      Engle- Y      Kentosh - Y      Oakland – Y      Anderson - Y

4-Ayes, 0-No, 1-Absent – M/S/C

**d. Approve Fanning & Karrh, CPA Financial audit engagement agreement for FY 2020-2021. (Martinez/Ward)**

Ms. Ward presented the standard financial audit engagement agreement provided by Fanning & Karrh, for FY 2020-2021. The District previously voted to waive the supplemental Government Auditing standards. The estimated expense for the financial audit for FY 2020-2021 is \$16,000-\$18,000, plus up to \$1800 additional costs. Ms. Ward stated that this total expense is within the range of our previous annual financial audits.

Director Anderson made the motion to approve the Fanning & Karrh, CPAs financial audit engagement agreement for FY 2020-2021. Director Oakland seconded the motion.

No Public Comment.

Anderson/Oakland

**Roll Call Vote:**

Etchart - Absent      Engle- Y      Kentosh - Y      Oakland – Y      Anderson - Y

4-Ayes, 0-No, 1-Absent – M/S/C

**e. Approve Resolution 20220118-2: VRIF 2 Grant Planning Projects. (Martinez/Ward)**

Mr. Martinez reported that the grant applications were submitted last week for three planning projects, including Waterwise for Vulnerable Communities, Land Resilience Partnership, Alternative Water Sourcing for Aquatic Ecosystem Health, and AMI Metering for Evaluation of Water Efficiencies and Streamflow Enhancement. A requirement of the grant applications, is a Board approved resolution, which is due within 30-days of the application submission.

Director Kentosh requested that item 3 be revised, remove “and,” add “to be developed and executed; and.” Director Engle corrected a typo “hereby.”

Director Anderson made the motion to approve Resolution 20220118-2: VRIF 2 Grant Planning Projects. Director Oakland seconded the motion.

No Public Comment.

Anderson/Oakland

**Roll Call Vote:**

Etchart - Absent      Engle- Y      Kentosh - Y      Oakland – Y      Anderson - Y

4-Ayes, 0-No, 1-Absent – M/S/C

**f. Discuss and provide direction on development of policy for New Meters & Expansion of Services, moratorium on new meters. (Kentosh)**

Tabled to February 15, 2022.

**g. Discuss next steps for nitrate removal from Well 8. (Kentosh)**

Director Kentosh reported that the MKN Associates final report is still pending. He recommended due to the complex issues that the District will be pursuing grant funding to accomplish, that an Ad-Hoc Committee be formed to address these items. Director Kentosh recommended the Ad-Hoc Committee consist of Directors Kentosh and Engle, to meet 1-2 times.

All Directors present were in agreement to form the Ad-Hoc Committee.

No Public Comment.

No Motion.

**h. Receive update on Meiners Road pressure zones. (Kentosh)**

Tabled to February 15, 2022.

**8. General Manager's Report**

Mr. Martinez reported that the Casitas Lake level is at 35.2%. Due to recent rain events, the District was able to stop purchasing water from Casitas on January 6, 2022. Wells 1 & 2 were turned on 1/7/2022; Wells 4 & 7 were turned on 1/13/2022. The Meiners Road tank removal has been completed. The golf cart and old crew truck were sold via GovDeals at auction for about \$20,000, the funds will be used for the AMI metering project. Grant applications for the three planning projects were submitted and award determination is expected in mid-April 2022. Seasonal rainfall recorded at Casitas Dam is 15.11" and Matilija Dam 19.23". Well levels have risen and will continue to be monitored.

No Public Comment.

**9. Board Secretary's Report**

Ms. Ward presented the monthly Board Secretary report highlighted that CA Executive Order N-42-20: moratorium on customer disconnections for non-payment expired December 31, 2021; CA SB 998 is now active, allowing for disconnections due to non-payment. The SWRCB Water Arrearage Payment Program application was submitted, to cover all residential arrearages accrued between March 2020 – June 2021, plus

administrative costs, totaling \$15,000. Once funds are received in approximately 4 weeks, individual customer notices will be sent out in accordance with program requirements. Reminder that Ventura County Conflict of Interest Form 700 emails are being sent out and are due before April 1, 2022. Public Records Requests received included UVRGA well level and pumping data October 2019 – September 2021; Ventura County Public Works request for utility information – Project #81905 (Matilija Dam Removal); VC Reporter attorney contract for adjudication lawsuit, board vote tally for Moll litigation. The SWRCB Emergency Regulation program was adopted January 4, 2022, effective January 14, 2022, drought contingency plans for water waste. MOWD is in the process of reconciling the Allocation Plan, previous MOWD Drought Contingency Plan and the Emergency Regulations. The new allocations are now active, and included on the December 31, 2021 bill statements. Those customers with annual allocations, were prorated for the initial period.

No Public Comment.

#### 10. **Board Committee Reports**

- Executive Committee: No update.
- UVRGA: Director Engle reported that the GSA met twice, the second public hearing for the GSP was held and approved. The GSA staff has started the process of uploading the GSP to the DWR tool. The UVRGA has up to two years to implement the plan, with no guarantee that it will be approved by DWR. At the regular GSA meeting, the Board discussed the different approaches for setting the new extraction pumping fees, previously set by estimates. The Board is considering measured/metered pumping rates for agriculture; municipalities will require a different approach with possible rolling 3-, 5- or 10-year averages, including consideration of the City of Ventura's Foster Park protocols for pumping. The GSA is working on a monitoring plan for the confluence where San Antonio Creek comes in, with regards to groundwater pumping thresholds.
- Allocation Committee: No update.
- Budget/Rate Committee: Committee is preparing to meet in a couple weeks.
- Emergency Management Committee: No update.
- Staff Procedures Committee: No update.
- New Meters & Expansion of Services Committee: Tabled to February 15, 2022.

#### 11. **Old Business**

- State Water: No update.
- Matilija Dam Removal Update: No update.
- Nitrate Removal: Director Kentosh reported under agenda item 7(g).

#### 12. **Director Announcements/Reports**

- Director Engle: The Allocation Committee needs to meet to review 2 will-serve requests, propose scheduling Allocation Committee and Ad-Hoc Committee together.

- Director Oakland: The New Meters & Expansion of Services Committee and the Allocation Committee overlap in some areas; the Board needs to establish a process and then the Budget/Rate Committee can follow that process for establishing the proposed rates and fees.
- Director Kentosh: No report.
- Director Anderson: No report.
- Director Etchart: (Absent)

13. **Meeting Adjournment**

There being no further business to conduct at this time, Board Vice President Jim Kentosh adjourned the meeting at 8:03 pm.

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**Board Secretary**

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**Board Vice President**



### Report of Income as of 1/31/2022

Income	Month of January	Year To Date	Budget Appropriation	Appropriation Balance
Interest	959.75	3,273.61	--	3,273.61
Taxes	1,817.43	107,980.81	--	107,980.81
Pumping Charges	319.90	2,354.89	--	2,354.89
Fire Protection	143.84	904.58	--	904.58
Meter & Inst. Fees	--	--	--	--
Water Sales	42,686.16	448,490.58	--	(448,490.58)
<sup>1</sup> Casitas Water/Standby	24,753.94	106,849.01	--	106,849.01
MWAC Charges	51,819.34	395,566.66	--	(395,566.66)
MCC Chg.	5,912.40	43,659.10	--	(43,659.10)
<sup>2</sup> Misc. Income	424.14	8,740.99	--	8,740.99
Late & Delinquent Chgs.	--	35.00	--	35.00
Conservation Penalty	--	--	--	--
Capital Improvement	--	--	--	--
Drought Surcharge	2,896.69	47,086.12	--	47,086.12
	--	--	--	--
		--	--	--
		--	--	--
<b>TOTAL INCOME</b>	<b>131,733.59</b>	<b>1,164,941.35</b>	<b>--</b>	<b>(1,164,941.35)</b>

Note:

<sup>1</sup> This line item is necessary because these sales are tracked in the expenditures

<sup>2</sup> This line item is the Hartmann Allocation fee

Meiners Oaks Water District

**Report of Expenses and Budget Appropriations, Current Bills and Appropriations To Date**

<b>Expenditures</b>	<b>Month of January</b>	<b>Year To Date</b>	<b>Budget Approp</b>	<b>Approp Bal 01/31/21</b>	<b>Current February</b>	<b>Approp FY Bal To Date</b>
Salaries	39,822.69	294,434.39	600,000.00	305,565.61	-	305,565.61
Payroll Taxes	4,160.75	24,126.18	45,000.00	20,873.82	-	20,873.82
Retirement Contributions	5,543.05	33,623.34	55,000.00	21,376.66	-	21,376.66
Group Insurance	6,081.32	42,970.42	96,000.00	53,029.58	-	53,029.58
Company Uniforms	288.42	2,624.43	4,500.00	1,875.57	-	1,875.57
Phone Office	787.94	5,557.86	9,000.00	3,442.14	-	3,442.14
Janitorial Service	727.09	4,635.26	4,400.00	(235.26)	427.09	(662.35)
Refuse Disposal	341.89	2,569.22	4,500.00	1,930.78	-	1,930.78
Liability Insurance	-	53,916.53	54,000.00	83.47	-	83.47
Workers Compensation	-	11,436.56	18,000.00	6,563.44	-	6,563.44
Wells	-	69.31	10,000.00	9,930.69	-	9,930.69
Truck Maintenance	-	2,138.77	3,500.00	1,361.23	-	1,361.23
Office Equipment Maintenance	184.00	1,786.81	5,000.00	3,213.19	417.12	2,796.07
Security System	-	568.69	600.00	31.31	95.85	(64.54)
Cell Phones	400.95	2,741.59	4,500.00	1,758.41	-	1,758.41
System Maintenance	8,260.77	27,314.03	100,000.00	72,685.97	-	72,685.97
Safety Equipment	1,604.47	3,192.68	6,000.00	2,807.32	-	2,807.32
Laboratory Services	1,071.00	8,009.00	12,000.00	3,991.00	400.00	3,591.00
Membership and Dues	-	7,316.00	9,000.00	1,684.00	750.00	934.00
Printing and Binding	-	21.96	2,500.00	2,478.04	-	2,478.04
Office Supplies	458.05	3,983.29	6,000.00	2,016.71	-	2,016.71
Postage and Express	890.68	6,833.29	11,000.00	4,166.71	-	4,166.71
B.O.D. Fees	700.00	5,400.00	15,000.00	9,600.00	-	9,600.00
Engineering & Technical Services	-	-	30,000.00	30,000.00	-	30,000.00
Computer Services	2,328.60	13,140.27	17,000.00	3,859.73	344.85	3,514.88
Other Prof. & Regulatory Fees	302.82	12,241.07	40,000.00	27,758.93	26.50	27,732.43
Public and Legal Notices	29.10	302.56	2,000.00	1,697.44	-	1,697.44
Attorney Fees	13,911.25	86,402.20	75,000.00	(11,402.20)	-	(11,402.20)
GSA Fees	21,451.57	42,903.14	50,000.00	7,096.86	-	7,096.86
VR/SBC/City of VTA Law Suit	8,060.08	19,132.31	75,000.00	55,867.69	-	55,867.69
Rental Equipment	-	-	-	-	-	-
Audit Fees	1,300.00	7,300.00	25,000.00	17,700.00	-	17,700.00
Small Tools	-	524.31	5,000.00	4,475.69	-	4,475.69
Election Supplies	-	-	2,500.00	2,500.00	-	2,500.00
Water Purchase	35,867.37	236,093.55	150,000.00	(86,093.55)	-	(86,093.55)
CMWD Standby Charges	2,278.69	13,470.48	20,000.00	6,529.52	-	6,529.52
Treatment Plant	1,843.64	6,204.18	20,000.00	13,795.82	967.55	12,828.27
Fuel	1,305.64	8,878.75	13,000.00	4,121.25	-	4,121.25
Travel Exp./Seminars	-	629.46	2,000.00	1,370.54	-	1,370.54
Utilities	128.26	1,644.72	3,500.00	1,855.28	113.85	1,741.43
Power and Pumping	2,920.50	32,308.72	80,000.00	47,691.28	-	47,691.28
Meters	-	1,931.44	10,000.00	8,068.56	-	8,068.56
<b>Total Expenditures</b>	<b>163,050.59</b>	<b>1,028,376.77</b>	<b>1,695,500.00</b>	<b>667,123.23</b>	<b>3,542.81</b>	<b>663,580.42</b>
<b>Water Distribution System</b>	-	-	-	-	-	-
Fairview Connection (FY22-23)	-	-	-	-	-	-
Well 8 Nitrate Removal/Blending	2,067.98	28,920.22	40,000.00	11,079.78	1,607.57	9,472.21
4 Valve Replacements/Deadends	-	-	68,000.00	68,000.00	-	68,000.00
Tank Cleaning	-	-	6,000.00	6,000.00	-	6,000.00
El Sol to Lomita Tie-In Engineering	-	-	5,000.00	5,000.00	-	5,000.00
Repairs to Meiners Rd. 80K Gallon Tank	1,236.28	28,348.28	30,000.00	1,651.72	-	1,651.72
<b>Structures and Improvements</b>	-	-	-	-	-	-
Chlorine Alarms	-	-	40,000.00	40,000.00	-	40,000.00
T.P. Final Eng. 100% Design	-	-	175,000.00	175,000.00	-	175,000.00
Treatment Plant Set-Aside Fund	-	-	200,000.00	200,000.00	-	200,000.00
Wells 4&7 CL 17	-	-	15,000.00	15,000.00	-	15,000.00
<b>Office Machines</b>	-	-	-	-	-	-
Radio/Cellular Meters (FY22/23)	-	-	-	-	-	-
<b>Field Equipment</b>	-	-	-	-	-	-
Sounder	-	-	2,500.00	2,500.00	-	2,500.00
New Truck Generator	-	-	3,500.00	3,500.00	-	3,500.00
Welder	-	-	3,500.00	3,500.00	-	3,500.00
Air Compressor (Tow Behind)	-	-	16,000.00	16,000.00	-	16,000.00
Crane for New Truck	-	14,896.19	15,000.00	103.81	-	103.81
New Truck Tools	-	4,201.80	5,000.00	798.20	-	798.20
<b>Appropriations for Contingencies</b>	<b>24,128.80</b>	<b>29,217.14</b>	<b>100,000.00</b>	<b>70,782.86</b>	<b>-</b>	<b>70,782.86</b>
<b>Total CIP Spending</b>	<b>27,433.06</b>	<b>105,583.63</b>	<b>724,500.00</b>	<b>618,916.37</b>	<b>1,607.57</b>	<b>617,308.80</b>
<b>GRAND TOTAL</b>	<b>190,483.65</b>	<b>1,133,960.40</b>	<b>2,420,000.00</b>	<b>1,286,039.60</b>	<b>5,150.38</b>	<b>1,280,889.22</b>



# Meiners Oaks County Water District, CA

## Check Report

By Vendor Name

Date Range: 01/16/2022 - 02/15/2022

Vendor Number Payable #	Vendor Name Payable Type	Post Date	Payment Date Payable Description	Payment Type	Discount Amount Discount Amount	Payment Amount Payable Amount	Number
<b>Bank Code: AP Bank-AP Bank</b>							
AQUA-F <a href="#">S11855988</a>	Aqua-Flo Supply Invoice	01/06/2022	02/11/2022 Union/Tee/Bushing,etc.	Regular	0.00 0.00	58.30 58.30	10089
AWAVC <a href="#">06-13903</a>	Association of Water Agencies Invoice	02/01/2022	02/11/2022 2022 Annual Membership Dues	Regular	0.00 0.00	750.00 750.00	10090
AT&T <a href="#">01840122</a>	AT&T Invoice	01/13/2022	01/27/2022 Office Phones	Regular	0.00 0.00	211.99 211.99	10066
AT&T <a href="#">08330122</a>	AT&T Invoice	01/19/2022	02/11/2022 Office Phones	Regular	0.00 0.00	575.95 575.95	10091
DRAGANCHUK <a href="#">265461</a>	Boyd & Associates Invoice	02/01/2022	02/11/2022 Office Security Alarm	Regular	0.00 0.00	95.85 95.85	10092
CALPERS <a href="#">INV0001934</a>	California Public Employees' Retirement Invoice	01/14/2022	01/31/2022 Health	Bank Draft	0.00 0.00	3,240.80 3,240.80	DFT0001469
CALPERS <a href="#">011422</a>	California Public Employees' Retirement Invoice	01/14/2022	01/26/2022 Active Premium	Bank Draft	0.00 0.00	16.20 16.20	DFT0001478
CALPERS <a href="#">INV0001946</a>	California Public Employees' Retirement Invoice	01/31/2022	01/31/2022 Health	Bank Draft	0.00 0.00	3,240.78 3,240.78	DFT0001480
CAL-STATE <a href="#">209428</a> <a href="#">209753</a>	Cal-State Invoice Invoice	02/02/2022 02/07/2022	02/11/2022 Portable Toilet Portable Toilet	Regular	0.00 0.00	237.09 115.73 121.36	10093
CMWD <a href="#">261150122</a> <a href="#">261150122-2</a> <a href="#">262000122</a> <a href="#">300650122</a>	Casitas Municipal Water District Invoice Invoice Invoice Invoice	01/31/2022 01/31/2022 01/31/2022 01/31/2022	02/11/2022 Fairview Standby Fairview Purchased Water Hartmann Allocation Tico/La Luna Standby	Regular	0.00 0.00 0.00 0.00	38,146.06 1,033.31 35,867.37 212.07 1,033.31	10094
CLEANCO <a href="#">1456</a>	Cleancoast Janitorial Invoice	01/30/2022	02/11/2022 January Janitorial	Regular	0.00 0.00	300.00 300.00	10095
CRICKET <a href="#">1044</a>	Cricket Consulting Invoice	01/14/2022	02/11/2022 Well Depth Reports	Regular	0.00 0.00	180.00 180.00	10096
DATAP <a href="#">DP2200152</a>	Dataprose LLC Invoice	01/31/2022	02/11/2022 Postage & Billing	Regular	0.00 0.00	846.51 846.51	10097
DOCUPRO <a href="#">235013</a>	DocuProducts Corporation Invoice	02/01/2022	02/11/2022 Copier Maintenance & Supplies	Regular	0.00 0.00	417.12 417.12	10098
EJHAR <a href="#">281300122</a> <a href="#">994260122</a>	E. J. Harrison Rolloffs, Inc. Invoice Invoice	01/14/2022 01/14/2022	01/27/2022 Office Trash 3 Yard Dumpster	Regular	0.00 0.00 0.00	341.89 109.94 231.95	10067
ERTHSYS <a href="#">830925</a>	Earth Systems Pacific Invoice	01/14/2022	01/27/2022 Tower Soils Report	Regular	0.00 0.00	1,236.28 1,236.28	10068
FAMCON <a href="#">S100070128.001</a> <a href="#">S100070525.001</a>	Famcon Pipe and Supply, Inc Invoice Invoice	01/13/2022 01/17/2022	02/11/2022 Dechlorinating Tabs/Repair Clamps Wharf Head	Regular	0.00 0.00 0.00	1,689.19 1,072.50 616.69	10099

## Check Report

Date Range: 01/16/2022 - 02/15/2022

Vendor Number	Vendor Name	Payment Date	Payment Type	Discount Amount	Payment Amount	Number
Payable #	Payable Type	Post Date	Payable Description	Discount Amount	Payable Amount	
CFANN	Fanning & Karrh	02/11/2022	Regular	0.00	1,300.00	10100
<a href="#">012822</a>	Invoice	01/28/2022	Audit Work	0.00	1,300.00	
FGLENV	FGL Environmental	01/27/2022	Regular	0.00	563.00	10069
<a href="#">117361A</a>	Invoice	01/10/2022	Samples	0.00	208.00	
<a href="#">200125A</a>	Invoice	01/14/2022	Samples	0.00	95.00	
<a href="#">200536A</a>	Invoice	01/19/2022	Samples	0.00	132.00	
<a href="#">200538A</a>	Invoice	01/19/2022	Samples	0.00	95.00	
<a href="#">200646A</a>	Invoice	01/26/2022	Samples	0.00	33.00	
FGLENV	FGL Environmental	02/11/2022	Regular	0.00	555.00	10101
<a href="#">117882A</a>	Invoice	01/25/2022	Samples	0.00	30.00	
<a href="#">200647A</a>	Invoice	01/25/2022	Samples	0.00	30.00	
<a href="#">200886A</a>	Invoice	01/28/2022	Samples	0.00	95.00	
<a href="#">200887A</a>	Invoice	02/08/2022	Samples	0.00	400.00	
GRAINGER	Grainger	02/11/2022	Regular	0.00	443.81	10102
<a href="#">91880158996</a>	Invoice	01/24/2022	Safety Relief Valve/Adjustable Relief Valve	0.00	443.81	
GUARDIAN	Guardian	01/27/2022	Regular	0.00	606.56	10064
<a href="#">INV0001935</a>	Invoice	01/14/2022	Dental	0.00	303.30	
<a href="#">INV0001947</a>	Invoice	01/31/2022	Dental	0.00	303.26	
GUARDIAN	Guardian	01/27/2022	Regular	0.00	8.00	10070
<a href="#">7690460122</a>	Invoice	01/13/2022	Admin. Fee	0.00	8.00	
HACHCO	Hach Company	01/27/2022	Regular	0.00	1,252.88	10071
<a href="#">12838130</a>	Invoice	01/18/2022	Kit, Maint, For CL17s	0.00	1,252.88	
HACHCO	Hach Company	02/11/2022	Regular	0.00	590.76	10103
<a href="#">12857012</a>	Invoice	01/27/2022	Chlorine Free Reagent Set	0.00	590.76	
HPWP&C	Hathaway, Perrett, Webster, Powers	01/27/2022	Regular	0.00	2,603.50	10072
<a href="#">115534</a>	Invoice	01/01/2022	Attorney Fees	0.00	2,603.50	
HLTHNE	Health Net Life Insurance Company	01/27/2022	Regular	0.00	9.90	10073
<a href="#">61790122</a>	Invoice	01/05/2022	Life Insurance	0.00	9.90	
HCS	Herum/Crabtree/Suntag	01/27/2022	Regular	0.00	5,091.60	10074
<a href="#">101973</a>	Invoice	01/01/2022	SBCK vs VTA	0.00	5,091.60	
HCS	Herum/Crabtree/Suntag	02/11/2022	Regular	0.00	2,968.48	10104
<a href="#">102228</a>	Invoice	01/25/2022	SBCK vs VTA	0.00	2,764.48	
<a href="#">102229</a>	Invoice	01/25/2022	SBCK vs VTA	0.00	204.00	
JUSTIN	Justin Martinez	01/27/2022	Regular	0.00	4.00	10075
<a href="#">12422</a>	Invoice	01/24/2022	Water for Office	0.00	4.00	
LEVI	Levi Maxwell	01/27/2022	Regular	0.00	214.49	10076
<a href="#">3956177</a>	Invoice	01/18/2022	Levi - Work Boots	0.00	214.49	
MAR	MAR Lawn & Landscape, Inc.	02/11/2022	Regular	0.00	190.00	10105
<a href="#">12615</a>	Invoice	02/01/2022	Landscaping Maintenance	0.00	190.00	
MATT-CHLOR	Matt-Chlor. Inc.	02/11/2022	Regular	0.00	967.55	10106
<a href="#">26845</a>	Invoice	02/02/2022	Parts for Treatment Plant	0.00	967.55	
MOHARD	Meiners Oaks Hardware	02/11/2022	Regular	0.00	276.88	10107
<a href="#">992630</a>	Invoice	01/05/2022	Nipple/Adapter/Union	0.00	13.84	
<a href="#">992805</a>	Invoice	01/07/2022	Liquid Chlorinator	0.00	42.81	
<a href="#">993389</a>	Invoice	01/13/2022	Torch Lighter	0.00	2.72	
<a href="#">993788</a>	Invoice	01/18/2022	Starter Fluid	0.00	4.28	
<a href="#">993830</a>	Invoice	01/18/2022	Dry Concrete Mix	0.00	30.82	
<a href="#">994101</a>	Invoice	01/21/2022	Round Up/Fuse Holder/Bolts & Screws	0.00	182.41	



## Check Report

Date Range: 01/16/2022 - 02/15/2022

Vendor Number Payable #	Vendor Name Payable Type	Post Date	Payment Date Payable Description	Payment Type	Discount Amount	Payment Amount Payable Amount	Number
MKN&A <a href="#">10224</a>	Michael K. Nunley & Associates, Inc. Invoice	02/01/2022	02/11/2022 Nitrate Removal Well 8 Report	Regular	0.00	1,607.57	10108
MNEARY <a href="#">845456</a>	Michael Neary Invoice	01/01/2022	01/27/2022 Michael - Education	Regular	0.00	165.53	10077
MITEC <a href="#">1061783</a> <a href="#">76838</a>	MiTec Solutions LLC Invoice Invoice	01/06/2022 01/15/2022	01/27/2022 Remote Labor Splashtop/Anti-Virus	Regular	0.00 0.00	240.00 190.00 50.00	10078
MITEC <a href="#">1061914</a> <a href="#">77285</a> <a href="#">77341</a>	MiTec Solutions LLC Invoice Invoice Invoice	01/18/2022 02/01/2022 02/01/2022	02/11/2022 Remote Labor Exchange/Web Hosting/ShareSync Off Site Back Up	Regular	0.00 0.00 0.00	487.35 142.50 246.85 98.00	10109
NCK&K <a href="#">5994</a>	Nelson Comis Kettle & Kinney, LLP Invoice	01/31/2022	02/11/2022 Attorney Fees	Regular	0.00	1,170.00	10110
OFFDEP <a href="#">220223802001</a> <a href="#">220257427001</a>	Office Depot Invoice Invoice	01/07/2022 01/07/2022	01/27/2022 Deskpad/Paper Message Book	Regular	0.00 0.00	61.38 42.07 19.31	10079
OFFDEP <a href="#">211222339001</a>	Office Depot Invoice	01/19/2022	02/11/2022 Office Chair	Regular	0.00	321.74	10111
PATHIAN <a href="#">INV0001937</a> <a href="#">INV0001949</a>	Pathian Administrators Invoice Invoice	01/14/2022 01/31/2022	01/27/2022 HSBS HSBS	Regular	0.00 0.00	111.84 55.93 55.91	10065
PERS <a href="#">INV0001933</a>	Public Employees' Retirement System Invoice	01/14/2022	01/31/2022 457 Withholdings	Bank Draft	0.00	250.00	DFT0001468
PERS <a href="#">INV0001936</a>	Public Employees' Retirement System Invoice	01/14/2022	01/31/2022 PERS	Bank Draft	0.00	2,693.86	DFT0001470
PERS <a href="#">INV0001945</a>	Public Employees' Retirement System Invoice	01/31/2022	01/31/2022 457 Withholdings	Bank Draft	0.00	250.00	DFT0001479
PERS <a href="#">INV0001948</a>	Public Employees' Retirement System Invoice	01/31/2022	01/31/2022 PERS	Bank Draft	0.00	2,828.12	DFT0001481
PERS <a href="#">10000001669951</a>	Public Employees' Retirement System Invoice	02/01/2022	02/10/2022 Unfunded Accrued Liability	Bank Draft	0.00	2,443.25	DFT0001489
PERS <a href="#">10000001669517</a>	Public Employees' Retirement System Invoice	02/01/2022	02/10/2022 Unfunded Accrued Liability	Bank Draft	0.00	109.17	DFT0001490
QUINNRTL <a href="#">WON10017075</a> <a href="#">WON10017076</a>	Quinn Rental Services Invoice Invoice	01/31/2022 01/31/2022	02/11/2022 Generator Maintenance Generator Maintenance	Regular	0.00 0.00	2,013.47 1,342.54 670.93	10112
SAMHIL <a href="#">4006</a>	Sam Hill & Sons, Inc. Invoice	01/05/2022	01/27/2022 Water Line Repair	Regular	0.00	6,860.80	10080
SECORP <a href="#">10074936</a>	Secorp Industries Invoice	01/01/2022	01/27/2022 Cylinder	Regular	0.00	1,389.98	10081

## Check Report

Date Range: 01/16/2022 - 02/15/2022

Vendor Number	Vendor Name	Payment Date	Payment Type	Discount Amount	Payment Amount	Number
Payable #	Payable Type	Post Date	Payable Description	Discount Amount	Payable Amount	
SCE	Southern California Edison Co.	01/27/2022	Regular	0.00	3,048.76	10082
<a href="#">OFFELE0122</a>	Invoice	01/26/2022	Office Electricity	0.00	128.26	
<a href="#">TNKFRM0122</a>	Invoice	01/26/2022	Tank Farm	0.00	44.59	
<a href="#">WELL1-0122</a>	Invoice	01/26/2022	Well 1	0.00	560.76	
<a href="#">WELL2-0122</a>	Invoice	01/26/2022	Well 2	0.00	523.67	
<a href="#">WELL4&amp;70122</a>	Invoice	01/26/2022	Well 4&7	0.00	1,114.83	
<a href="#">WELL80122</a>	Invoice	01/26/2022	Well 8	0.00	147.27	
<a href="#">Z-20122</a>	Invoice	01/26/2022	Zone 2	0.00	98.32	
<a href="#">Z-2FIR0122</a>	Invoice	01/26/2022	Zone 2 Fire	0.00	53.33	
<a href="#">Z-2PWR0122</a>	Invoice	01/26/2022	Zone 2 Power	0.00	359.10	
<a href="#">Z-3FIR0122</a>	Invoice	01/26/2022	Zone 3 Fire	0.00	18.63	
SCGAS	Southern California Gas Co.	02/11/2022	Regular	0.00	113.85	10113
<a href="#">0553</a>	Invoice	02/01/2022	Office Heat	0.00	113.85	
SWRCB	State Water Resources Board	01/27/2022	Regular	0.00	100.00	10083
<a href="#">G5608532021</a>	Invoice	01/21/2022	Groundwater Extraction & Diversion Fees	0.00	50.00	
<a href="#">G5612872021</a>	Invoice	01/21/2022	Groundwater Extraction & Diversion Fees	0.00	50.00	
SUMMER	Summer Ward	01/27/2022	Regular	0.00	2.00	10084
<a href="#">1132022</a>	Invoice	01/13/2022	Distilled Water for Treatment Plant	0.00	2.00	
SUMMER	Summer Ward	02/11/2022	Regular	0.00	21.62	10114
<a href="#">980840</a>	Invoice	01/06/2022	Reimbursement for Mailing to SWRCB	0.00	21.62	
THLF	The Hathaway Law Firm, LLP	02/11/2022	Regular	0.00	8,350.25	10115
<a href="#">200019</a>	Invoice	01/31/2022	Attorney Fees	0.00	8,350.25	
TORO	Toro Enterprises, Inc.	01/27/2022	Regular	0.00	17,268.00	10085
<a href="#">15235</a>	Invoice	01/12/2022	Water Tank Removal	0.00	17,268.00	
TRI-COUNTY	Tri-County Transportation	02/11/2022	Regular	0.00	713.05	10116
<a href="#">44-366726</a>	Invoice	01/31/2022	Road Base	0.00	713.05	
TYLER	Tyler Technologies, Inc.	01/27/2022	Regular	0.00	106.25	10086
<a href="#">025-362877</a>	Invoice	01/01/2022	Insite Transaction Fees	0.00	106.25	
UAOFSC	Underground Service Alert of So.Ca.	02/11/2022	Regular	0.00	26.50	10117
<a href="#">1220220439</a>	Invoice	02/01/2022	Digalert	0.00	26.50	
UVRGA	Upper Ventura River Groundwater Agency	01/27/2022	Regular	0.00	21,451.57	10087
<a href="#">2009</a>	Invoice	01/14/2022	2022-1 Semi-Annual Period Fee	0.00	21,451.57	
USBANK	US Bank Corporate Pmt. System	02/11/2022	Regular	0.00	4,894.07	10118
<a href="#">AAS011722</a>	Invoice	01/17/2022	Mailing	0.00	22.55	
<a href="#">DROPBOX0120</a>	Invoice	01/20/2022	Drop Box	0.00	45.00	
<a href="#">E&amp;MMACH12312</a>	Invoice	01/01/2022	SCADA License	0.00	1,235.00	
<a href="#">INDEED010322</a>	Invoice	01/03/2022	Job Posting	0.00	29.10	
<a href="#">INDESIGNS01142</a>	Invoice	01/14/2022	Embroidery on Hats	0.00	288.42	
<a href="#">LOGMEIN011722</a>	Invoice	01/17/2022	Remote Meetings	0.00	10.00	
<a href="#">MSC010722</a>	Invoice	01/07/2022	Pipe Racks	0.00	3,066.07	
<a href="#">OSS011022</a>	Invoice	01/10/2022	Storage Facility	0.00	184.00	
<a href="#">PRIME012022</a>	Invoice	01/20/2022	Membership	0.00	13.93	
VERIZON	Verizon Wireless	02/11/2022	Regular	0.00	400.95	10119
<a href="#">9898258254</a>	Invoice	01/26/2022	Cell Phones	0.00	400.95	

## Check Report

Date Range: 01/16/2022 - 02/15/2022

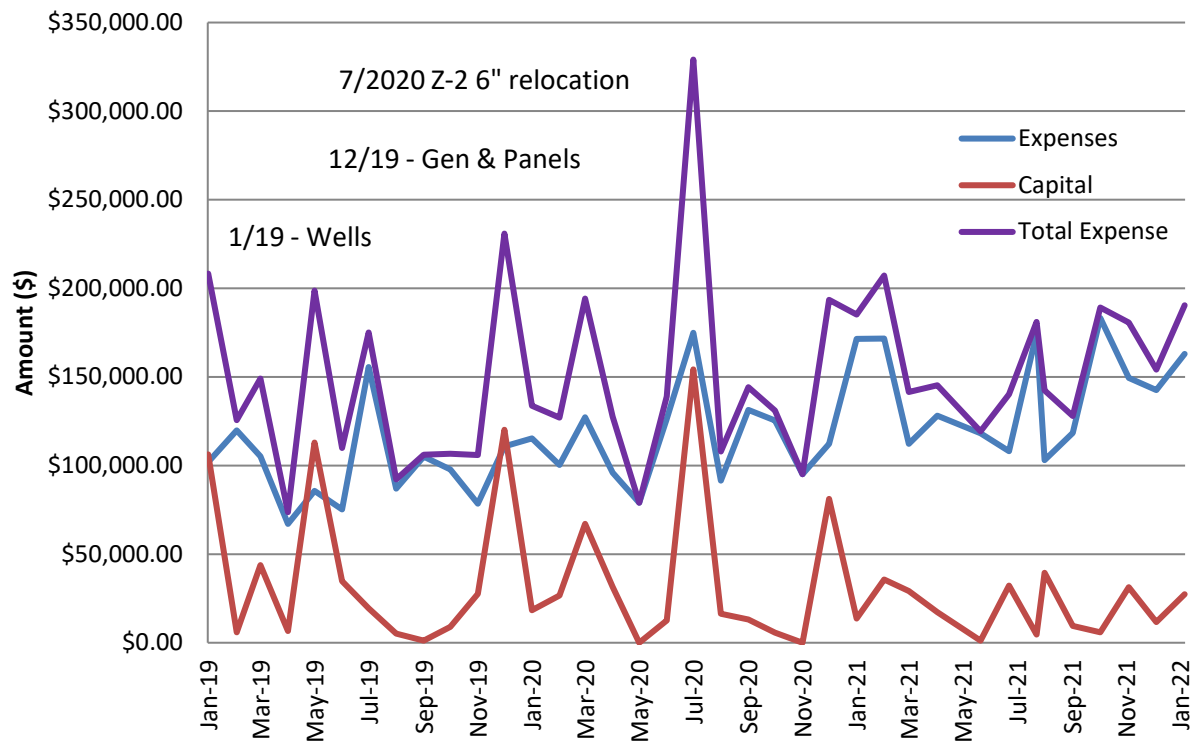
Vendor Number	Vendor Name	Payment Date	Payment Type	Discount Amount	Payment Amount	Number
Payable #	Payable Type	Post Date	Payable Description	Discount Amount	Payable Amount	
WRIGHT EXP	WEX Bank	01/27/2022	Regular	0.00	1,305.64	10088
<u>77617306</u>	Invoice	01/15/2022	Fuel	0.00	1,153.63	
<u>77658651</u>	Invoice	01/15/2022	Fuel	0.00	152.01	

## Bank Code AP Bank Summary

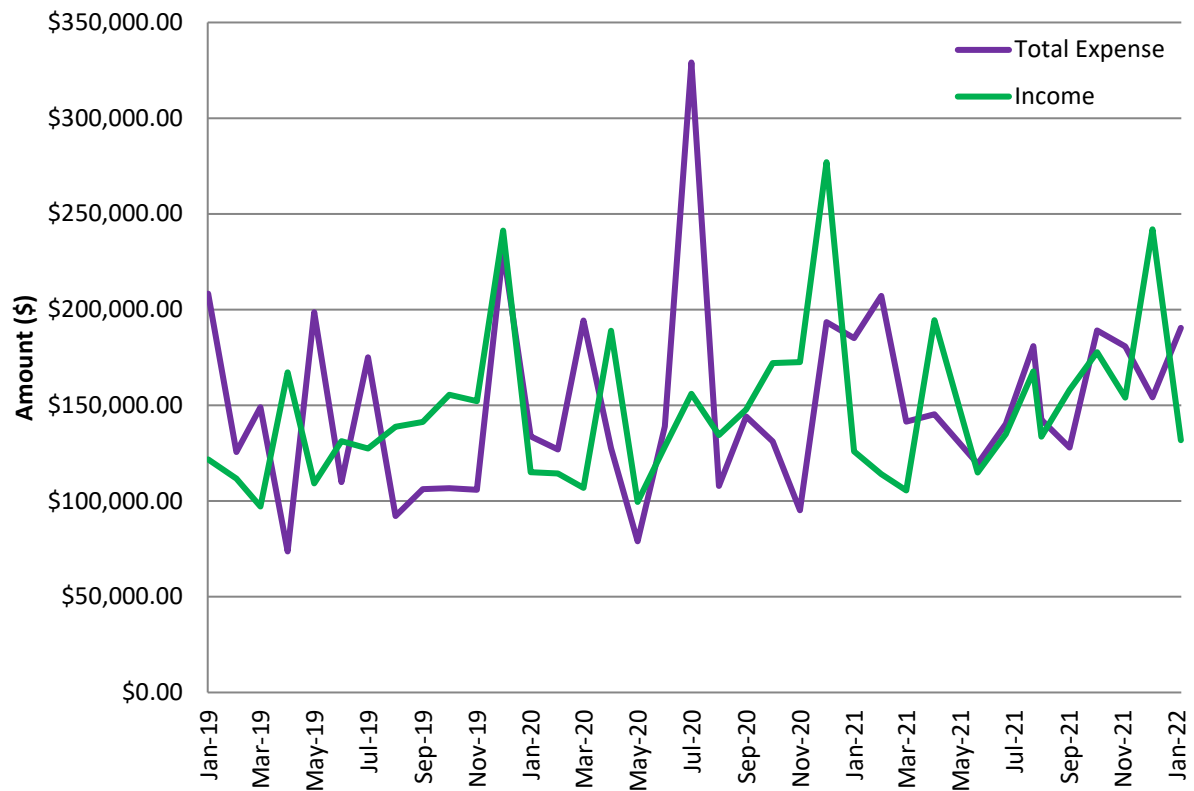
Payment Type	Payable Count	Payment Count	Discount	Payment
Regular Checks	101	56	0.00	134,964.81
Manual Checks	0	0	0.00	0.00
Voided Checks	0	0	0.00	0.00
Bank Drafts	9	9	0.00	15,072.18
EFT's	0	0	0.00	0.00
	<b>110</b>	<b>65</b>	<b>0.00</b>	<b>150,036.99</b>

PR \$40,608.38

## MOWD Monthly Expenses



## MOWD Income & Expenses





## **RESOLUTION NO. 20220215:**

### **AB 361-Brown Act: Remote Meetings During a State of Emergency (Subsequent)**

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE MEINERS OAKS WATER DISTRICT PROCLAIMING A LOCAL EMERGENCY, RE-RATIFYING THE PROCLAMATION OF A STATE OF EMERGENCY BY CA EXECUTIVE ORDER N-29-20 MARCH 2020, AND RE-AUTHORIZING REMOTE TELECONFERENCE MEETINGS OF THE LEGISLATIVE BODIES OF MEINERS OAKS WATER DISTRICT FOR THE PERIOD FEBRUARY 22, 2022 – MARCH 22, 2022 PURSUANT TO BROWN ACT PROVISIONS.

WHEREAS, the MEINERS OAKS WATER DISTRICT is committed to preserving and nurturing public access and participation in meetings of the Board of Directors; and

WHEREAS, all meetings of MEINERS OAKS WATER DISTRICT's legislative bodies are open and public, as required by the Ralph M. Brown Act (Cal. Gov. Code 54950 – 54963), so that any member of the public may attend, participate, and watch the District's legislative bodies conduct their business; and

WHEREAS, the Brown Act, Government Code section 54953(e), makes provisions for remote teleconferencing participation in meetings by members of a legislative body, without compliance with the requirements of Government Code section 54953(b)(3), subject to the existence of certain conditions; and

WHEREAS, a required condition is that a state of emergency is declared by the Governor pursuant to Government Code section 8625, proclaiming the existence of conditions of disaster or of extreme peril to the safety of persons and property within the state caused by conditions as described in Government Code section 8558; and

WHEREAS, a proclamation is made when there is an actual incident, threat of disaster, or extreme peril to the safety of persons and property within the jurisdictions that are within the District's boundaries, caused by natural, technological, or human-caused disasters; and

WHEREAS, it is further required that state or local officials have imposed or recommended measures to promote social distancing, or, the legislative body meeting in person would present imminent risks to the health and safety of attendees; and

WHEREAS, such conditions now exist in the District, specifically, March 4, 2020 CA Governor proclaimed a State of Emergency to exist in California as a result of the threat of COVID-19; despite sustained efforts the virus continues to spread and is impacting nearly all sectors of California; and

WHEREAS, the Ventura County Public Health Officer issued order October 18, 2021 regarding the highly transmissible Delta Variant, recommends vaccinated and unvaccinated persons to mask and social distance until health metric criteria are met or rescinded, superseded, or amended by the Health Officer; and

WHEREAS, the Board of Directors does hereby find that the ongoing risk posed by the highly transmissible COVID-19 virus, will continue to cause, conditions of peril to the safety of persons within the District that are likely to be beyond the control of services, personnel, equipment, and

facilities of the District, and desires to proclaim a local emergency and ratify the proclamation of state of emergency by the Governor of the State of California; and

WHEREAS, as a consequence of the local emergency, the Board of Directors does hereby find that the legislative bodies of MEINERS OAKS WATER DISTRICT shall conduct their meetings without compliance with paragraph (3) of subdivision (b) of Government Code section 54953, as authorized by subdivision (e) of section 54953, and that such legislative bodies shall comply with the requirements to provide the public with access to the meetings as prescribed in paragraph (2) of subdivision (e) of section 54953; and

WHEREAS, all meeting agendas, meeting dates, times and manner in which the public may attend the meeting and offer public comment by call-in option or internet-based service option, are posted at a minimum, on the District website and physically outside the District Office.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF MEINERS OAKS WATER DISTRICT DOES HEREBY RESOLVE AS FOLLOWS:

Section 1. Recitals. The Recitals set forth above are true and correct and are incorporated into this Resolution by this reference.

Section 2. Proclamation of Local Emergency. The Board hereby proclaims that a local emergency now exists throughout the District, and the ongoing risk posed by the highly transmissible COVID-19 virus, and, Ventura County Public Health orders for social distancing has caused, and will continue to cause, conditions of peril to the safety of persons within the District.

Section 3. Re-Ratification of Governor's Proclamation of a State of Emergency. The Board hereby ratifies the Governor of the State of California's Proclamation of State of Emergency, effective as of its issuance date of March 4, 2020.

Section 4. Remote Teleconference Meetings. The General Manager, Board Secretary and legislative bodies of MEINERS OAKS WATER DISTRICT are hereby authorized and directed to take all actions necessary to carry out the intent and purpose of this Resolution including, conducting open and public meetings in accordance with Government Code section 54953(e) and other applicable provisions of the Brown Act.

Section 5. Effective Date of Resolution. This Resolution shall take effect immediately upon its adoption and shall be effective until the earlier of March 22, 2022, or such time the Board of Directors adopts a subsequent resolution in accordance with Government Code section 54953(e)(3) to extend the time during which the legislative bodies of MEINERS OAKS WATER DISTRICT may continue to teleconference without compliance with paragraph (3) of subdivision (b) of section 54953.

PASSED AND ADOPTED by the Board of Directors of MEINERS OAKS WATER DISTRICT, this 15 day of FEBRUARY, 2022, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

NOTE: THIS WILL BE DISCUSSED AT THE BOARD MEETING IN JANUARY 2022



## MEINERS OAKS WATER DISTRICT

January 6, 2022

### Meeting Minutes for the Committee on New Meters and Expansion of Service

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<b>Committee</b>	New Meters and Expansion of Service
<b>Meeting Date</b>	January 6, 2022 at 2:00 PM by videoconference
<b>Attendance</b>	Justin Martinez – General Manager Summer Ward – Board Secretary Loni Anderson – Director Jim Kentosh – Director Chris Oakland – Director (As an observer)
<b>Topics</b>	Background on draft policy for new meters and expansion of service

The purpose of the meeting was to discuss background information and prior attempts to develop a policy on new meters and expansion of service, an effort that was delayed by the pandemic. A key issue for discussion and resolution is whether MOWD intends to continue its moratorium on new water meters. That, in turn, greatly affects any policy on new meters.

MOWD enacted its moratorium on new meters early in the drought, around 2012. Back then, there were many uncertainties that have since been resolved. For example, we now know that we are able to take 100% of our water supply from Casitas MWD when our wells are inadequate, and in 2018 we signed a water service agreement with them. None of the directors who voted for the original moratorium now serve on the Board. The Committee agreed to bring this issue before the full board to discuss and resolve whether the moratorium should continue. Depending on the outcome, the Committee will revise the draft policy for future consideration by the Board with public input.

Despite nearly 10 years of drought, MOWD is the only local water agency we know of that has enacted a moratorium on new hookups. Our backup water supplier, Casitas MWD, allows a limited number of new water services, normally adding less than 10 acre-

feet of new demand each year. Meanwhile, the housing shortage has created a flurry of State legislation on second dwelling units, lot splits and other measures to increase the housing supply. It's hard to keep up with the new rules.

One option for consideration by the Board would be as follows:

- ◆ When our new policy is adopted, we would rescind our moratorium on new meters.
- ◆ When a property has sufficient existing MOWD water allocation to support a proposed new dwelling, we would reassign their allocation, within limits and allowances to be established by the new policy.
- ◆ If a property does not have sufficient MOWD allocation to support a new dwelling, we would ask the project proponent to purchase additional allocation from Casitas MWD. They would pay Casitas MWD's connection and allocation fees, as required by our agreement with Casitas MWD.
- ◆ Once Casitas MWD transfers the additional allocation to MOWD, we would provide a new meter to the property.

With this approach, MOWD would stay away from regulating land use, which is not our responsibility. Instead, we would rely on Casitas MWD to weigh its regional water supplies and demands before allowing additional water hookups within our area. As a contractor for the State Water Project, which MOWD's customers have helped pay for, Casitas MWD is somewhat responsible for providing a backup water supply for the Ojai Valley and east Ventura.

Details for how this would work would be developed as part of a future policy on new meters and expansion of service, to be adopted by the Board with our customers' input. That might include a 1-page bill stuffer to explain the policy.

➔At the Board meeting we will discuss and may tentatively approve the policy on New Meters for Affordable Multiple Family Dwellings starting on p. 3.

## ***Meiners Oaks Water District***

# **Interim Policy on New Meters and Expansions of Service**

## **DRAFT**

**February 10, 2019**

### **Introduction**

Despite some recent rain, MOWD is still in a Stage 3 drought. Since 2013, MOWD has, at times, taken 100% of its water supply from its backup water supplier, Casitas MWD. MOWD has no additional water supply to support increased demands, except through the auspices of Casitas MWD.

The current drought has called into question the safe yield of Lake Casitas. This issue is under review and may affect the reliability of MOWD's future water supply.

*A Groundwater Sustainability Plan* is being developed to ensure that groundwater pumping does not exceed safe yield. In addition, the State has initiated a process to determine the water needs of fish in the Ventura River, which may also reduce our local water supply by an unknown amount. To develop additional supplies, Casitas MWD is pursuing two new projects: the importation of State water and a new "VerBo" well. Similarly, MOWD is considering new water supply projects: a new "cold water" well and nitrate removal at Well No. 8.

Until information on these projects becomes available, MOWD is uncertain of its future water supply reliability. Therefore, MOWD adopts the interim measures in this policy document until the reliability of its future water supply is secured.

### **Scope of This Policy**

MOWD's Allocation Program (AP) applies to existing customers and their existing/historical levels of water demand. A waiver program within the AP provides for adjustments to allocations, if justified. This *Policy on New Meters and Expansion of Service* applies to new construction, new businesses, new water uses, and to existing customers who wish to increase their water use above prior levels.

Subject to future Board action, it is intended that this policy will remain in effect even after the end of the current drought.

## **Categories of meters within MOWD**

MOWD serves water to existing residential, commercial and agricultural customers. MOWD's interim policy for will-serve letters, new meters, and expansion of service is discussed below for each meter category.

### **Existing Residential Meters (Including Those Serving Existing Additional Dwellings Units)**

Residential allocations are determined as specified by the Allocation Program, AP, then in effect. Any modification to customers' assigned allocation amounts shall be approved by the Board using the waiver process provided in the AP. Except as provided through the waiver process, no additional allocations may be acquired from MOWD or purchased from Casitas MWD by existing residential customers, until we can be assured of an adequate, secure water supply in times of drought.

Any residential customer with an existing meter who constructs a remodel, room addition, garage conversion, attached accessory dwelling, etc., does not require a will-serve letter from MOWD for those purposes and may continue to receive water from the existing meter. However, the meter will not be upsized, nor will any additional water allocation be granted for these purposes.

### **Existing Commercial Meters**

Commercial allocations are determined as specified by the AP then in effect. Any modifications to allocation amounts to meet current demands are to be approved by the Board using the waiver process provided in the AP. Except as provided through the waiver process, no additional allocations may be acquired from MOWD or purchased from Casitas MWD by existing commercial customers, until we can be assured of an adequate, secure water supply in times of drought.

### **Existing Agricultural Meters**

Agricultural allocations are determined as specified by the AP then in effect. Any modifications to allocation amounts shall be approved by the Board using the waiver process provided in the AP. Except as provided through the waiver process, no additional allocations may be acquired from MOWD or purchased from Casitas MWD by existing agricultural customers, until we can be assured of an adequate, secure water supply in times of drought.

### **New Residential Meters for New Primary Dwellings**

No new Will-Serve Letters will be issued and no new residential meters will be installed for future, new primary dwellings within MOWD, until we can be assured of an adequate, secure water supply in times of drought.

**New Meters for New Second Dwelling Units**

Until Casitas MWD declares that an adequate water supply from Lake Casitas cannot be demonstrated, in accordance with County of Ventura Ordinance No. 4519 Sec. 8107-1.7.2q, MOWD will issue Will-Serve letters for new second dwelling units, when built on property with an existing primary residence served by an existing MOWD meter. The second dwelling unit must be permitted by the County. It is MOWD's policy that new, separate meters are required for each new, detached accessory dwelling. MOWD will install the new meter after all requirements of the Will-Serve Letter have been met. The monthly fixed baseline allocation for the second dwelling will be set at 7 Units/mo; no variable baseline allocation will be allowed. At the same time, the variable baseline allocation for the primary residence will be reduced by 120 Units/yr. (The fixed baseline allocation of 10 Units/mo for the primary residence will not be reduced.) A Will-Serve Letter will be issued only if the existing meter for the primary residence has sufficient allocation to support the second dwelling without a net increase in water usage.

In accordance with the County ordinance, this policy applies only to lots with at least 20,000 SF of total area. That ensures that the variable allocation of the primary residence is large enough to support the second dwelling unit without an overall increase in water demands. In addition, there is a limit of one second dwelling unit for each customer's lot with an existing primary dwelling unit on that single lot.

It is also MOWD's policy that additional allocations will not be provided to a customer who has completed a lot split after the adoption of this policy and the Allocation Program. Note that the County does not normally notify MOWD of lot splits. This issue would typically be brought to MOWD's attention by a customer requesting revised allocations for the new amended lot(s).

**New Meters for Affordable Multiple-Family Dwellings**

In consideration of the current housing shortage in California, MOWD will consider issuing Will-Serve Letters, on a case by case basis, for new multiple-family dwellings or new mobile home parks of 5 or more units that dedicate 100% of their units for affordable housing as defined in Section 50052.5 of the California Health and Safety Code.

The following information shall be required before the Board will consider such a Will-Serve Letter: A letter in writing describing the project in detail and summarizing available information on it; a project site plan; any Initial Study done for environmental review; a project schedule; a Net Zero Plan for water supply mitigation, including a plan that guarantees their long-term maintenance and viability; and a detailed description of what is requested from MOWD.

The following procedures and conditions shall apply:

- 1) The assigned baseline allocation shall be the larger of the project proponent's County-approved water demand estimate or a baseline allocation calculated using the MOWD Allocation Program then in effect. MOWD reserves the right to develop its own water demand projections for the project.
- 2) MOWD's Board would approve by vote whether or not to issue a Will-Serve Letter for the proposed development, and what conditions shall apply. Those conditions shall include a project schedule and payment of a MOWD connection fee adequate to fund a portion of additional water supply facilities.
- 3) The project proponent shall purchase and obtain from Casitas MWD an allocation for lake water equal to or exceeding the above-defined assigned baseline allocation. The project proponent is responsible for negotiating a sales agreement with CMWD including cancellation and buyback provisions.
- 4) MOWD's conditional Will-Serve Letter will be issued once MOWD receives written confirmation from Casitas MWD that they have approved the sale and issuance of the allocation from Casitas MWD. Once this written confirmation is received by MOWD, the project proponent will have two years to purchase the CMWD allocation and have it transferred to MOWD, or the Will-Serve Letter will be invalidated.
- 5) MOWD will install the meter only after the CMWD allocation has been purchased by the project proponent and assigned to MOWD by CMWD in writing, and after all other conditions imposed by MOWD have been met.
- 6) To ensure the developer's compliance with MOWD's conditions, MOWD may require the developer to provide a suitable bond to ensure conformance.
- 7) Once the CMWD allocation has been transferred to MOWD, the Will-Serve Letter will remain valid for 10 years. Otherwise the Will-Serve Letter will expire in 2 years.

Will-Serve Letters for new Multiple-Family dwellings will be limited to one per year, on a first-come-first-served basis as determined by the date of the first written confirmation from Casitas MWD as outlined in (4) above.



**New Commercial Meters**

No Will-Serve Letters will be issued and no new commercial meters will be installed, until we can be assured of an adequate, secure water supply in times of drought.

**New Agricultural Meters**

It is MOWD's policy that no new agricultural meters will be installed by MOWD. An exception may be considered when the new meter is a replacement for convenience only and will not support additional water demands (above pre-drought levels) and will not support increases to planted acreage. Any new agriculture within MOWD would have to be supplied from private wells, until we can be assured of an adequate, secure water supply in times of drought.

**Unique Customer Conditions**

Some customers may have unique conditions not clearly encompassed within the preceding categories. Some projects might offset existing water demands in some way. The Board will consider such unique cases providing a way is found to offset any future demand increases above historical levels with reduced irrigation etc. The customer must provide a letter explaining his/her unique circumstances and the proposed solution.

**Other Related Policy Issues****Allocations Subject to Change**

All assigned allocations are subject to change by Board action, if required due to worsening drought, new State laws, changes to the policies of Casitas MWD, etc.

**Net Zero Impact of New Development**

As a condition for obtaining approvals for new development, the County of Ventura may require a "Net Zero Impact" for the development. MOWD may also impose a Net Zero Impact requirement before issuing a Will-Serve Letter. Under that requirement, the developer must retrofit other facilities and provide water conservation off-site to compensate for proposed water use by the development.

Before MOWD will issue a Will-Serve Letter to a developer who has a Net-Zero Impact requirement, the developer must commit to implementing the associated mitigation within the boundaries of MOWD in a way that reduces water demands on MOWD. The Will-Serve Letter will include a condition that the meter will not be installed until the mitigations within MOWD have been completed and certified by the County.

In addition, a project proponent shall provide a detailed plan that guarantees the long-term viability of the Net Zero Impact measures implemented. Approval of this plan by the County and by MOWD is required before a conditional Will-Serve Letter will be approved by MOWD.

**Tiny Homes**

Tiny homes (under 500 SF) with permanent foundations will be treated the same as other types of homes, whether existing or new, primary or secondary residences, etc., except that the monthly fixed baseline allocation will be set at 5 Units/mo, as established in the Allocation Program. This policy applies only for County-permitted tiny homes.

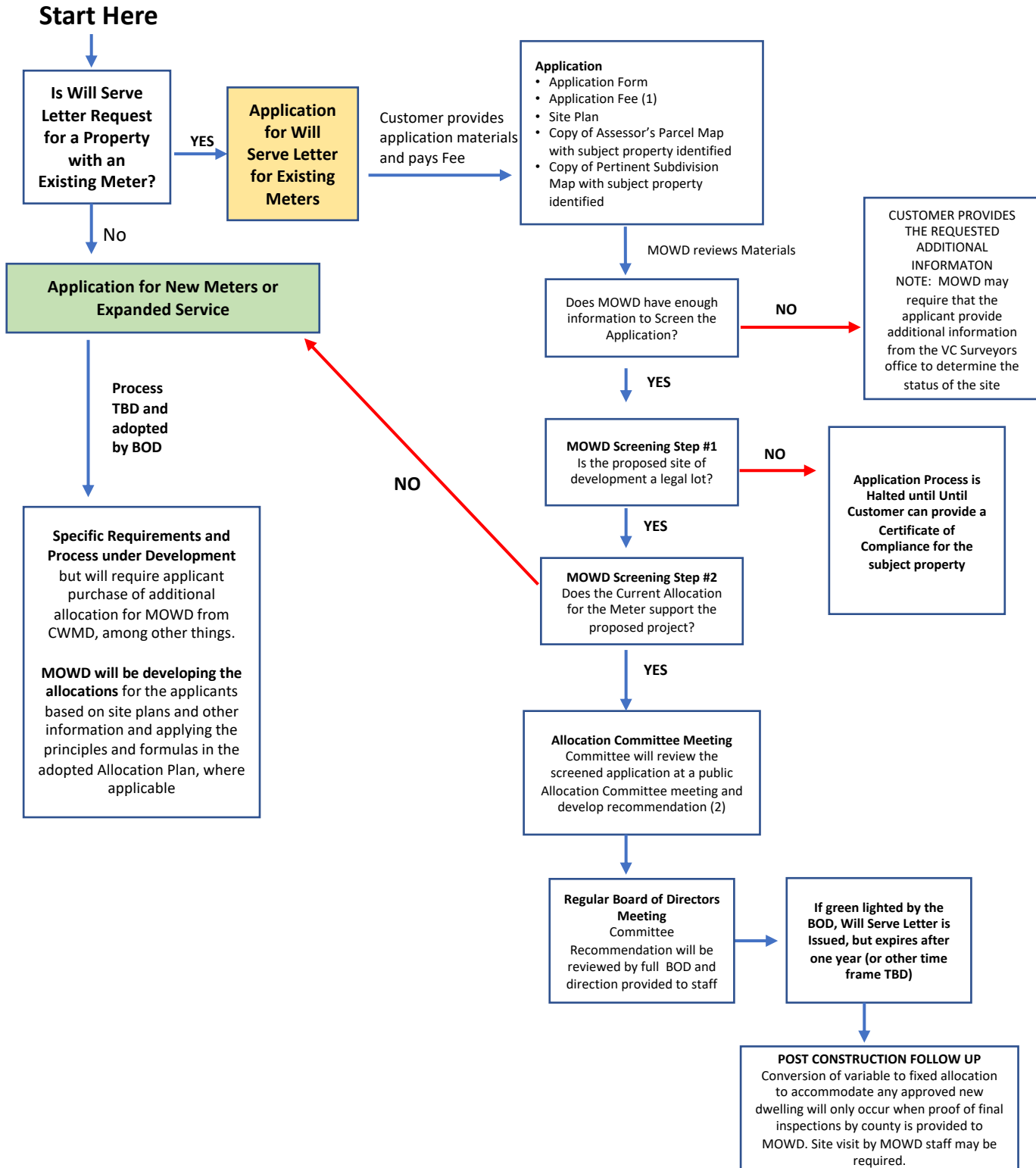
**Validity Dates of Outstanding Will-Serve Letters**

Prior to the current drought, MOWD issued some Will-Serve Letters without expiration dates. With current water supply limitations, those letters committed MOWD to deliver water it does not have available. Therefore, MOWD hereby adopts a policy that all outstanding Will-Serve Letters without expiration dates will expire (or have expired) 5 years after the date of issuance. If a Will-Serve Letter does not have an issue date on it, MOWD will assign an issue date based on associated correspondence.

Once a Will-Serve letter has expired, the Board may consider issuing a new Will-Serve letter to that customer with updated terms and conditions that incorporate the latest information on drought reliability, water allocations, drought stage and the requirements of Casitas MWD. The customer should apply for the replacement Will-Serve letter and provide all relevant project information. The Board will use its discretion to decide whether or not to issue a new letter.

# DRAFT Interim Will Serve Letter Application Procedures

Feb. 8, 2022



- 1) We aren't currently charging a fee, but will do so as soon as MOWD approves and publishes a fee schedule that is in development
- 2) Among considerations for ADUs will be whether the proposed ADU is on the same legal lot as the principal dwelling. If not, project leads to potential for requirement for new meter if legal lot with ADU comes under different ownership. At a minimum, will serve letter will need to state MOWD's no-wheeling policy as a fair warning to the applicant.

## Will-Serve/Proof of Service Letter Request Form

A "Will-Serve" letter may be issued upon the District's completion of an analysis determining that all conditions of approval are met.

### Applicant Information:

Account #

Name:

Company:

Mailing Address:

Phone:

Email:

### Project Information:

Assessor's Parcel Number:

Service Address:

City, State, Zip Code:

Planning Department Development case number (if applicable):

### Type of Construction:

New Construction

Tenant Improvement

ADU

Other

### Type of Use:

Single Family Res

Multi-Family Res (# of dwellings\_\_\_)

Commercial

### Description of Project:

### Required Attachments:

1. Drawing/sketch of project (with dimensions)
2. Tax Assessors parcel map that includes the subject property.
3. Subdivision map covering the location of the project.\*

\* Clearly indicate all APNs and legal lots involved in the project. Ensure any markups to county documents do not obscure the underlying information.

---

## Will-Serve/Proof of Service Letter Request Form

**Applicant Signature**

**Date**

*Please allow a minimum of 60 days to evaluate and process this Will Serve letter request. The time frame will depend on receipt of satisfactory information from the applicant and schedule of pertinent District Committees and Board of Directors meetings.*

## Review of Application for Will Serve Letter

### ADU for Property with Existing Meter at 142 S. Poli St.

#### **Proposal**

Conversion of part of an existing detached garage to a 1BDR, 1BATH single story ADU on tax assessor parcel 017-0-132-5 (APN was entered incorrectly on application) at 142 S. Poli St.

Applicant provided a detailed site plan, showing the location of the existing detached garage and the existing primary residence.

#### **Screening Step 1: Is the proposed building site on a legal lot? YES**

Applicant provided a copy of a tax assessor parcel map and a subdivision map that indicated the single APN combines what appeared as 3 separate legal lots on the pertinent subdivision map. This raised the possibility that there had been an illegal merger of the 3 legal lots when the trio of lots was assigned a single APN and marketed thus. The applicant provided the text of an email from Mario Vasquez and the VC Surveyor's office that confirmed that the three lots were merged into 1 legal lot in the 80s, as follows:

*"Great news, after researching the property I found it to be part of a recorded Notice of Merger. The County recorded Notice of Mergers in the 80's (The County doesn't do Notice of Mergers anymore). I've attached the recorded document NOM-84290 and you are located on page 5 as "UNIT S". This merged lots 28, 29, 30 into 1 legal lot. I also included the original subdivision map 14mr7 for reference.*

*As for the lot dimensions, it will be the combination widths of lots 28,29,30 which is 90 feet. By 115 feet length Plus the 10 feet of the original 20 foot alley that was abandoned as shown on Assessor Map 17-13.*

*The final dimensions would be 90' by 125'. Hope this helps."*

The referenced recorded document (NOM-84290) was also provided to MOWD and reviewed.

#### **Screening Step 2. Will the current allocation support an ADU? BARELY, but YES**

Allocation Details:

- Allocation Case Identifier: AA-0242
- Allocation Category: 1 RES meter, 1 Parcel
- Parcel Size: 0.258 acre (11,241 sq ft)
- Current Base Fixed Allocation: 120 HCF/yr
- Current Base Variable Allocation: 111 HCF/yr
- Fixed Base Allocation Needed to Support ADU: 84 HCF/yr

- Deduction from Variable Allocation needed to Support ADU through drought stages: 100 HCF/yr

If the ADU is provided the customary fixed second dwelling allocation, the new allocation for this property would be as follows:

- New Base Fixed Allocation:  $120 + 84 = 204 \text{ HCF/yr}$
- New Base Variable Allocation:  $111 - 100 = 11 \text{ HCF/yr}$

There will be extremely little water available for non-dwelling related uses. Applicant will have to support outside water use by conserving water use in the existing principal residence and the new ADU.

### ***Recommendation***

A will serve letter can be supplied, but must clearly state:

- Letter applies only to the proposed ADU as described in the applicant-provided preliminary site plan with the file date 01-03-2022
- There will be no increase in the total (fixed plus variable) water allocation assigned to the meter
- Will Serve Letter will expire after 1 year



---

## **Long Range Water Plan**

Currently MOWD doesn't have a long-term plan for water supply and infrastructure projects. The future and success of the District is up to us. It is imperative that we come up with a plan to increase our water security and provide essential infrastructure moving forward.

The District has a number of capital improvement projects to evaluate, prioritize, and budget for. Prioritizing these projects will give us a realistic goal to work toward and adjust our budget accordingly. A long-range plan should have the necessary elements to facilitate grant funding and properly dovetail with rate establishment and Prop. 218 procedures.

### **Non-Exhaustive List of CIP Projects:**

- |                                     |                   |
|-------------------------------------|-------------------|
| • Treatment Plant Replacement       | \$2M              |
| • Potential Chloramination Option   | \$100k (Well 4&7) |
| • New Well(s) / Feasibility Study   | \$700K            |
| • Tank Replacement                  | \$1.5M            |
| • Nitrate Blending Station Well #8  | \$500k            |
| • Meiners Rd Tank Site and Boosters | TBD               |
| • Standby Generators                | TBD               |
| • Office Expansion                  | TBD               |
| • Water Main Upgrades               |                   |

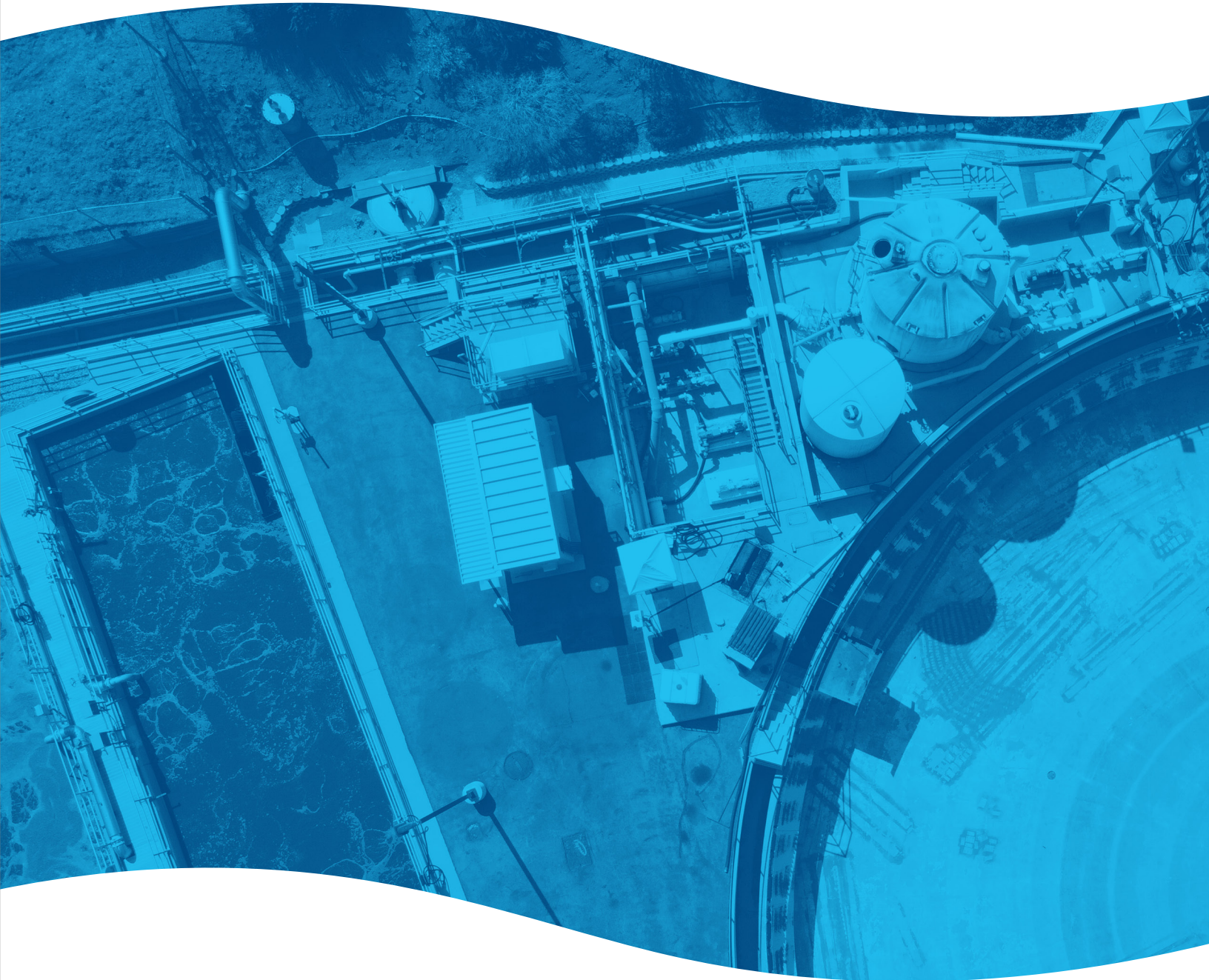
### **Recommended Actions:**

The General Manager recommends that the BOD makes a motion to create a special committee that will address the long-range needs and goals of MOWD.





# Well No. 8



January 2022  
Nitrate Removal  
Feasibility Report



Meiner's Oaks Water District  
Well No. 8 Nitrate Removal Feasibility Report  
Final January 2022

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**Board of Directors**

Mike Etchart, President  
Jim Kentosh, Vice President  
Christian Oakland, Director  
Loni Anderson, Director  
Diana Engle, Director

**District Staff**

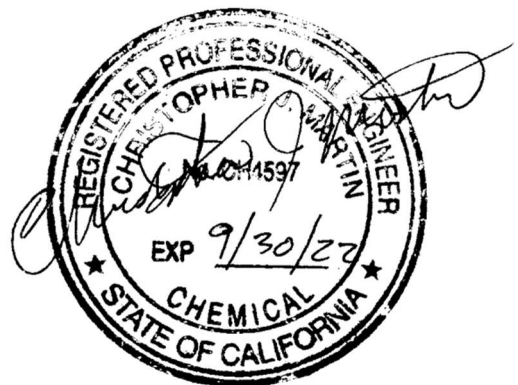
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## LIST OF ABBREVIATIONS

---

°C	Degrees Celsius
µg	Microgram
A/G	Above Grade
average + 2*STD	Average Plus Two Standard Deviations
B/G	Underground
BOD	Basis of Design
BV	Bed Volume
CACL	Consumer Acceptance Contaminant Level
CO <sub>2</sub>	Carbon Dioxide
DDW	Division of Drinking Water
Dia.	Diameter
EA	Each
ft	Feet
ft <sup>2</sup>	Square Feet
GFD	Gallons Flux Per Square Foot Per Day
gpd	Gallons Per Day
gpm	Gallons Per Minute
hp	Horsepower
hr	Hour
k	Thousand
kWh	Kilowatt-Hour
L	liter
lbs	pounds
LF	Linear Foot
LS	Lump Sum
LSI	Langelier Saturation Indices
MCL	Maximum Contaminant Level
mg	milligram
MG	Million Gallons
MKN	MKN and Associates, Inc.
MOWD	Meiners Oaks Water District
N/A	Not Applicable
No.	Number
O&M	Operation and Maintenance
OPEX	Operational Expenses
OVSD	Ojai Valley Sanitation District
PVC	Polyvinyl Chloride
RO	Reverse Osmosis
SAR	Sodium Absorption Ratio

---

SWRCB	State Water Resources Control Board
TBD	To Be Determined
TDS	Total Dissolved Solids
TM	Technical Memorandum

## 1. BACKGROUND AND OBJECTIVE

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### 1.1 Comparison of Pump Curves and Efficiencies

Meiners Oaks Water District (MOWD) provides water to approximately 4,200 people in an unincorporated portion of Ventura County called Meiners Oaks located west of Ojai. MOWD's system includes approximately 1,280 connections, 19 miles of pipelines, 4 active wells, 2 booster pump stations, and a little more than one (1) million gallons of storage. The figures provided in **Appendix A** show MOWD's boundaries, system map, and highlights the pertinent facilities. Ojai Valley Sanitation District (OVSD) collects wastewater from MOWD's customers.

One of MOWD's wells, Well No. 8, was removed from service in 2015 due to consistent testing showing results of elevated nitrate levels. Nitrate in groundwater in the portion of the alluvial basin where Well No. 8 is located can migrate to surface water in gaining reaches of the Ventura River further south. Elevated nitrate levels in the river increase nutrient levels which negatively impacts aquatic life. This project seeks to combat the migration of nitrates by returning Well No. 8 to service. Water from Well No. 8 must be treated to remove nitrates to comply with water quality regulations for drinking water.

### 1.2 Project Objectives

MKN & Associates, Inc. (MKN) has been engaged by MOWD to develop and evaluate alternatives to reduce nitrate levels in the product water from Well No. 8. As part of the contract, MKN delivered a Basis of Design Technical Memorandum (BOD TM) in October 2021 that summarized raw and product water quality data and introduced three water treatment alternatives: Ion Exchange, Reverse Osmosis, and Biological Treatment. This Feasibility Study Report develops and evaluates a fourth alternative, Blending, further evaluates all four alternatives, and recommends an alternative for implementation.



## 2. DESIGN ALTERNATIVES

---

This section provides historical background, introduces and summarizes the key features of the alternatives, and offers other considerations. The following are the subsections of **Section 2**:

- Historical Water Quality (2.1)
- Raw Water Quality, Treated Water Quality Objectives, and Treatment Process Evaluation Criteria (2.2)
- Blending (2.3)
- Ion Exchange (2.4)
- Reverse Osmosis (2.5)
- Biological Treatment (2.6)
- Other Considerations (2.7)

### 2.1 Historical Water Quality

The figure provided in **Appendix B** shows nitrate concentrations in Well No. 8 water from 2010 to 2021. The nitrate levels vary from 0 to 80 mg/L between 2010 and 2014, exhibiting significant deviation from the average concentration. The well was removed from service in January 2015 due to nitrate levels exceeding the MCL. Sample testing between June and July of 2021 showed nitrate levels of approximately 52 mg/L (as NO<sub>3</sub>). The 2021 data sample did not show the significant deviations previously observed in the raw water nitrate concentrations, but it is reasonable to assume that nitrate concentrations will continue to fluctuate in the future. MOWD will continue to monitor Well No. 8 to establish a baseline raw water quality. For purposes of this study, the maximum nitrate concentration of 75 mg/L (as NO<sub>3</sub>), observed in August 2012 and recommended in the *MOWD Well No.8 Nitrate Data Summary Report* (MOWD, August 2021), will be used in the development and analysis of nitrate removal treatment process alternatives.

The Well No. 8 samples taken in June and July 2021 were analyzed for general and inorganic water quality parameters and the results are summarized in **Table 2-1**. There is no historical data for these parameters. The water quality data shows that, except for iron, general and inorganic parameters are generally stable during the two-month monitoring period. The iron concentration exceeded the secondary MCL of 300 µg/L on June 8, 2021. Treatment technologies capable of iron removal will be considered in the process evaluation.

TDS concentrations varied between 780 to 815 mg/L indicating that the raw water is slightly saline. The Aggressive Index is above 12 and the Langelier Saturation Indices (LSI) is positive. This indicates that the raw water will have a natural tendency to deposit mineral scale. Elevated pH values in the range of 7.8 to 8.2, calcium level around 132 mg/L, and bicarbonate levels of 340 mg/L suggest that calcium carbonate is the primary mineral scale deposited. Sulfate and chloride are also present; however, concentrations are below the recommended Consumer Acceptance Contaminant Level (CACL) of 250 mg/L. The presence of calcium carbonate scale, sulfate, and chloride in raw water



may limit certain treatment types and, therefore, will be considered in the selection of treatment technologies.

**Table 2-1 – Well No. 8 General and Inorganic Constituents, June to July 2021**

Constituent	Concentration		Units
	Average	Average + STD+2	
Aggressiveness Index	12.7	13.1	--
Bicarbonate (as HCO <sub>3</sub> )	340	340	mg/L
Barium	--	--	--
Boron	0.4	0.5	mg/L
Calcium	132	140	mg/L
Carbonate (as CO <sub>3</sub> )	--	--	mg/L
Chloride	89	93	mg/L
Copper	10	10	mg/L
Fluoride	0.5	0.6	mg/L
Hydroxide (as OH)	--	--	mg/L
Iron	180	442	ug/L
Langelier Index (20 °C)	0.9	1.3	--
Magnesium	37	47	mg/L
Manganese	10	10	µg/L
MBAS Extraction	--	--	--
Nitrate (as NO <sub>3</sub> )	53	54	mg/L
Nitrate Nitrogen	12	12	mg/L
Nitrate + Nitrite (as Nitrogen)	12	12	mg/L
Nitrite (as Nitrogen)	--	--	mg/L
pH	7.8	8.2	--
Potassium	1.7	2.8	mg/L
SAR	1.2	1.3	--
Sodium	61	68	mg/L
Specific Conductance	1217	1258	µS/cm
Sulfate	193	198	mg/L
Total Alkalinity (as CaCO <sub>3</sub> )	280	280	mg/L
Total Anions	13	13	mg/L
Total Cations	12	12	mg/L
TDS	783	814	mg/L
Total Hardness (as CaCO <sub>3</sub> )	481	533	mg/L
Zinc	--	--	mg/L
Note: "--" indicated zero or non-detect sampling values.			

## 2.2 Raw Water Quality, Treated Water Quality Objectives, and Treatment Process Evaluation Criteria

The Raw Water Quality for Well No. 8 is summarized below:

- Nitrate: Average: 54 mg/L, Maximum: 75 mg/L
- Iron: 442 mg/L
- Manganese: 10 mg/L
- LSI: 1.3

Although the MCL for Nitrate (as  $\text{NO}_3$ ) is 45 mg/L, the Division of Drinking Water (DDW) is more receptive to treatment processes that target product water with a maximum concentration of 80% of the MCL, or 36 mg/L for Nitrate.

Well No. 8 has a nominal flow capacity of 330 gpm and the District has identified a low-flow capacity of 150 gpm to be used for planning purposes. The turndown for each alternative to meet the nominal and low-flow scenarios will be addressed in the respective subsections.

Treated Water Quality Objectives are listed below:

- Blended Maximum Nitrate Concentration: 36 mg/L as Nitrate (80 percent of the MCL)
- Langelier Saturation Index: 0 to 0.25
- $\text{CO}_2$ : < 2 mg/L
- Iron: < 300  $\mu\text{g/L}$
- Manganese: < 50  $\mu\text{g/L}$

Treatment processes were evaluated using the following criteria:

- Capital cost
- Energy and chemical requirements and OPEX cost
- Operational complexity
- Waste volume

The implementation and limitations of each alternative are also discussed.

MOWD currently uses chlorine gas in 150-pound cylinders to disinfect the product water of each well prior to conveyance to the distribution system. Treatment process evaluations will assume that chlorine gas continues to be used for disinfection of the product water.

Conceptual cost estimates have been provided in **Section 4** for the two leading alternatives.

### 2.3 Blending

While Well No. 8 has elevated nitrate levels, Well No. 4 and No. 7 have shown significantly lower concentrations. Water from Well No. 4 and No. 7 is pumped through the system and through a main that connects to Well No. 8 along Rice Road. During concurrent operation and, with the manipulation of two valves, the system can be configured to allow water from Well No. 8 to blend with water from Well No. 4 and/or Well No. 7 prior to reaching customers.

#### 2.3.1 *Alternative Process Description*

Closure of existing isolation valves at the intersection of Devereux Road and Rice Road and the intersection of West Lomita Avenue and Rice Road will force the flow from Well No. 4 and No. 7 northwards to blend with Well No. 8 before being delivered to customers. A blending procedure should be developed and implemented such that Well No. 8 is only operated when Well No. 4 and/or Well No. 7 are operating at or above a predetermined minimum required flow. This minimum flow will provide a reduction in nitrate concentration in the blended stream to below the 36 mg/L target.

The distance between the blending location and the nearest customer is approximately 20 feet, which does not provide sufficient time for blending of the well streams within the pipe. To expedite the blending, a plate-style, in-line, static mixer should be installed in an underground vault where Well No. 8 joins the distribution system, south of the intersection of Rice Road and Fairview Road.

#### 2.3.2 *Alternative Implementation*

Conceptual product water quality, waste disposal characteristics, energy and chemical requirements are listed in **Table 2-2**.

The Blending alternative produces no waste stream. This alternative dilutes nitrate concentrations rather than removing the constituent from Well No. 8 water. Therefore, it is imperative that customers receive water that is a blend of multiple wells at prescribed ratios to guarantee acceptable nitrate levels. Minimum required flow rates from Well No. 4 and/or Well No. 7 for blending with Well No. 8 to yield a product water quality meeting the nitrate target concentration have been calculated and are presented in **Table 2-3**. This table addresses the blending at both the nominal and low-flow rates.

The District has recorded the following range of flow rates from Well No.4 and No. 7.

- Well No. 4: 190 to 575 gpm, 350 gpm average.
- Well No. 7: 110 to 350 gpm, 250 gpm average.

The Blending alternative is viable since the average recorded flow rates exceed the required minimum flow rates. However, the bottom of the flow rate range from the wells is below the minimum required flow rates in **Table 2-3**. Therefore, the Blending alternative will require standard operating procedures that strictly dictate well operation times and monitor flow rates. Automated well control, such as interlocks on Well No. 8 operation status, may assist District staff with implementation of the operating procedures. The flow rate and time

parameters of Well No. 4 and/or Well No. 7 will be affected by the ongoing sampling and testing for nitrate levels in all streams. Changes in nitrate levels in any of the streams could require adjustments to the blending ratios. If desired nitrate levels cannot be achieved with blending, direct treatment for Well No. 8 nitrate will need to be considered.

**Table 2-2 – Conceptual Blending Product Water Quality, Waste Characteristics, Energy and Chemical Requirements Value**

Parameter	Value	Units
<b>Product Water Quality <sup>(1)</sup></b>		
Nitrate (as NO <sub>3</sub> )	36	mg/L
<b>Waste Production and Quality <sup>(2)</sup></b>		
N/A		
<b>Energy Requirements <sup>(3)</sup></b>		
Well Pump	2,000	kWh/MG
<b>Chemical Requirements <sup>(4)</sup></b>		
N/A		
(1) Product water is a blend of Well No. 8 and a minimum flow from either Well No. 4 and/or Well No. 7. Only the constituent of concern, Nitrate, has been addressed.		
(2) This alternative produces no waste stream.		
(3) This alternative does not require any additional energy.		
(4) This alternative requires no chemicals.		

**Table 2-3 – Minimum Flows for Blending to Meet Nitrate Concentration Requirements**

Parameter	Value	Units
<b>Well No. 8</b>		
Well No. 8 Nitrate Concentration <sup>(1)</sup>	75	mg/L
Product Water Nitrate Concentration <sup>(2)</sup>	36	mg/L
Well No. 8 Nominal Flow Rate	330	gpm
Well No. 8 Low Flow Rate	150	gpm
<b>Well No. 4</b>		
Well No. 4 Nitrate Concentration <sup>(3)</sup>	9.4	mg/L
Well No. 4 Minimum Flow Rate for Product Water Target Concentration - Well No. 8 Nominal Flow	484	gpm
Well No. 4 Minimum Flow Rate for Product Water Target Concentration - Well No. 8 Low Flow	220	gpm
<b>Well No. 7</b>		
Well No. 7 Nitrate Concentration <sup>(3)</sup>	7.1	mg/L
Well No. 7 Minimum Flow Rate for Product Water Target Concentration - Well No. 8 Nominal Flow	445	gpm
Well No. 7 Minimum Flow Rate for Product Water Target Concentration - Well No. 8 Low Flow	202	gpm
<b>Combined Flow, Well No. 4 and No. 7 <sup>(4)</sup></b>		
Well No. 4 & 7 Nitrate Concentration <sup>(5)</sup>	9.4	mg/L
Well No. 4 and Well No. 7 Minimum Combined Flow Rate for Product Water Target Concentration - Well No. 8 Nominal Flow	484	gpm
Well No. 4 and Well No. 7 Minimum Combined Flow Rate for Product Water Target Concentration - Well No. 8 Low Flow	220	gpm
<small>(1) Maximum nitrate concentration sampled June to July 2021.</small>		
<small>(2) Target nitrate concentrations, at 80% of MCL.</small>		
<small>(3) Historical maximum concentration measured by District from 2016 through 2021.</small>		
<small>(4) Assumes both Well No. 4 &amp; 7 are operating and have the highest single nitrate concentration sampled between both wells from 2016 through 2021.</small>		
<small>(5) Maximum concentration between both Well No. 4 &amp; 7 measured by District from 2016 through 2021.</small>		

## 2.4 Ion Exchange

The ion exchange alternative employs a physical-chemical process using specially treated media (resin). The resin contains positively charged "active sites" that initially are loaded with chloride anions. As nitrate-laden water passes through the media, nitrate in the water exchanges with the chloride on the resin, thus removing the nitrate from the water. Ultimately, the resin is exhausted of chloride and must be regenerated with a sodium chloride (salt) solution.

#### 2.4.1 Alternative Process Description

An ion exchange system would consist of the following components:

- Pressure vessels (typically two or more vessels active with one in standby) loaded with ion exchange media
- Brine tank and pump station (commonly referred to as a “brine maker”)
- Dilution water control valve system
- Rinse and brine water softener
- Brine disposal infrastructure
- Chemical storage and injection facilities
- Instrumentation and control systems

The ion exchange resin is equipped with positively charged active sites that can attract negatively charged ions (anions) in water, typically consisting of nitrate, chloride, sulfate, and bicarbonate ions. When placed into service, the resin is pre-loaded with chloride anions. As water flows through the media, the chloride exchange places with anions (nitrate or other anionic constituents) in the water. The treatment system is expected to treat the raw water from Well No. 8 and produce an average treated effluent nitrate concentration of approximately 8 mg/L (as  $\text{NO}_3$ ). This treated effluent will be blended with a raw water bypass stream resulting in a product water nitrate concentration of 36 mg/L (as  $\text{NO}_3$ ).

Once the resin becomes exhausted of chloride ions and ceases to remove nitrate and other anionic constituents from the water, the vessel containing the exhausted resin undergoes regeneration. During a regeneration cycle, the vessel is taken out of service and backwashed with a regenerative brine solution. The regenerative brine is prepared by diluting the delivered brine (typically 25% to 30% chloride) with water from the distribution system to approximately 6% chloride. The regenerative brine solution is pumped through the vessel in either a co-current (downward) or counterflow (upward) flow direction, exchanging nitrate and other anionic constituents bound to the resin with chloride. Residual brine is removed from the pressure vessel by a slow rinse with softened water followed by a fast rinse with raw water.

Three vessels are recommended for this application. Two vessels would be in service treating water, while the third vessel is offline for regeneration or on standby prepared to return to service. Each vessel would rotate in service, so the system is always available to treat design flows.

The makeup water to create the regenerative brine solution may cause mineral scaling in the brine storage tank and waste disposal facilities. A small commercial water softener would be required to soften the water to minimize mineral scaling during regeneration cycles. A process flow diagram of the conceptual ion exchange system is presented in **Appendix C**, while conceptual ion exchange design parameters are outlined in **Table 2-4**.

**Table 2-4 – Conceptual Ion Exchange Facility Design Parameters**

<b>General</b>	<b>Parameter</b>	<b>Value</b>	<b>Units</b>
	Well Flow	330	gpm
	Fraction of Water Treated	58	%
	Design Raw Water Bypass Flow	140	gpm
	Design Ion Exchange Influent Flow	190	gpm
<b><i>Ion Exchange System Design Water Quality <sup>(1)</sup></i></b>			
	Temperature	20 to 25	°C
	TDS	800 to 1,100	mg/L
	Barium	30 to 40	µg/L
	Bicarbonate (as HCO <sub>3</sub> )	320 to 360	mg/L
	Calcium	132 to 140	mg/L
	Chloride	89 to 93	mg/L
	Fluoride	0.5 to 0.6	mg/L
	Iron	180 to 450	ug/L
	Manganese	5 to 15	ug/L
	Nitrate (as NO <sub>3</sub> )	50 to 75	mg/L
	pH	7.8 to 8.2	--
	Sulfate	190 to 200	mg/L
	Total Alkalinity (as CaCO <sub>3</sub> )	250 to 300	mg/L
	Total Hardness (as CaCO <sub>3</sub> )	450 to 550	mg/L
<b><i>Ion Exchange System Sizing <sup>(1)</sup></i></b>			
	Cartridge Filter Element Rating	5	micron
	Number of Vessels	3	--
	Vessel Diameter	3	feet
	Hydraulic Loading Rate	13.6	gpm/ft <sup>2</sup>
	Resin Volume Per Vessel	35	ft <sup>3</sup>
	Resin Depth Per Vessel	59	inches
	Approximate System Pressure Drop	8 to 10	psi
	Gross Bed Volumes Treated <sup>(2)</sup>	270 to 300	BV
	Water Treated Per Vessel Per Regeneration Cycle <sup>(2)</sup>	71,000 to 72,000	gallons
	Waste Production (Percent of % of Treated Water) <sup>(2)</sup>	2.0 to 2.2	%
(1) Assumes avg. and design (avg. + 2*STD) water quality conditions taken from June to July 2021 sampling results.			
(2) Assumes co-current (downward) regeneration with 6 percent brine (diluted from 25 to 30 percent).			

### 2.4.2 Alternative Implementation

Conceptual ion exchange facility product water quality, waste disposal characteristics, and energy and chemical requirements are described in **Table 2-5**.

**Table 2-5 – Conceptual Ion Exchange Facility Product Water Quality, Waste Characteristics, Energy and Chemical Requirements**

Parameter	Value	Units
<b>Blended Product Water Quality <sup>(1)</sup></b>		
Temperature	20 to 25	°C
TDS	940 to 960	mg/L
Bicarbonate (as HCO <sub>3</sub> )	300 to 310	mg/L
Calcium	132 to 140	mg/L
Chloride	190 to 200	mg/L
Sulfate	80 to 90	mg/L
Nitrate (as NO <sub>3</sub> )	32 to 36	mg/L
pH	7.7 to 8.0	--
Total Alkalinity (as CaCO <sub>3</sub> )	240 to 260	mg/L
Total Hardness (as CaCO <sub>3</sub> )	470 to 490	mg/L
LSI	0.05 to 0.10	--
<b>Waste Production and Quality <sup>(2)</sup></b>		
Waste Volume per Regen. Cycle	2,700 to 2,800	gallons
TDS	30,000 to 40,000	mg/L
Nitrate (as NO <sub>3</sub> )	3,000 to 4,000	mg/L
Chloride	18,000 to 20,000	mg/L
<b>Energy Requirements <sup>(3)</sup></b>		
Well Pump	2,000	kWh/MG
Regeneration/Brine Maker System	500	kWh/MG
<b>Total</b>	<b>2,500</b>	<b>kWh/MG</b>
<b>Chemical Requirements <sup>(4)</sup></b>		
Chlorine Gas	13	lbs/MG
Salt Brine (25%)	2320	lbs/MG
	116	tons/year
(1) Product water blend of treated ion exchange effluent and raw water bypass.		
(2) Assumes brine produced from average and average + 2*STD water quality scenarios.		
(3) Assumes energy per million gallons of treated water for average and average + 2*STD water quality scenarios.		
(4) Assumes chemicals required to treat average and average + 2*STD water quality scenarios for pounds of chemical per million gallons for water treated and gallons of chemical per day.		



Ion exchange product water, consisting of blended treated and raw water from Well No. 8, enters the distribution system directly from the discharge of the treatment facility without the assistance of a product water pump. However, the well's capacity will be slightly reduced due to the additional head losses introduced by the treatment facility.

A potential limitation of this alternative is disposal of the waste stream. While the rinse water can be partially reclaimed, spent brine and rinse water flushed out of the resin bed are sent to waste. Disposal of highly saline brine and rinse water in a collection system can potentially be challenging to permit, given that brine has been observed to negatively impact a receiving wastewater treatment plant's ability to meet permitted electrical conductivity, nitrate, and/or chloride receiving and discharge limits (applicable to certain treatment plants). OVSD has tentatively confirmed that their system can manage the waste discharge stream from this treatment facility but request that the flow is metered into their system at a constant rate and does not exceed approximately 3,000 gpd. A waste tank and pump would be necessary to dispose of the waste stream in this manner.

Each vessel can accommodate a turndown of approximately 25% before flow channeling through the resin bed becomes a concern. Channeling is a condition that can occur in filters with granular media when operating at flow rates less than the design rates. Small channels are created within the media bed allowing the liquid to pass rapidly through, resulting in only a small portion of the media being utilized for treatment and greatly increasing the frequency of regeneration cycles. The proposed system includes two service vessels and one standby vessel, which allows for a 50% turndown by removing one of the service vessels and placing it into standby. The combination of operating one vessel and the allowable reduction in throughput provides coverage of the nominal and low-flow rates. It should be noted that, for a short period of time after returning a vessel to operation following regeneration, the resin will absorb bicarbonate more aggressively creating a product water that is slightly more corrosive. This issue is not an issue in the system with parallel vessels but will be with a single service vessel.

## 2.5 Reverse Osmosis

Reverse osmosis is a treatment method that removes a wide variety of waterborne contaminants, including nitrate, from water by forcing the water across a semi-permeable membrane.

### 2.5.1 *Alternative Process Description*

A reverse osmosis (RO) system would consist of the following components:

- Separate feed pump (to allow for flexibility in completely or partially bypassing the treatment system)
- Single two-stage RO train
- Forced draft degasifier
- Clearwell and product water pump station
- Clean-in-place system

- Concentrate and “off-spec” water disposal infrastructure
- Chemical storage and injection facilities
- Instrumentation and control systems

RO removes mono- and divalent ions, the sum of which comprises TDS, from the feed water resulting in the production of RO product water (or “permeate”) with lower TDS concentrations. TDS is rejected by the membranes and is concentrated across one or more stages of pressure vessels, resulting in a reject (or “concentrate”) waste stream. The concentrate for a standard two-stage RO configuration can have TDS concentrations four to five times higher than the feed water. The percentage of RO feed water converted to permeate is defined as the “recovery.” Obtaining a high recovery must be balanced against potential increases in chemical, pretreatment, and/or pumping requirements and costs. Hydraulic loading rate (commonly referred to as “flux”) is another critical design parameter that contributes to the range of acceptable system recoveries. Optimum flux is determined on a case-by-case basis, considering the following factors:

- Variances in feedwater quality
- Membrane type(s)
- Permeate water quality
- Capital and O&M costs

Operating above the optimum system flux may increase the potential for membrane fouling, leading to decreased permeate production, increased pumping costs, and potential long-term damage to the membranes.

For the concept design, it is estimated that approximately 76% of the raw water requires treatment, while 24% of the raw water can bypass RO treatment. Based on the expected system recovery, the blended product water stream consists of 69% treated water and 31% raw bypassed water.

Raw water is pumped from the well and the portion to be treated is passed through a 5-micron cartridge filter. Chemicals are subsequently injected into a static mixer to minimize mineral scaling and bacteriological and iron/manganese fouling on the membranes. The pressure of the pre-treated water is then boosted by a can-mounted, vertical turbine pump through a two-stage membrane system, generating permeate and concentrate streams. To establish comprehensive RO system projections considering typical (average) and worst-case (design) water quality scenarios aged and new membranes, four water quality scenarios were evaluated:

- New and Aged Membranes at Design (Average + 2\*STD) Water Quality (Two Separate Scenarios), where STD is the standard deviation of the water quality concentration for a given constituent
- New and Aged Membranes at Average Water Quality (Two Separate Scenarios)

With average system flux values ranging from 15.9 to 16.4 gpd/ft<sup>2</sup>, RO system recovery rates ranging from 70% to 72% can be achieved. The permeate is blended with the fraction of the raw water that bypasses the RO system to help stabilize the product water, while concentrate is directed to waste disposal. The permeate-bypass water blend is further stabilized with pH adjustment by removing excess carbon dioxide through a forced draft degasifier tower, subsequently minimizing corrosion in the distribution system. Effluent from the degasifier sump is conveyed by gravity into a below-grade cast-in-place concrete clearwell for disinfection to achieve a 4-log virus removal level of disinfection required for groundwater. Product water is subsequently pumped into the distribution system by vertical turbine pump station (arranged in a 1 active + 1 standby configuration). A process flow diagram of the conceptual RO system is presented in **Appendix D**, while conceptual RO design parameters are outlined in **Table 2-6**.

**Table 2-6 – Conceptual Reverse Osmosis Facility Design Parameters**

Parameter	Value	Units
<b>General</b>		
Well Flow	330	gpm
Design RO Feed Flow	250	gpm
Design Raw Water Bypass Flow	80	gpm
Fraction of Raw Water Treated	76	%
RO Permeate Flow	175	gpm
Permeate Fraction of RO Feed	70	%
RO Permeate Fraction of Blended Product Water	69	%
<b>Feed Pump</b>		
Number of Pump(s)	1	--
Pump Type	Can-Mounted Vertical Turbine	--
Pump Material	316 SST	--
Capacity	250	gpm
Pump Total Dynamic Head	453	feet
Minimum Pump Efficiency	80	%
Motor Drive	Variable Frequency Drive	--
<b>RO System Design Water Quality <sup>(1)</sup></b>		
Temperature	20 to 25	°C
TDS	800 to 1,100	mg/L
Barium	30 to 40	mg/L
Bicarbonate (as HCO <sub>3</sub> )	320 to 360	mg/L
Calcium	132 to 140	mg/L
Chloride	89 to 93	mg/L
Fluoride	0.5 to 0.6	mg/L
Iron	180 to 450	ug/L
Manganese	5 to 15	ug/L
Nitrate (as NO <sub>3</sub> )	50 to 75	mg/L
pH	7.8 to 8.2	--
Sulfate	190 to 200	mg/L
Total Alkalinity (as CaCO <sub>3</sub> )	250 to 300	mg/L
Total Hardness (as CaCO <sub>3</sub> )	450 to 550	mg/L
<b>RO System Sizing</b>		
Cartridge Filter Element Rating	5	micron
Design System Recovery Range <sup>(1)</sup>	70 to 72	%
Number of Train(s)	1	--
Stages Per Train	2	--
No. Pressure Vessels in Stage 1 <sup>(2)</sup>	4	--
No. Pressure Vessels in Stage 2 <sup>(2)</sup>	2	--
Type of Vessels	Fiberglass Reinforced Plastic	--
Vessel Configuration	Side-Port	--
Manufacturers	DuPont, Hydronautics, Toray	--
Average Flux	15.9 to 16.4	GFD
(1) Assumes avg. and design (avg. + 2*STD) water quality conditions taken from June to July 2021 sampling results.		
(2) Assumes 6 elements per vessel, 8-inch nominal diameter, 40-inch length, 440 ft <sup>2</sup> active area per element.		

### 2.5.2 Alternative Implementation

Conceptual RO facility product water quality, waste disposal characteristics, and energy and chemical requirements are described in **Table 2-7**.

**Table 2-7 – Conceptual Reverse Osmosis Facility Product Water Quality, Waste Characteristics, Energy and Chemical Requirements**

Parameter	Value	Units
<b>Blended Product Water Quality <sup>(1)</sup></b>		
Temperature	20 to 25	°C
TDS	290 to 310	mg/L
Bicarbonate (as HCO <sub>3</sub> )	100 to 115	mg/L
Calcium	40 to 45	mg/L
Chloride	25 to 30	mg/L
Magnesium	11 to 13	mg/L
Potassium	0.25 to 1.0	mg/L
Sulfate	60 to 65	mg/L
Nitrate (as NO <sub>3</sub> )	24 to 32	mg/L
pH	7.7 to 8.0	--
Total Alkalinity (as CaCO <sub>3</sub> )	85 to 95	mg/L
Total Hardness (as CaCO <sub>3</sub> )	140 to 160	mg/L
LSI	0.10 to 0.20	--
<b>Waste Production and Quality <sup>(2)</sup></b>		
Waste (Brine) Flowrate	70 to 80	gpm
TDS	3,300 to 3,400	mg/L
Nitrate (as NO <sub>3</sub> )	250 to 275	mg/L
Chloride	300 to 325	mg/L
LSI	-0.20 to 1.10	--
<b>Energy Requirements <sup>(3)</sup></b>		
Well Pump	1,500 to 1,600	kWh/MG
RO Feed Pump	1,100 to 1,200	kWh/MG
Forced Draft Degasifier	80 to 100	kWh/MG
Product Water Pump Station	1,000 to 1,100	kWh/MG
<b>Total</b>	<b>3,680 to 4,000</b>	<b>kWh/MG</b>
<b>Chemical Requirements <sup>(4)</sup></b>		
Antiscalant (100%)	25	lbs/MG
	1	gallons/day
Sodium Bisulfite (30%)	17	lbs/MG
	2	gallons/day
Chlorine Gas	13	lbs/MG
Sulfuric Acid (98%)	1585	lbs/MG
	39	gallons/day
(1) Product water blend of treated RO system permeate and raw water bypass (downstream of forced draft degasifier).		
(2) Assumes brine produced from average and average + 2*STD water quality scenarios.		
(3) Assumes energy per million gallons of treated water for average and average + 2*STD water quality scenarios		
(4) Assumes chemicals required to treat average and average + 2*STD water quality scenarios for pounds of chemical per million gallons of water treated and gallons of chemical per day.		

One concern for RO systems is the tremendous power requirements. The additional power demand required for the RO Feed Pump and the Product Water Pump Station may exceed existing electrical infrastructure capacities.

Another potential limitation of this alternative is waste stream disposal. While RO processes typically produce a much less saline brine than ion exchange treatment systems, the volume of RO brine is much greater. Disposal of large volumes of brine can be problematic for collection systems and receiving wastewater treatment plants of small communities due to inadequate wastewater conveyance and treatment capacity. As discussed previously, this could potentially affect a receiving wastewater treatment plant's ability to meet its permitted electrical conductivity, nitrate, and/or chloride receiving and discharge limits.

RO trains are designed to be effective at a specific flux and are inefficient, and potentially ineffective, at significant deviations from this target flux. Therefore, each RO train cannot handle wide variations in flow rate. When multiple parallel trains are installed, individual trains can be turned off, effectively reducing the RO system throughput by that train's capacity. However, multiple trains at this scale can be costly and would require well manipulation to operate at specified flow rates that meet the RO train's target flux.

## 2.6 Biological Treatment

Biological treatment systems remove nitrate from water streams using microbes that convert nitrate to nitrogen gas, which is then released.

### 2.6.1 *Alternative Process Description*

To fulfill the objectives of this study, MKN solicited treatment projections from two vendors of the biological nitrate removal process: AdEdge and Microvi.

The AdEdge Biotta biological treatment system would consist of the following components:

- Anaerobic bioreactor
- Aerobic biofilter
- Backwash air supply system
- Backwash supply tank and pump station
- Backwash waste equalization tank and reclaim pump station
- Waste disposal infrastructure
- Chemical storage and injection facilities
- Instrumentation and control systems

The Biotta process is estimated to reduce the nitrate concentration to approximately 2.0 to 4.5 mg/L (as NO<sub>3</sub>), requiring that approximately 56% of the raw water be treated to reach a blended product water nitrate concentration of 36 mg/L (as NO<sub>3</sub>). Raw water is passed through

an anaerobic bioreactor where bacteria extract oxygen from the nitrate ions for cell metabolism. Acetic and phosphoric acids are added to the raw water (upstream of an anaerobic reactor) to feed the bacteria which convert nitrates to nitrogen gas. Effluent from the anaerobic bioreactor is filtered by an aerobic biofilter and disinfected to remove any residual bacteria and excess biomass from upstream reactor. A process flow diagram of the conceptual biological treatment system is presented in **Appendix E**, while conceptual biological treatment facility design parameters are outlined in **Table 2-8**.

The second biological treatment system is the Microvi MNE which would consist of the following components:

- Microvi MNE Bioreactor
- Ultrafiltration system (feed pump, strainer, and membrane modules)
- Ultrafiltration backwash and clean-in-place systems
- Clearwell and product water pump station
- Waste disposal infrastructure
- Chemical storage and injection facilities
- Instrumentation and control systems

The Microvi process is estimated to reduce the nitrate concentration to approximately 8.0 mg/L (as  $\text{NO}_3$ ), requiring treatment of approximately 59% of raw water to reach a blended product water nitrate concentration of 36 mg/L (as  $\text{NO}_3$ ). Acetic and phosphoric acids are first added to the raw water to feed the bacteria. The pre-treated raw water is passed through a Microvi MNE bioreactor tank, where it is mixed in a continuously stirred tank reactor with proprietary Microvi biocatalysts to reduce the influent nitrate concentration through denitrification, ultimately converting nitrates to nitrogen gas. Clarified effluent from the bioreactor is filtered by a downstream ultrafiltration system to remove residual solids. After the filtrate and raw water bypass are combined and disinfected in a clearwell to remove residual bacteria, a pump station discharges the blended product water into the distribution system. A process flow diagram of the conceptual Microvi biological treatment system is presented in **Appendix E**, while conceptual Microvi MNE biological treatment facility design parameters are outlined in **Table 2-9**.

Table 2-8 – Conceptual Biological Treatment Facility Design Parameters (Biotta)

Table 2-8. Conceptual Biological Treatment Facility Design Parameters (Biotta)		
Parameter	Value	Units
<b>General</b>		
Well Flow	330	gpm
Fraction of Treated Water	56	%
Design Raw Water Bypass Flow	145	gpm
Design Biological Treatment Influent Flow	185	gpm
<b>Biological Treatment System Design Water Quality <sup>(1)</sup></b>		
Temperature	20 to 25	°C
TDS	800 to 1,100	mg/L
Barium	30 to 40	mg/L
Bicarbonate (as HCO <sub>3</sub> )	320 to 360	mg/L
Calcium	132 to 140	mg/L
Chloride	89 to 93	mg/L
Fluoride	0.5 to 0.6	mg/L
Iron	180 to 450	ug/L
Manganese	5 to 15	ug/L
Nitrate (as NO <sub>3</sub> )	50 to 75	mg/L
pH	7.8 to 8.2	--
Sulfate	190 to 200	mg/L
Total Alkalinity (as CaCO <sub>3</sub> )	250 to 300	mg/L
Total Hardness (as CaCO <sub>3</sub> )	450 to 550	mg/L
<b>Biological Treatment System Sizing</b>		
Number of Vessels	2	--
Vessel Diameter	10	feet
Nominal Backwash Supply Tank Capacity	30,000	gallons
Vessel 1 (Bioreactor) Backwash Frequency	24 to 48	hours
Vessel 1 (Bioreactor) Backwash Duration	12	minutes
Vessel 2 (Biofilter) Backwash Frequency	48 to 72	hours
Vessel 2 (Biofilter) Backwash Frequency	7	minutes
Backwash Flowrate	1,600	gpm
Nominal Backwash Waste Tank Capacity <sup>(2)</sup>	50,000	gallons
Sludge Generated per Complete Backwash Cycle (3)	1,500	gallons
(1) Assumes avg. and design (avg. + 2*STD) water quality conditions taken from June to July 2021 sampling results.		
(2) Additional capacity assumes worst-case occurrence of multiple bioreactor and biofilter backwashes on the same day.		
(3) Min. backwash sludge volume, could potentially be greater, depending on biological conditions in the reactors.		



**Table 2-9 – Conceptual Biological Treatment Facility Design Parameters (Microvi)**

Parameter	Value	Units
<b>General</b>		
Well Flow	330	gpm
Fraction of Treated Water	59	%
Design Raw Water Bypass Flow	135	gpm
Design Biological Treatment Influent Flow	195	gpm
<b>Biological Treatment System Design Water Quality <sup>(1)</sup></b>		
Temperature	20 to 25	°C
TDS	800 to 1,100	mg/L
Barium	30 to 40	mg/L
Bicarbonate (as HCO <sub>3</sub> )	320 to 360	mg/L
Calcium	132 to 140	mg/L
Chloride	89 to 93	mg/L
Fluoride	0.5 to 0.6	mg/L
Iron	180 to 450	ug/L
Manganese	5 to 15	ug/L
Nitrate (as NO <sub>3</sub> )	50 to 75	mg/L
pH	7.8 to 8.2	--
Sulfate	190 to 200	mg/L
Total Alkalinity (as CaCO <sub>3</sub> )	250 to 300	mg/L
Total Hardness (as CaCO <sub>3</sub> )	450 to 550	mg/L
<b>Biological Treatment System Sizing</b>		
Number of Vessels	1	--
Vessel Diameter	11	feet
Vessel Height	15	feet
Hydraulic Capacity	250	gpm
Vessel Volume	11,500	gallons
Mixer Motor Horsepower	5	HP
Piping Material	316 SST	--
(1) Assumes avg. and design (avg. + 2*STD) water quality conditions taken from June to July 2021 sampling results.		
(2) Additional capacity assumes worst-case occurrence of multiple bioreactor and biofilter backwashes on the same day.		
(3) Min. backwash sludge volume, could potentially be greater, depending on biological conditions in the reactors.		

### 2.6.2 Alternative Implementation

For the Biotta system, the anaerobic bioreactor is backwashed with approximately 21,350 gallons every 24 to 48 hours to remove excess solids and biomass. The aerobic biofilter is backwashed with approximately 13,500 gallons every 48 to 72 hours to remove collected solids and excess biomass eluted from the upstream anaerobic bioreactor. The combined average daily backwashed volume is between 7,500 and 14,000 gallons. Backwash supply water is

dechlorinated with hydrogen peroxide to keep the bacterial population viable after backwash. The backwash can be directly disposed of to the sewer, but the waste characteristics and large volume lends itself to a decanting process utilizing a large (40,000 to 50,000 gallon) tank. After backwashed sludge settles in the waste tank, the decanted backwash water (clarified water that separates from sludge mass) can be pumped upstream of the anaerobic biofilter for treatment and ultimately discharged to the distribution system. While settled sludge constitutes the only waste product of the Biotta process, dewatering and/or sludge hauling is required if the sludge cannot be directly discharged to a nearby sewer. Conceptual biological treatment facility product water quality, waste disposal characteristics, and energy and chemical requirements are listed in **Table 2-10**.

For the Microvi system, the only waste streams produced by the treatment process consist of reject, backwash, and spent cleaning solution flows from the ultrafiltration system. No waste is produced directly from the Microvi bioreactor. Conceptual biological treatment facility product water quality, waste disposal characteristics, and energy and chemical requirements are described in **Table 2-11**.

The turndown capabilities of biological treatment systems are specific to the product line, but most systems are fairly limited in their ability to handle flow variations. The Biotta system is expected to be significantly limited based on industry experience with the process technology employed. On the other hand, Microvi has demonstrated through pilot installations that 50% turndown is achievable, although it may take time after a significant flow variation before the system regains treatment effectiveness. Combining this turndown with an adjustment in the ratio of bypassed raw water, Microvi can cover the nominal and low-flow design points.

Based on recent conversations with Crescenta Valley Water District (CVWD) staff, a biological treatment plant has been fully operational for several years. CVWD staff indicated that the treatment system consistently produces a product water blend with less than 36 mg/L nitrate (as  $\text{NO}_3$ ) with minimal disturbances to the treatment process. Overall, CVWD staff expressed satisfaction with the performance of the installed biological treatment system.

However, biological systems introduce operational and maintenance complexity. The health of the organisms used in the treatment process must be a consideration when operating the system. Biological treatment systems typically demand continuous flow and can be upset after lengthy shutdowns. For a non-continuous system such as Well No. 8, it is recommended to operate the system at the design flow rate intermittently per a predetermined schedule developed to maintain the biological system's health.

While biological treatment has been considered a viable process for over 20 years, concerns about bacterial contamination has limited regulatory acceptance of the process for drinking water. Only in the last few years has this technology been conditionally accepted by regulatory agencies as a viable process for removing nitrates from potable water. It should be noted that if this option is further evaluated, it is likely that the State Water Resources Control Board Division of Drinking Water (SWRCB DDW) will require a comprehensive pilot testing period to verify the performance of the treatment system.

**Table 2-10 – Conceptual Biological Treatment Facility Product Water, Waste Characteristics, Energy and Chemical Requirements (Biotta)**

Parameter	Value	Units
<b>Blended Product Water Quality <sup>(1)</sup></b>		
Temperature	20 to 25	°C
TDS	800 to 1,100	mg/L
Bicarbonate (as HCO <sub>3</sub> )	320 to 360	mg/L
Calcium	132 to 140	mg/L
Chloride	89 to 93	mg/L
Sulfate	190 to 200	mg/L
Nitrate (as NO <sub>3</sub> )	32 to 36	mg/L
pH	7.7 to 8.0	--
Total Alkalinity (as CaCO <sub>3</sub> )	250 to 300	mg/L
Total Hardness (as CaCO <sub>3</sub> )	450 to 550	mg/L
LSI	0.70 to 1.20	--
<b>Waste Production <sup>(2) (3)</sup></b>		
Backwash Volumes	13,500 to 21,350	gallons
Average Daily Waste	1,600	gallons/day
<b>Energy Requirements <sup>(4)</sup></b>		
Well Pump	2,000	kWh/MG
Treatment System	500	kWh/MG
<b>Total</b>	<b>2,500</b>	<b>kWh/MG</b>
<b>Chemical Requirements <sup>(5)</sup></b>		
Chlorine Gas	13	lbs/MG
Hydrogen Peroxide (35%)	1000	lbs/MG
	286	gallons/day
Peracetic Acid (12%)	1400	lbs/MG
	340	gallons/day
Phosphoric Acid (85%)	167	lbs/MG
	4	gallons/day
(1) Product water blend of treated biological treatment effluent and raw water bypass.		
(2) Assumes brine produced from average and average + 2*STD water quality scenarios.		
(3) Assumes 21.5k gallons per backwash of Bioreactor every 24-48 hours of operation and 13.5k gallons per backwash of Biofilter every 48-72 hours of operation. Backwash can be decanted and sent back to the front end of the facility. Average Daily Waste Volume assumes a 90% decanted and reclaiming rate.		
(4) Assumes energy per million gallons of treated water, energy requirement projection derived from AdEdge.		
(5) Assumes chemicals required to treat average and average + 2*STD water quality scenarios for pounds of chemical per million gallons of water treated and gallons of chemical per day.		

**Table 2-11 – Conceptual Biological Treatment Facility Product Water, Waste Characteristics, Energy and Chemical Requirements (Microvi)**

Parameter	Value	Units
<b>Blended Product Water Quality <sup>(1)</sup></b>		
Temperature	20 to 25	°C
TDS	800 to 1,100	mg/L
Bicarbonate (as HCO <sub>3</sub> )	320 to 360	mg/L
Calcium	132 to 140	mg/L
Chloride	89 to 93	mg/L
Sulfate	190 to 200	mg/L
Nitrate (as NO <sub>3</sub> )	36	mg/L
pH	7.7 to 8.0	--
Total Alkalinity (as CaCO <sub>3</sub> )	250 to 300	mg/L
Total Hardness (as CaCO <sub>3</sub> )	450 to 550	mg/L
LSI	0.70 to 1.20	--
<b>Waste Production and Quality <sup>(2) (3)</sup></b>		
Waste (Backwash) Volumes	1,200 to 1,600	gallons/day
<b>Energy Requirements <sup>(4)</sup></b>		
Well Pump	2,000	kWh/MG
Mixer	300 to 400	kWh/MG
Ultrafiltration System	500 to 600	kWh/MG
Product Water Pump Station	1,100 to 1,200	kWh/MG
<b>Total</b>	<b>3,900 to 4,200</b>	<b>kWh/MG</b>
<b>Chemical Requirements <sup>(5)</sup></b>		
Chlorine Gas	13	lbs/MG
Peracetic Acid (12%)	1400	lbs/MG
	340	gallons/day
Phosphoric Acid (85%)	167	lbs/MG
	4	gallons/day
(1) Product water blend of treated biological treatment effluent and raw water bypass.		
(2) Assumes brine produced from average and average + 2*STD water quality scenarios.		
(3) Assumes 1,200 gallons per backwash per 108,000-144,000 gallons of treatment and 12 hr/day of Well No.8 runtime.		
(4) Assumes energy per million gallons of treated water for primary pieces of equipment, does not include chemical systems, instrumentation, and ultrafiltration system cleaning equipment.		
(5) Assumes chemicals required to treat average and average + 2*STD water quality scenarios for pounds of chemical per million gallons for water treated and gallons of chemical per day.		

## 2.7 Other Considerations

### 2.7.1 *Well No. 8 Pump Condition*

The Well No. 8 pump was offline between January 2015 and May 2021. During extended durations of idle, the overall performance and reliability of pumps can decrease. A pump performance test should be conducted and the results compared to previous performance tests from before the 2015 shut-in or the vendor supplied data at the time of purchase. It is also recommended to pull the pump, conduct a condition assessment, and complete repairs prior to returning the unit to service.

### 2.7.2 *Implementation to Chloramination*

The District uses chlorine for disinfection and Casitas Municipal Water District (Casitas) uses chloramine. When the District supplements their system substantially with Casitas water, the District must discontinue their water production and operate solely on Casitas water to avoid water quality issues associated with using different disinfection regimes. The District has expressed interest in transitioning their system to chloramination to allow for unrestricted blending of the Casitas and District water.

If chloramination is used for disinfection, chemicals should be added downstream of any nitrate treatment system. As such, any planned installation of chloramination treatment facilities should not affect the selection of a nitrate treatment alternative. By addressing the Well No. 8 nitrate issues and returning the well to service, the District may be less dependent on Casitas water to supplement their supply, thus avoiding mixing of different disinfection methods. If the District continues to supplement substantially with Casitas water, it may be beneficial to explore transitioning the District to chloramines.

### 2.7.3 *Effect on Local Aquatic Environment*

The implementation of any of the four alternatives presented in this report will allow the District to place Well No. 8 back into service, with the potential result of reducing nitrate levels in the groundwater that influences the Ventura River and its tributaries. To this effect, any alternative that allows for Well No. 8 to return to service is beneficial for the Ventura River aquatic environment. Additionally, if the District prioritizes the operation of Well No. 8 with nitrate treatment, a greater amount of nitrate can be removed from the groundwater source further increasing the benefit to the aquatic environment.

### 2.7.4 *Ability to Incorporate Future Sewer Flows*

A small neighborhood of OVSD customers north of Well No. 8 are currently on septic waste systems. OVSD would like to transition these customers to sewer, which may require a lift station. If the District selects a Well No. 8 nitrate treatment alternative that requires a pump to discharge waste into OVSD's collection system, it could also support the new OVSD customers. A potential benefit of this merging of waste infrastructure could be the sharing or transferring of capital, operations, or maintenance costs for the lift station. The dual-purpose lift station may impact the level-loading of nitrate and brine to the wastewater treatment plant. More investigation is required to determine the feasibility of this consideration.

### 3. ALTERNATIVE COMPARISON AND SELECTION

#### 3.1 Alternative Assessment Criteria

As identified in **Section 2.2**, the critical metrics against which the alternatives have been measured are the following:

- Capital cost
- Chemical and energy requirements and OPEX cost
- Operational and maintenance complexity and attention
- Waste volume

#### 3.2 Alternative Comparison

**Table 3-1** has been developed to visually summarize how each alternative measures against each of the assessment criteria identified in **Section 3.1**.

**Table 3-1 – Alternatives Plus Minus Matrix**

Parameter	Alternative 1 - Blending	Alternative 2 - Ion Exchange	Alternative 3 - Reverse Osmosis	Alternative 4A - Biological, Biotta	Alternative 4B – Biological, Microvi
Low Capital Cost	++	+	-	0	0
Low Chemical and Energy Requirements and OPEX Cost	++	+	-	-	-
Low Operational and Maintenance Complexity and Attention	+	+	0	-	-
Waste Volume	+	0	-	+	+
<b>LEGEND:</b> + Pro - Con 0 Neutral, neither pro nor con					

In consideration of the parameters presented in **Table 3-1**, Blending is the leading alternative. However, if the District prefers to treat Well No. 8 for nitrate removal rather than dilution of concentration, it is recommended that Ion Exchange be considered for the following reasons:

- **Capital Cost.** From industry experience, Ion Exchange is expected to be approximately half the cost of the biological alternatives (Biotta and Microvi) and one third the cost of RO.
- **Chemical and energy requirements and OPEX cost.** The energy requirements for Ion Exchange are anticipated to be approximately half the requirements of RO and Microvi. RO, Biotta, and Microvi require four different chemicals while Ion Exchange requires only chlorine gas and rock salt for making the water softener's regeneration brine.
- **Operational and maintenance complexity and attention.** Biological treatment systems can be temperamental, more operationally intensive, and more complex to maintain than a small ion exchange system. RO requires multiple chemical additions, decarbonation, and additional product water pumping downstream of the membrane system presenting greater O&M complexities. Additional operator attention would be required to operate and maintain RO clean-in-place storage and pumping equipment and monitoring the system for mineral scaling. These efforts exceed the requirements for the resin filters associated with the Ion Exchange system.
- **Waste stream volume.** Biotta and Microvi score well here as a majority of the waste stream can be decanted and reclaimed. The daily brine disposal volume for regeneration cycles of two vessels for the ion exchange alternative is nearly ten times lower than an RO system brine discharge. The TDS concentration of ion exchange brine typically ranges from 20,000 to 40,000 mg/L, which is approximately five to twenty times higher than the projected TDS concentration of RO brine (assuming a regeneration and slow rinse flowrate of approximately 9 gallons per minute for approximately two and a half hours per regeneration cycle). However, OVSD staff have indicated that they do not anticipate issues with the disposal of approximately 3,000 gpd of high salinity ion exchange brine with the characteristics detailed in **Table 2-5** into their collection and treatment systems to be an issue. OVSD will require the waste stream to be metered at a consistent rate, because a slug of the brine stream could cause an upset in OVSD's wastewater plant process.

**Section 4** addresses the opinions of cost for the two recommended alternatives: Blending and Ion Exchange. A site layout has been provided in **Appendix C** for the ion exchange alternative. The location of the Blending alternative mixer is identified in **Section 2.3**.

#### 4. CONCEPTUAL COST ESTIMATE

**Table 4-1** summarizes the magnitude of estimated costs for the Blending alternative, which sums to \$559,000.

**Table 4-1 – Engineer’s Concept Level Construction Cost Estimate – Blending Alternative**

Item	Quantity	Unit	Unit Price	Cost
In-Line Static Mixer <sup>(2)</sup>	1	LS	\$ 24,000	\$ 24,000
Pipe Work to Install Mixer <sup>(3)</sup>	1	LS	\$ 40,000	\$ 40,000
Traffic Rated Pre-Cast Concrete Vault, Delivery and Setting <sup>(4)</sup>	1	LS	\$ 80,000	\$ 80,000
Roadway Work: Trench & Backfill, Traffic Control <sup>(5)</sup>	1	LS	\$ 105,000	\$ 105,000
Add Automation of Standard Operating Procedures into SCADA <sup>(5)</sup>	1	LS	\$ 70,000	\$ 70,000
<b>CONSTRUCTION TOTAL</b>				<b>\$ 319,000</b>
<b>CONTINGENCY (40%)</b>				<b>\$ 128,000</b>
<b>TOTAL WITH CONTINGENCY</b>				<b>\$ 447,000</b>
<b>ENGINEERING AND CONSTRUCTION MANAGEMENT (25%)</b>				<b>\$ 112,000</b>
<b>TOTAL</b>				<b>\$ 559,000</b>
NOTES:				
1. Does not include any other modifications to the distribution system.				
2. Estimate from Saf T Flo for SST Mixer.				
3. Cut existing pipe and install 2 flanges with space for mixer.				
4. Extrapolated from estimate from Jensen in 2021. Includes cost escalation and adder for traffic rated.				
5. Assumes flow meter data is already available in SCADA, just need to add interlocks for Well No. 8.				



**Table 4-2** summarizes the magnitude of estimated costs for the Ion Exchange alternative, which sums to \$2,521,000.

**Table 4-2 – Engineer’s Concept Level Construction Cost Estimate – Ion Exchange**

Item	Quantity	Unit	Unit Price	Cost
Site Clearing, Grading, Gravel, and Fencing <sup>(1)</sup>	1	LS	\$ 100,000	\$ 100,000
Ion Exchange Water Treatment System & Piping <sup>(2)</sup>	1	LS	\$ 990,000	\$ 990,000
Modifications/Connections to Well Discharge Piping <sup>(3)</sup>	1	EA	\$ 4,000	\$ 4,000
Waste Tank & Piping <sup>(4)</sup>	1	EA	\$ 40,000	\$ 40,000
Waste Pump & Piping <sup>(5)</sup>	2	EA	\$ 20,000	\$ 40,000
Waste Pipeline, Connection to Sewer (4" PVC, buried, dirt) <sup>(6)</sup>	700	LF	\$ 150	\$ 105,000
Electrical & Instrumentation <sup>(7)</sup>	1	LS	\$ 152,000	\$ 152,000
<b>CONSTRUCTION TOTAL</b>				<b>\$ 1,431,000</b>
<b>CONTINGENCY (40%)</b>				<b>\$ 580,000</b>
<b>TOTAL WITH CONTINGENCY</b>				<b>\$ 2,011,000</b>
<b>ENGINEERING AND CONSTRUCTION MANAGEMENT (25%)</b>				<b>\$ 510,000</b>
<b>TOTAL</b>				<b>\$ 2,521,000</b>
NOTES:				
1. Clear roadway on the south side of the site, allowing access to new facility.				
2. Estimate from Wigen for 190 gpm system.				
3. 20 ft of A/G and U/G pipe.				
4. Estimated based on 5,000-gallon poly tank, interconnecting piping, and foundation.				
5. Estimated based on 1 hp progressive cavity pump, piping, and foundation.				
6. Estimated based on costs of 4" dia. PVC waterline under asphalt in Santa Paula in 2020.				
7. Estimated at 30% of equipment costs for equipment with electrical/instrumentation demands.				

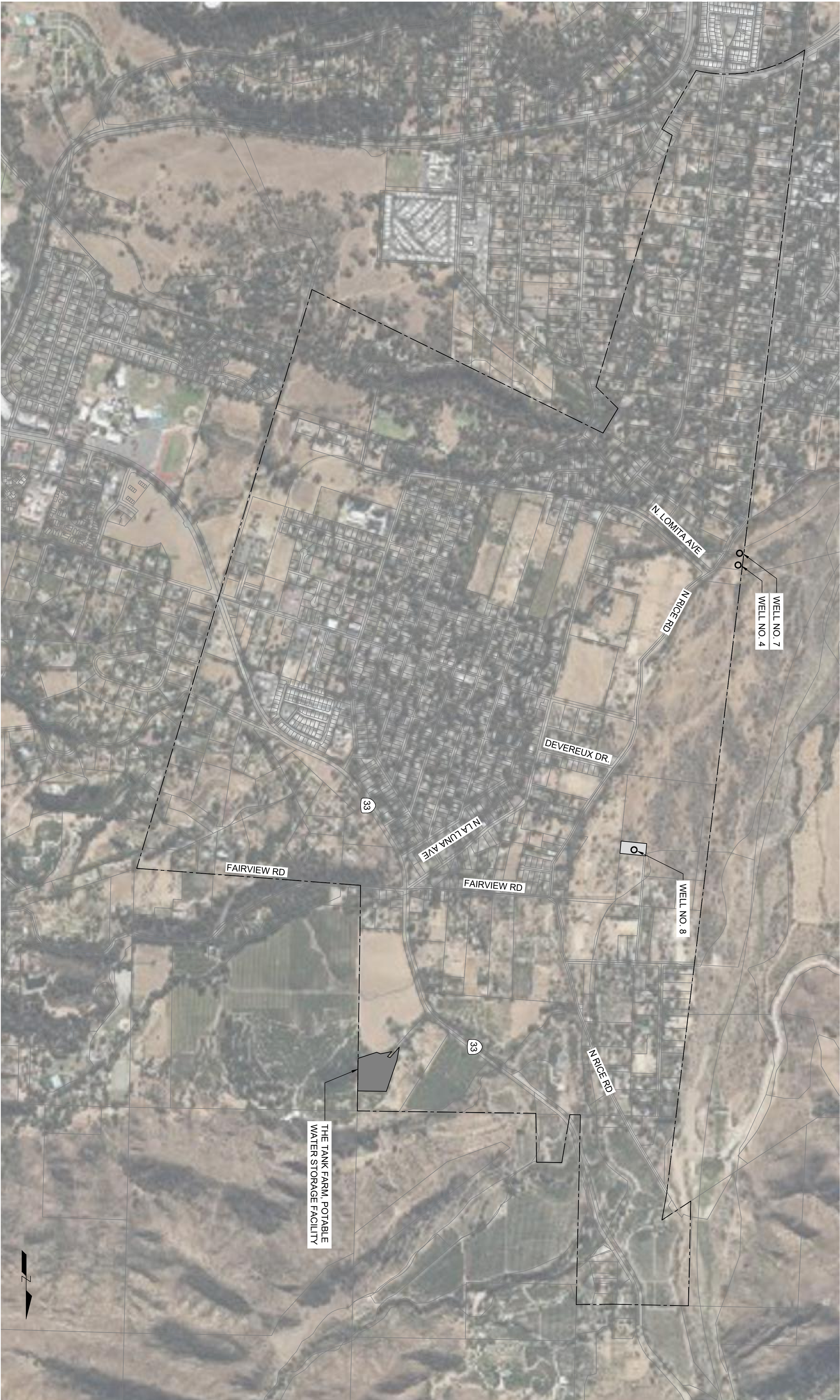
## 5. RECOMMENDATION

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MKN met with the District on December 12, 2021 to review a draft of the Feasibility Study Report and the preliminary recommendations. After discussing the alternatives, the District has identified Blending as its preferred alternative for returning Well No. 8 to service and addressing the nitrate issues. Based on the Feasibility Study analysis and the District's preference, MKN recommends the Blending Alternative be developed further in the preliminary design phase.








LEGEND

- STORAGE FACILITY
- WELL NO. 8 PROJECT LOCATION
- DISTRICT BOUNDARY
- WELL



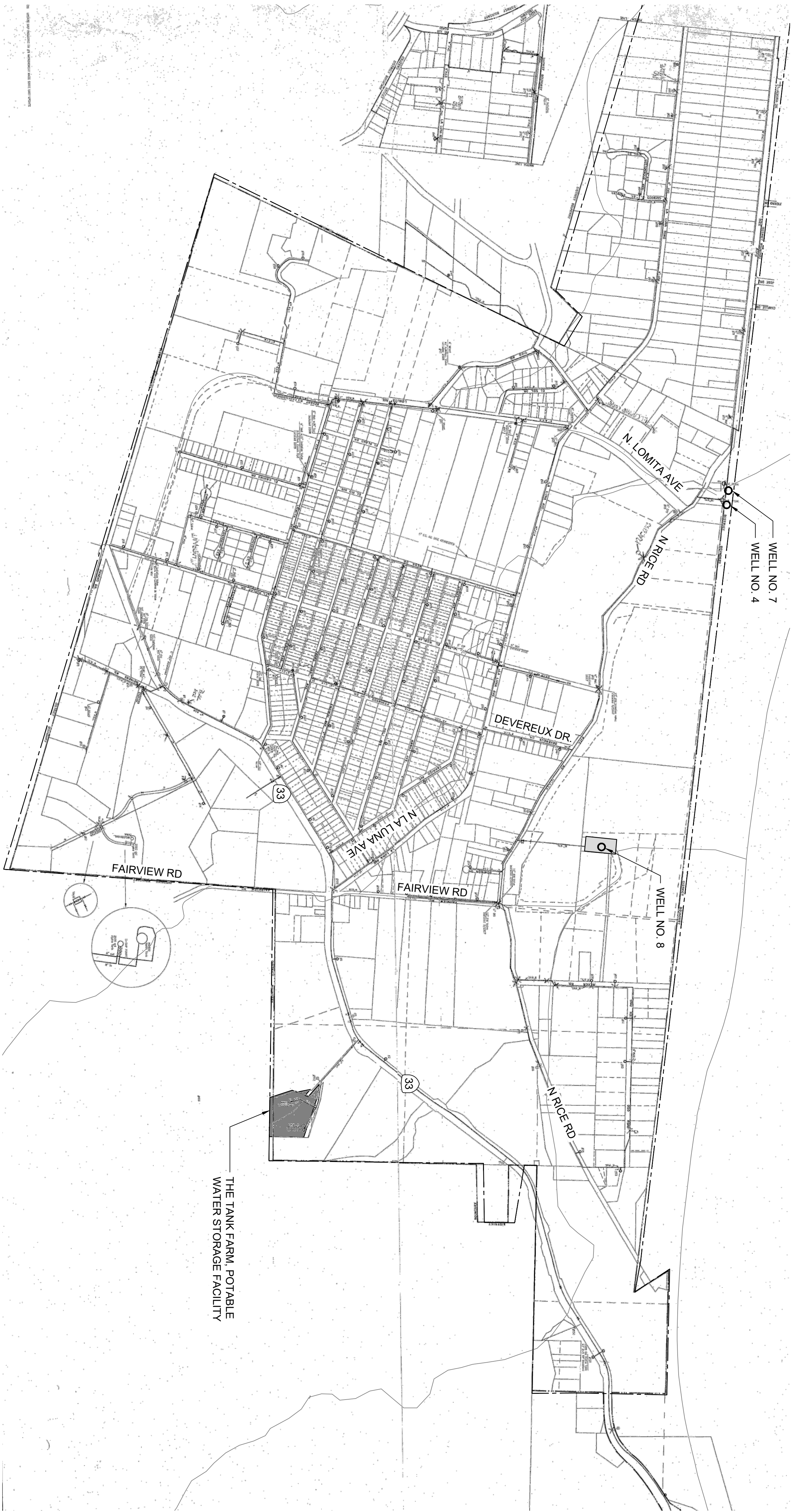
8405 N. FRESNO ST., SUITE 120,  
FRESNO, CA 93720  
(559) 500-4750

MEINERS OAKS WATER DISTRICT  
WELL NO. 8 NITRATE REMOVAL

DISTRICT BOUNDARY MAP

APPENDIX  
A1





- LEGEND**
- STORAGE FACILITY
  - WELL NO. 8 PROJECT LOCATION
  - DISTRICT BOUNDARY
  - WELL



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FRESNO, CA 93720  
(559) 500-4750

MEINERS OAKS WATER DISTRICT  
WELL NO. 8 NITRATE REMOVAL

SYSTEM MAP

APPENDIX

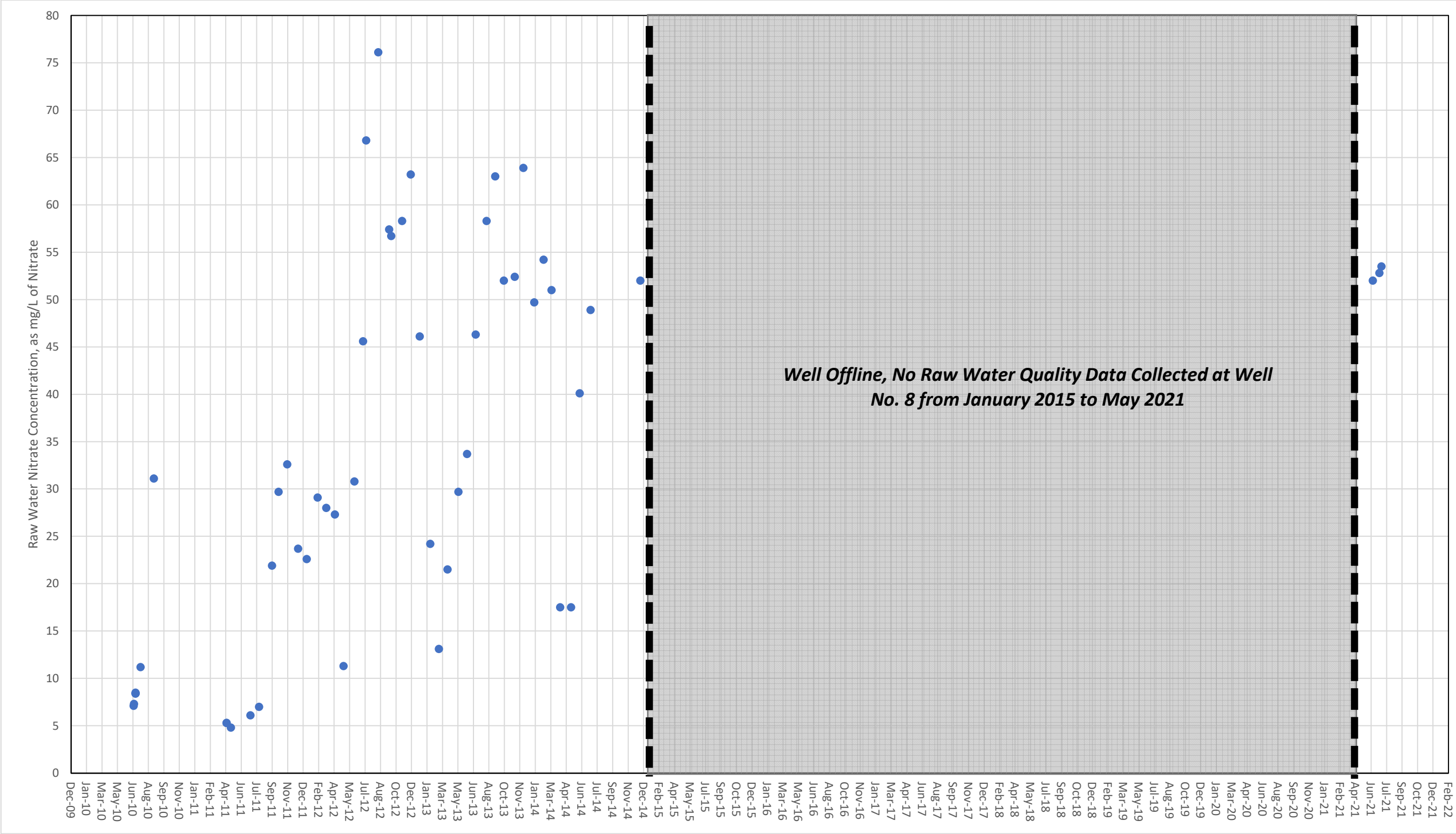
A2



***Appendix B***

Historical Well No. 8 Raw Water Nitrate Concentrations, 2010 to 2021

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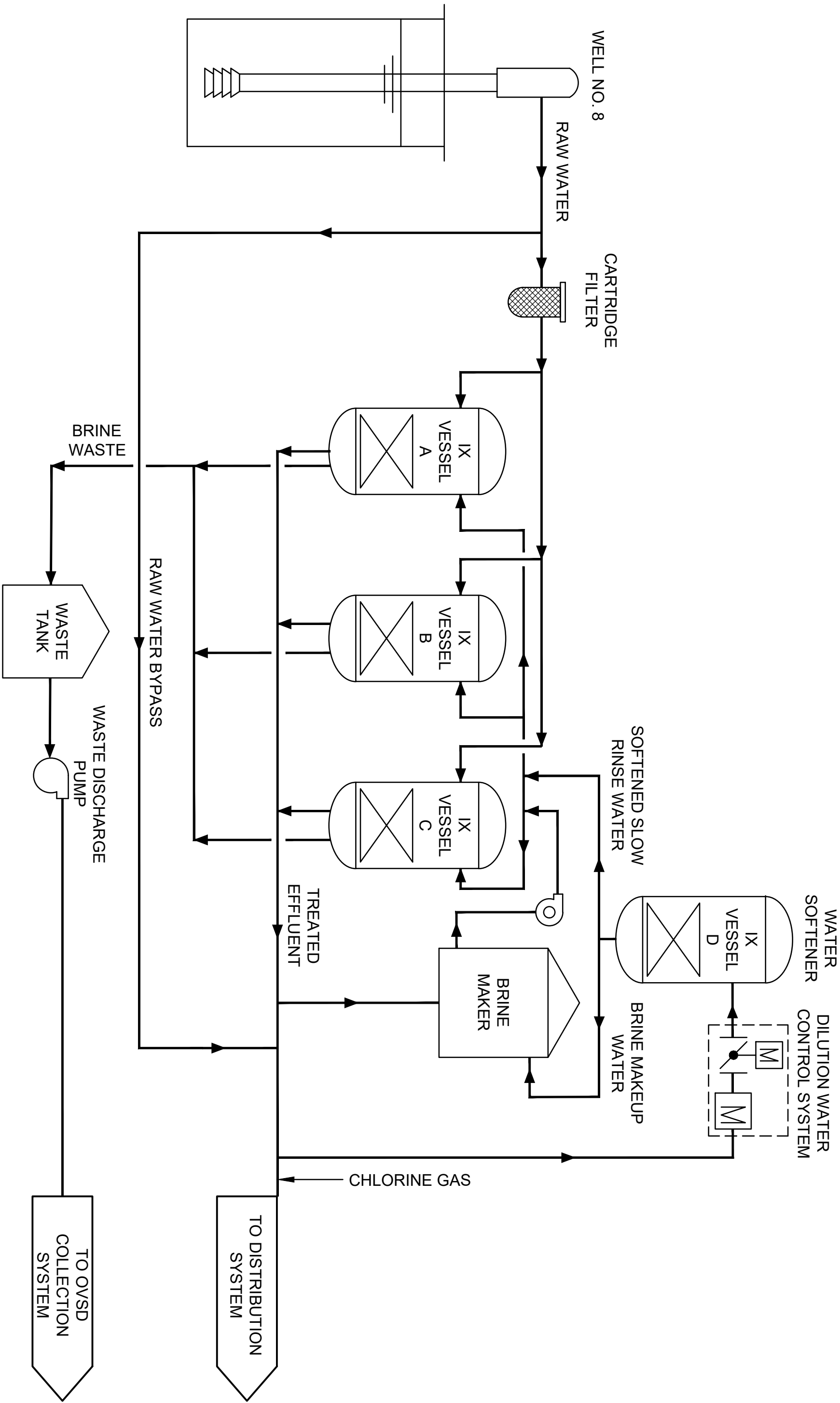


## ***Appendix C***

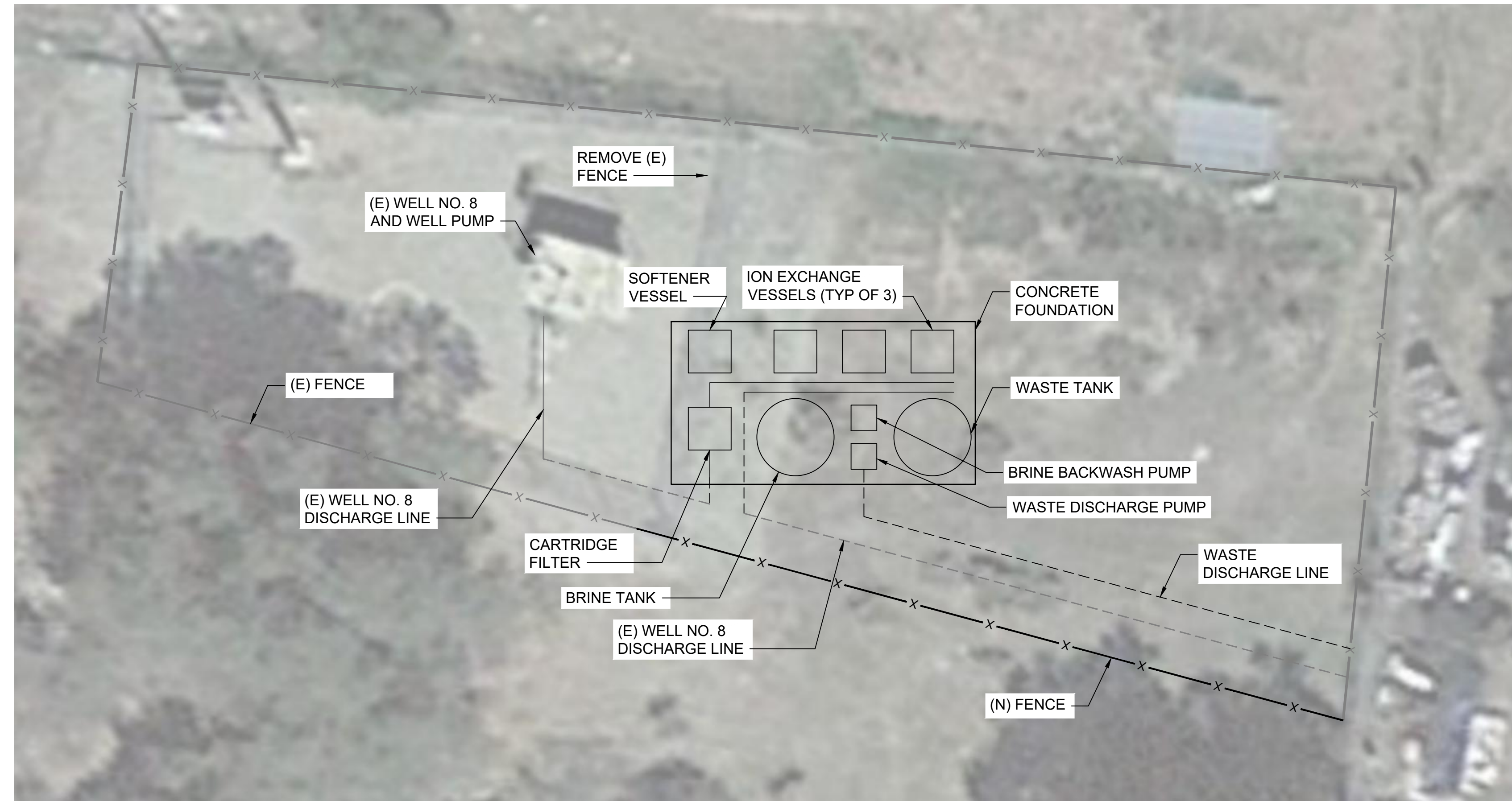
### ***Ion Exchange Process Flow Diagram and Site Layout***

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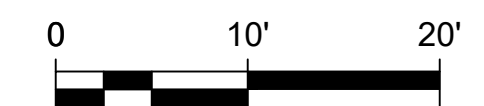
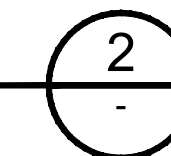






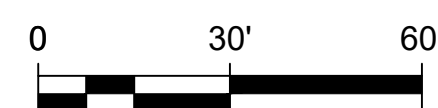
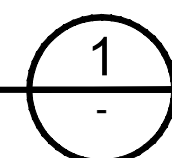
## TREATMENT FACILITY

SCALE: 1" = 10'-0"



## WELL NO. 8 OVERALL SITE PLAN

SCALE: 1" = 30'-0"



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FRESNO, CA 93720 (559) 500-4750

MEINERS OAKS WATER DISTRICT  
WELL NO. 8 NITRATE REMOVAL

## ION EXCHANGE TREATMENT CONCEPTUAL FACILITY LAYOUT

APPENDIX

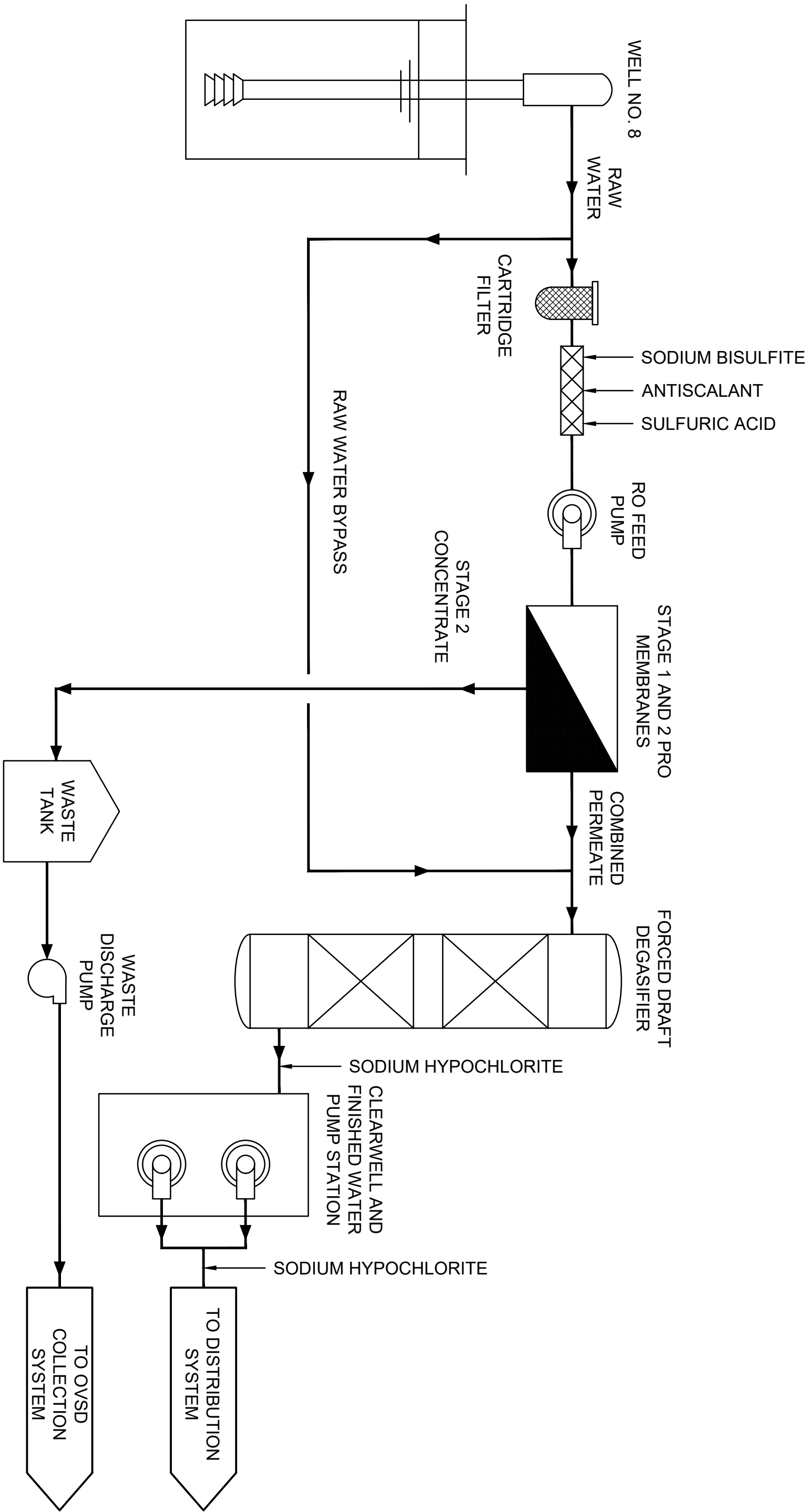
C2

## ***Appendix D***

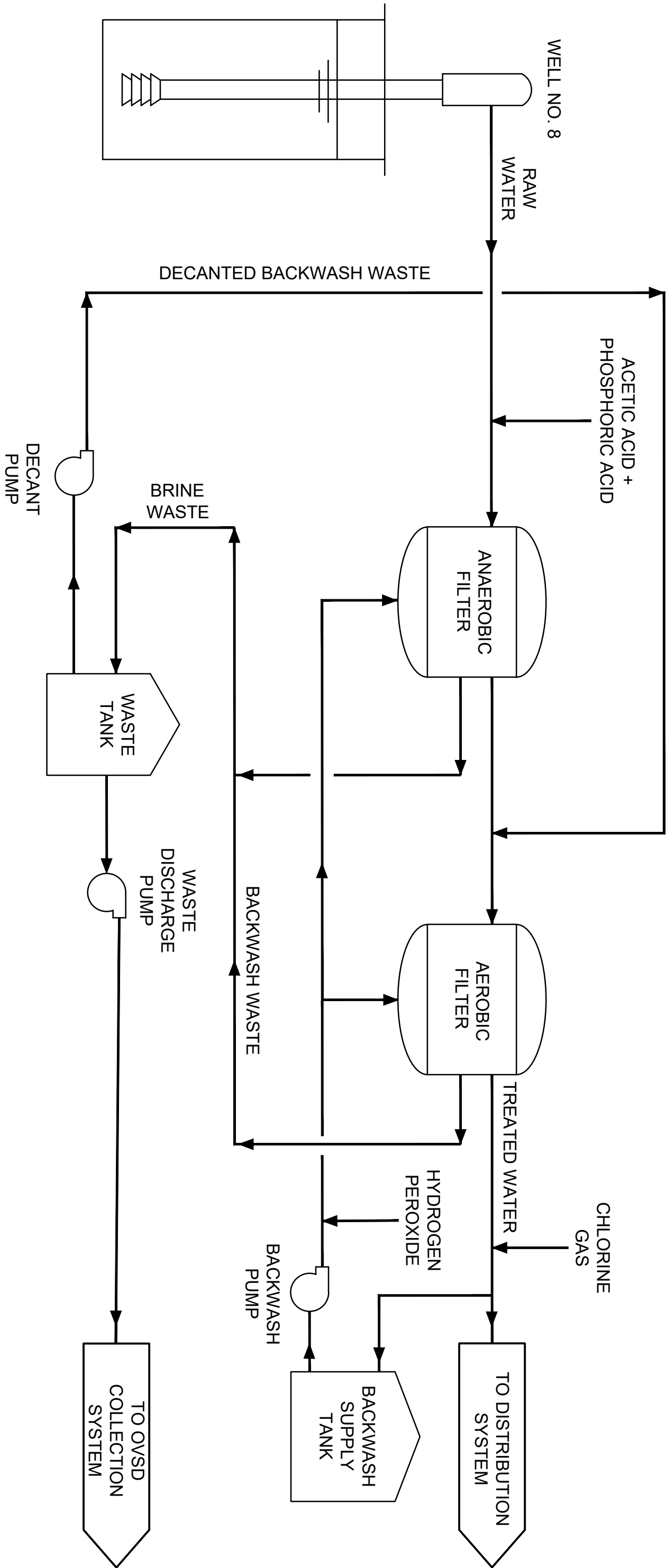
### ***Reverse Osmosis Process Flow Diagram***

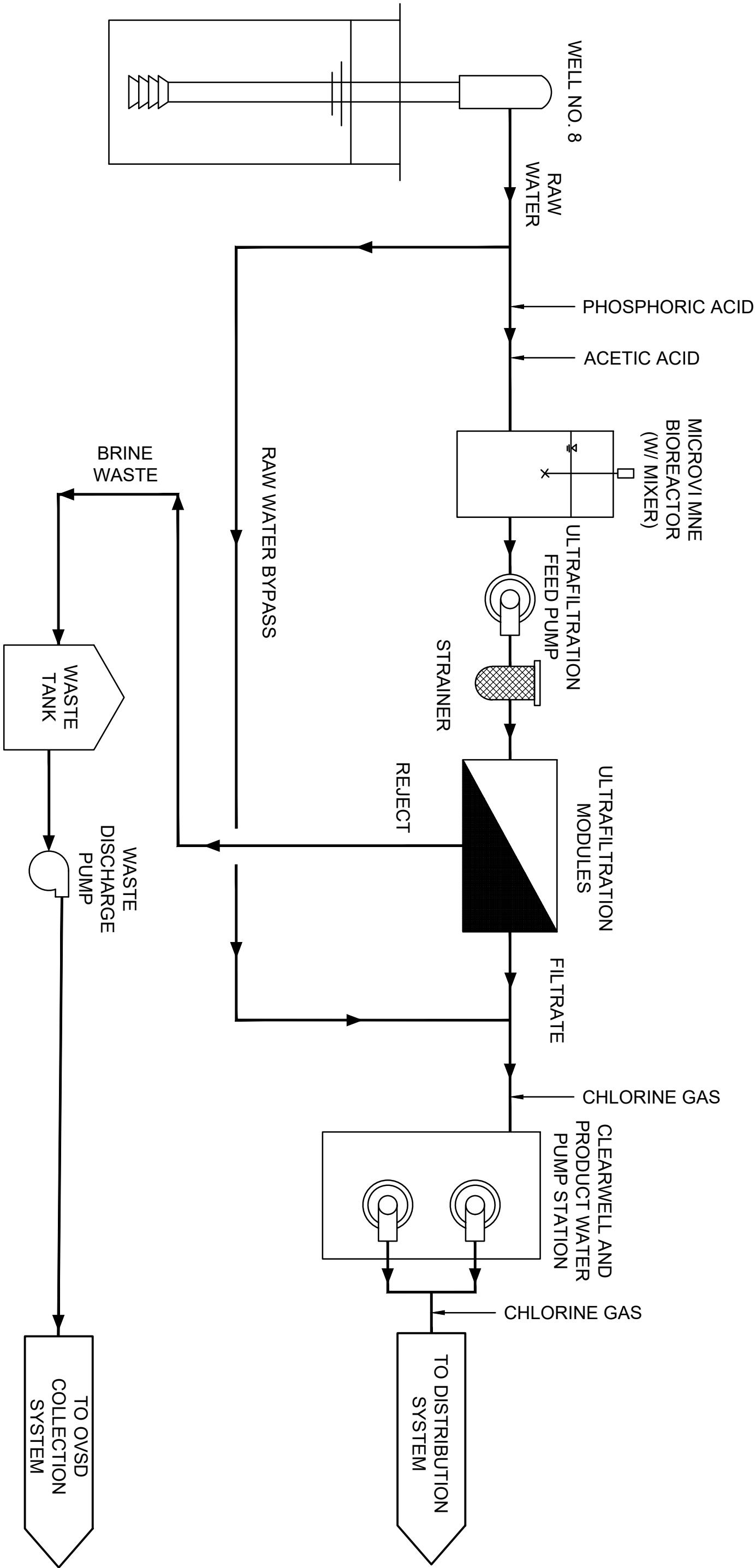
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*Meiners Oaks Water District*

**PROP 218 NOTICE OF PUBLIC HEARING**

**Proposed Water Rates Increase**

**February 15, 2022**

**DRAFT**

**Notice Summary**

Meiners Oaks Water District hasn't increased its water rates since 2018, partly due to the pandemic. Now, in preparation for a water treatment plant replacement and other major projects we must finally increase our rates. This Notice compares current rates with proposed new rates over the next three years. It provides an explanation for why and how we will increase our various rates. A public hearing has been scheduled on this topic. Our customers are invited to attend the hearing and to provide comments, or to submit comments by mail, email or phone. Attached to this notice is a form for protesting the rate increase, if you wish to do so. Depending on customers' input, MOWD's board may adopt the new rate structure for the next three years in Month, 2022.

**Notice of Public Hearing on Water Rates and Allocations**

Date: Tuesday, Month , 2022

Time: 6:30 PM

Location: Meiners Oaks Elementary School Auditorium  
400 South Lomita Avenue  
Ojai, CA 93023

OR BY VIDEO.

PUT ALL THE MEETING/VIDEO  
INFORMATION HERE



## **Why Water Rates Must Increase**

Water rates must increase for various reasons, including the following:

- ◆ Our small water treatment plant, visible from the parking area for the Cozy Dell trailhead, needs to be replaced.
- ◆ A recent inspection of our water tanks found that one tank must be replaced in a few years.
- ◆ We must upgrade the Meiners Road pressure zone to improve fire flow reliability.
- ◆ The City of Ventura is suing around 14,000 pumpers and landowners in our area, including MOWD, to adjudicate groundwater in the Upper Ventura River Basin, where we have our wells. We have hired an attorney and are participating in the process. This is a very costly effort and we don't know its effects on future budgets.
- ◆ As a necessary step to promote conservation, our backup water supplier, Casitas MWD, has increased its over-allocation charge from \$1 to \$5 per hundred cubic feet (HCF), and we must be able to pass that potential cost on to our customers who exceed their own water allocations in very dry years.
- ◆ Inflation has risen in the past year and we need flexibility to raise water rates if inflation continues to affect our costs.

## **How Much Will Rates Change?**

For the remainder of 2022 and for Fiscal Year 2022-23:

- ◆ The monthly Water Availability Charge (WAC) will increase from \$35.91 to \$36.00.
- ◆ The monthly Meter Capacity Charges (MCC) will not change.
- ◆ The fixed WAC and MCC charges will be combined into a single monthly "Meter Charge."
- ◆ The cost of each hundred cubic feet (HCF) of water you use each month will increase from \$2.34/HCF to \$3.40/HCF.
- ◆ The over-allocation charge will increase from \$1.00/HCF to a maximum of \$5.00/HCF, depending on drought conditions.
- ◆ The purchase of Casitas water will continue to be paid via a "Casitas Surcharge."

See Table 1 for more detailed information on future rates. The usage rate will increase in Fiscal Year 2023-24 and FY 2024-25. The board has the option of adopting lower rates in each of those years if justified.

## Water Rates 2022-2025 Alternative 8

Table 1

### 1) Monthly Water Availability Charge (WAC)

Meter size	Current	Proposed			
	FY2021-22	Remainder 2022	FY2022-23	FY2023-24	FY2024-25
All	\$35.91	\$36.00	\$36.00	\$36.00	\$36.00

### 2) Monthly Meter Capacity Charge (MCC)

Meter size	FY2021-22	Remainder 2022	FY2022-23	FY2023-24	FY2024-25
5/8" & 3/4"	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
1"	\$16.00	\$16.00	\$16.00	\$16.80	\$17.60
1.5"	\$36.00	\$36.00	\$36.00	\$37.80	\$39.70
2"	\$104.00	\$104.00	\$104.00	\$109.20	\$114.70
3"	\$256.00	\$256.00	\$256.00	\$268.80	\$282.20
4"	\$776.00	\$776.00	\$776.00	\$814.80	\$855.50
6"	\$1,576.00	\$1,576.00	\$1,576.00	\$1,654.80	\$1,737.50

Note: In future water bills, the WAC and MCC will be combined into a single "Meter Charge" that will vary with meter size.

### 3) Rate per HCF for all water used

Meter size	FY2021-22	Remainder 2022	FY2022-23	FY2023-24	FY2024-25
All	\$2.34	\$3.40	\$3.40	\$3.80	\$4.20

### 4) Over-Allocation Penalty (Additional charge for use exceeding a customer's monthly allocation.)

Meter size	FY2021-22	Remainder 2022	FY2022-23	FY2023-24	FY2024-25
All	\$1.00/Unit	The Over-Allocation Penalty will be set at Casitas MWD's Over-Allocation Penalty then in effect (Currently \$5.00/HCF). The amount is additional to the unit rate.			

### 5) Casitas Surcharge

Meter size	FY2021-22	Remainder 2022	FY2022-23	FY2023-24	FY2024-25
All	The cost of purchasing water from Casitas MWD is collected as a "Casitas Surcharge" added to a customer's bill in proportion to the amount of water used that month. (NO CHANGE)				

### 6) Other Fees and Charges

See our website for special rates and conditions.

Note: 1 Unit = 100 cubic feet = 1 HCF = 748 gallons

### Customer Allocations

Despite significant rains early this winter, Lake Casitas remains under 40% of capacity and we are still in a Stage 3 Drought. Since 2013, there have been periods when we have been forced to take all of our water from Casitas MWD. To prepare for the possibility of a continuing drought, MOWD recently adopted a water allocation program in conformance with Casitas MWD's *Water Allocation and Efficiency Program (WEAP)*. MOWD's *Allocation Program* is posted on our web site.

Our online Allocation Calculator is also available on our website. You can enter your Customer Number and see your monthly allocation amounts, which vary with drought stage. We will continue our Allocation Waiver Program for customers who may have unique circumstances and wish to revise their allocation.

### Planned Financial Reserves

Financial reserves needed by MOWD are summarized below:

**Table 2**  
**MOWD Financial Reserves Assignments**

<b>Reserves Category</b>	<b>Amount</b>
Emergency operating reserves	\$600,000
Water treatment plant upgrade	\$1,200,000
New deep aquifer well – first phase	\$100,000
Meiners Road Zone improvements	\$100,000
Blending at Well 8 (50% grant funding)	\$250,000
Tank replacement (5 years out)	\$1,000,000
Office expansion	\$150,000
Total Reserves Needed	\$3,400,000
Current reserves	\$1,300,000
<b>Additional Reserves Needed</b>	<b>\$2,100,000</b>

If these major capital expenses are distributed among the next 10 years, the financial reserves will vary as shown on the following table. We would not dip below the normal emergency operating reserves. After 2025 we would be able to make any adjustments needed to the rates.

## 10-Year Capital Plan

: All costs in \$1,000

Year	WTP	Meiners Road Zone	Replace Tank	New Well or Well 8	Annual Capital Expense	Excess Annual Rev'nue	End of Year Resrvs
							<b>\$1,400</b>
2022	\$200	\$50			\$250	\$300	\$1,450
2023	\$400	\$50			\$450	\$300	\$1,300
2024	\$800				\$800	\$300	\$800
2025				\$100	\$100	\$300	\$1,000
2026			\$500		\$500	\$300	\$800
2027			\$500		\$500	\$300	\$600
2028				\$100	\$100	\$300	\$800
2029					\$0	\$300	\$1,100
2030					\$0	\$300	\$1,400
2031					\$0	\$300	\$1,700

DRAFT

**To Protest – Return this page by mail with information filled in  
(No reply or action needed if you don't wish to protest)**

If you are the owner of record of a parcel or parcels subject to the proposed rate increases, you may submit a protest against any or all of the proposed rate increases by filing a **written** protest with MOWD on or before the time set for the public hearing **????, 2017 at 6:30pm**. If written protests are filed by a majority of these parcel owners, the proposed rate adjustments will not be imposed.

A written protest must contain your printed (or typed) name, signature, mailing address, and a description of the parcel or parcels in which the party signing the protest has an interest. A street address and/or parcel number shall be considered sufficient description. If the parcel owner signing the protest is not shown on the last certified Ventura County Assessor's tax roll as the owner of the parcel(s), the protest must contain, or be accompanied by, written evidence that such party is the owner of the parcel(s). Protests must be received no later than **????, 2019 (postmarks do not apply)** and be mailed to:

Meiners Oaks County Water District  
202 W. El Roblar Drive, Meiners Oaks, CA 93023  
Attn: Protest Ballot

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**2019 PROTEST BALLOT**

Must be received no later than \_\_\_\_\_ – postmarks do not apply

☐ I protest the proposed rates.

Name (printed)

---

Signature

---

Customer Number

---

Address of property located in MOWD

---

Parcel number of property

---

Comments (optional):



## Rates and Fee Schedule

### Rate Table

	5/8" & 3/4"	1"	1.5"	2"	3"	4"	6"
WAC	\$35.91	\$35.91	\$35.91	\$35.91	\$35.91	\$35.91	\$35.91
MCC	\$0.00	\$16.00	\$36.00	\$104.00	\$256.00	\$776.00	\$1,576.00
Usage Rate	\$2.34	per (Hundred Cubic Feet) HCF = 748 gallons					
Over Allocation Penalty	\$1.00	Per Unit					
Casitas Standby Charge	\$0.72	Per Month					
	Residential		Commercial		Agriculture		
Service Deposit	\$50.00		\$75.00		\$150.00		
Casitas Surcharge		Casitas billed rate (per unit) – reduced pumping credit/consumption					
Zone Power & Pumping Charges		Monthly Edison Billed amount for zone/applicable customers					
WAC= Water Availability Charge      MCC = Meter Capacity Charge							



## Other Fees

**Administration Fee:** \$100 Nonrefundable

\*Administration fees include but are not limited to: Will Serve Letter Application Request, Allocation Waiver Request, Expansion of Service Request, Public Records Act Request? \*

### Temp. Hydrant Meter:

Temp. Hydrant Meter	
Deposit	\$1,000.00
Admin Fee	\$100.00
Unit Charge	\$2.34
Monthly (WAC)	\$35.91
6 Month Rental Maximum	

**Customer Service Valve:**      ¾" - \$95      1" - \$130      1 ½" - \$238      2" - \$380

**Meter Testing Fee:**      5/8 x ¾" \$      1" \$      2" \$      3" \$      4" \$      6" \$

**Lock Cutting fee:**      \$150

**Meter Tampering Fee:**      \$150 and up (customer may be subject to criminal charges)

**Fire Flow Test Fee:**      \$150 per hydrant

\*Test will be performed by approved fire flow contractor at customers expense\*



## Penalties

### Fines for Improper Water Use

	Stage 1	Stage 2 & 3	Stage 4 & 5
<b>First Violation</b>	No Fine	Warning	Warning
<b>Second Violation</b>	No Fine	\$100	\$150
<b>Third Violation</b>	No Fine	\$100	\$250
<b>Fourth Violation</b>	No Fine	\$200	\$350
<b>Fifth Violation</b>	No Fine	\$300	\$450
<b>&gt;5 Violations</b>	No Fine	\$500	\$550

**Delinquent:** 25%

**Returned Check:** \$ 12

**Reconnect:** (due to non-payment) \$ 50 (during normal business hours)  
\$150 (after normal business hours)

**Failure To Test Backflow:** \$150

\*Customer must provide test results 14 days after 3<sup>rd</sup> request or fine will be implemented and water service will be disconnected. Reconnection fees will apply\*

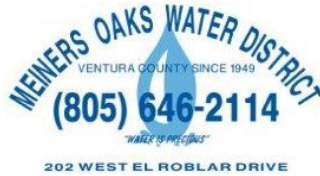
### New Meter CIP Fee

New Meter; Capacity Charge Schedule			
Meter Size	Maximum GPM	Multiplier	Capacity Charge
5/8"	25	\$180.00	\$4,500.00
1"	55	\$180.00	\$9,900.00
1.5"	100	\$180.00	\$18,000.00
2"	160	\$180.00	\$28,800.00
3"	560	\$180.00	\$100,800.00
4"	1100	\$180.00	\$198,000.00
Multiplier = \$180/GPM			

\*Create policy for new meters and expansion of service\*

202 W. El Roblar Drive, Ojai, California 93023  
Tel: (805) 646-2114 Web: [www.meinersoakswater.com](http://www.meinersoakswater.com)





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## **Water Treatment Plant Final Design Proposal**

Meiners Oaks Water District has received two final design proposals for the replacement of our Treatment Facility. Water Resource Engineering Associates (WREA) and MKN & Associates have both been contracted by the District for past projects and both are qualified firms.

Both firms 100% design proposals are \$100k apart. The exclusions WREA has put in their proposal will quickly close that gap.

MKN has provided the MOWD with more of a complete package. Taking the project from A-Z with limited exclusion. MKN has offered, out of the box thinking allowing multiple options to keep the existing plant in service while constructing the new one. Along with exploring chloramination conversion and /or free chlorine disinfectant.

### **Recommended Actions:**

The General Manager recommends that the BOD makes a motion to approve MKN & Associates to proceed with the Water Treatment Plant Final design at \$343,655



## **WATER RESOURCE ENGINEERING ASSOCIATES**

**CONSULTING CIVIL AND ENVIRONMENTAL ENGINEERS IN WATER AND WASTEWATER  
COLLECTION, CONSERVATION, DISTRIBUTION AND TREATMENT**

January 17, 2022

Meiners Oaks Water District  
Mr. Justin Martinez  
202 West El Roblar Dr.  
Ojai, CA 93023

**RE: PROPOSAL TO PREPARE WATER TREATMENT PLANT FINAL DESIGN AND  
ASSOCIATED SITE WORK**

Dear Mr. Martinez,

In response to the Meiners Oaks Water District (MOWD/District) Request for Proposal (RFP) we are pleased to submit the following proposal to provide engineering design services as outlined in the RFP dated November 19, 2021. We have assembled a team of qualified local engineering consultants eager to provide the focused final design services for the proposed replacement water filtration plant to treat water from MOWD Wells No. 1 and No. 2 (Project). The design team consists of the following key consultants:

Civil / Treatment Plant Design (Prime Consultant)	Water Resource Engineering Associates Lou Nagy, P.E., Principal Engineer
Project Management	Dreaming Tree Civil Heather O'Connell, P.E., President
Structural Engineering	R W Toedter, LLC Randy Toedter, P.E., Principal Engineer
Geotechnical Engineering	Earth Systems Pacific Todd Tranby, C.E.G., Vice-President
Aerial & Site Survey	Benner & Carpenter Larry Frager, P.E., P.L.S., President
Civil Site Services, Grading & Drainage	Lewis Engineering Jane Montague, P.E., Principal Engineer
Electrical Engineering	JMPE Electrical Engineering, Inc. John Maloney, P.E., Principal Engineer
SCADA, Instrumentation & Controls	MSO Technologies, Inc. Lloyd Trick, PE

## BACKGROUND

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MOWD, operating under California State Water Resources Control Board Division of Drinking Water (DDW), permit number 5610005, is a purveyor supplying domestic and fire protection water. The service area includes Meiners Oaks, CA and is bounded by Baldwin Road/Hwy 150 to the South, Rice Road and the Ventura River to the West, Maricopa Hwy 33 to the North and with a meandering boundary generally following Hwy 33 to the East. The service area lies outside city limits in the unincorporated area of Ventura County.

Currently, MOWD serves approximately 4,200 people through ~1,280 metered connections, primarily for residential use although MOWD also serves some commercial and agricultural customers. Prior to the current drought period, the District delivered on average 1,020 acre-ft/year (AFY), which, during more recent years, has been reduced to about 700 AFY. MOWD's distribution system includes three above-ground steel water storage tanks located in the northwest of the District which, by gravity, supply the system grid network of 4" to 16" water mains.

The primary source for domestic water is groundwater, however MOWD maintains two metered connections to Casitas Municipal Water District (Casitas/CMWD). MOWD's groundwater supply is comprised of four consistently operating wells designated as Wells-1, -2, -4, and -7, with a combined capacity of 1,300 gpm, when the aquifer is full (combined capacity of 600-gpm for Wells 1 & 2). MOWD maintains an additional Well-8, having a nominal capacity of 330 gpm, but is rarely used due to elevated nitrate concentrations, that exceed drinking water quality standards. The wells are controlled by a SCADA system to control activation based on reservoir (tank) storage levels.

MOWD's disinfection process utilizes chlorine gas, injected at the well heads. Casitas water is disinfected using chloramines, which at present, cannot be consistently blended with MOWD water in the event a back-up supply from CMWD is necessary.

Wells 1 and 2 are located adjacent to the Ventura River, are considered "groundwater wells under the influence of surface water" and are plumbed through a DDW-approved surface water treatment plant, which complies with the Surface Water Treatment Rule (SWTR). The filters in the existing treatment plant were manufactured by EPD USA, Inc. and installed in 1994.

While the treatment plant has functioned effectively since put into service, it is at the end of its useful service life. Corrosion of steel piping and pressure vessels is the primary concern regarding the continued operations of the plant. MOWD is pursuing replacement of the filter facility that will optimize operations and the successful performance record while pursuing some plant upgrades, automation and the potential for alternative material(s) design.

The Project description, as currently envisioned by MOWD consists of the following components:

- Concrete foundation and masonry building.
- Pressure filtration system, supplied by EPD.
- Connections between the filtration plant outflow piping to Highway 33 main.
- Plant piping and appurtenances, including a new fire hydrant.
- Well-to-waste capability to existing backwash pond, upon well start-up.
- Backwash storage tanks and associated backwash pumps, if deemed necessary.
- Gas chlorination system using 150-lb cylinders.
- Planning for expanded use of the facilities to accommodate future chloramine and sodium hypochlorite disinfection systems.
- Electrical and SCADA system components.
- Programming of the SCADA system to incorporate the filtration plant components, limited to SCADA programming and integration "on site".

- Connection to SCE power/transformer to nearby power pole.
- Site improvements including parking, fencing and a security system.

## *APPROACH*

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Utilizing the Preliminary Design Study and Plans, as completed by WREA for MOWD (February 29, 2020) as a basis for the system replacement work scope and the requirements outlined in the RFP for the Project, WREA anticipates a streamlined team approach, as outlined in this section.

WREA as the Prime Consultant will oversee and manage the project design team and provide the technical specifications for the SWTR plant to EPD. EPD and WREA will confer on the development of filtration plant design/shop drawings for the filter plant assembly. EPD will be under a separate contract with MOWD for this portion of the work, including the overall filtration system design. WREA will assist MOWD with the review EPD's contract documents for technical accuracy.

WREA will prepare an initial design memorandum, based on input provided by MOWD, which will include design criteria for the plant operational parameters, including an allowance for a marginal increase in plant flow rate associated with a replacement well. Operational scenarios will be limited to evaluation of three conditions.

WREA will then prepare the performance specifications for the pressure filter plant, which will consist of two stages: the first stage, roughing of influent (raw water, 4-filter), the second stage polishing (clear well, 3-filter). EPD's filtration plant internal operations process is automatically controlled and continually monitored by the programmable logic controller (PLC) based Aquatic Intelligence Control System (AICS).

While EPD is preparing the design and shop drawings for the filtration plant, WREA will work on a parallel path along with the design team to prepare the 50% complete design plans and the special provisions of the specifications (outline specifications). The site survey, site geotechnical testing and subsequent report will be used as a basis to complete the grading and drainage design, treatment plant site layout and piping with appurtenances and details, the equipment exterior pad, building and foundation plans, electrical and SCADA requirements to integrate the new filter plant components into the existing SCADA system will be provided with the 50% submittal. As EPD finalizes shop drawings and design submittals, WREA will review and finalize the water treatment plant layout to ensure adequate space for potential future expansion of a new disinfection system. The plant configuration will carefully consider the location of the new facilities in order to maintain current system operations while the new/replacement infrastructure and appurtenances are constructed. WREA will submit the full 50% working design plans and specification set to DDW and the District for review and comment.

As part of the project approach and as Prime consultant, WREA will review EPD submittals to the District, including shop drawings, technical equipment and any associated data supplied to comply with the requirements of the performance-based specification. EPD will be responsible to supply the needed plans of the filter assembly and associated information to obtain approval of the process through the State Division of Drinking Water (DDW).

Once EPD submittals have been reviewed and accepted, and MOWD has provided comments on the 50% design plans and specification sets, WREA will finalize the 100% project plans and outline specifications, prepare the engineer's opinion of probable cost, and complete the bid package for MOWD's use for distribution during the bidding phase. Local Agency permitting, environmental permitting, project administration, bidding assistance, including response to RFI's, are not a part of this proposal, nor are observation, inspection or construction management services, but will be provided in a separate proposal, if requested.

The specific tasks to accomplish the completed final design phase of the Project are included in the following scope of work.

### *SCOPE OF WORK*

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The detailed scope of work with task number and brief description is as follows:

#### **Task 1 – Kick-off Meeting, Initial Site Visit & Monthly Progress Meetings**

A kick-off meeting with MOWD and key design team staff shall be completed along with the initial site visit to commence Project start-up. Subsequent meetings will be held bi-monthly (every two months) to provide MOWD with the Project status and inform MOWD of design progress. This proposal includes a total of 8 meetings, including a presentation to the MOWD Board of Directors of the final completed design package.

#### **Task 2 – Engineering Design Memorandum**

In order to guide EPD's design for the Project, WREA will prepare a technical memorandum to include the information necessary for EPD to complete the design and drawings for the filtration system. The design memorandum will include the following data:

- a. Flow capacity, including operational flow characteristic operations including low, average and high demand scenarios (high demand with a minor increase) to determine required system flow range limit(s)
- b. Operational system design pressures
- c. System backwash requirements
- d. System automation requirements
- e. DDW criteria for needed item redundancy in design elements (if applicable to filtration unit components)
- f. SCADA – development of the preliminary design for necessary controls and instrumentation to incorporate the filtration system into the existing SCADA system.

This data will be compiled in the memorandum for EPD's use in the package filtration system design.

#### **Task 3 – Performance-Based Specification**

To ensure optimal filtration plant operations, WREA will prepare a performance-based treatment works technical specification for the filtration process package. Performance criteria including drinking water SWTR constituent parameters to be benchmarked to evaluate plant efficacy at each stage will be qualified in the specification. It is assumed that finish water quality testing and monitoring frequency to attain treatment goal compliance will be completed by MOWD.

#### **Task 4 – Project Design Phase to 50% Design Plans & Special Provisions/Outline Specifications**

##### **4.1 – Site Survey**

Site aerial topographic survey will be completed to locate existing plant facilities including Well 1 and Well 2 locations with respect to plant boundaries and right-of-way using record maps and drawings. The site survey mapping will include roads, fences, trees, poles, striping, existing plant facility appurtenances and equipment location and easements on the property. It is assumed MOWD will supply a current Title report, easement verification and will complete pot-holing to locate existing MOWD piping.

#### 4.2 – Geotechnical Testing & Report

Consult with project team to initiate the project, collect background information from the District that may be pertinent to the geotechnical evaluation. Earth Systems will visit the site, mark for geotechnical mapping and borings (2 proposed) and contact Underground Service Alert prior to commencement of site work and subsurface exploration. Laboratory testing will be completed and compiled in support of the Project site design.

The geotechnical engineering report will include recommendations necessary for:

- criteria for site grading,
- seismic design parameters,
- vertical, lateral and bearing pressures for use in structural design,
- estimated total and differential settlement,
- geohazard mitigation measures (if any), and
- paving design criteria for access roadway and parking area.

#### 4.3 – Site Grading & Drainage Design

Complete grading and drainage plans for new access roadway and parking area to include filtration facility building and pad area. The plans will be prepared in keeping with the requirements of the County of Ventura Grading Ordinance which adopts the California Building Code requirements for earthwork, and the Technical Guidance Manual which dictates stormwater management requirements in keeping with the Clean Water Act. Work includes earthwork calculations. Estimated three (3) sheets, including Standard County Cover Sheet, Road and Site Grading and Sections Sheet and Erosion Control Plan.

#### 4.4. – Structural Design and Calculations

Masonry Building, Foundation and Equipment Pad Plans, Calculations, Details  
Structural design plans and calculations for masonry unit building and foundation, including pad design and anchoring for filtration equipment.  
Sheet count will vary, assume four (4) for the purposes of this proposal.

#### 4.5 – Site Electrical Engineering:

Site electrical will be updated and modified to integrate components of the new building and treatment system, including stand-by coagulant injection pumps. New backup (stand-by) chlorine gas circulation pump(s) at Wells 1 and 2 will be required for SWTR compliance and will be included in electrical plans which will include the required Title 24 Power Distribution Forms, Voltage Drop Calculations and Title 24 Interior Lighting Forms.  
Sheet count may vary however site electrical distribution plan, One-Line & Load calculations for treatment plant, details and notes, assume six (6) for the purposes of this proposal.

#### 4.6 – SCADA – Development of detailed drawings and specifications (50%)

The design will include the controls and instrumentation to work with the well pumps, the pressure filter systems, the water disinfection chemical pumps, reclaimed pumps and the reclaimed water storage tanks.

#### 4.7. – 50% Civil Design Site Plan and Treatment Plant Layout, Piping and Details

In conjunction with EPD, this submittal will include a plan view of the overall project site, yard piping, plumbing, pumps, connections details and sections. Consideration for allowances for future equipment replacement/placement or maintenance with overhead equipment or forklift will be included in the evaluation of the site layout.  
Estimated sheet count is six (6) for the filtration treatment plant portion of the plan set, includes Title and Note Sheets. Scale will vary.

#### 4.8. – 50% Special Provisions Section(s) of Specifications

Submittal will include the treatment plant performance-based specification and draft special provisions including an itemized bid schedule and engineer's cost estimate.

Submit Deliverables to DDW and MOWD for review

Compile all deliverables in pdf format for DDW and MOWD review

#### 4.9 – DDW permitting

Assist with permitting through the local DDW offices at the 50% design phase. Any design changes required by DDW to the project documents (plans or specifications) will be negotiated under a Change Order to the original contract.

### **Task 5 – 100% Final Design**

#### 5.0 – Review and coordination: Review DDW and MOWD 50% review comments

Distribute and coordinate comments to team.

#### 5.1 – Final Civil Design Plans

Updates per final design and plan review comments.

#### 5.2 – Final Structural Design Calculations

Updates per final design and plan review comments.

#### 5.3 – Final Structural Sections, Details, Specifications, & Tables

Updates per final design and plan review comments.

#### 5.4 – Geotechnical and Constructability Review

Review, coordination, and redline comments to final documents.

#### 5.5 – Grading & Drainage Update

Review and update grading and drainage plans per comments.

#### 5.6 – Electrical Engineering Plans

Review and compile update for final 100% package

#### 5.7 – SCADA Plans

Review and compile update for final 100% package.

#### 5.8 – Submit Construction Documents to DDW and MOWD for final approvals.

The final construction plans will likely consist of the following sheets:

1. Title Sheet
2. General Notes & Specifications
- 3-4. Site Layout, Treatment Filtration System & Exterior Equipment
- 5-6. Plumbing, Piping, Pumps & Appurtenance Details
- 7-9. Road and Site Grading & Drainage Plan, Section and Details, Erosion Control Plan
- 10-13. Masonry Building Plans and Details
- . Building and Tanks/Equipment Pad Foundation Plans and Details
- 14-19. Electrical Site Distribution Plan, One-Line & Load calculations for Treatment Plant, Notes and Details, Title 24 Calculations/Forms for Plant and interior lighting.
- 20-23. SCADA - Piping and Instrumentation diagrams P&ID Sheets

Final special provisions/outline specification set and performance-based filtration plant specification will be updated and included in the final submittal.

Submit Deliverables to DDW and MOWD for final review and approval.  
Compile all deliverables in pdf format for DDW and MOWD approval.

### **Task 6 – Engineer’s Cost Estimate**

Prepare Engineer’s Estimate of Probable Cost for the Project. Prepare cost estimate to match bid line item sheet for easy bid comparison.

### **Task 7 – Bid Support**

Prepare “Front-End” bid documents (using County of Ventura standard format) and final line item bid sheet in format agreeable to MOWD. Bid support services / response to RFIs or other services shall be performed under a separate contract.

## *DELIVERABLES*

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Design Memorandum:

- Basis of Design and technical specifications for Treatment Plant to District for review and comment. To be provided to EPD for filter unit system design and engineering/shop drawing preparation.

Technical Performance-Based Specification:

- Electronic (pdf) technical specification for the filter plant assembly.

50% Design Phase:

- Electronic files of preliminary geotechnical report, design plans (including treatment plant, site upgrades, grading, structural and electrical)

Final Design Phase:

- 3 hard copy sets of full-size (ANSI D or larger) engineering plans;
- 2 hardcopy sets of Final Structural Calculations;
- 2 hardcopy sets of Final Geotechnical Report;
- Electronic files of all deliverables in pdf and dwg format

## *FEE*

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The fee required to complete the scope of work identified above, is **\$242,185** to be billed on a monthly basis for time and materials spent during that time, for a not-to-exceed the total estimated price without approved contract negotiations for a work change order/additional work order. A detailed breakdown of fees by task and subconsultant fee summary is included in Attachment A.

## *SCHEDULE*

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Scope of Work Tasks 1-7 are scheduled for completion by April 2023.



## *QUALIFICATIONS*

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Our distinguished team is led by senior and principal level engineers from each firm who have decades of combined experience with water districts in Ventura County. Key staff resumes and representative project experience are included in Attachment B

## *ASSUMPTIONS*

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1. MOWD will provide site title report.
2. MOWD will provide pot-holing to determine critical infrastructure locations, as required.
3. No additional project plans will be required for Fire Department access and hydrant location plan. WREA intends to use the site Grading sheet as basis to provide MOWD for this permitting authority.
4. No Floodplain Development permits will be required, as it appears work is outside of the AE Flood Zone.
5. MOWD will be responsible for obtaining all required permits and approvals, including DDW permit modification. It is anticipated, at a minimum, the County of Ventura Planning Department will require a zoning clearance for demolition and construction, Building & Safety Division building permits, and grading and drainage approval through Engineering Services, Public Works will be required.
6. The added electrical load will not exceed 30 amps @ 480 volts.
7. Two submittals only to DDW (50% and Final approval) will be required.

## *EXCLUSIONS*

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The following items and services are excluded from the proposed scope of work and contract:

1. Reproduction costs for plans, maps, reports and other documents. These and other reimbursables will be billed at our cost, plus ten (10) percent.
2. Ecological/environmental hazard/contamination, testing, studies, reports, consulting, permitting or permit processing other than that mentioned in this fee estimate, or work relating to CEQA, CUP, zoning verification and flood development permitting requirements.
3. Title company report(s), property rights, services or fees.
4. Project scope changes dictated by owner or any government agency.
5. Ventura County Fire department permitting other than what is included in the scope of work above.
6. Meetings other than those specified or required to obtain design information.
7. Any permit fees, acquisition, or processing services.
8. Site demolition will be addressed by MOWD.
9. Design of any site, parking, roadway, or other improvements not specifically included in scope of work above.
10. Site Storm Water Pollution Prevention Plan preparation, if required.
11. Design of any utilities not specifically included in the scope of work above (including but not limited to: additional mainline piping or connections, connections to or from treatment plant (already exist), telecom, natural gas, interconnecting pipes between wells, etc.).
12. Easement legal descriptions and exhibits for on or off-site utilities, improvements or other rights-of-way needed and/or desired for this project, unless otherwise noted.
13. Encroachment permits, all agency permitting, environmental permitting.
14. Design of any new SCADA components other than those described herein for integration into the existing SCADA system.
15. Lighting (yard) or security systems.

16. Retaining wall design, if required.
17. Seismic or structural calculations for electrical equipment, if required.
18. Low voltage systems such as fire alarms, TV.
19. Bidding or bid assistance other than the contractor's line-item bid sheet.
20. Construction phase support/services.

Should you have any questions or require additional discussion, please contact me directly at (805) 653-7900 or [lou@wressoc.net](mailto:lou@wressoc.net).

Sincerely,



Water Resource Engineering Associates  
Lou Nagy, P.E.  
Principal, RCE 47648

Attachments: A – Staff Hours and Fee Estimate  
B – Staff Qualifications, Project Abstracts, and Prime's Insurance & Limits



1/17/2022

ATTACHMENT A – STAFF HOURS/FEE ESTIMATE

# MEINERS OAKS WATER DISTRICT

## PROPOSAL TO PREPARE WATER TREATMENT PLANT FINAL DESIGN AND ASSOCIATED SITE WORK

### ITEMIZED WORK SCOPE AND FEE ESTIMATE

Item	Scope of Work Descriptions	Hours			
		A	B	C	D
1.	Participate in Project kickoff meeting. Initial site visit. Provide overall project team management. (Assumes one meeting/call per month for project coordination and ongoing project management.). Includes 8 meetings including kickoff meeting, 4 bi-monthly meetings and one additional meeting for final design presentation to MOWD Board. Meetings may be in person at the WREA's office or via Zoom depending on Covid-19 status.	12	20	24	12
2.	Prepare Engineering Technical Design Memorandum for EPD use in filtration plant design. Design Memorandum to include operational characteristics (flow range, system design pressures, backwash and automation requirements, DDW criteria for redundancy). We anticipate evaluation of three operational scenarios.	10	30	24	24
3.	Prepare a Performance-Based specification to define benchmark concentrations and operational expectations for SWTR treatment compliance.	4	10	10	4
4.	50% Design Plans & Outline Specifications (sub-consultant team hours and fees provided in separate fees summary following <sup>1</sup> ): 4.1 – Survey – Coordinate with site surveyor for initial site visit, easement and ROW mapping 4.2 – Geotechnical – coordination including discussions regarding known high-water groundwater elevation issues, sub-surface exploration needs and report particulars for design elements. 4.3 – Site Grading & Drainage – Coordinate with team regarding road and site grading design. 4.4 – Structural Design – Provide summary data to structural engineer for calculations and plan preparation. 4.5 – Site electrical – Prepare data for electrical engineer regarding plant components and pump needs in order to integrate new plant into existing site electrical 4.6. – SCADA – Control & Instrumentation diagrams for integration into the current SCADA system.	14	86	68	190

<sup>1</sup> See summary of Sub-consultant fees.

# MEINERS OAKS WATER DISTRICT

## PROPOSAL TO PREPARE WATER TREATMENT PLANT FINAL DESIGN AND ASSOCIATED SITE WORK

### ITEMIZED WORK SCOPE AND FEE ESTIMATE

Item	Scope of Work Descriptions	Hours			
		A	B	C	D
	4.7 – Civil Design - Prepare site treatment plant layout, sections, plumbing details, pump data, yard layout, connections to existing piping. 4.8 – 50% Special Provisions/Outline Specs Submittal 4.9 – DDW Permitting Assistance  50% Deliverables submittal				
5.	100 % Design Documents <ul style="list-style-type: none"> <li>5.1 – Updates and coordination with design team to final design plans and documents per 50% review comments.</li> <li>5.2 – Final structural plans.</li> <li>5.3 – Final Structural calculations.</li> <li>5.4 – Geotechnical and Constructability Review coordination and final redlines and comments.</li> <li>5.5 – Grading and Drainage plan updates</li> <li>5.6 – Electrical Engineering plan updates</li> <li>5.7 – SCADA Plan updates</li> <li>5.8 – Final document submittals (plans and specifications)</li> </ul>	10	60	50	110
6.	Prepare Engineer's Opinion of Probable Cost	4	10	10	4
7.	Prepare "Front-End" bid documents (using County of Ventura standard format). Prepare Bid Line Item Cost Sheet.	4	16	20	20
<b>TOTAL HOURS</b>		<b>58</b>	<b>232</b>	<b>206</b>	<b>364</b>

## MEINERS OAKS WATER DISTRICT

### PROPOSAL TO PREPARE WATER TREATMENT PLANT FINAL DESIGN AND ASSOCIATED SITE WORK

#### ITEMIZED WORK SCOPE AND FEE ESTIMATE

##### TIME AND MATERIALS FEE ESTIMATE

Fees for WREA					
A	Principal	58	Hrs @	\$220	= \$12,760
B	Project Management/Principal <sup>1</sup>	232	Hrs @	185	= 42,920
C	Project Engineer	206	Hrs @	155	= 31,930
D	Technician	364	Hrs @	120	= <u>43,680</u>
WREA Fee Estimate Total					<b>\$131,290</b>
Fees Breakdown for Subconsultant Team					
SCADA (MSO Technologies, Inc)					\$47,840
Design Survey (BC Survey)					16,750
Geotech Engineer (Earth Systems)					15,815
Grading & Drainage (Lewis Engineering)					12,640
Structural Engineering (Toedter)					6,580
Electrical Engineering (JMPE)					<u>11,270</u>
Subconsultant Total					<u>110,895</u>
FEE ESTIMATE TOTAL					<b>\$242,185</b>

1. Fees for Project Manager (Heather O'Connell, PE) are included Row "B", and not in sub-consultant fees.

Prepared 01/17/2022 by:

  
**Water Resource Engineering Associates**  
2300 Alessandro Dr. Ste 215, Ventura, CA 93001  
805.653.7900 800.25.WATER 805.653.0610(fax)  
[www.wreassoc.net](http://www.wreassoc.net)

ATTACHMENT B – STAFF QUALIFICATIONS, PROJECT ABSTRACTS, PRIME’S INSURANCE &  
LIMITS



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## **WATER RESOURCE ENGINEERING ASSOCIATES**

**CONSULTING CIVIL AND ENVIRONMENTAL ENGINEERS IN WATER AND WASTEWATER  
COLLECTION, CONSERVATION, DISTRIBUTION AND TREATMENT**

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**Louis M. Nagy, PE**  
**Owner, Principal Engineer**

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### **EDUCATION**

B.A./S., University of Bridgeport, Conn. Major: Mathematics/Oceanography (co/op)

Additional course work and continuing education completed in:

- Clean Water Act
- Domestic Water Quality and Treatment
- Water Chemistry
- National Pollution Discharge Elimination System
- Regional Water Quality Control Board Agricultural Water Discharge Waiver
- Farm Drainage/Irrigation/Runoff Water Quality Planning
- Grading and Drainage for Agricultural Hillside Erosion Control
- Stormwater Pollution Prevention Plan Development
- Hydrology
- Streambed Restoration
- Structural Engineering
- Wastewater Management
- Endangered Species Act

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### **REGISTRATIONS AND CERTIFICATIONS**

- Registered Professional Engineer, California, Civil, #047648
- California Community College Teaching Credential, Engineering, #154053.
- Qualified Stormwater Pollution Prevention Plan Developer, Certificate # 20159
- UCCE/USDA Farm Water Quality Planning Certification, Central Coast (Drainage/Irrigation/Runoff)

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### **BACKGROUND AND EXPERIENCE**

Nagy has over 40 years experience in the irrigation water, domestic water, wastewater, stormwater, water treatment, recycled water, and fire protection water fields, including design and analysis of all aspects of water production, distribution and treatment, pumping and storage, wastewater collection, pumping and treatment facilities large and small. The range of work spans from master planning of community water systems and wastewater systems, and major drainage systems to mechanical and hydraulic analysis, testing of existing improvements to analyze new capital improvement interfaces, complete system usage studies, feasibility studies, and economic analyses. The work has also included design for new water and wastewater facilities, as well as project construction contract administration of related capital improvement projects.



Since 1989, when a count was initiated, Nagy has designed and/or been in responsible charge of producing plans and specifications for some 2200 projects involving new construction and/or rehabilitation of older systems, over 500 miles of transmission mainline for domestic and fire protection water, 50 miles of wastewater collection pipelines, 250 pump or lift stations and 130 tanks or reservoirs for domestic, fire protection and irrigation water, 45 domestic and wastewater treatmentworks, and 110 domestic, irrigation and fire protection water system models and studies, for subdivisions, water and sanitary districts, small and large scale agriculture, small water companies, commercial/industrial projects and the military.

Additionally, over the past twenty years Nagy has been in responsible charge of compiling documentation for projects requiring environmental permitting, water usage documentation and reporting to federal, state, and local agencies as follows:

- Clean Water Act (CWA) Section 404 – USACE
- CWA Section 401 – SWRCB
- Waste Discharge Report (WDR) – SWRCB
- Report of Waste Discharge (ROWD) – SWRCB
- California Administrative Code “Title 22” Engineering Reports for Production, Distribution and Use of Recycled Water – SWRCB, DDW
- Initial Statement of Water Diversion and Use, Usage Reporting, Allocation Adjustment – SWRCB and related local agencies (Fox Canyon Groundwater Management Agency, United Water Conservation District)
- Streambed Alteration Agreement (SAA) – CA DFW
- Floodplain Development/Encroachment Permits – Ventura County Watershed Protection District
- Initial Domestic Water Permitting and Amendments – Division of Drinking Water – SWRCB DDW

Nagy has been expert witness in cases involving irrigation system design and operation, drainage and flooding, agricultural drainage run-on hydrology and storm damage, post-forest fire hydrology, irrigation water filtration system operation, hydraulic discharge and siphoning, river water intakes, booster pump plumbing and potable water system design.

Nagy has been invited to be a seminar speaker on subjects including irrigation design, irrigation water recycle system design, and runoff water quality compliance, passive runoff water treatment and water recycling.

Nagy has taught courses in hydraulics and irrigation design at the Community College level.

Nagy has owned and operated Water Resource Engineering Associates, a civil and environmental engineering consulting firm, currently with eight employees in Ventura, CA since 1979.

## **AFFILIATIONS**

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American Consulting Engineers Council, Consulting Engineers and Land Surveyors of California, National Fire Protection Association American Waterworks Association, Water Environment Federation, American Water Resources Association, National Fire Protection Association, Rural Water Association, California and Ventura County Farm Bureaus, Member, American Society of Civil Engineers.



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## **WATER RESOURCE ENGINEERING ASSOCIATES**

**CONSULTING CIVIL AND ENVIRONMENTAL ENGINEERS IN WATER AND WASTEWATER  
COLLECTION, CONSERVATION, DISTRIBUTION AND TREATMENT**

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### **FIRM PROFILE**

**Water Resource Engineering Associates** (WREA), 2300 Alessandro Dr., Suite 215, Ventura, California, 93001, is a civil and environmental engineering design and consulting firm, specializing in the collection, conservation, distribution, and treatment of domestic water, fire protection water, stormdrain runoff, and wastewater.

Established in 1979, WREA has been involved in all aspects of water production, distribution, wastewater collection, pumping and treatment facilities large and small. Ranging from master planning of community water and wastewater systems, and major drainage systems, mechanical and hydraulic analysis, testing of existing improvements to analyze new capital improvement interfaces, complete system feasibility studies, economic analyses, equipment design for new facilities, environmental ecological compliance and permitting, grading, drainage and site work design for these projects as well as project construction contract administration of related capital improvement projects.

Although also performing work for large water companies, Cities and Districts, WREA specializes in consulting with smaller purveyors, and are expert in tailoring the work to the often-specialized needs that smaller Districts have. As a matter of sheer numbers, of some 160 public and private water purveyors existing in Ventura County licensed by the County or State, WREA has done work for, and/or are currently Engineers for, approximately one half of this number. Additionally, WREA has participated in the initial formation, design, and licensing of 15. Most projects involved compliance analyses (for existing systems) master plans, design reports, facility design, project management through construction, and consulting on operations after construction.

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### **WREA REPRESENTATIVE PROJECT ABSTRACTS:**

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#### **LAKE PIRU SURFACE WATER TREATMENT FACILITY Piru, CA**

United Water Conservation District (UCWD) operates a public state transient, non-community (TNC) water system for the campground facilities at Lake Piru. The intake for the system is surface water from a barge floating on the Lake, which required replacement.

With input from UWCD staff, WREA studied alternate methods for new intake arrangement. Methods reviewed included floating system (existing system), pier mounted pumps, or slope mounted pumps. The preferred method chosen, (complete redesign and upgrade of barge pump system), included recommendations for conveying the raw water from the intake to the treatment plant (hose, fixed pipe, or articulating pipe). The treatment facility required upgrades including additional filtration units.

WREA determined existing constituent levels before and target levels per Surface Water Treatment Rule (SWTR), as acceptable to Division of Drinking Water (DDW). In coordination with UWCD Staff and EPD (filter supplier), WREA performed design of treatmentworks,

upgrades, and other work including hydraulic modeling for piping sizing, pump selection, and treatment media selection. WREA then developed Plans and Details for bidding and construction.

### **WARM SPRINGS REHABILITATION CENTER County of Los Angeles, CA**

The Warm Springs Rehabilitation Center (WSRC) water system is classified as a State Small Water System. As such it must meet requirements defined in California Administrative Code including Titles 17 and 22, the California Plumbing Code, and the rules and regulations for such systems as imposed by the agency having jurisdiction, in this case the Los Angeles County Department of Environmental Health (DEH).

DEH determined that the cistern well water at WSRC is groundwater under the influence of surface water and cited WSRC for non-compliance with the SWTR, due to high Bacteriological well water quality results, and non-compliant filters. The cistern wells were then shut off from the system. This necessitated the trucking in of water on a daily basis, an expensive, and inconvenient process. Improvements to the system were required, including new well pumps, and a new CDPH-compliant filter system (as supplied by EPD). Disposal of filter backwash water was an issue. WREA evaluated the preferred options and determined after review of the site/project Waste Discharge Requirements (WDR), that the connection to the sewer was most feasible.

Additionally, WREA performed calculations for projected usage, chlorine contact time, dosage, and reviewed general mineral test results. Work scope also included review of instrumentation and monitoring and reporting requirements leading to recommended improvements to meet water quality goals.

In coordination with EPD, WREA performed design calculations, compiled final plans and details for renovation and re-equipping of the cistern pump system, re-designed pumps for discharge to new filtration system, compliant with SWTR and DDW requirements.

WREA compiled both preliminary and final plans and details for the EPD filter and included tank site work, plumbing plans and details for filter station, finish water storage, backwash water storage and disposal, and booster pump station, and appurtenant electrical design.

### **CITY OF SANTA PAULA WATER SYSTEM CITY OF SANTA PAULA WELL #6, IRON AND MANGANESE TREATMENT, AND ADDITIONAL WELLS, TREATMENTWORKS AND PIPELINES PROJECT Santa Paula, CA**

Considered the largest current development in Ventura County, the proposed full buildout consists of 1,477 residential units, 25,000 SF of light industrial use area, 215,000 SF of commercial use area, 20.2 acres of civic/institutional use area and approximately 225 acres of additional uses (athletic fields, parks, agricultural preserve, and open space). WREA has been extensively involved in the design of expanding the City's water distribution system as part of the Development. The first well site associated with the project (Well 6) has been equipped. Well 7 has been drilled and test results indicate it will need to include an iron and manganese treatmentworks to be shared with future Well 8. The high iron and manganese levels are addressed by a greensand manganese treatmentworks.

For Well #6, WREA's scope of Engineering Services included, with input from Lo Prest, the packaged treatmentworks supplier, preparation of Plans, Specifications, Estimates, and Engineering Calculations; permitting assistance; bidding and construction phase services. Major design components include the multiple groundwater well sites (grading, drainage, piping, water treatment and distribution, and electrical improvements), a 3-million-gallon water storage tank site, and miscellaneous other improvements to the agricultural and water systems.

The new facilities for the City of Santa Paula public water system required, and continue to require, extensive coordination with all regulatory agencies as well as Contractors under separate scopes of the overall development.

## **VENTURA COUNTY WATERWORKS DISTRICT 1 WELL #20 Moorpark, CA**

In accordance with the District's multiple year Master Plan, in order to increase the supply to the system a well site was selected for new Well #20. Initial water quality test results determined that the facility would need an iron and manganese treatmentworks in order to ensure compliance to Title 22 water quality requirements.

In coordination with District 1 Staff, WREA determined final requirements of facility design, including consulting on water treatment methods.

The WREA scope included compiling a preliminary layout design, determination of hydraulic requirements for the well, and modeling a portion of 944 zone. Also included was the design of yard piping, final grading, drainage, and circulation elements for the site.

Utilizing information from hydraulic design phase, WREA designed well pump parameters. well pump plumbing and pressure controls and surge handling equipment. WREA Designed pre-treatment works to include chlorination and sodium bi-sulfide injection. (Designed to be compatible with future chloraminization.)

Also included in WREA's scope was the design of the main treatmentworks pressure media filter external inlet/outlet and backwash recycling system plumbing, and backwash storage tank plumbing.

Additionally, WREA researched availability of removable roll a part sound reducing enclosure for wellhead as well as designing the pre-treatmentworks structure.

WREA scope also included compiling special provisions to cover all items within the project.

# DREAMING TREE CIVIL

Heather O'Connell, PE, CFM, QSD/QSP



## Professional Development

- Certified Floodplain Manager Review Course, DWR
- California Environmental Quality Act Training
- EPA's Rules on Compensatory Mitigation for Impact on Wetlands and Other Waters
- HEC/RAS 3.1, 4.1 Training Seminars, ASCE
- Los Angeles County Watershed Management Modeling System (WMMS) Training, 2016
- US Army Corps of Engineers Section 404 Permit Training
- Slope Stabilization Training

## Affiliations

- American Public Works Association
- California Stormwater Quality Association
- Association of Water Agencies, Ventura County
- Association of State Floodplain Managers

## Areas of Expertise (2020 Current)

- Stormwater Pollution Prevention Plans
- Stormwater quality treatment design analysis
- Post Construction Stormwater Requirements and Management Plans, Best Management Practice (BMP) sizing, selection and low impact development (LID) design
- Water system evaluation studies, compliance and design
- Hydraulic and hydrologic modeling
- Infrastructure improvement, rehabilitation, and design for water, sewer, and storm drain facilities
- Grading and drainage design
- Sewer studies including monitoring for capacity evaluation design improvements, inflow and infiltration (I/I) studies
- Conditions assessments for Conditional Use Permits
- Feasibility option analysis and cost valuations for improvements and design options
- Floodplain development and Federal Emergency Management Agency compliance
- State Water Resources and Regional Water Quality Board compliance
- Design team project management

## Years of Experience

- Total: 23

## Licensing

- Professional Civil Engineer, CA No. 73119

## Certification

- Certified Floodplain Manager
- Qualified SWPPP Developer/Practitioner, CA No. 00663
- Confined Space Awareness

## Education

- BS, Civil Engineering, University of Texas at El Paso, TX, 1997

Ms. O'Connell specializes in engineering design, permitting, and environmental compliance. Heather provides team management for projects within various fields such as new water, wastewater, and stormwater infrastructure design. She has also successfully guided strategic site layout and design elements, incorporating new utilities, grading, drainage, and low-impact development (LID) features for redevelopment projects in challenging infill urban areas -- including calculations for post construction stormwater requirements (PCR's) and design of structural, source control and treatment Best Management Practices (BMPs). Heather maintains progressive working knowledge of the constantly evolving National Pollutant Discharge Elimination System (NPDES) permits, state and regional guidelines to ensure project regulatory compliance.

Heather has design experience for projects ranging from small single-family residential and private landowners to large scale mining, oilfield and agricultural operations, commercial, industrial, and public works projects. She has a particular focus in site design option evaluation for new and redevelopment sites for critical project components including new infrastructure, grading and drainage, potable domestic water and fire protection systems, well piping and plumbing design, irrigation, and process water supplies, distribution, recycling, and reuse projects. Her experience includes the following projects:

**Maywood Mutual Water Company No. 1, Water Replenishment District, CA. Supervising Engineer.** Project Manager responsible for the preparation of a domestic water supply system permit amendment for the removal of iron and manganese and new replacement 500,000 gallon tank. Duties included the preparation of the water system technical report, technical, managerial and financial updates, and operations and maintenance manual program establishment. (2017)

**Water Replenishment District (WRD), Well 16 Rehabilitation, City of Compton, CA. Supervising Engineer.** Project responsibilities included the preparation of a feasibility study for determining appropriate treatment technologies, including the Best Available Technology (BAT) assessment, to treat an existing well producing elevated levels of 1, 4-Dioxane and other Volatile Organic Compounds (VOCs). Treatment technologies included assessment of advanced oxidation process, granular activated carbon, and biological biomass treatment. (2015-2017)

**WRD, Well 17 Rehabilitation, City of Huntington Park, CA. Supervising Engineer.** This project prepared a feasibility study for determining treatment technologies for an existing well with progressive capacity issues and high nitrate concentrations nearing maximum contaminant level reporting limits. Treatment technologies reviewed for the project include biological denitrification with autotrophic bacteria and ion exchange. (2015-2017)

**Los Angeles Department of Water and Power (LADWP), Castaic Lake Power Plant Dredging and Grading Design, Los Angeles, CA. Project Manager/Supervising Engineer.** The Castaic Lake power generation facility requires Lake dredging and clean out periodically to maintain pumping capacity for power generation. Heather worked to oversee the design team to establish a short-term and long-term maintenance strategy for Lake dredging. The subject design report and preliminary design plans outlining quantity dredging analysis to account for sediment deposition along Lake watersheds and locally dredged areas to be maintained immediately as well as on an annual basis. Dredging studies utilized and managed for design of plans and report included bathymetric lake survey, side-scan sonar imaging and traditional survey methods. (2016-2017)

**Water Treatment System Piping and Controls Replacement Project, City of Buellton, CA. Supervising Engineer.** Design of replacement process water piping infrastructure and oversight of controls system modification for water treatment Plant, Capital Improvement Project (CIP), City of Buellton. Replacement of system liquid levels and controls, pump and equipment at two well treatment facilities in City water distribution system. (2015-2017)

**Crestview Mutual Water Company. Project Manager, Principal/Design Engineer.** Responsible for engineering design for a new replacement 1,500 gpm deep well (1400' bgs) demand calculations for plumbing and deep well valves to connect to two pressure zones within hillside water company 8-inch and 10-inch pipelines. Includes full site development, grading, well pump station plans and plumbing, well instrumentation and controls building and well natural gas backup generator, site grading, drainage and erosion control design. (2018-Present)

**Steckel Park, County of Ventura Maintenance Building. Civil Engineer/Water System.** The Ventura County Parks are currently in design review for a new maintenance building at Steckel Park, outside of City of Santa Paula, Ventura County Parks project, as part of the Thomas Fire rebuilding process. Ms. O'Connell is providing design services for the domestic water and fire protection water system(s) design for the new park building. Responsibilities include coordination with project team, Ventura County Fire Department and City of Santa Paula Public Works. (Present)

**Cloverdale Mutual Water Company, Ventura County, CA. Principal Engineer.** Prepare plans and engineering studies for system Water Availability Report for Ventura County mutual water company permitting and infrastructure improvements. Projects include evaluation of nitrate treatment system options, new above ground bolted or welded steel water tank, new well system design, back-up generator and new booster pump station. Project includes critical housing element interface with County regarding water infrastructure improvements for low income housing in disadvantaged communities. (2018-Present)

**Water Replenishment District (WRD), Goldsworthy Desalter MTBE Treatability Study, City of Torrance, CA. Supervising Engineer.** This project includes preparation of a treatability study for WRD to provide to the State Department of Water Resources, Drinking Water Division to analyze the treatment technologies to treat Methyl Tertiary Butyl Ether (MTBE) in drinking water. The supply wells to the Goldsworthy Desalter, a reverse-osmosis (RO) water treatment facility, in the City of Torrance are experiencing occurrences of detectable levels of MTBE in their raw source water. DDW required a detailed analysis to be performed to evaluate various listed Best Available Technologies (BATs) to treat MTBE in the water and provide a preliminary system design.



## **Work Experience**

June 2021– Present; **Engineering Manager, Civil & Structural Engineer**

RWC, LLC, Santa Paula, CA

Responsible for all aspects of project development engineering, Civil and Structural Engineering. Urban and Land Development with Sustainable Designs. Work closely with Clients, Government Agencies, and consultants to achieve the best possible product.

March 2010 – May 2021; **President of Engineering, Civil & Structural Engineer**

RW TOEDTER, LLC, Ventura CA

Responsible for all aspects of project development engineering, Civil and Structural Engineering. Urban and Land Development with Sustainable Designs. Consulting City Engineer for the City of Santa Paula. Work closely with Clients, Government Agencies, and consultants to achieve the best possible product.

January 1989 – February 2010; **Vice President of Engineering, Civil Engineer**

RAMSEYER AND ASSOC., INC., Ventura CA

Responsible for all aspects of project development engineering from planning, grading, streets, utilities, hydrology, hydraulics, storm drain, water and sewer systems and structure layout using applied knowledge and national, local codes as well as 29 years of design and technical experience. Projects include, but not limited to, residential tracts, commercial shopping centers, and industrial tracts. Supervise staff in office and field to plan, design, construct, bridges, elevated roads, retaining structures, pipe supports and inspect projects. Responsible for client interface, and interface with government and private agencies. Mentored & directed the engineering, drafting, and support staff.

June 2008 – December 2010; **Vice President of Engineering, & Sr. Structural Engineer;**

U.S.E.C., INC., Camarillo, CA

Responsible for all aspects of project development structural engineering & Recruitment & mentoring of structural engineering staff. Projects included but Not limited to; 70,000sq.ft. Tilt-up industrial building, 24,000sq.ft. Custom 3 story home, 18,000sq.ft. 3 story custom home with full underground Basement & a 12,000sq.ft. Commercial building in Simi Valley, CA.

December 1987- January 1989; **Structural Engineer**

KEETON ALLY'S, INC., North Hollywood, CA

Responsibilities included project engineer for structural design of custom homes, restaurants, and multi story office buildings.

December 1988 – October 1987; **Land Development and Forward Planning Director**

Griffin Homes, Inc., Calabasas, CA

Responsible for reviewing property for development, hiring Architects, and Civil engineers to develop projects and securing development rights from governing agencies.

September 1987 – September 1985; **Structural Engineer**

Kesler Alleys, Inc., North Hollywood, CA

Project engineer on cable structures at Universal Studios, assistant engineer on Wharf remodel, multi story office buildings, high rise commercial buildings, and custom homes. Responsible for testing project design loads unique for each structure. Designed concrete shell structures for satellite communication dishes around world. Designs incorporate strict deflection and rotation criteria with site specific soil parameters. Designed underground command center aboard for soil and blast loads.

## **Education**

**California Polytechnic University of San Luis Obispo, CA**  
**Bachelor in Architectural Engineering, 1980**

## **Professional Licenses/Certificates**

**Registered Civil Engineer #37316 (CA)**  
**Structural Engineer # 2991 (CA)**  
**Certificate of Negotiation and Conflict Resolution;** Center of Conflict Resolution, Pasadena, CA  
**Certificate of Leadership;** Resource Realization, Inc., San Francisco, CA

## **Civil design Projects:**

**Camarillo Premium Outlets,** Camarillo CA: 40 acre and 25 acre outlet malls.  
**Mini of Camarillo, BMW,** Camarillo CA: Car Dealership  
**Paseo Santa Barbara,** Santa Paula, CA: 90 unit low cost apartment housing.  
**Valle Naranjal,** Piru, CA: Low Cost housing for farm workers.  
**Central Station,** Fillmore, CA: 28 unit apartment building  
**Villa Victoria,** Oxnard, CA: low cost housing  
**Lennar Homes Development,** Moorpark, CA: 545 hillside single family houses.  
**Orion's Flight,** Camarillo, CA: 25 hillside custom residential lots  
**Marisol at Malibu,** Malibu, CA: 14 custom residential lots  
**City of Santa Paula,** Santa Paula, CA: Redevelopment of infrastructure of city streets, sewers, & storm drains.  
**Limoneria Project,** Ventura County, CA: LAFCO Annex project with City of Santa Paula, 390 acres.

## **Structural design Projects:**

**Universal Studios,** Universal Studios, CA: King Kong structures. Animal Actors cable and roof structure. Jaws collapsing bridge.  
**Pittsburg Oil Refinery,** Pittsburg, CA: Design review for oil refinery expansion.  
**Satellite shell structure,** Mexico City, MX: Concrete shell structure for telecommunication dish.  
**World Savings,** Santa Monica, CA: Assist in design of multi story building.  
**Port Hueneme Wharf,** Port Hueneme, CA: Assist Navy with wharf remodel.  
**Shamrock Corp, Roy Disney,** Studio City, CA: Wood structure topping concrete podium, for Studio City headquarters.  
**Bajo Agua Industrial Complex,** Camarillo, CA: 250,000 sq. ft. industrial tilt-up complex.  
**Lack Residence,** Bel Air, CA: 24,000 sq. ft. custom home in Bel Air Estates.  
**Hughes Air Craft, Kuala Lumpur, Malaysia:** National defense bunker, underground.

**References available upon request**



RANDY W. TOEDTER  
689 COUNTY SQUARE DRIVE, UNIT 32  
VENTURA, CA 93003  
(805)207-3334 TOEDTER2@GMAIL.COM

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## **FEE SCHEDULE**

Engineering Manager \$180.00

Staff Engineer \$150.00

Draftsman \$75.00

**TODD TRANBY**

**Earth Systems Southern California**

**Vice President and Registered Engineering Geologist**

**Education:**

B.S. 1988, Geophysics, University of California Santa Barbara

**Registration:**

Registered Geologist, State of California, 1996, RG.6550

Certified Engineering Geologist, California, 1997, EG 2078

**Professional Experience:**

February 1989 to Present: Earth Systems Southern California

Mr. Tranby is an Engineering Geologist for Earth Systems Southern California. He has been with the Earth Systems group of companies for 20 years. His responsibilities include preparing Engineering Geology and Geotechnical Engineering Reports, performing geologic/geotechnical field studies, analyzing slope stability, fault hazard analyses, overseeing geophysical studies, organizing geotechnical field studies for residential, educational, commercial, and industrial projects, and managing projects during construction.

**Professional Affiliations:**

Geological Society of America (GSA)

Association of Engineering Geologists (AEG)

Coast Geologic Society (CGS)

American Society of Civil Engineers (ASCE)



## FEE SCHEDULE

(Effective January 1, 2022)

This schedule presents rates for professional and technical services in the fields of geotechnical engineering, engineering geology, environmental consulting, construction observation and testing, and special inspection. Listed are charges for services most frequently performed by Earth Systems. Additional services not listed are available and can be discussed upon request; fixed-fee quotes for some services can also be provided upon request. To discuss a scope of work and fees for a specific project, please contact our office.

<u>PERSONNEL</u>	<u>Hourly Rate</u>
Principal Professional .....	\$220.00
Associate Professional .....	\$210.00
Senior Professional .....	\$195.00
Project Professional .....	\$175.00
Staff Professional .....	\$155.00
Special Inspector, Prevailing Wage* .....	\$130.00
Technician, Prevailing Wage* .....	\$115.00
Special Inspector .....	\$105.00
Technician .....	\$95.00
Clerical/Administrative .....	\$85.00

\*Technician/Inspector Classifications as defined by the State of California Department of Industrial Relations.

## BASIS OF CHARGES

1. Field technician services for non-prevailing wage projects on regular workdays will be subject to a 2-hour minimum charge and billed in 2-hour increments. Special inspection services and all prevailing wage project services will be subject to a 4-hour minimum charge and billed in 4-hour increments. Hourly charges will accumulate on a portal-to portal basis. Work performed on weekends, holidays, and when work starts outside of regular business hours is subject to a 4-hour minimum charge. A 2-hour cancellation charge will apply if scheduled inspection or testing is cancelled after 3 p.m. the day prior to the scheduled work. Saturdays, night work, and premium hours (before 7 a.m., after 5 p.m. or in excess of 8 hours in one day) for personnel are at time and one-half; Sundays and holidays are at double time.
2. The prevailing wage rates presented above are based on current rates established by the Department of Industrial Relations (DIR). If, during the course of the project, prevailing wage rates are increased by DIR, the quoted rates will be adjusted to correspond to the change. Also, please note that requirements concerning overtime, shift work, travel time, holidays, and other factors can vary for different classifications of work under prevailing wage regulations.
3. Nuclear gauge charge: \$12.50/hour.
4. Mileage zone charge (portal to portal): \$20 within 10 miles, \$40 within 20 miles, \$60 within 30 miles, \$80 within 40 miles, \$100 within 50 miles. For more remote sites, a quote can be provided.
5. Subcontractors (except Special Inspectors) and other expenses will be charged at cost plus 20 percent.
6. Out of town travel and expenses will be charged at cost plus 20 percent. Fixed per diem rates for specific projects can be provided upon request.
7. Minimum report charge: \$250.00. Posting of electronic documents to project websites will be charged at clerical/administrative services rate
8. Invoices are payable upon presentation. Invoices thirty days past due will be subject to a service charge of one and one-half percent per month.
9. Fees for depositions, hearings, or and court appearances (as Expert Witness) are listed on a supplemental fee schedule.



10. Due to State regulations requiring electronic submittal of Certified Payroll to DIR for prevailing wage projects, a fee of \$85 per project will be assessed twice a month.
11. Payments using a credit card will be assigned a 3% convenience fee.
12. Rates presented herein will remain in effect through December 31, 2022. Hourly rates for professional and administrative staff will be subject to a 3 percent annual increase effective January 1 of the applicable year. Hourly rates for prevailing wage work will be subject to adjustment based upon changes in general prevailing wage determinations by the Department of Industrial Relations (DIR). For estimating purposes, an annual fee increase of 5 percent should be assumed for prevailing wage rates.

## **SUBCONTRACTED SERVICES**

Subcontracted services are to be billed at cost plus 20%. Subcontracted services include, but are not limited to, consultants' fees, equipment rental (such as drilling, trenching and special access equipment), materials, freight, outside laboratory tests, aerial photographs, permit fees, and incidental expenses. Subcontracted services do not include subcontracted Special Inspectors, who will be billed at the rates shown on Page 1 of this Fee Schedule

## **SPECIAL FIELD SERVICES**

Geophysical work, pile load tests, vane shear tests, piezometer installations, slope indicator installations, and other special tests can be quoted on an individual basis.

## **ENVIRONMENTAL SERVICES**

Rates for environmental sampling, safety, and testing equipment can be provided on request. All rentals or purchases of required equipment and supplies, as well as subcontracted services, will be invoiced at cost plus 20%. Testing of contaminated soil will be per quote. Contaminated samples will be returned to sender for proper disposal.

## **SOILS LABORATORY FEES**

Atterberg Limits/Plasticity Index (ASTM D 4318): .....	\$250.00
California Bearing Ratio, 3 points (ASTM D 1883) .....	\$750.00
California Impact (CT 216) .....	\$275.00
Consolidation, one dimensional (ASTM D 2435) .....	\$250.00
Consolidation, timed, per point.....	\$100.00
Corrosivity Tests (EPA 300) .....	\$200.00
Direct Shear, 3 points (ASTM D 3080) .....	\$400.00
Expansion Index Test (ASTM D 4829) .....	\$220.00
Hydrocollapse Potential Test (ASTM D 5333) .....	\$150.00
Long Hydrometer Analysis, assumed specific gravity, with 200 wash (ASTM D 422, CT 203).....	\$300.00
Maximum Density and Optimum Moisture:	
4" Mold (ASTM D 1557) .....	\$300.00
6" Mold (ASTM D 1557) .....	\$350.00
Moisture and Unit Weight Determination, from ring samples (ASTM D 2937) .....	\$40.00
Moisture Only (ASTM D 2216) .....	\$30.00
Permeability Tests, constant head, falling head (EPA 9100) .....	Per Quote
R-Value (ASTM D 2844, CT 301).....	\$420.00
Sand Equivalent (ASTM D 2419, CT 217) .....	\$165.00
Short Hydrometer, assumed specific gravity, with 200 wash (ASTM D 422) .....	\$200.00
Sieve Analysis with 200 wash (ASTM D 1140, CT 202) .....	\$200.00
Sieve Analysis without 200 wash, Aggregate Base or Sub-base .....	\$150.00
Sieve Analysis of Oversize Material .....	Per Quote
Specific Gravity (ASTM D 854) .....	\$175.00
Swell Test, Undisturbed.....	\$205.00
Swell Test, Remolded .....	\$230.00
Unconfined Compressive Strength, untreated (ASTM D 2166) .....	\$175.00
Unconfined Compressive Strength, Lime or Cement Treated Material .....	\$500.00



## **MATERIALS LABORATORY TESTING FEES**

An additional hourly charge (\$100/hr.) will be applied for cutting, capping, or other preparation of non-standard samples. All compression test fees include formal report following 28-day tests. Formal reports for earlier tests will be subject to an additional report fee of \$25.

### **AGGREGATE**

Abrasion, L.A. Rattler, 100 & 500 revolutions, ASTM C 131 (Small Size Aggregate) .....	\$300.00
Abrasion, L.A. Rattler, 100 and 500 revolutions ASTM C535 (Large Size Aggregate) .....	\$560.00
Absorption, Coarse Aggregate (ASTM C 127, CT 206) .....	\$100.00
Absorption, Fine Aggregate (ASTM C 128, CT 207) .....	\$150.00
Clay Lumps and Friable Particles in Aggregate (ASTM C 142) .....	\$110.00
Cleaness Value of Coarse Aggregate (CT 227) .....	\$150.00
Crushed Particles, each size (CT 205) .....	\$150.00
Durability Index, Coarse or Fine Aggregate (ASTM C 3744, CT 229).....	\$200.00
Flat and Elongated Particles in Aggregate (ASTM C 4791) .....	\$110.00
Organic Impurities in Fine Aggregate (ASTM C 40, CT 213).....	\$100.00
Potential Reactivity of Aggregate by Chemical Method, each size (ASTM C 289) .....	Per Quote
Sieve Analysis, washed (ASTM C 117, CT 202).....	\$210.00
Soundness, Sodium Sulfate, 5 cycles (ASTM C 88) .....	\$500.00
Specific Gravity, Coarse Aggregate (ASTM C 127) .....	\$150.00
Specific Gravity, Fine Aggregate (ASTM C 128) .....	\$150.00
Uncompacted Void Content, Fine Aggregate, incl. specific gravity (ASTM C 1252, AASHTO T304, CT 234) .....	\$280.00
Unit Weight of Aggregate (ASTM C 29) .....	\$150.00

### **CONCRETE CYLINDERS, BEAMS AND CORES**

Compression Test of Cast Cylinders, includes disposal fee and report after 28 days (ASTM C 39) .....	\$35.00
Compression Test of Cored Samples, does not include coring, but includes disposal fee (ASTM C 42) .....	\$75.00
Grading of Shotcrete Cores, does not include coring (ACI 506.2) .....	\$100.00
Compression Test of Lightweight Concrete (ASTM C 495) .....	\$45.00
Density of Concrete Cylinders (ASTM C 138).....	\$75.00
Density of Hardened Concrete (ASTM C 642).....	\$105.00
Shrinkage of Beams, set of 3 (ASTM C 157).....	\$410.00
Flexural Strength, Simple Beam with Third Point Loading (ASTM C 78, CT 523) .....	\$180.00
Unit Weight of Lightweight Concrete (ASTM C 567) .....	\$130.00
Enviro Recycle Fee/Form Stripping, Per Shotcrete Panel/Beam .....	\$65.00

### **MASONRY**

Absorption of Block, set of 3 (ASTM C 140).....	\$165.00
Compression Test on Block, set of 3 (ASTM C 140) .....	\$165.00
Compression Test on Grouted Prisms, includes cutting and disposal fee (ASTM C 1314). .....	\$300.00
Compression Test on Masonry Cores (ASTM C 140) .....	\$80.00
Compression Test, 2" x 4" Mortar Cylinders (ASTM C 780) .....	\$45.00
Compression Test, 3" x 3" x 6" Grout Samples (ASTM C 1019) .....	\$45.00
Moisture Content of Block as received, set of 3 (ASTM C 140) .....	\$100.00
Shear Test on Masonry Cores, 2 faces.....	\$175.00
Unit Weight of Block, set of 3 (ASTM C 140) .....	\$165.00
Coring of Grouted Masonry by Subcontractor .....	cost + 20%
Enviro Recycling Fee, Per Masonry Prism.....	\$2.00
Enviro Recycling Fee, Per Mortar or Grout Sample .....	\$2.00



## **ASPHALTIC CONCRETE**

All fees for asphaltic concrete assume that asphalt mix is made in the field. Please request quotes if mix is to be made at our laboratory.

Bulk Specific Gravity of Core Samples (ASTM D 2726 and 1188, CT 308).....	\$50.00
California Kneading Compactor (Hveem LTMD) Max Density on set of 3 (CT 308) .....	\$400.00
Extraction of Oil from AC Mixtures .....	\$250.00
Extraction of Oil from Rubberized Mixtures (ASTM C 2172) .....	\$315.00
Gyratory Compactor, field mixed asphalt (AASHTO 3112) .....	\$500.00
Hamburg Wheel Tracker Test, per set of field mixed asphalt (AASHTO 324).....	\$750.00
Hazardous Waste Handling Charge for Extracted Oils.....	\$30.00
Ignition Oven Binder Content Correction Value, per mix (ASTM D 6307) .....	\$850.00
Ignition Oven Binder Content after initial correction value is determined .....	\$170.00
Ignition Oven Gradation Correction Value, per mix .....	Per Quote
Ignition Oven Gradation after initial correction value is determined .....	\$270.00
Sieve Analysis of Extracted Aggregate (ASTM C 5444) .....	\$210.00
Specific Gravity, Theoretical Maximum, Rice Method (ASTM D 2041, CT 309) .....	\$150.00
Stabilometer (Hveem S-Value), set of 3 (ASTM D 1560, CT 366) .....	\$175.00*
Enviro Recycling Fee, Per Sample .....	\$2.00
Enviro Recycling Fee for Extracted Oils .....	\$45.00

\* Fee assumes CT 308 is run concurrently

## **MISCELLANEOUS TESTING AND EQUIPMENT CHARGES**

Anchor Pull Test Equipment. ....	\$150.00/day
High Strength Bolt, Nut, Washer Testing.....	Per Quote
Manometer (Liquid Level) Survey Equipment .....	\$150.00/day
Nuclear Gauge .....	\$12.50/hr.
Pachometer (James R Meter) .....	\$200.00/day
Pile Load Test Equipment .....	Per Quote
Reinforcing Steel Tensile and Bend Tests, No. 3 through No. 9 Bars (ASTM A 615).....	\$175.00
Reinforcing Steel Tensile and Bend Tests, No. 10 Bars and larger .....	Per Quote
Skidmore Device .....	\$250.00/day
Torque Wrench.....	\$75.00/day
Hand Auger/Sampler Equipment.....	\$75.00/day
Rebound Hammer (Schmidt Hammer) .....	\$75.00/day
DIR Compliance/eCPR, Per Week .....	\$85.00
DSA Box Posting, Per Week .....	\$85.00



## EXPERT WITNESS SERVICES

The following rates apply to deposition testimony, arbitration testimony, hearings and court appearances.

### **HOURLY CHARGES FOR PERSONNEL**

Principal Professional .....	\$450.00
Associate Professional .....	\$375.00
Senior Professional.....	\$300.00
Project Professional.....	\$275.00
Staff Professional .....	\$225.00
Clerical/Admin Services .....	\$150.00

### **SPECIAL SERVICES**

Deposition .....	\$420.00/hr.
Arbitration .....	\$420.00/hr.
Court Appearance/Hearings .....	\$2,000.00/half day
Standby to Appear .....	\$1,000.00/day

### **BASIS OF CHARGES**

1. Hourly rates are charged during investigation, analysis, consultation, and preparation services.
2. Estimated deposition fee payable in advance by party requesting deposition. The difference between advancepayment and final fee to be billed or refunded in accordance with the fee and billing information in this schedule.Fee for reviewing deposition transcript will be billed at hourly rates to the party requesting the review.
3. Minimum half day charge will apply to court appearances and hearings. Time extending through the noon hourwill be subject to the full day charge of \$3,000.00.
4. Days, or portions thereof, reserved for appearances at hearings, court, or arbitrations, during which we are notrequired to be away from our offices will be subject to a standby charge of \$750.00. Standby at other locationswill be charged at the general hourly rates.

**BENNER AND CARPENTER, INC.**  
**CIVIL ENGINEERS AND LAND SURVEYORS**

Benner and Carpenter has provided surveying services in Ventura County for over 45 years. Our office is located at 506 E. Main Street in Santa Paula, and has been at this location since 1975. Benner and Carpenter, Inc., is both a civil engineering and land surveying firm. The company provides limited civil engineering services on small projects, with 90% or more of its services being performed on land surveying jobs. Benner and Carpenter, Inc., has established itself not only within its own community of Santa Paula, but in all cities of Ventura County, Santa Barbara, and North Los Angeles counties, as well. By maintaining excellent working relationships with area general contractors, engineers, architects, private developers, and public works agencies, the company has persisted in even the worst economic climates.

Benner and Carpenter's staff consists of very knowledgeable and well-trained personnel; this, coupled with years of experience, gives our firm a competitive edge. Larry J. Frager, is both a Registered Civil Engineer and Licensed Land Surveyor in the State of California. Larry has 35 years of experience, and has been involved in all types of land surveying projects, as well as preparation of grading and drainage plans, and project management for construction jobs. Stephanie A. Spencer, business manager, oversees all the business and finance matters of the company. Also on staff is a licensed California L.S.I.T. with over 30 years of land surveying experience.

The above key personnel have the peace of mind of knowing that their back-up staff is dependable, detail oriented, and take pride in their work. The back-up staff at Benner and Carpenter has varying degrees of technical expertise. The office staff provides calculations, base maps, legal descriptions, and is proficient in the use of AutoCad. The field staff has experience in all types of land surveying projects, from large-scale construction projects, to remote boundary surveys. Benner and Carpenter staff members understand and can carry out oral and written communications, and can communicate clearly and concisely.



Benner and Carpenter, Inc., field crews are equipped with office ready cargo vans and robotic electronic measuring devices, including GPS capabilities. All crews are capable of full data collection and computations, as well as the ability to print cut sheets at the jobsite. Our office staff is equipped with up-to-date computer hardware and software as necessary to interface with field computers, and to prepare recordation quality and "electronic" drawings of civil engineering and survey maps and plans. Our office staff has participated in advanced AutoCad instruction seminars.

Benner and Carpenter, Inc., has provided surveying services in cities in Ventura, Santa Barbara, and North Los Angeles counties, both private and public. Public agencies the firm has worked for include the Cities of Oxnard, Westlake, Calabasas, Malibu, Fillmore, Ventura, Moorpark and Goleta. Currently, the firm has annual contracts for surveying services with the City of Camarillo, the County of Ventura, Camrosa Water District and the Ventura River County Water District. The firm has also provided services to CalTrans and the United States Government.

The number of projects our firm has worked on is numerous, and the range of services provided, various. A project list, with references, is available upon request.

Benner and Carpenter, Inc., is a Certified Small Business with the State of California. Organizations the company maintains membership with are ACEC California, California Land Surveyor's Association, and the American General Contractors of California. Benner and Carpenter is signatory to the International Union of Operating Engineers, Local 12. In addition, Benner and Carpenter is able to meet all the requirements of prevailing wage projects. The firm's DIR registration number is 1000001843.

**LARRY J. FRAGER**  
SURVEY/PROJECT MANAGER  
REGISTERED CIVIL ENGINEER NO. 44725  
LICENSED LAND SURVEYOR NO. 7998

**EDUCATION**

Various classes in drainage law, water management & AutoCad (1985 to present)  
Bachelor of Science, Civil Engineering, South Dakota School of Mines & Technology (1985)

**EMPLOYMENT BACKGROUND**

Benner and Carpenter, Inc., Santa Paula, California, Survey Manager (2021 to Present)  
Benner and Carpenter, Inc., Santa Paula, California, President (2005 to 2021)  
Benner and Carpenter, Inc., Santa Paula, California, Vice President  
of Civil Engineering (2001-2005)  
Benner and Carpenter, Inc., Santa Paula, California, Project Engineer (1991-2001)  
Valcon Engineering, Thousand Oaks, California, Project Engineer (1987-1991)  
Vansickle, Mickelson & Klein, Nashua, New Hampshire & Houston, Texas, Project Engineer  
(1986-1987)  
Public Health Service, Anchorage, Alaska, Co-step Junior Engineer (1985)

**RESPONSIBILITIES AND QUALIFICATIONS**

As Survey Manager of Benner and Carpenter, Inc., Mr. Frager is responsible for project management of both civil engineering and land surveying projects. He is both a licensed civil engineer and land surveyor in the State of California. He has 35 years of experience, with the last 30 years at Benner and Carpenter, Inc. He also supervises and schedules the work for both the field staff and technical office staff.

**EXPERIENCE**

- ❖ Well Head Survey, Camarillo, CA – Project Management, Estimating, and Professional Services Supervision
- ❖ Riven Rock/Rockbridge Road Sewer Main Extension, Montecito, CA - Project Management, Estimating, and Professional Services Supervision
- ❖ Springville Interchange, Camarillo, CA – Project Management, Estimating, Review of Record-of-Survey Map, and Professional Services Supervision
- ❖ Pleasant Valley Desalter SMP Discharge Station & Desalter Building, Camarillo, CA – Project Management, Estimating, Construction Calculations, and Professional Services Supervision
- ❖ Las Positas & Modoc Roads Multiuse Path, Santa Barbara, CA – Project Management, Estimating, Construction Calculations, Review of Corner Records, and Professional Services Supervision

October 1, 2021

*BENNER AND CARPENTER, INC.*  
*HOURLY FEE SCHEDULE*

Clerical	\$ 85.00 per hour
Engineering/Surveying Assistant	145.00 per hour
Designer-Computer	150.00 per hour
Senior Designer-Computer	170.00 per hour
Project Director	170.00 per hour
Planning Director	170.00 per hour
Designer-Engineering	170.00 per hour
Registered Engineer	175.00 per hour
Licensed Surveyor	175.00 per hour
Principal Surveyor	200.00 per hour
Principal Engineer	200.00 per hour
One-Man Robotic Crew	202.00 per hour
Two-Man Field Crew	260.00 per hour
Three-Man Field Crew	320.00 per hour
One-Man GPS Field Crew	227.00 per hour
Two-Man GPS Field Crew	285.00 per hour

***Note: Fees are subject to change.***

## QUALIFICATIONS

OF

JANE LEWIS MONTAGUE, P.E., CFM

### PROFESSIONAL BACKGROUND

Actively engaged in the Civil Engineering Profession since 1983 (39 years). Principal and Owner of **Lewis Engineering**.

Prior to assuming ownership of Lewis Engineering in 1994, Ms. Montague was a partner in Lewis Engineering from 1987 through 1994 with George B. Lewis, founder of the company.

### PROFESSIONAL ORGANIZATIONS

Member, the American Society of Civil Engineers, Santa Barbara/Ventura Chapter; Member, American Public Works Association; Member, Association of State Floodplain Managers.

### CERTIFICATIONS

Registered Professional Engineer, State of California. RCE No. 40877, expires March 31, 2023.

Certified Floodplain Manager, Association of State Floodplain Managers, Certificate No. US-17-09843, issued June 2017.

### EDUCATION

Loyola Marymount University, Bachelor of Science in Engineering, Civil, 1983

### SCOPE OF EXPERIENCE

Public and Private - road design, street design, sewer, water, and storm drain design, grading design, drainage improvements, specialty airport design services

Commercial - office buildings, medical buildings, retail centers

Industrial - manufacturing buildings, warehouses, transfer stations, mining operations

Residential - single family rural custom home sites, urban single family, and multi-family

Institutional - schools, churches

Open Space – parks, sports complexes, equestrian complexes, orchards, farmland, mountainous regions, biologically sensitive areas, coastal zones

## **CONTACT INFORMATION**

Lewis Engineering, 1143 East Main Street, Ventura, California, 93001

Phone (805) 648-1353

Email [Jane@Lewis-Engineering.com](mailto:Jane@Lewis-Engineering.com)

Website [Lewis-Engineering.com](http://Lewis-Engineering.com)

## **PARTIAL LIST OF CLIENTS**

### **PUBLIC AGENCIES**

County of Ventura Public Works Agency

County of Ventura General Services Agency

County of Ventura Department of Airports

County of Ventura Library Agency

County of Ventura Health Care Agency

City of Ventura

City of Fillmore

City of Oxnard

City of Ojai

City of Camarillo

City of Thousand Oaks

City of Santa Paula

City of Port Hueneme

Utility districts and associations

School districts

Community colleges

California State University system

### **PRIVATE ENTITIES**

Non-governmental organizations

Landowners

Developers

Architects

Landscape Architects

Contractors

Law Firms

**FEE SCHEDULE****I. PROFESSIONAL SERVICES****HOURLY RATE**

Principal Engineer	\$160.00
Engineering Technician	\$125.00
Project Manager	\$105.00
Clerical	\$ 75.00

**II. STANDARD GENERAL TERMS**

1. Billing will normally occur monthly, or at the instance of submittals, plan approval, and permit issuance.
2. Terms are net 30 days, with interest payable at 1-1/2% per month, or 18% annually.
3. Agency fees are not included.
4. Additional work will be billed at the hourly rates.
5. Subcontracts administered through outside consultants or contractors and authorized to provide services for this project by Lewis Engineering will be charged at cost plus 10%.
6. This contract may be terminated in writing by the contracting parties with work product finished to date of termination supplied to client upon payment for the work to that date.
7. In the event Lewis Engineering has to refer collection to an attorney or collection agency, client assumes responsibility for reimbursing all reasonable attorney and collection fees and all court and collection costs incurred by Lewis Engineering.
8. Consultant's liability to the Client and any other party including, but not limited to, contractors and subsequent owners and users of the Project Documents for any and all claims, actions, liabilities, damages, and costs related in any way to the Project Documents shall not exceed our fee. This limitation shall apply to claims based upon breach of contract, negligence, or any other theory.

**III. REPROGRAPHIC SERVICES**

D-size plots on bond, black ink	\$ 6.00 per sheet
D-size plots on bond, color ink	\$10.00 per SF
Reprographics by outside vendors	cost plus 10%



ELECTRICAL ENGINEERING  
LIGHTING DESIGN  
CA REGISTRATION NO E13083

## JMPE COMPANY PROFILE

JMPE is a full-spectrum electrical engineering and lighting design firm headquartered in Santa Barbara, California. Founded in 1994 by principal John Maloney, PE, the firm's areas of expertise include electrical design of power, lighting, and signal systems; distribution system design, short circuit analysis, coordination studies and Title 24 Lighting Calculations. Interior and exterior lighting design for residential, commercial, institutional and governmental spaces are also a specialty. JMPE is a member of the U.S. Green Building Council.

Principal John Maloney graduated with a Bachelor of Science in Electrical Engineering (BSEE) from Lehigh University in Bethlehem, Pennsylvania in 1982. He was awarded his Master of Science in Systems Management (MSSM) from University of Southern California (USC) two years later. Maloney served four years with the United States Air Force at Vandenberg Air Force Base, California, where he designed electrical systems in support of the Space Shuttle and Peacekeeper operations. From 1987-94, Maloney was a principal of the Santa Barbara Electrical Design Group.

Along with John Maloney, PE, in all three of our offices, staff members include:

### Santa Barbara office:

Annie Reis, Project Manager  
Rachelle Huffman, Project Manager  
Grace Riggs, Utility Coordinator  
Agustin Popoca, Project Manager  
Manuel Gomez, CAD Drafter  
Jorge Rodriguez, CAD Drafter  
Ken Ottinger, CAD Drafter  
Gloria Garcia, Office administrator

### Orcutt office:

Salvador Melendez II, PE, Electrical Engineer  
Robert Arredondo, CAD Drafter

### Bakersfield office:

Wade Roberts, Project Manager  
Ken Towery, Field Services Manager  
Tanner Howard, Engineering Designer  
Jessica Trevino, CAD Drafter

627 OLIVE STREET  
SANTA BARBARA CA 93101  
(805) 569.9216  
maloney@jmpe.net  
www.jmpe.net

**AGUSTIN POPOCA**  
**Project Manager**

Agustin received his Bachelor of Science degree at California Polytechnic State University, San Luis Obispo, CA in the Spring of 2020. His major was in Electrical Engineering. He was on the Dean's Honor List with a 4.0 GPA.

In his four years at Cal Poly SLO Agustin studied Advanced Electronic Design, Advanced Analog Circuits, Microcontroller-Based System Design, Discrete Time Signals & Systems, Digital Design, Digital & Analog Electronics, Semiconductors, Control Systems, Technical Writing.

With JMPE, Agustin manages projects and is responsible for site visits and meeting with Clients and contractors.

Agustin's relevant skills include:

- Lab Equipment: Function Generator, Multimeter, Spectrum Analyzer, and Soldering Pen
- Programming languages: C/C++, Linux, MATLAB and VHDL, Assembly Language
- Software: LabView, LTspice, Eagle Schematics and PCB, PowerWorld, MS Excel, MS Word
- Languages: Bilingual, Spanish/English



**SALVADOR MELENDEZ II, PE**  
Project Manager  
California License #E17712

A native of Santa Barbara, Sal Melendez joined the staff of JMPE as an Electrical Designer full time in February 1998. During the summers of 1995 through 1997, Sal served as an Electrical Engineer Assistant to John Maloney, PE. In May 1998, Melendez was awarded his Bachelor of Science degree in Electrical Engineering from the University of Southern California (USC). His primary emphasis of studies focused on analog circuits, power systems, distribution and supply. During his terms at USC, Melendez worked as motor design team leader for the IEEE Micromo USC project – encompassing funding, designing and building a workout automatic robot mouse.

Sal is a registered Electrical Engineer. Currently, his work at JMPE includes fire alarm, lighting and electrical layouts, battery and voltage drop calculations, ensuring compliance with NEC, CEC and UL standards and acting as a client liaison.

Professional studies and continuing education are on-going with Sal. He has taken National Institute for Certification in Engineering Technologies (NICET) training for fire alarm design and he is a member of the National Fire Protection Association (NFPA), IEEE and NSPE. Sal regularly attends seminars, workshops and educational programs, some of those seminars include:

Generator Sizing Seminar, Los Angeles, CA June 2007  
Switchgear Update Seminar, San Luis Obispo, CA June 2007  
Lighting Seminar, Lightfair, Las Vegas May 2006, May 2008, May 2012, May 2014  
Lighting Seminar, St. Louis, MO August 2006  
Dimming and Control Seminar, Allentown, PA June 2005  
BK Lighting University graduate

**RACHELLE HUFFMAN**  
Project Manager

Chelsea joined JMPE in June of 2016. Chelsea attended Western Kentucky University and graduated in 2012 with a Bachelor of Arts degree.

In the past Chelsea has worked for two different companies in the Santa Barbara area before coming to work for JMPE. She is a project manager and is a liaison between our clients and our staff. She monitors ongoing projects for coordination of work. Chelsea is a hardworking and efficient management professional.



ELECTRICAL ENGINEERING  
LIGHTING DESIGN  
CA REGISTRATION NO E13083



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SANTA BARBARA CA 93101  
(805) 569.9216  
maloney@jmpe.net  
www.jmpe.net

**Schedule of Hourly Rates and Fees**

Electrical Engineer, Lighting Designer	\$150.00 per hour
Electrical Designer, Associate	\$130.00 per hour
CAD Drafting	\$100.00 per hour
Clerical	\$80.00 per hour
Specifications	\$90.00 per hour
Cost Estimating	\$120.00 per hour

Blueprints	*
Copies	*
Telephone Calls	*
Faxes	*
Mileage	*
Parking	*
Postage	*

\*Included in hourly rate structure

Lloyd Trick  
P.E.

# MSO *Technologies*

## Education

Bachelor of Science in  
Electrical Engineering,  
University of Alberta, 1988

## Affiliations

State of California  
Registered Electrical  
Engineer

## Employment History

MSO Technologies, Inc.,  
Thousand Oaks, CA

U2 Systems, Inc., Irvine,  
CA

UMA Engineering, Inc., El  
Centro, CA

UMA Engineering, Ltd.,  
Lethbridge, Alberta, Canada

Responsible for electrical engineering and software engineering of automated control systems. Electrical engineering work includes site audits, specification and selection of all electrical system components, and creation of detailed installation and panel drawings. Software engineering work includes software module design, foreign device interfaces, PLC programming and HMI configuration. Works as on-site representative during system commissioning period. Specialties include wireless communication networks and DC power system design.

## City of Glendale

Responsible for control panel design, construction supervision and commissioning. Retrofit project included sixty sites (potable and recycled pump stations, tanks/reservoirs, one water treatment plant, PRVs and turnouts). System design included new PLCs, instrumentation, and central HMI application in virtual server environment.

## City of Simi Valley Water Quality Control Plant SCADA Upgrade Project

Responsible for the control panel design for the *Water Quality Control Plant SCADA Upgrade*. He was also responsible for construction supervision and commissioning. The upgrade consisted of replacing TI505 PLCs with Allen-Bradley PLCs and developing a new HMI using Wonderware's Industrial Application Server. Concurrent with the upgrade project, he also designed a new trihalomethane control system and design improvements for implementation of variable speed drives on their dissolved air flotation thickener (DAFT) process.

### Jet Propulsion Laboratory (JPL)

Responsible for numerous projects related to the design of controls and instrumentation for vacuum chambers. He is working on a project to upgrade the standby generator controls for the *Goldstone Deep Space Communications Complex*. During the preliminary design he also inspected the generator controls for the satellite receivers in Spain and Western Australia so that he could develop a standard design for upgrading all three sites.

### Las Virgenes Municipal Water District

Responsible for the electrical and control panel design the SCADA upgrade of the *Westlake Filtration Plant*. The project consists of ten diatomaceous earth (DE) filters with a PLC for each filter and a master PLC.

Responsible for several projects at the district's *Tapia Water Reclamation Facility* to modify and add to the control system. Two recent projects have been the addition of the Hypochlorite/Bisulfite Disinfection Facilities and the Influent Pump Variable Frequency Drive Replacement.

Responsible for the electrical and control panel design for the *Potable and Reclaimed Water System Upgrade*. He developed standard panel designs that provided consistency in the PLC controls and HMI development as well as reduced construction and maintenance costs.

### Southern California Edison (Eastern Sierra Hydro Region)


Responsible for the *Bishop Hydroelectric Automation* project which included upgrading the control and monitoring systems of the SCE Eastern Sierra operations centered in Bishop, California. The upgrade project included a new central control room; networked to twenty-eight field sites, providing local and remote measurement and control of hydro stations, substations, forebay levels and flows. The control system includes twenty-eight Modicon PLCs, fourteen HMIs and a variety of Modbus and Modbus Plus networks.

### Imperial Irrigation District (IID)

The project included the automation of 57 major sites and hundreds of smaller control structures and monitoring sites. He was responsible for the design of a pre-fabricated control building which became the standard for the major sites. It consisted of a generator room which housed the transfer switch and motor starters or VFDs and a smaller control room. In addition to the electrical and control panel design for these sites he also designed numerous free standing outdoor panels. All of these designs required extra consideration for the extremely high temperatures experienced in the Imperial Valley. In addition to these environmental considerations the designs also incorporated extra protection from gun fire. He also designed numerous solar powered sites, from small low powered flow monitoring sites to larger automated gate control sites.

17526 VON KARMAN, SUITE B  
IRVINE, CA 92614  
VOICE: (949) 250-8668  
FAX: (949) 250-7299

2985 EAST HILLCREST DRIVE, SUITE 101  
THOUSAND OAKS, CA 91362  
VOICE: (805) 379-8668  
FAX: (805) 379-8677

Classification	Hourly Rate	Employee
Project Manager	\$172.00	 Henderson, Mark Korinetz, John Nease, Mike Nisce, Henry Park, Chong Patrick, David Trick, Lloyd
Engineer IV (rate dependent on services performed)	\$162.00	
Engineer III	\$152.00	
Engineer II	\$142.00	
Engineer I	\$132.00	

Office administration, accounting, and supplies are included in the rates.

Also included are telephone expenses, general computer equipment and software.

Travel, lodging and project-specific expenses (reprographics, binders, etc.) are billed at cost.

Mileage is charged at the federal mileage rate.

Sales tax, if any, will be added to the stated rates.

Rates are valid until 12/31/2022



# CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY)  
5/20/2021

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

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

<b>PRODUCER</b> <b>ISU INS SERV - BC ENV BROKERAGE</b> 1037 Suncast Ln Ste 103 El Dorado Hills, CA 95762	<b>CONTACT NAME</b> <b>DINA ATHEY</b>	
	<b>PHONE (A/C No, Ext):</b> (916) 939-1080 <b>FAX (A/C No):</b> (916) 939-1085	
<b>INSURED</b> <b>WATER RESOURCE ENGINEERING ASSOCIATES</b> 2300 ALESSANDRO DRIVE, SUITE 215 VENTURA, CA 93001	<b>INSURER(S) AFFORDING COVERAGE</b>	<b>NAIC#</b>
	<b>INSURER A:</b> <b>ADMIRAL INSURANCE COMPANY</b>	<b>24856</b>
	<b>INSURER B:</b>	
	<b>INSURER C:</b>	
	<b>INSURER D:</b>	
	<b>INSURER E:</b>	
<b>INSURER F:</b>		

## COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

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

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> CONT. POLLUTION			FEI-ECC-15390-8	05/23/21	05/23/22	EACH OCCURRENCE \$ 1,000,000	
			DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 50,000					
			MED EXP (Any one person) \$ 5,000					
			PERSONAL & ADV INJURY \$ 1,000,000					
	GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER:						GENERAL AGGREGATE \$ 2,000,000	
							PRODUCTS - COMP/OP AGG \$ 2,000,000	
A	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS			FEI-ECC-15390-08 INCL. IN GL	05/23/21	05/23/22	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000	
			BODILY INJURY (Per person) \$					
		<input checked="" type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS	BODILY INJURY (Per accident) \$					
			PROPERTY DAMAGE (Per accident) \$					
	UMBRELLA LIAB EXCESS LIAB	<input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS-MADE					EACH OCCURRENCE \$	
							AGGREGATE \$	
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N/A					PER STATUTE <input type="checkbox"/> OTHER <input type="checkbox"/>	
							E.L. EACH ACCIDENT \$	
							E.L. DISEASE - EA EMPLOYEE \$	
							E.L. DISEASE - POLICY LIMIT \$	
A	PROF. LIAB. CLAIMS MADE			FEI-ECC-15390-08 RETRO 5/23/94	05/23/21	05/23/22	\$1,000,000 OCCURRENCE \$2,000,000 AGGREGATE	

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

## CERTIFICATE HOLDER

## CANCELLATION

-FOR INFORMATION ONLY-

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

*K. J. O.*





# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
04/02/2021

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

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

<b>PRODUCER</b> AUTOMATIC DATA PROCESSING INS AGCY 76250717 71 HANOVER ROAD FLORHAM PARK NJ 07932	<b>CONTACT NAME:</b>	
	<b>PHONE</b> (800) 524-7024 <b>(A/C, No, Ext):</b>	<b>FAX</b> (800) 524-4013 <b>(A/C, No):</b>
	<b>E-MAIL ADDRESS:</b>	
	<b>INSURER(S) AFFORDING COVERAGE</b> <b>INSURER A:</b> Hartford Accident and Indemnity Company <b>INSURER B:</b> <b>INSURER C:</b> <b>INSURER D:</b> <b>INSURER E:</b> <b>INSURER F:</b>	
<b>INSURED</b> LOUIS M NAGY DBA WREA WATER RESOURCE ENGINEERING ASSOCIATES 2300 ALESSANDRO DR STE 215 VENTURA CA 93001-3778		<b>NAIC#</b> 22357

## COVERAGES

## CERTIFICATE NUMBER:

## REVISION NUMBER:

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

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/Y YYYY)	LIMITS
	COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:						EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS						COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)
	UMBRELLA LIAB EXCESS LIAB <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input type="checkbox"/> RETENTION \$						EACH OCCURRENCE AGGREGATE
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	N/A	76 WEG AC9424	05/01/2021	05/01/2022	X PER STATUTE E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE -EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000

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

Those usual to the Insured's Operations.

## CERTIFICATE HOLDER

Meiners Oaks Water District  
 Attn: Mike Hollebrands  
 202 W EL ROBLAR DR  
 OJAI CA 93023

## CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

*Susan S. Castaneda*

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# Meiners Oaks Water District

## PROPOSAL FOR

## Water Treatment Plant Final Design

Submittal Due Date: January 17, 2022

Justin Martinez | General Manager

Meiners Oaks Water District

202 West El Roblar Drive

Ojai, CA





January 17, 2022

Justin Martinez | General Manager  
Meiners Oaks Water District

Subject: **Proposal for Water Treatment Plant Final Design**

Dear Mr. Martinez,

We are pleased to provide this proposal to Meiners Oaks Water District (District). With an office in Ventura County and a focus on municipal clients, MKN is an ideal partner for the District. Our firm is focused on delivering quality water, wastewater and water reuse projects on time and on budget. Our staff possess extensive experience in filtration and water treatment plant design to successfully deliver the District's proposed Water Treatment Plant Replacement Project.

Why MKN? Approximately 90 percent of our work is from existing clients. These clients select MKN for the following reasons:

- 1. Water Quality Experts.** Our Principal-in-Charge and Water Treatment Technical Lead, Chris Martin, has over 30 years of experience in advanced water treatment process. Chris has completed over 30+ water treatment plant designs, many of which include surface and groundwater filtration technologies.
- 2. MKN is local and committed to Ventura County.** Our proposed local Project Manager, Becca Bugielski, is located in our Ventura office. Our local team is supported by the full resources of MKN's additional five offices, all located within Southern California. MKN has been providing professional services in Ventura County since 2013, working with over ten (10) different agencies and delivering dozens of projects.
- 3. Best Value.** MKN's full staff consists of 50+ professional engineers, planners, construction management staff and support staff. Many of these staff members bring decades of technical experience working at Fortune 500 global engineering firms. MKN provides a unique value, providing highly qualified engineers and a rate that is typically 10 to 20 percent less than our competitors.
- 4. Experts Focused on Water.** MKN is focused on water, wastewater, and recycled water projects for municipal clients. As such, we continuously invest in education and training in the water industry; our team members are active in technical organizations and stay apprised of industry trends, new technologies, and best practices. For the District, this means MKN can provide a wide array of high-quality expertise and innovation on projects.



**Firm Name:** MKN & Associates  
(S Corporation)

**Address:** 121 North Fir Street,  
Ste G, Ventura, CA 93001

**Point of Contact:**



Becca Bugielski, PE  
Project Manager  
bbugielski@mknassociates.us  
805.947.4971

Criteria	MKN Understanding and Approach
Project Team and Qualifications (20 Points)	<p><b>1. Qualifications Match District Needs.</b> MKN's staff have delivered 30+ groundwater and surface water treatment projects. We have extensive pressure vessel filtration experience with many of our groundwater treatment projects in the Central Valley and Southern California.</p> <p><b>2. Experienced Project Manager.</b> Project Manager and Water Treatment Technical Lead, Becca Bugielski and Chris Martin, recently delivered the Well No. 8 Nitrate Removal Study project for the District and are very familiar with the District's operating procedures and requirements. In addition, Chris Martin has successfully delivered over 30 full-scale advanced treatment facilities over the course of nearly 40 years with Boyle Engineering Corporation (now AECOM), Water Standard and MKN.</p>
Project Understanding and Approach (30 Points)	<p><b>1. Strong Project Management and Quality Management Procedures.</b> MKN will keep the District informed of key deliverables throughout the duration of the project. Our team will also utilize Microsoft Teams for project-related communication, video and screen share meetings, documentation and management of action items. Furthermore, MKN's quality management system is streamlined for municipal water projects through our Principals' experience at Fortune 500 Design Firms.</p> <p><b>2. Headstart on Permitting.</b> Based on our experience with other agencies, permitting can often present significant hurdles to successful implementation of treatment facilities. MKN will work with the District and the local Division of Drinking Water staff at the onset of the project to establish clear objectives for expediting the permitting process and successful delivery of the project.</p> <p><b>3. Additional Design Considerations.</b> Based on MKN's review of the Preliminary Design Report and Drawings prepared for the water treatment plant improvements and past experience with pressure filtration and surface water treatment, we believe additional considerations are warranted for maintaining operation and minimizing downtime of the existing filtration system during construction, reliable supply of backwash water, and disposal of settled backwash residual solids. Furthermore, MKN will work with District staff to explore practical and cost-effective backwash reclamation and solids disposal alternatives (i.e. trucking hauling, gravity-based solids dewatering, clarification with backwash recycle, etc.).</p>
Performance on Similar or Related Projects (30 Points)	<p><b>Proven on Similar Groundwater and Surface Water Treatment Projects.</b> MKN staff have extensive experience on multiple wellhead treatment projects completed for San Juan Capistrano, East Niles CSD, Water Replenishment District, City of Paso Robles, City of Fresno, and City of Bakersfield. We are often a preferred consultant because of our responsiveness, value, and technical expertise that we bring to each project.</p>
Billing Rates (10 Points)	<p><b>Best Value.</b> Our billing rates are on average 10 to 20 percent lower than our competitors. The District and the project's stakeholders will benefit from the savings associated with our low overhead and efficient company structure. As demonstrated by our organizational chart, MKN can self-perform much of the anticipated services.</p>
Organizational and Support Services (10 Points)	<p><b>1. Multiple Staff in Key Positions.</b> Key roles with planning and design of groundwater and surface water treatment facilities are provided with multiple staff. This allows us to expedite project delivery.</p> <p><b>2. Robust Support Services.</b> Our project subconsultants are located in Southern California, while all MKN staff are located in Central and Southern California.</p> <p><b>3. Full Capabilities and Expedited Project Response.</b> MKN's key staff assigned to this project are available to immediately begin execution of design and permitting efforts upon receiving notice-to-proceed for each deliverable from the District.</p>

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

Sincerely,

Becca Bugielski, PE  
Project Manager

Chris Martin, PE  
Principal-in-Charge/  
Water Treatment Technical Lead



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1. COMPANY BACKGROUND
2. PROJECT TEAM AND QUALIFICATIONS
3. PROJECT OVERVIEW AND APPROACH
4. PROJECT EXPERIENCE
5. COST PROPOSAL AND RATE/FEE SCHEDULE
6. INSURANCE
7. APPENDIX A - RESUMES





# 1 COMPANY BACKGROUND

PROPOSAL FOR WATER TREATMENT PLANT FINAL DESIGN



## SECTION 1

# COMPANY BACKGROUND

### MKN's Client Centric Origins

MKN is a water, wastewater and recycled water engineering firm located and focused exclusively in Southern California. Our firm was formed in 2012 and has grown to over 50 professional engineers, planners, construction managers/inspectors and support staff because of the need from public agencies similar to the District. Since 2012, MKN has focused on meeting a growing need by public agencies for responsive, technically capable consultants who are committed to a long-term relationship based on excellence.

### Water is our Focus

Our team has reviewed the RFP, and reviewed in depth the previous preliminary efforts, and are confident we are the right team for this project. While MKN offers a wide range of water, wastewater and water reuse expertise, ***the engineering services requested in your filtration and water treatment plant design project represent a core competency of our firm.***

Our principals have decades of experience in management and leadership roles for some of the highest ranked engineering firms in the world, and we are excited to bring our expertise to the District. MKN practice groups include Treatment, Infrastructure, Program Management, Planning and Hydraulic Modeling, and Construction Management.



Our proposed Project Manager, Becca Bugielski, PE, is located in our Ventura Office. She has delivered multiple successful contracts in budget and on-time.

### MKN is Committed to the District

***MKN is committed to a long-term relationship with the District.***

MKN's staff have been working in Southern California for nearly two decades and are committed to the local water industry. Our proposed Principal-in-Charge, Chris Martin, has worked on several water treatment plant designs in Ventura County over the last 35 years, providing unparalleled technical expertise and leadership in filtration and advanced treatment facility designs. Your project will be managed from our local Ventura office.

MKN's strength in water process chemistry, filtration technologies, and water treatment plant design are an ideal fit for the District, which will require all these skills to ensure responsiveness and value for your water treatment plant project.



35+ Well Projects



30+ Water Treatment  
Plant Designs



Local Project Team

**MKN has delivered  
engineering services  
to 100+ agencies**

**MKN BY THE NUMBERS**

**50+** staff across  
**7** offices

**\$7.7M**  
2020 Revenue

**20+**  
On-Call Contracts

**100+**  
Task Orders delivered  
through On-Call  
Contracts

Antelope Valley - East Kern Water  
Agency  
Arroyo Grande  
Atascadero  
Atascadero MWC  
Atwater  
Bakersfield  
Bear Valley CSD  
Camarillo  
Calleguas MWD  
Cambria CSD  
Camrosa Water District  
Casitas MWD  
Cayucos SD  
Channel Islands Beach CSD  
Coalinga  
Delano  
East Niles CSD  
Foothill MWD  
Fresno  
Fresno County  
Goleta Water District  
Gonzales  
Greenfield  
Grover Beach  
Guadalupe  
Heritage Ranch CSD  
Hollister  
Kern County Water Agency  
Kern Sanitation Authority  
Kingsburg  
Laguna County Sanitation District  
Las Virgenes MWD  
Lynwood

Madera  
Madera County  
Merced  
Monte Vista Water District  
Morro Bay  
Nipomo CSD  
North of the River MWD  
North of the River Sanitary  
District No. 1  
Oceanside  
Oxnard  
Paso Robles  
Pismo Beach  
Port Hueneme Water Agency  
Quartz Hill Water District  
RCAC  
Reedley  
San Luis Obispo  
San Luis Obispo County  
San Simeon CSD  
Santa Maria  
Santa Clarita  
Santa Paula  
Santa Barbara

Santa Nella  
Seaside County SD  
Selma-Kingsburg-Fowler  
Sanitation District  
Semitropic Water SD  
Soledad  
Solvang  
South Coast Water District  
South San Luis Obispo County  
Sanitation District  
Sunnyslope County Water District  
Taft  
Tehachapi  
Thousand Oaks  
Tulare  
Water Replenishment District of  
Southern California  
Westlands Water District



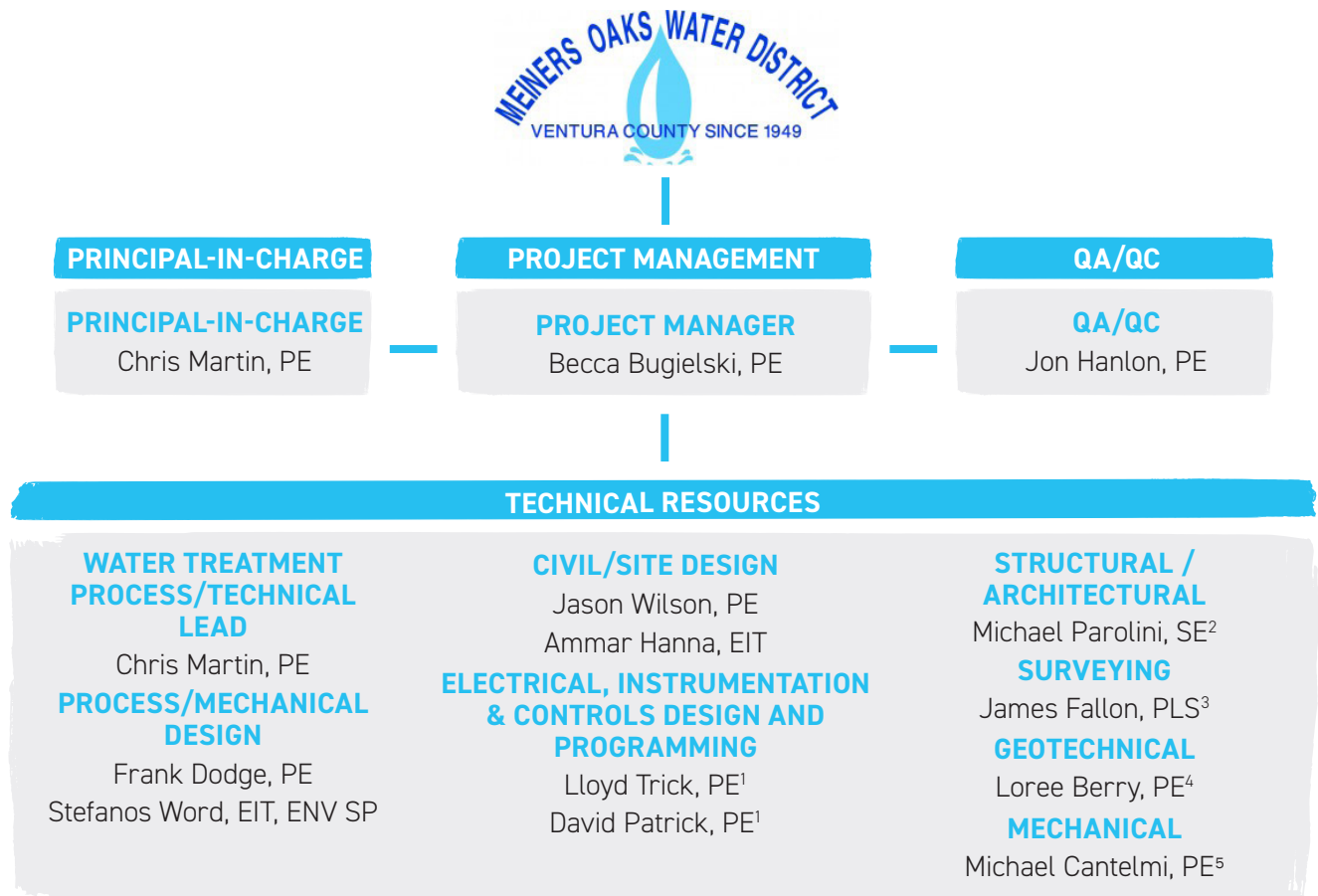
# 2 PROJECT TEAM AND QUALIFICATIONS

PROPOSAL FOR WATER TREATMENT PLANT FINAL DESIGN



## SECTION 2

# PROJECT TEAM AND QUALIFICATIONS



1 - MSO Technologies, 2 - SSG, 3 - ECG, 4 - Yeh & Associates, 5 - Lawrence Engineering Group



## Becca Bugielski, PE - Project Manager

### EDUCATION

Marquette University - Wisconsin  
BS Civil Engineering

### LICENSES & REGISTRATIONS

California Professional Engineer -  
Civil - No. 93278  
Wisconsin Professional  
Engineer - Civil - No. 46908-6  
NASSCO PACP, MACP, LACP  
Certification  
No. U-1019-70307353

Ms. Bugielski is an effective communicator and an experienced Client Manager for municipal projects. Ms. Bugielski brings unique public sector perspective from her time serving as Village Engineer, where she managed planning, budgeting, design and implementation of capital improvement projects. Her technical experience includes alternatives analysis, water pipeline assessment and design, GIS, stormwater design, grading, cost estimating and permitting. She has successfully managed 10 District projects to date.



## Chris Martin, PE - Principal-in-Charge, Water Treatment Process/Technical Lead

### EDUCATION

University of Washington  
Seattle, Washington  
BS Chemical Engineering

### LICENSES & REGISTRATIONS

California Professional Engineer -  
Chemical - No. CH4597

Mr. Martin is a Principal with over 30 years of experience in advanced water treatment processes, such as disinfection, blending of surface and groundwater supplies, reverse osmosis, ion exchange, and specialty adsorbents. **He is an expert in water quality issues both in the municipal and industrial industries, with over 30 treatment plant designs and dozens of evaluations and feasibility studies.** Mr. Martin has presented numerous papers at water industry conferences concerning water quality and treatment topics, and is a recognized expert in these fields.



## Jon Hanlon, PE - QA/QC

### EDUCATION

California Polytechnic State  
University, San Luis Obispo  
BS Mechanical Engineering

### LICENSES & REGISTRATIONS

California Professional Engineer -  
Mechanical - No. M33232  
NACE Certified Coating  
Inspector Level 1 - No. 10431924

Mr. Hanlon is a Principal with nearly 20 years of experience focused in design, analysis, and management of complex multi-disciplined projects including water treatment facilities, pump stations, production wells, piping and valves, hydraulic analysis, master planning, and environmental permitting. He is a certified NACE level 1 inspector with significant experience performing condition assessment of water, wastewater, and recycled water facilities throughout California.



## Frank Dodge, PE - Process/Mechanical Design

### EDUCATION

University of California Irvine  
BS Mechanical Engineering &  
Minor in Material Science

### LICENSES & REGISTRATIONS

California Professional  
Engineer - Mechanical - No.  
M-38773

Frank Dodge has experience as a Mechanical Design Engineer, Project Engineer, and Project Manager for consultants and owners working on water, wastewater, and other fluid and gas handling facility projects. His experience allows him to visualize project execution, foresee obstacles, and identify mitigations and cost savings. Mr. Dodge is consistently recognized as a hard worker with a strong drive to deliver excellent results, especially when matched against aggressive metrics and difficult project environments.



## Stefanos Word, EIT, ENV SP - Process/Mechanical Design

### EDUCATION

University of the Pacific, Stockton,  
California

BS Civil Engineering

MSES Civil & Environmental  
Engineering

### LICENSES & REGISTRATIONS

California Engineer in Training -  
No. 166164

Mr. Word is experienced in a range of wellhead treatment projects ranging from 1,2,3-Trichloropropane to Arsenic. His project experience includes water treatment facility planning, process evaluation, detailed design and analysis, plant civil design and cost estimation, permitting with state- and federal-agencies, collection of field data, pilot- and bench-scale testing, and construction phase services of facilities treating various water quality issues.



## Jason Wilson, PE - Civil/Site Design

### EDUCATION

University of Central Florida  
Orlando

BS Civil Engineering

### LICENSES & REGISTRATIONS

California Professional  
Engineer - Civil - No. C89117

Mr. Wilson is a Project Engineer with 7+ years of project management and design experience in water resources infrastructure specifically pumping stations, transmission pipelines, distribution system pipelines, surge analysis, and water treatment systems. Mr. Wilson's project experience includes, hydraulic analysis, pumping systems selection, surge modeling and analysis, water system modeling, pipeline materials analysis and selection, and development of construction documents.



## Ammar Hanna EIT - Civil/Site Design

### EDUCATION

California State University, Fresno  
BS Civil Engineering

### LICENSES & REGISTRATIONS

California Engineer in Training  
No. 171630

Mr. Hanna is an Assistant Engineer at MKN & Associates' Fresno, California office. Mr. Hanna will help to perform Site Improvement services for the project, including parking, fencing, and a security system. His project experience includes well site improvements, drinking water treatment facility site design, and master planning of various water and wastewater facilities. Additionally, he has previous experience with streets, piping, and site development projects.

## Lloyd Trick, PE (MSO Technologies) - Electrical, Instrumentation & Controls Design, and Programming

### EDUCATION

University of Alberta  
BS Electrical Engineering

### LICENSES & REGISTRATIONS

California Professional Engineer -  
Electrical - No. E014247

Lloyd is responsible for electrical engineering and software engineering of automated control systems. Electrical engineering work includes site audits, specification and selection of all electrical system components, and creation of detailed installation and panel drawings. Software engineering work includes software module design, foreign device interfaces, PLC programming and HMI configuration. Works as on-site representative during system commissioning period. Specialties include wireless communication networks and DC power system design.

## David Patrick, PE (MSO Technologies) - Electrical, Instrumentation & Controls Design, and Programming

### EDUCATION

Cal Poly, San Luis Obispo  
BS Agricultural Engineering

### LICENSES & REGISTRATIONS

California Professional Engineer -  
Civill - No. 51089

David is responsible for management, definition, design, and implementation of industrial automation and information systems. Provides dual management and engineering role as determined by project size and available resources. Acts as technical resource during team meetings while primarily responsible for overall project management, execution and control.

## Michael Parolini, PE (SSG) - Structural

### EDUCATION

Cal Poly, San Luis Obispo  
BS Architectural Engineering

### LICENSES & REGISTRATIONS

Structural Engineer,  
California No. - S5405  
Professional Engineer, Civil  
California No. - C69340

LEED Accredited Professional

NCEES Model Law Structural  
Engineer 46863

Michael is a California licensed Structural and Civil Engineer. His experience covers all aspects of Structural Engineering, including new construction and evaluation for commercial, residential, non-building structures, municipal, governmental, military, educational, historical, rehabilitation and photo-voltaic. He has completed projects utilizing structural systems of all the major building materials, timber, steel, cold-formed steel, masonry and concrete.

## James Fallon, P.L.S (Encompass Consulting Group) - Survey

### EDUCATION

California State University  
Fresno  
BS Surveying Engineering

### LICENSES & REGISTRATIONS

Professional Land Surveyor  
No. 7807, California

James Fallon has over 20 years of experience on a wide variety of land surveying and geomatics projects. He has been responsible for the direct management and production of survey tasks in support of public works and private land development projects, both in the field and in the office. Work performed includes topographic mapping, monument preservation, public agency map and document review, geodetic control networks, boundary surveys, easement and legal description preparation, subdivision mapping, lot line adjustments, ALTA land title surveys, condominium plans, right of way acquisition surveys, construction staking, and data acquisition for Geographic Information Systems (GIS). His work includes numerous public infrastructure projects, encompassing many miles of corridor surveys for design improvements in Ventura, Los Angeles and Santa Barbara Counties.

## Loree Berry, PE (Yeh & Associates) - Geotechnical

### EDUCATION

University of Wisconsin,  
Madison  
BS Geological Engineering

### LICENSES & REGISTRATIONS

California Professional Engineer -  
Civil - No. 73221

Applied Project Management  
Professional, APMP

Ventura County Well Inspector

Ms. Berry has more than 15 years of experience in providing geotechnical services in Ventura County. She is proficient in characterizing site conditions, geologic hazards and geotechnical parameters for the design of pipelines and related infrastructure. Her experience includes geotechnical evaluations and construction services for foundation systems, earth retaining systems, seismic and geohazard evaluations, seepage and slope stability analyses, and monitoring and instrumentation.

## Michael Cantelmi, PE (Lawrence Engineering Group) - Mechanical

### EDUCATION

Cal Poly, San Luis Obispo  
BS Mechanical Engineering

### LICENSES & REGISTRATIONS

California Professional Engineer -  
Mechanical - No. M23588

Michael has 35 years of experience in project management and design of mechanical systems for multiple business sectors with many years working with higher education clients. Michael has worked as a design engineer on many projects at California State University, Fresno. Michael is versed in project administration, existing facilities review/evaluation, master planning, establishing design criteria and basis of design, operational efficiency review, energy analysis/life cycle cost analysis, project budgeting, indoor environmental air quality, construction documentation preparation, equipment specification, coordination of consultants, value engineering analysis, bidding/negotiations consultation, and construction administration.



# 3 PROJECT OVERVIEW AND APPROACH

PROPOSAL FOR WATER TREATMENT PLANT FINAL DESIGN



## SECTION 3

# PROJECT OVERVIEW AND APPROACH

## PROJECT OVERVIEW

Meiners Oaks Water District (MOWD/District) operates a small, pressurized filtration water treatment plant (WTP) that treats groundwater under the influence of the surface water from two wells (Wells #1 and #2). The WTP is currently nearing the end of its useful life due to corrosion of the carbon steel piping and vessels. It is also understood that the steel container that currently houses the filtration system is falling apart. It is understood that the nominal capacity of the WTP is approximately 600 gpm when both wells are functioning at their intended design capacity. Given the low raw water turbidity, the filtration system is typically backwashed on a monthly basis to maintain adequate production. However, the WTP is shutdown during rainfall events due to concerns of producing high raw water turbidity, and there is currently no way of flushing the initial production of either well to waste when operation of the WTP is resumed. It is understood that design of well flushing capabilities are to be included in the scope of the WTP upgrade project.

A preliminary design report prepared by a previous consultant identified equipment design criteria, a conceptual facility layout, and narratives for treatment and backwashing procedures. Upon completing a detailed review of the preliminary design report and conceptual facility layout, MKN believes that further investigation is warranted to confirm several design parameters and facility components with MOWD staff prior to proceeding with the detailed design. In order to expedite confirmation and development of crucial facility components, MKN will conduct an initial design workshop with the MOWD's management and operations staff at the kickoff meeting/site visit and will confirm the design basis with the District at the kick-off meeting/site visit. Following review and confirmation of a short technical memorandum confirming design criteria and summarizing facility components desired by the District, our experienced team will expedite the design of the WTP.

Based on our experience with designing other surface and groundwater treatment facilities, establishing permitting requirements with the Division of Drinking Water (DDW) is best accomplished when contact is initiated prior to beginning detailed design efforts. MKN's expertise in water treatment plant design and previous experience with the local DDW staff will provide us the opportunity to confirm and establish water supply permit amendment requirements at the beginning of the project.

In an effort to expedite the design schedule, MKN will conduct several design workshops that will establish important design considerations and District preferences up front (i.e., site layout preferences, accessibility issues, future use considerations, material/equipment preferences, etc.). Based on our experience, this approach minimizes excessive design iterations and establishes clear design objectives with the Project Team.

## PROJECT APPROACH

### Design Considerations

Based on our review of the Preliminary Design Report, MKN expects that project challenges will include (but not limited to) the following:

- Maintaining operation and minimizing downtime of the existing filtration system during construction
- Reliable supply of backwash water
- Disposal of settled backwash residual solids

MKN will work closely with District staff to establish a site layout that eliminates threats to operator safety and site security, difficulties in conducting operational and maintenance activities, and future obstacles throughout the design and construction phases. MKN will work with the District to establish design and operational considerations that would include the following:

- Distance from each property line

- Overhead and underground utilities and restrictions (i.e. power, communication, water and sewer utilities)
- Coordination to establish necessary clearances for operational and maintenance activities (i.e. media and equipment replacements, backwashing operations, compliance sampling events, etc.)
- Site security, lighting for low-visibility conditions, and operator safety
- Integrating instrumentation with the District's existing SCADA system
- Management and disposal of residual backwash water and settled solids

Alternatives for maintaining operation of the existing filtration system and minimizing production downtime during construction will be developed in conjunction with District staff throughout the project. The previously-prepared conceptual site layout and preliminary design report indicates that the existing filtration system will be need to be taken completely offline to accommodate installation of the new WTP. MKN believes it is possible to continue production at the existing treatment facility through several alternatives (including, but not limited to):

- Shifting the location of the new WTP further south and temporarily rerouting segments of existing piping to continue treatment, filter backwashing, and flush-to-waste operations at the existing facility
- Temporarily relocate and reroute the existing containers/filtration system, associated equipment, and segments of critical piping to accommodate construction of the new WTP at the existing site
- Perform phased demolition of the existing filtration system to accommodate construction of the new WTP

A conceptual site layout that would allow the existing treatment plant to remain in service during construction is shown on **Figure A**. MKN will work closely with District staff throughout the project to better develop operationally feasible alternatives for maintaining operation of the existing filtration system during construction.



Figure A

## Filtration System and Chemical Systems

It is understood that MOWD wishes to prepurchase the same pressurized filtration system from the manufacturer who supplied the original filtration system, EPD USA. MKN will work closely with the District and EPD to develop a technical specification that would allow the District to directly purchase a new filtration system from EPD that satisfies the performance criteria and long-term operating goals established by MKN and the District.

MOWD has also requested that the possibility of specifying stainless steel pressure vessel be considered. Based on recent conversations between MKN and EPD staff, it is understood that EPD's vessels are not currently available in stainless steel construction. While FRP vessels would potentially mitigate corrosion concerns expressed by MOWD, EPD has stated that their standard FRP vessels are not currently NSF-61 certified. To mitigate long-term corrosion concerns, MKN will evaluate the impacts of the raw water quality and proposed treatment process toward corrosivity of the new



filtration system and work with the District to specify materials of construction that mitigate corrosion concerns.

The District has expressed that the use of an overhead crane or forklift be considered in the design of the new WTP. While overhead/jib cranes are typically more expensive to construct and maintain than removable roof hatches/panels and properly sized rollup doors, MKN will work with the District to evaluate cost-effective and accessible site layout alternatives to allow for long-term maintenance of equipment inside the proposed building.

It is understood that MOWD currently uses 150-pound cylinders of chlorine gas to provide disinfection through free chlorine. MOWD has previously expressed interest in exploring future provisions for chloramine conversion and/or free chlorine disinfection by sodium hypochlorite. Furthermore, coagulant storage and injection equipment will be required to facilitate removal of inorganic and organic particulates through both filter stages. Per California Code of Regulations Surface Water Treatment requirements, redundant disinfection and coagulation injection equipment will need to be installed to minimize downtime if any of the primary injection equipment experiences failure or needs to be taken offline. MKN will work closely with MOWD staff to develop practical chemical facility layouts that consider operation of both current and future chemical storage and injection systems in accordance with the 2019 California Fire Code.

## Backwashing, Reclamation and Disposal

Backwashing of a pressure filtration system typically occurs when excessive head loss is generated across one or more filter cells. The filter runtime is terminated to allow for backwash of accumulated debris within the media bed. Backwash water could be supplied through several potential methods:

- Product water piping connected to the transmission main on Highway 33 (requires a reduced-reduced pressure principle backflow preventer)
- Backwash storage tank and pump station (requires variable speed horizontal-end suction pumps and 15,000 to 20,000 gallons water storage tank)

While the preliminary design report indicated that a backwash supply pump would be required to supply an additional 100 gpm during “low-flow” treatment conditions (300 gpm), based MKN’s experience with wellhead treatment facilities, we believe that additional investigation is warranted to determine whether or not the distribution system can adequately supply backwash water under non-peak demand conditions. With a properly sized backwash control valve and adequate storage/supply within the distribution system, an additional backwash supply pump may not be necessary. If requested by MOWD, MKN would be able to perform a brief hydraulic analysis to determine whether or not an additional backwash supply pump is needed. In considering other alternatives, while a dedicated backwash supply tank and pump station would present capital and maintenance expenses to the District, it would potentially afford additional operational flexibility and control to the operations staff during backwash events. Based on the District’s long history of operating the existing pressure filtration system, MKN will work with the District’s operations and management staff to identify the best long-term backwash supply alternative for the WTP.

Assuming a two-stage, EPD pressure filtration system with a total of seven pressure vessels (four in the first stage and three in the second stage), the total backwash and flush-to-waste volume per event is expected to be 15,000 to 20,000 gallons (depending on backwash durations and volumes required to adequately scour the filter bed and remove particulates). It is understood that backwashing and filter-to-waste events for the existing filtration system occur on a monthly basis. Given the exceptionally long backwash cycles, the following backwash and residuals solids management systems could be implemented at the WTP (including but not limited to):

- One primary settling tank and three clarification tanks with a reclaim pump station
- A single settling tank with a floating decant arm and reclaim pump station
- A below- or above-grade equalization sump that discharges into a small, packaged lamella plate settler and reclaim pump station
- Discharge of backwash and flush-to-waste water to the existing backwash sump

The preliminary design report and conceptual site layout indicated that one primary settling tank and three clarification tanks with a reclaim pump station would be implemented to manage backwash water and residual solids. Given the infrequency and relatively low volume of the backwash and flush-to-waste water generated, it is possible that a single, 15,000-to-20,000-gallon tank with an emergency overflow and float decant arm to collect clarified water could be implemented to minimize the number of tanks required and simplify operations (assuming that backwashed solids are able to settle to the bottom of the tank prior to starting a reclamation cycle to maintain less than 2 NTU in clarified water collected by the floating decant arm). Alternatively, a small, packaged lamella plate settler could be implemented to better separate the residual solids from the backwash water, allowing the clarified water from the incline plate settler to be recycled to the head of the WTP. If either alternative is implemented, following settling of backwashed residuals (typically over a 12- to 24-hour period), a variable speed backwash recycle pump station would be included to allow recycling of up to 99.9 percent of the backwash volume at 10 percent of the WTP's influent flow rate (per the EPA Filter Backwash Recycling Rule). Given the infrequency and relatively lower cost of discharging backwash- and flush-to-waste water to existing backwash sump, it may be desired by the District to continue the existing backwash water and residual solids management practices of the existing filtration system.

After significant solids have accumulated at the bottom of the settling tank or packaged lamella clarifier, they could be pumped from the bottom of the tank for disposal through a waste hauling service or dewatered to minimize hauling costs. While mechanical dewatering alternatives (i.e. screwpress, belt press, etc.) could be implemented to reduce solids hauling costs through reduction of water content, operations and maintenance activities are often too time-consuming and costly to implement for smaller agencies. Alternatively, settled residual solids could be dewatered by gravity through connection to a portable filter-bottom roll-off bin. This would produce a dry "cake" solid content that could be hauled off at a substantially cheaper rate. However, the District may prefer contract with a liquid waste hauling service or continue flushing

backwash water containing residual solids to the existing backwash sump.

When considering alternatives to backwash water and residual solids management practices and the District's long history of operating the existing pressure filtration system, MKN will work with the District's operations and management staff to identify the best long-term liquid and solids waste management strategies for the WTP.

## Instrumentation and Controls

MKN will work closely with our subconsultant, MSO Technologies (MSO), and District staff to design and integrate new instrumentation into the District's existing SCADA system to allow monitoring and control over various operational and water quality parameters. MKN will leverage relationships forged through past work with MSO to successfully deliver a complete electrical and controls design and integration package for the new WTP. MSO possesses a unique, extensive history in implementing both electrical and controls infrastructure for municipal water treatment facilities, typically serving as the design engineer and/or programming contractor/system integrator. Based on the proposed treatment process, it is anticipated that one or more pieces of the following instrumentation will be integrated into an available SCADA system (including, but not limited to):

- Pressure transducers and switches
- Flow meters and transmitters
- Eyewash shower flow switch
- Power monitor for Southern California Edison
- pH Analyzer (combined raw influent and product water discharge)
- Free and Total Chlorine Analyzer (if chloramination is implemented in the future)
- Turbidity Analyzer (combined raw influent and product water discharge)
- Tank level monitors
- Intrusion alarms
- Security cameras (if necessary)
- Valve solenoids
- Valve operators

## Permitting and Operations Plan

To introduce treated water from Well #1 and #2 into the District water distribution system, the District must apply for and receive an amended water supply permit. MKN will coordinate with the Division of Drinking Water (DDW) throughout the predesign and design phases of the project, and then prepare and submit the necessary supporting documents to assist with permitting through the DDW. The DDW typically requires development of an Operations Plan as part of the water supply permit amendment. The DDW may also require a corrosion study, which is typical for most treatment projects. If determined to be needed, MKN can perform the corrosion study as additional services. It is understood that other related permitting and environmental work will be performed by others under a separate contract.

## Anticipated Drawing Sheets

Design submittals will be prepared at 50% and Final (100%) levels. Upon additional detailed review of background information and site investigations, we will modify the previously-prepared conceptual site plan accordingly as a basis for developing various plan views during detailed design. The design submittal drawings will include general, civil, process, structural, architectural, mechanical, electrical and instrumentation sheets. We estimate the following drawings will be required.

Anticipated Drawing Sheet Count					
Sheet	Plan Sheet Title	Sheet No.	Assigned Firm	Include in 50%	Include in Final
General					
1	Cover Sheet/Title Sheet	G-001	MKN	Yes	Yes
2	Sheet Index	G-002		Yes	Yes
3	General Notes, Abbreviations, and Legend	G-003		Yes	Yes
4	Site Survey and Control Notes	G-004		Yes	Yes
5	Design Criteria	G-005		Yes	Yes
6	Process Flow Diagram - Treatment	G-006		Yes	Yes
7	Process Flow Diagram - Backwash and Washwater Recovery	G-007		Yes	Yes
8	Hydraulic Profile - Treatment	G-008		Yes	Yes
9	Hydraulic Profile - Backwash and Washwater Recovery	G-009		Yes	Yes
10	Chemical Skid Layout Schematic	G-010		Yes	Yes
11	Chlorine Gas System Layout Schematic	G-011		Yes	Yes
Civil					
12	Construction and Staging Plan	C-101	MKN	Yes	Yes
13	Demolition Plan and Sections	C-102		Yes	Yes
14	Site Plan	C-103		Yes	Yes
15	Drainage & Flushing Basin Plan and Sections	C-104		Yes	Yes
16	Grading and Paving Plan (with Survey Control and Notes)	C-105		Yes	Yes
17	Chain Link Fence Details and Paving Sections	C-106		Yes	Yes
18	Yard Process Piping Plan	C-107		Yes	Yes
19	Yard Chemical, Service Water, and Sample Piping Plan	C-108		Yes	Yes
20	Well #1 - Raw Water Discharge Modifications - Plan and Profile	C-109		Yes	Yes
21	Well #2 - Raw Water Discharge Modifications - Plan and Profile	C-110		Yes	Yes
22	Well #1 - Flushing Improvements - Plan and Profile	C-111		Yes	Yes
23	Well #2 - Flushing Improvements - Plan and Profile	C-112		Yes	Yes
24	Product Water Plan and Profile	C-113		Yes	Yes
25	Waste/Overflow/Drainage Plan and Profile	C-114		Yes	Yes
26	Civil Details - I	C-501		No	Yes
27	Civil Details - II	C-502		No	Yes
28	Civil Details - III	C-503		No	Yes
Process					
29	Process Area Plan	D-101	MKN	Yes	Yes
30	Well #1 Improvements - Plan and Sections	D-102		Yes	Yes
31	Well #2 Improvements - Plan and Sections	D-103		Yes	Yes
32	Pressure Filter Vessels Plan and Sections (Stage 1)	D-104		Yes	Yes
33	Pressure Filter Vessels Plan and Sections (Stage 2)	D-105		Yes	Yes
34	Pressure Filter Vessels Piping and Valves Details	D-106		Yes	Yes
35	Washwater Equalization Storage Tank Plan and Sections	D-107		Yes	Yes
36	Washwater Reclaim System Plan and Sections - I	D-108		Yes	Yes
37	Washwater Reclaim System Plan and Sections - II	D-109		Yes	Yes
38	Residuals Dewatering Plan and Sections	D-110		Yes	Yes
39	Chemical Feed System & Storage Area Plan and Sections	D-111		Yes	Yes
40	Chemcial Feed System & Storage Area Details	D-112		Yes	Yes
41	Chlorine Gas System & Storage Area Plan and Sections	D-113		Yes	Yes
42	Process Details - I	D-501		No	Yes
43	Process Details - II	D-502		No	Yes
44	Process Details - III	D-503		No	Yes
Structural					
45	10 Sheets Anticipated	--	SSG	Yes	Yes
46		--		Yes	Yes
47		--		Yes	Yes
48		--		Yes	Yes
49		--		Yes	Yes
50		--		Yes	Yes
51		--		Yes	Yes



Anticipated Drawing Sheet Count					
Sheet	Plan Sheet Title	Sheet No.	Assigned Firm	Include in 50%	Include in Final
52	10 Sheets Anticipated	--	SSG	No	Yes
53		--		No	Yes
54		--		No	Yes
Architectural					
55	4 Sheets Anticipated	--	SSG	Yes	Yes
56		--		Yes	Yes
57		--		No	Yes
58		--		No	Yes
Mechanical					
59	2 Sheets Anticipated	--	LEG	Yes	Yes
60		--		No	Yes
Electrical					
61	15 Sheets Anticipated	--	MSO	Yes	Yes
62		--		Yes	Yes
63		--		Yes	Yes
64		--		Yes	Yes
65		--		Yes	Yes
66		--		Yes	Yes
67		--		Yes	Yes
68		--		Yes	Yes
69		--		Yes	Yes
70		--		Yes	Yes
71		--		No	Yes
72		--		No	Yes
73		--		No	Yes
74		--		No	Yes
75		--		No	Yes
Instrumentation					
76	15 Sheets Anticipated	--	MSO/MKN	Yes	Yes
77		--	MSO/MKN	Yes	Yes
78		--	MSO/MKN	Yes	Yes
79		--	MSO/MKN	Yes	Yes
80		--	MSO/MKN	YES	YES
81		--	MSO/MKN	YES	YES
82		--	MSO/MKN	YES	YES
83		--	MSO/MKN	YES	YES
84		--	MSO/MKN	YES	YES
85		--	MSO/MKN	YES	YES
86		--	MSO/MKN	NO	YES
87		--	MSO/MKN	NO	YES
88		--	MSO/MKN	NO	YES
89		--	MSO/MKN	NO	YES
90		--	MSO/MKN	NO	YES

# 4 PROJECT EXPERIENCE

PROPOSAL FOR WATER TREATMENT PLANT FINAL DESIGN



## SECTION 4

# PROJECT EXPERIENCE

## AMWC Groundwater Treatment and Storage Facility Atascadero Mutual Water Company, CA

**OWNER:** Atascadero Mutual Water Company

**KEY PERSONNEL:** Jon Hanlon, PE; Chris Martin, PE; Ryan Gallagher, PE; Keenan Bull, PE, Rob Lepore, GISP; Stefanos Word, EIT ENV SP

**DURATION:** February 2020 – September 2023 (Ongoing)

**CLIENT CONTACT:**

John Neil, PE  
General Manager  
(805) 466-2428

**ENGINEERING FEE (Contract Value):** \$650,000

**CONSTRUCTION VALUE:** \$7M (projected)

**RELEVANCE TO MOWD:**

1. Design of filtration technologies for multiple groundwater wells treating various constituents
2. Full-scale water treatment facility design (i.e. filtration equipment, chemical storage and feed facilities, 3 million gallon prestressed concrete reservoir, high service booster pump station, instrumentation and controls design, prefabricated metal treatment/administration building and site/civil improvements.

### BRIEF DESCRIPTION

Atascadero Mutual Water Company has three groundwater wells with levels of PFAS which have exceeded both notification and response levels. The project includes fast-track development of a blending strategy using AMWC's hydraulic model in order to bring concentrations below the response level prior to delivery to customers. This will include documentation to support amending the Operations Plan with California State Water Resources Control Board Division of Drinking Water (DDW).

MKN is designing a centralized water treatment facility for reduction of PFAS below notification levels. The facility will include an operations center, PFAS removal vessels, and connections to existing raw water and distribution system pipelines. MKN is developing a protocol for pilot testing to evaluate different treatment alternatives including activated carbon and ion exchange resins.



# On-Call Wellhead Treatment for East Niles Community Services District

Bakersfield, CA

**OWNER:** East Niles Community Services District

**KEY PERSONNEL:** Josh Nord, PE - District Engineer; Chris Martin, PE - Water Treatment Technical Lead; Jason Wilson, PE - Project Engineer; Stefanos Word, EIT, Env Sp - Civil and Mechanical Design

**DURATION:** On-Call started in 2015, 11 task orders issued to date

**CLIENT CONTACT:**

Tim Ruiz, General Manager  
1417 Vale Street  
Bakersfield CA 93306

661.871.2011 | truiz@eastnilescsd.org

**ENGINEERING FEE (CONTRACT VALUE):**

\$1.2M issued to date

**ESTIMATED CONSTRUCTION:**

Varies by project, cumulative is approximately \$5+M

**RELEVANCE TO MOWD:**

1. Design of filtration technologies for groundwater well treating various constituents-
2. Design of chemical system modifications to accommodate filtration systems

## BRIEF DESCRIPTION

East Niles Community Services District (ENCSD or District) provides water and wastewater services to approximately 35,000 people in eastern Bakersfield. During the last 10 years, in our role as District Engineer MKN staff have provided planning, design, and construction phase engineering services for numerous projects. Relevant to the District, MKN has delivered the following wellhead treatment projects:

- **Well No. 21 and 23 Treatment Project:** The work included designing multiple GAC treatment systems (pairs of vessels in series) to treat the water from two District wells, as well as designing the piping, valving, backwash system, and appurtenances required to support the treatment system at the Well 21 site.
- **Well No. 22 Treatment Project:** The work included designing an adsorptive media arsenic treatment system (single vessel with expandability) to treat the well water, as well as designing the piping, valving, backwash system, and appurtenances required to support the treatment system at the Kern Citrus Site.
- **Well No. 18 Treatment Project:** The work included designing an adsorptive media arsenic treatment system (single vessel with expandability) to treat the well water, as well as designing the piping, valving, and appurtenances required to support the treatment system.



# Coarsegold Iron-Coagulation Filtration Greensand Treatment Facility

University Enterprises, Inc. | Coarsegold, CA

**OWNER:** University Enterprises, Inc.

**KEY PERSONNEL:** Chris Martin, PE - Technical Water Treatment Lead; Stefanos Word, EIT, Env Sp - Civil, Mechanical and Instrumentation Design Lead

**DURATION:** March 2020 - May 2022

**CLIENT CONTACT:**

Randy Sharp | Operations and Maintenance Supervisor

45426 Road 415

Coarsegold, CA 93614

rsharp@yosemiteusd.org

**ENGINEERING FEE (CONTRACT VALUE):**

\$400,000

**ESTIMATED CONSTRUCTION:**

\$2,000,000

**RELEVANCE TO MOWD:**

1. Design of multimedia filtration technologies for groundwater well treating various constituents.
2. Full-scale water treatment facility design (i.e. filtration equipment, chemical storage and feed facilities, instrumentation and controls design, backwash reclamation storage and pumping, residual solids dewatering, CMU building, and site/civil improvements).

## BRIEF DESCRIPTION

MKN is currently providing design services for the Coarsegold Iron-Coagulation Filtration Greensand Treatment Facility, which included design of iron, manganese, and arsenic filtration system for removal of contaminants from the facility's main wells. The 0.14 million gallon per day filtration system is required to remove about 15 ug/L of arsenic 2 mg/L of iron and 0.5 mg/L manganese to below detection limits, while meeting the primary arsenic maximum contaminant level of 10 ug/L and secondary maximum contaminant levels of 0.3 and 0.05 mg/L (respectively) in the product water.

The iron/manganese/arsenic removal system uses ferric chloride and sodium hypochlorite to oxidize the metals, along with ferric chloride to facilitate co-precipitation of ferric hydroxide and arsenate ions to facilitate removal of arsenic during periods of inadequate iron-to-arsenic concentration ratios. Backwash water is reclaimed through both the facility's irrigation system for unrestricted reuse and recycled into the filter to minimize water loss.

The project also included development two new groundwater production wells, a chlorination system, 2,000 feet of pipeline, product water and backwash reclaim reservoirs, and a high-service pumping station.





# Five Wells Arsenic Treatment Project

City of Bakersfield, CA

**OWNER:** City of Bakersfield

**KEY PERSONNEL:** Chris Martin, PE; Jason Wilson, PE; Jon Hanlon, PE

**DURATION:** 2016-2017

**CLIENT CONTACT:**

Art Chianello, PE  
Water Resource Department  
661.326.3715

**ENGINEERING FEE (CONTRACT VALUE):**  
\$68,000

**ESTIMATED CONSTRUCTION:**  
\$1,400,000

## BRIEF DESCRIPTION

The City of Bakersfield (City) potable water system is served by both surface water and groundwater wells. When the maximum contaminant level (MCL) for arsenic was lowered in 2008, the City was forced to take multiple key wells out of service due to elevated levels of arsenic. The fluctuations in available surface supply, coupled with the location of five specific wells within the City's distribution system, led to prioritization of these sites for treatment and reactivation. Based on the City's success with constructing, testing, and commissioning adsorptive treatment at another well site it was determined that this method should be used at these five key wells. Each well was equipped with dual adsorptive vessels, pH adjustment equipment, flow and pH monitoring, flow bypassing, and flush to waste provisions. MKN was retained to review and refine the arsenic vendor equipment proposals including treatment processes and efficiencies, perform conceptual site layouts, prepare draft & final construction document bid packages, and provide construction support including on site construction observation.

## RELEVANCE TO MOWD:

1. Design of filtration technologies for multiple groundwater wells treating arsenic
2. Design of chemical system modifications to accommodate filtration system





# Capistrano Desalter Iron and Manganese Treatment System

Capistrano Community Services District, CA

**OWNER:** Capistrano Community Services District

**KEY PERSONNEL:** Chris Martin, PE - Technical Water Treatment Lead

**DURATION:** 2003 - 2005

**ENGINEERING FEE (CONTRACT VALUE):**  
\$750,000

**ESTIMATED CONSTRUCTION:**  
\$8,000,000

## RELEVANCE TO MOWD:

1. Design of filtration technologies for multiple groundwater wells treating various constituents
2. Full-scale water treatment facility design (i.e. reverse osmosis and multimedia (greensand) filtration equipment, chemical storage and feed facilities, clearwell and backwash reclamation storage and pumping systems, high service pump station, instrumentation and controls design, prefabricated metal treatment/administration building and site/civil improvements
3. Modification of existing wells (i.e. rehabilitation, flushing capabilities, system controls integration, etc.) to accommodate the new treatment facility

## BRIEF DESCRIPTION

With a previous employer, MKN staff provided design services for the Capistrano Desalter, which included design of an iron/manganese filtration system serving as pretreatment for the desalination equipment as well as removing iron from the blend water stream. This 6 million gallon per day filtration system was required to remove about 6 mg/L of iron and 1 mg/L manganese to below detection limits in order to protect the desalination system, while meeting the secondary maximum contaminant levels of 0.3 and 0.05 mg/L (respectively) for the final blended product.

The iron/manganese removal system used sodium hypochlorite to oxidize the metals, along with a sodium bisulfite feed system to quench excess hypochlorite. Backwash water was reclaimed and recycled into the filter to minimize water loss and washwater disposal fees.

The project also included development of eight groundwater production wells, a chloramination system, blending stations, 12,500 feet of pipeline, a chlorine contact reservoir for disinfection, and a high-service pumping station.



# Surface Water Membrane Treatment Plant

## City of El Paso de Robles, CA

**OWNER:** City of El Paso de Robles

**KEY PERSONNEL:** Jon Hanlon, PE; Henry Liang, PE

**DURATION:** Completed November 2013

**ENGINEERING FEE (CONTRACT VALUE):** \$900,000

**ESTIMATED CONSTRUCTION:** \$12M

### BRIEF DESCRIPTION

While with another firm, MKN staff provided project management and design engineering services for the City of Paso Robles' microfiltration surface water treatment plant.

The City of Paso Robles (City) is a Project Participant in the Nacimiento Water Project (NWP) currently being implemented by the San Luis Obispo County Flood Control and Water Conservation District. The NWP is a regional water supply system that will convey raw water from Lake Nacimiento to communities in San Luis Obispo County, including the City. The City is constructing a water treatment plant (WTP) to treat surface water received from Lake Nacimiento utilizing this additional water source to increase supply reliability, particularly during the summer months. The treatment plant will have a nominal capacity of 2 million gallons per day (MGD). Project was awarded with the American Council of Engineering Companies (ACEC) Project Award of 2015.

The membrane filtration plant features the following processes:

- Flow-controlled raw water turnout facilities
- Pre-oxidation, coagulation and dissolved air flotation process with hydraulic desludging
- Parallel 60 module membrane microfiltration trains, including clean-in-place (CIP) and neutralization facilities and reverse feed backwash with air scour
- Membrane filtration break tank and intermediate pump station
- Granular activated carbon (GAC) post-treatment contactors to remove objectionable taste and odor and organics that are not removed by the coagulation and filtration process
- 200,000-gallon concrete clearwell and chlorine contact tank
- 2.4 MGD high service pump station
- Residuals management system including equalization tank and pump station
- Facilities for future addition of ozone disinfection

### RELEVANCE TO MOWD:

1. Design of CIP and residuals management system to manage and restrict waste flows to City sewer system
2. Demonstrates deep understanding of filtration processes
3. Design of chemical feed and filtration equipment systems in conjunction with the SCADA systems integrator
4. Design and construction of new storage tanks and filtration equipment

# T-3 Surface Water Treatment and Storage Facility

## City of Fresno, CA

**OWNER:** City of Fresno  
**KEY PERSONNEL:** Jon Hanlon, PE; Henry Liang, PE  
**DURATION:** Completed November 2013  
**ENGINEERING FEE (CONTRACT VALUE):** \$800,000  
**ESTIMATED CONSTRUCTION:** \$14M

### BRIEF DESCRIPTION

While with another firm, MKN staff provided project management and design engineering services for the City of Fresno's 8 MGD Surface Water Treatment and Storage Facility.

The conventional filtration plant included the following components:

- 3-million-gallon pre-stressed concrete water storage reservoir
- Trident filtration system
- Raw water, transfer, and high-service pump stations
- Chemical feed and storage facilities
- Backwash equalization basin and reclamation systems
- Granular activated carbon vessel system
- Carbon dioxide storage and feed system
- Sludge dewatering system
- Emergency back-up power generator
- Electrical and instrumentation with SCADA integration
- Site grading, landscaping, paving, and yard piping
- Prefabricated metal operations building

### RELEVANCE TO MOWD:

1. Demonstrates deep understanding of filtration processes
2. Design of residuals management system
3. Design of chemical feed and filtration equipment systems in conjunction with the SCADA systems integrator
4. Design and construction of new storage tanks and filtration equipment

# TREATMENT

Client	Project	Type	Constituent
Atascadero MWC	PFOS/PFOA Treatment	Ion Exchange, GAC	PFOA and PFOS
California Institution for Men	Chino Prison Water Treatment	Ion Exchange; GAC	Nitrate, Hardness, TCE
Capistrano CSD	Capistrano Desalter	Membrane	Iron Removal, TDS
City of Arroyo Grande	Well No. 11	GAC and Greensand	Iron and Arsenic
City of Bakersfield	5 Wells Arsenic Treatment	Adsorption	Arsenic
City of Compton	Well 16 and 18 - Planning	Various	PCE/TCE
City of Goleta	Anita Well	GAC, Greensand, Airstripping	Fe & Mn, TTHM
City of Grover Beach	Grover Beach Nitrate Removal	Ion Exchange	Nitrate
City of Guadalupe	Well 5	Ion-exchange	Nitrate
City of Lynwood	Well No. 11	GAC	PCE/TCE
City of Lynwood	Well No. 19	GAC and Greensand	PCE/TCE and Fe & Mn
City of McFarland	McFarland Well 2	Ion Exchange	Nitrate
City of McFarland	McFarland Well 4	Ion Exchange	Nitrate
City of Paso Robles	Sherwood Wells	Adsorption, GAC	Arsenic, Sulfide, Taste & Odor
City of Pismo Beach	Meadow Creek Wells	Oxidation-filtration	Fe & Mn
City of Solvang	Well 22	Oxidation-filtration	Sulfide, Fe & Mn
Confidential Client	Well	Cl, Greensand, RO	Sulfide, TDS
County of Dare	Skyco Color Removal	Ion Exchange	Color/ THM precursors
Crescenta Valley County WD	Glenwood Treatment Plant	Ion Exchange	Nitrate
East Niles CSD	Well 18 Arsenic Treatment	Adsorption	Arsenic
East Niles CSD	Well 22 Arsenic Treatment	Adsorption	Arsenic
East Niles CSD	Wells 21 & 23 GAC Treatment	Adsorption (GAC)	TCP
Jurupa CSD	Jurupa IX Plant	Ion Exchange	Nitrate
Jurupa CSD	Jurupa IX Plant Expansion	Ion Exchange	Nitrate
Kern Housing Authority	N. Shafter FLC	Ion Exchange	Nitrate
Los Osos CSD	Nitrate Removal Evaluation	Various	Nitrate
Maywood Mutual #2	Maywood Well	Greensand	Fe & Mn
Monte Vista Water District	Well 33 Treatment	Ion Exchange	Nitrate, hardness
Nipomo CSD	District-wide	Chloramine conversion	TTHM
University Enterprises	Central Union School District Arsenic Removal	Adsorption	Arsenic
University Enterprises	Lancaster Mobile Home Park Arsenic Removal	Adsorption	Arsenic
Three Crowns Industrial Park	Well 1-3 TCP Treatment	Adsorption (GAC)	TCP
Belmont Water Corporation	Well 1 TCP Treatment	Adsorption (GAC)	TCP





# **5 COST PROPOSAL AND RATE/FEE SCHEDULE**

PROPOSAL FOR WATER TREATMENT PLANT FINAL DESIGN



## SECTION 5

## COST PROPOSAL AND RATE/FEE SCHEDULE

**MEINERS OAKS WATER DISTRICT  
WATER TREATMENT PLANT FINAL DESIGN SERVICES FEE**

	Principal Engineer (Hanson/Martin)	Senior Project Engineer II (Bugielski)	Project Engineer I (Dodge/Wilson)	Assistant Engineer II (Word)	Assistant Engineer I (Hanna)	CAD Design Technician II	Total Hours (MKN)	Labor (MKN)	ODCs (MKN)	Surveying (ECG)	Geotechnical (Yeh)	Structural/Architectural (SSG)	Electrical & Controls (MSO)	Mechanical (LEG)	Non-Labor Costs	Total Fee
Hourly Rates	230	212	181	161	145	145										
<b>Task Group 100: Project Management, Meetings and QA/QC</b>																
Task 101 – Project Management and QA/QC	48	48					96	\$21,216	\$ 636	\$ -	\$ -	\$ -	\$ -	\$ -	\$636	\$ 21,852
Task 102 – Progress Meetings (Bi-Monthly and Final Presentation)	6	6	6	6	6		30	\$5,574	\$ 167	\$ -	\$ -	\$ -	\$ -	\$ -	\$167	\$ 5,741
Task 103 – Data Request and Review	2	2	4	8	8	2	26	\$4,346	\$ 130		\$ -	\$ -	\$ -	\$ -	\$130	\$ 4,476
Subtotal	56	56	10	14	14	2	152	\$ 31,136	\$ 934	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 934	\$ 32,070
<b>Task Group 200 – Preliminary Investigations and Design Direction Development</b>																
Task 201 - Design Workshop #1	2	2	4	4		4	16	\$2,832	\$ 85	\$ -	\$ -	\$ 550	\$ 550	\$ -	\$1,185	\$ 4,017
Task 202 - Design Direction TM	4	4	24	40	16	24	112	\$18,352	\$ 551	\$ 9,900	\$ 35,575	\$ 4,895	\$ 5,500	\$ 550	\$56,971	\$ 75,323
Subtotal	6	6	28	44	16	28	128	\$ 21,184	\$ 636	\$ 9,900	\$ 35,575	\$ 5,445	\$ 6,050	\$ 550	\$ 58,156	\$ 79,340
<b>Task Group 300 – Detailed Design</b>																
Task 301 - 50% Plans, Specifications, and Cost Estimate	16	24	96	160	64	192	552	\$89,024	\$ 2,671	\$ -	\$ -	\$ 13,585	\$ 45,375	\$ 8,250	\$69,881	\$ 158,905
Task 302 - Design Workshop #2	2	2	2	2			8	\$1,568	\$ 47	\$ -	\$ -	\$ 550	\$ 550	\$ -	\$1,147	\$ 2,715
Task 303 - Final Plans, Specifications, and Cost Estimate	8	8	48	88	24	96	272	\$43,792	\$ 1,314	\$ -	\$ -	\$ 5,445	\$ 16,775	\$ 3,300	\$26,834	\$ 70,626
Subtotal	26	34	146	250	88	288	832	\$ 134,384	\$ 4,032	\$ -	\$ -	\$ 19,580	\$ 62,700	\$ 11,550	\$ 97,862	\$ 232,246
<b>TOTAL BUDGET</b>	<b>88</b>	<b>96</b>	<b>184</b>	<b>308</b>	<b>118</b>	<b>318</b>	<b>1112</b>	<b>\$186,704</b>	<b>\$ 5,601</b>	<b>\$ 9,900</b>	<b>\$ 35,575</b>	<b>\$ 25,025</b>	<b>\$ 68,750</b>	<b>\$ 12,100</b>	<b>\$ 156,951</b>	<b>\$ 343,655</b>





## **2022 FEE SCHEDULE FOR PROFESSIONAL SERVICES**

### **ENGINEERS AND TECHNICAL SUPPORT STAFF**

Administrative Assistant	\$107/HR
Engineering Technician	\$110/HR
CAD Technician I	\$129/HR
CAD Design Technician II	\$145/HR
Senior Designer	\$156/HR
Assistant Engineer I	\$145/HR
Assistant Engineer II	\$161/HR
GIS Specialist	\$159/HR
Senior Planner	\$190/HR
Planner	\$181/HR
Project Engineer I/ Senior Scientist	\$181/HR
Project Engineer II	\$195/HR
Senior Project Engineer I	\$208/HR
Senior Project Engineer II	\$212/HR
Project Manager	\$220/HR
Principal Engineer	\$230/HR
Project Director	\$240/HR

### **CONSTRUCTION MANAGEMENT SERVICES**

Construction Inspector	\$162/HR
Assistant Resident Engineer	\$169/HR
Resident Engineer	\$184/HR
Construction Inspector	\$197/HR
Construction Manager	\$201/HR
Principal Construction Manager	\$236/HR

*Routine office expenses such as computer usage, software licenses and fees, telephone charges, office equipment and supplies, incidental postage, copying, and faxes are included as a 3% fee on labor cost.*

*The foregoing Billing Rate Schedule is effective through December 31, 2022 and will be adjusted each year after at a rate of 2 to 5%.*



## HOURLY RATES January 2022

<u>TITLE</u>	<u>RATE</u>
Principal Mechanical Engineer	\$195.00
Senior Mechanical Engineer	\$185.00
Mechanical Engineer	\$145.00
Senior Mechanical Designer	\$145.00
Mechanical Designer	\$115.00
Senior Fire Protection Designer	\$150.00
Fire Protection Designer	\$120.00
Commissioning Authority	\$130.00
Specifications Writer	\$110.00
Construction Administration	\$105.00
Drafting Technician	\$ 85.00
Intern	\$ 55.00
Financial Management	\$110.00
Clerical	\$ 80.00
Consultants	1.15 x cost to LEG
Reimbursable Expense	1.15 x cost to LEG
Travel Expenses	\$ .70/Mile

Michael D. Cantelmi, P.E. – Principal  
Ryan W. Carlson, P.E. – Principal

7084 North Maple Avenue – Suite 101  
Fresno, California 93720 | 559.431.0101

[LEGfresno.com](http://LEGfresno.com)



**EXHIBIT A**  
**BILLING RATES EFFECTIVE JANUARY 1, 2022**

**Engineering**

Designer .....	\$95
Senior Designer.....	\$130
Assistant Engineer I .....	\$115
Assistant Engineer II .....	\$130
Associate Engineer .....	\$150
Senior Engineer I.....	\$165
Senior Engineer II.....	\$175
Principal Engineer .....	\$195

**General**

Technical/Clerical Support .....	\$75
Testimony (Trial or Deposition) ..	2.5 x Hourly Rate
Special Consultant .....	\$200
<i>(Principal with specialized skills in engineering, geomatics or planning)</i>	
Outside Consultant.....	Cost + 10%
Reimbursable Expenses .....	Cost + 10%

**Geomatics (Surveying & Mapping)**

Surveying Technician .....	\$95
Assistant Surveyor I.....	\$115
Assistant Surveyor II.....	\$130
Associate Surveyor.....	\$150
Senior Surveyor I.....	\$165
Senior Surveyor II .....	\$175
Principal Surveyor .....	\$195
One-Man Survey Crew .....	\$175
Two-Man Survey Crew .....	\$250
Three-Man Survey Crew .....	\$305
One-Man Survey Crew (Prevailing Wage) .....	\$185
Two-Man Survey Crew (Prevailing Wage) .....	\$265
Three-Man Survey Crew (Prevailing Wage) ..	\$365

An Employee Owned Company



**STANDARD FEE SCHEDULE  
CALIFORNIA  
EFFECTIVE JANUARY 2022**

**Professional Services:**

<u>Classification</u>	<u>Rate</u>
Principal .....	\$ 210/hr
Senior Project Manager .....	\$ 185/hr
Senior Project Specialist.....	\$ 180/hr
Project Manager .....	\$ 170/hr
Senior Project Engineer or Geologist .....	\$ 145/hr
Project Engineer or Geologist.....	\$ 115/hr
Staff Engineer or Geologist .....	\$ 95/hr
Engineer or Geologist Intern .....	\$ 60/hr
Resident Construction Engineer .....	\$ 195/hr
Construction Manager .....	\$ 170/hr
Construction Observer .....	\$ 135/hr
Laboratory Supervisor.....	\$ 120/hr
CAD Designer .....	\$ 135/hr
Administrative Assistant .....	\$ 85/hr

*Overtime rates for Construction Observation and Office Staff is 1.5 x rates shown.*

*Laboratory tests are quoted on separate schedule or cost-plus 10 percent for outside laboratory testing when applicable.*

*Fees for expert witness preparation, testimony, court appearances, or depositions will be billed at the rate of \$350 per hour.*

*Rates do include prevailing wages for field services. Prevailing wages will be determined on a project-by-project basis.*

**Other Direct Charges:**

Subcontracted services, copying and rented equipment .....	Cost Plus 10%
Travel, subsistence, and expenses .....	Cost Plus 10%
Vehicle .....	\$ 80/day
Automobile Mileage .....	\$ 0.55/mile
Hand Auger Kit .....	\$ 100/day
Slope Inclinator and readout .....	\$ 125/day

**Colorado**

**Denver** | Colorado Springs | Durango | Glenwood Springs | Grand Junction | Greeley

**California**

Grover Beach | Ventura



Project No.: S22011

January 10, 2022

## EMPLOYEE HOURLY RATE SHEET

Effective January 1, 2022

Position	Rate
Principal Structural Engineer	\$210 / hr
Principal Engineer	\$200 / hr
Senior Structural Engineer	\$160 / hr
Structural Engineer	\$145 / hr
Senior Project Engineer	\$135 / hr
Project Engineer	\$125 / hr
Staff Engineer	\$115 / hr
Production (CAD) Operator	\$90 / hr
Production (CAD) Technician	\$75 / hr
Administrative Professional	\$50 / hr
Reimbursable Expenses shall be billed at a rate of 1.1 times direct cost (Mileage, Travel, Printing, Shipping, Etc.)	

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**SSG Structural Engineers, LLP**  
805.439.2110 | info@ssgse.com | ssgse.com

811 El Capitan Way, Suite 240, San Luis Obispo, CA 93401  
8405 North Fresno Street, Suite 120, Fresno, CA 93720

17526 VON KARMAN, SUITE B  
IRVINE, CA 92614  
VOICE: (949) 250-8668  
FAX: (949) 250-7299

2985 EAST HILLCREST DRIVE, SUITE 101  
THOUSAND OAKS, CA 91362  
VOICE: (805) 379-8668  
FAX: (805) 379-8677

Classification	Hourly Rate	Employee
Project Manager	\$172.00	<div> <div></div> <div>Henderson, Mark</div> <div>Korinetz, John</div> <div>Nease, Mike</div> <div>Nisce, Henry</div> <div>Park, Chong</div> <div>Patrick, David</div> <div>Trick, Lloyd</div> </div>
Engineer IV (rate dependent on services performed)	\$162.00	
Engineer III	\$152.00	
Engineer II	\$142.00	
Engineer I	\$132.00	
		<div>Badonsky, Tim</div> <div>Kath, John</div> <div>von Pohle, Austin</div>

Office administration, accounting, and supplies are included in the rates.

Also included are telephone expenses, general computer equipment and software.

Travel, lodging and project-specific expenses (reprographics, binders, etc.) are billed at cost.

Mileage is charged at the federal mileage rate.

Sales tax, if any, will be added to the stated rates.

Rates are valid until 12/31/2022

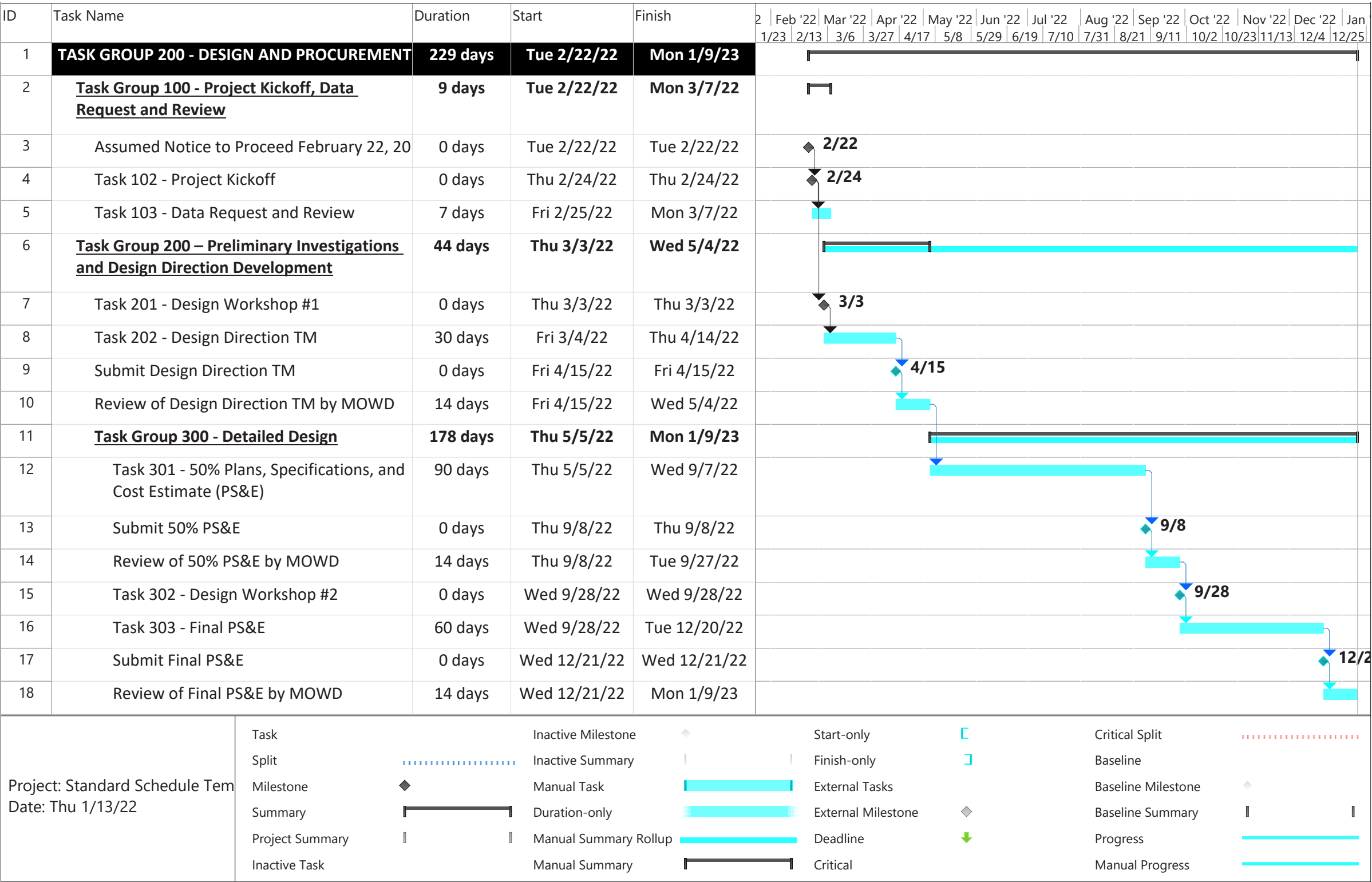


# 6 PROPOSED PROJECT SCHEDULE

PROPOSAL FOR WATER TREATMENT PLANT FINAL DESIGN



PROPOSED PROJECT SCHEDULE





# 7 INSURANCE

PROPOSAL FOR WATER TREATMENT PLANT FINAL DESIGN



## SECTION 7

## INSURANCE



## CERTIFICATE OF LIABILITY INSURANCE

 DATE (MM/DD/YYYY)  
11/24/2021

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

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

<b>PRODUCER</b> AssuredPartners of Washington, LLC A/E Insurance Services PMB #369, 19689 7th Ave NE, Ste 183 Poulsbo WA 98370		<b>CONTACT NAME:</b> Sarah Fish CA Lic #0M57256 <b>PHONE (A/C, No, Ext):</b> 360-626-2961 <b>FAX (A/C, No):</b> 360-626-2961 <b>E-MAIL ADDRESS:</b> sarah.fish@assuredpartners.com	
		<b>INSURER(S) AFFORDING COVERAGE</b>	<b>NAIC #</b>
		<b>INSURER A:</b> National Casualty Company	
<b>INSURED</b> Michael K Nunley and Associates Inc DBA MKN 16310 Bake Parkway Irvine CA 92618		<b>INSURER B:</b> RLI INSURANCE COMPANY	13056
		<b>INSURER C:</b>	
		<b>INSURER D:</b>	
		<b>INSURER E:</b>	
		<b>INSURER F:</b>	

## COVERAGES

CERTIFICATE NUMBER: 1999186321

REVISION NUMBER:

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

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSD WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
B	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:		PSB0009820	12/10/2021	12/10/2022	EACH OCCURRENCE \$ 2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 2,000,000 GENERAL AGGREGATE \$ 4,000,000 PRODUCTS - COMP/OP AGG \$ 4,000,000 \$
B	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY		PSB0009820	12/10/2021	12/10/2022	COMBINED SINGLE LIMIT (Ea accident) \$ 2,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
B	UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$ 10,000		PSE0004816	12/10/2021	12/10/2022	EACH OCCURRENCE \$ 1,000,000 AGGREGATE \$ 1,000,000 \$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y / N <input type="checkbox"/> N / A	PSW0005276	12/10/2021	12/10/2022	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
A	Professional Liability		JEO0000470	6/21/2021	6/21/2022	Per Claim Aggregate 2,000,000 3,000,000

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

## CERTIFICATE HOLDER

## CANCELLATION

Proof of Insurance	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE 

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ACORD 25 (2016/03)

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# 8 APPENDIX - RESUMES

PROPOSAL FOR WATER TREATMENT PLANT FINAL DESIGN





**BECCA  
BUGIELSKI, PE**  
PROJECT MANAGER

#### EDUCATION

Marquette University, Wisconsin  
BS Civil Engineering

#### LICENSES & REGISTRATIONS

Wisconsin Professional Engineer -  
Civil - No. 46908-6

California Professional Engineer -  
Civil - No. 93278

NASSCO PACP, MACP, LACP  
Certification

No. U-1019-70307353

#### PROFESSIONAL ASSOCIATIONS

American Public Works Association  
(APWA) (Ventura County Chapter)

APWA Ventura County Chapter  
Director at Large -present

APWA Wisconsin Chapter Young  
Professionals Chair 2017-2019

APWA Emerging Leaders Academy  
2018-2019  
Class XII

Becca Bugielski, is an effective communicator and an experienced Project Manager for municipal projects. Ms. Bugielski brings unique public sector perspective from her time serving as Village Engineer, where she managed planning, budgeting, design and construction of capital improvement projects. Her technical experience includes stormwater design, grading, alternatives analysis, water and sewer pipeline design, GIS, long and short-term planning cost estimating, and permitting.

## Relevant Projects

### Camrosa Water District GAC Treatment Facility | Camarillo, CA

Program Manager. Facilitating project schedule, coordination with design engineer, pre-purchasing of vessels, pre-qualification of contractors, bidding and construction of a 3-vessel train granulated activated carbon (GAC) treatment facility to manage TCP removal.

### Meiners Oaks Water District Nitrate Removal Feasibility Study | Ventura, CA

Project Manager. Project consisted of performing a feasibility analysis and design criteria for implementing strong-base anion exchange, biological pressure filtration, and two-stage brackish water reverse osmosis treatment alternatives to remove nitrates from Well 8. Prepared feasibility study consisting of treatment options of membrane, biological, and ion exchange projections and blending scenarios, design criteria, costs, process flow diagrams, and conceptual facility layouts

### Ojai Wellfield Projects | Casitas Municipal Water District, CA

Project managed the design of Mutual Well #7 and San Antonio Well #4. Coordinates ongoing pump review, recommendations and design as an aging wellfield has had 4 failed pumps in a span of 6 months. Continue efforts to assist the District with wellfield efficiency. This project ensures a safe yield from the ground water basin and reliable water for the District during drought years.

### Ojai Optimization Study | Casitas Municipal Water District, CA

Reviewed and evaluated the Ojai Water System for Casitas MWD. Analyzed capacity and fire flow throughout the system and recommended capital improvement projects to the District to meet requirements and utilize existing infrastructure in order to maximize funds.

### Camarillo Sanitary District Compliance SPCC, HMBP, & CalARP | Camarillo, CA

Project Manager. The Camarillo Sanitary District contacted MKN to assist in preparing necessary documentation to comply with the requirements of the 40 CRF Part 112. Our team put together a new Spill Prevention Control and Countermeasure Plan. Evaluated CWTP Hazardous Material Business Plan for general compliance. Audited the current CalARP program for any regulatory updates and made essential changes are required.

### Chemical Systems Improvements| Camarillo Sanitary District, CA

The project consisted of a comprehensive overview of all chemical systems at the City's wastewater treatment plant. Provided ranking criteria for prioritization and construction documents for most critical processes.

### Water Recycling Facility Management | City of Santa Paula, CA

Manages multiple critical projects from planning through construction for facility projects at the Santa Paula Water Recycling Facility (WRF). In addition to project management, as the project manager, solicited bids and responds to contractors' requests for information to ensure only responsive and responsible contractors are considered.



## **Becca Bugielski, PE**

### **RELEVANT EXPERIENCE (CONT.)**

#### **Advanced Water Treatment Facility Preliminary Engineering | City of Santa Paula, CA**

Managed the project team for preliminary design of an advanced treatment system to reduce chlorides in the effluent of the City's Water Recycling Facility. Coordinated with subconsultant efforts and effectively presented findings to the City for the most cost effective and beneficial project alternative. This project ensured compliance with the regional water quality control board and prevented future violations from the City's discharge permit.

#### **Signal Tank and BPS Preliminary Design | Casitas Municipal Water District, CA**

Project Manager. Lead team in preliminary design effort for Signal Tank and Booster Pump Station Replacement including the siting study to connect the signal zone to the main zone to better serve the mountain view area. Completed siting study, preliminary cost opinion and basis of design memorandum.

#### **Heidelberger Tank and BPS Slope Stabilization | Casitas Municipal Water District, CA**

Project Manager. Lead team in efforts to provide slope stabilization solutions to the District for their Heidelberger Tank and Heidelberger Booster Pump Station sites. Conducted site visits, managed geotechnical teams' analysis and provided District with solutions. Designed plans and specifications for slope stabilization solutions at the Heidelberger Tank site.

#### **West Ojai Pipelines | Casitas Municipal Water District, CA**

Project includes preparation of preliminary and final design for approximately 5,600 linear feet of waterline replacement from small-diameter, aged, cast iron pipeline to 8-inch diameter PVC pipeline. The project will improve reliability and increase available fire flow. Improvements include abandonment of a section of pipeline in an easement and relocation to public right-of-way, necessitating relocation of several residential water services. Existing fire hydrants and water services will be reconnected, and new fire hydrants will be installed. The design considered tight residential streets, some with congested utilities; traffic and construction considerations working along-side two schools; and mitigation measures associated with potential impacts to existing oak trees. MKN prepared construction documents and opinion of cost for public bidding and is providing office engineering services during construction.

#### **Camarillo Climate Action Plan | Thousand Oaks, CA**

Project Manager. Under order by the Los Angeles Regional Water Quality Control Board, the City of Camarillo is obligated to develop a Climate Change Effects Vulnerability Assessment and Mitigation Plan. Lead team which conducted vulnerability assessment and analysis and developed the Climate Change Plan.

#### **Emergency Interconnects, City of Thousand Oaks | Thousand Oaks, CA**

Project Manager for preliminary and final design for two emergency potable water interconnects between the City of Thousand Oaks and California American Water. The interconnects include control valves, pressure relief valve, pump connections, metering, below grade vaults and associated appurtenances. As part of project, evaluated multiple locations and alignments, coordinated with both agencies to obtain design requirements, and coordinated with surveying and pot-holing subconsultants.

#### **Pressure-Reducing Station, City of Thousand Oaks | Thousand Oaks, CA**

Project Manager for preliminary and final design of two pressure reducing facilities. Major tasks include hydraulic analysis of existing conditions, utilities research, and development of a preliminary and final design for a new pressure-reducing station to offset the need for alternative capital improvement projects.

#### **SWP Interconnection Blending Station Site Study | City of Ventura, CA**

Evaluated alternative sites for the conditioning facility needed to blend SWP water with City of Ventura water. Completed preliminary site layouts, opinions of probable cost and alternative evaluations for the City of Ventura.

#### **Westside/Downtown Sewer Study Update | City of Ventura, CA**

Updated a 15-year-old study assessment district to correct sewer deficiencies. Updated development scenarios and calibrated the model for the study area which included 32 miles of gravity sewers between 6-inch and 24-inch in diameter and 772 pipe segments that cover two square miles. Identified collection system capacity deficiencies for each development scenario and recommend capital improvements.



**CHRIS  
MARTIN, PE**  
PRINCIPAL-IN-CHARGE/  
WATER TREATMENT  
TECHNICAL LEAD

#### EDUCATION

University of Washington  
Seattle, Washington

BS Chemical Engineering

#### LICENSES & REGISTRATIONS

California Professional Engineer  
- Chemical - No. CH4597

#### PROFESSIONAL ASSOCIATIONS

American Water Works Association

American Membrane Technology  
Association

Mr. Martin has 35 years of experience in advanced water treatment processes, such as reverse osmosis, ion exchange, and specialty adsorbents, including processes for PFAS/PFOA removal. He is an expert in water quality issues both in the municipal and industrial industries, with over 30 treatment plant designs and dozens of evaluations and feasibility studies. Mr. Martin has presented numerous papers at water industry conferences concerning water quality and treatment topics, and is a recognized expert in these fields.

## Relevant Projects

### Wellhead Treatment Improvement Wells 177-185 | City of Fresno

Served as technical lead for design of new and replacement GAC treatment for wells 177 and 185 for 1,2,3-TCP treatment for the City of Fresno. The project required expansion of treatment capacity and replacement of existing, outdated pumping and filtration equipment.

### Well 21 & 23 TCP Treatment Project | East Niles Community Services District

Served as technical lead for design of new GAC treatment for wells 21 and 23 for 1,2,3-TCP. The project required installation of six new GAC vessels and integration into the existing treatment scheme at the Well 19 site.

### PFAS Remediation | Atascadero Mutual Water Company

AMWC detected PFAS-related substances in a number of wells, causing the wells to be taken out of service. MKN was selected to assist AMWC in identifying remediation methods to bring the wells back into service. MKN developed pilot testing protocols and coordinated installation and operation of the pilot, and has begun design of a GAC treatment plant capable of PFAS compounds from up to 20 MGD of groundwater at a new treatment facility. The new facility also includes a new reservoir and pump station as well as a new central SCADA facility and corporate office. Served as technical lead for treatment processes.

### Capistrano Desalter

Project engineer for design of treatment process and chemical systems, including reverse osmosis process, iron and manganese removal, storage systems, and chlorine and ammonia feed equipment for chloramination.

### Conejo Wellfield GAC Treatment | Camrosa Water District

Served as technical lead for review and management of a project to provide GAC treatment for 1,2,3-TCP removal at the Conejo Wellfield. MKN provided project management and technical review services for design, supply, and construction of the project.

### Well 8 Nitrate Treatment Feasibility Study | Meiners Oaks Water Company

Served as technical lead for evaluations of treatment and blending methods to return high-nitrate Well 8 to service. Evaluated ion exchange, reverse osmosis, biological treatment, and blending with alternative water supplies.

### City of Coalinga WTP THM Reduction | Coalinga, CA

Directed staff in design and preparation of construction documents for replacing temporary carbon dioxide and permanganate storage and feed systems for THM reduction at the Coalinga Water Treatment Plant.

### Poseidon Resources

Provided concept-level design for 50 MGD seawater desalination system to be located in Carlsbad, CA. Design included significantly constrained site. Design was used to support proposal to MWDSC to obtain subsidy.

## **Chris Martin, PE**

### **RELEVANT EXPERIENCE (CONT.)**

#### **Long Beach Water Department**

Performed a feasibility evaluation for onsite chlorine gas generation for the Long Beach Water Department's Groundwater Treatment plant.

#### **Santa Margarita Water District**

Design engineer for chlorine and ammonia feed systems and UV disinfection system for the Upper Chiquita Reservoir project.

#### **Front Porch Development**

Provided peer review of evaluation of the Marina Coast Water District seawater desalter to determine cost and feasibility of returning the desalter to service after 10-year shutdown.

#### **Poseidon Resources**

Provided concept-level design for 50 MGD seawater desalination system to be located in Carlsbad, CA. Design included significantly constrained site. Design was used to support proposal to MWDSC to obtain subsidy.

#### **Metropolitan Water District of Orange County**

Technical leader for concept level design of 50 MGD seawater desalination plant to be located near Dana Point. Design was used to support proposal to MWDSC to obtain subsidy. Provided process design for the 1.15 MGD Cambria, California seawater reverse osmosis treatment plant.

#### **Town of Hull, MA**

Prepared feasibility report for regional seawater desalination plant for Cape Cod. Provided process design for small seawater RO treatment plant for private client in Puget Sound.

#### **Southern Nevada Water Authority**

Provided process and cost evaluation for feasibility of 80 MGD RO desalting plant, a concept intended to intercept saline subsurface flows that add significant salinity to the Colorado River upstream of Hoover Dam.

#### **City of Santa Nella, CA**

Project engineer responsible for development of chemical storage and metering facilities for a 20 MGD membrane filtration treatment plant for municipal water supply.

#### **Santa Clara Valley Water District**

Prepared process evaluation and costs for concept selection for Bay Area Regional Desalination Project.

#### **Irvine Ranch Water District**

Peer review of RO process design for IRWD's CATS – a high-recovery secondary treatment system increasing the overall recovery to 98%.

#### **Las Vegas Valley Water District**

Project manager for RO pilot at Jean, Nevada.

#### **Laguna Madre Water District**

Project manager for pilot plant study and preliminary design of seawater RO treatment plant on South Padre Island, Texas.

#### **Irvine Ranch Water District**

Technical leader for design of the Deep Aquifer Treatment System, a 4-MGD nanofiltration treatment plant intended to treat highly colored groundwater. Boyle served as Owner's Engineer for this design-build project.

#### **Marin Municipal Water District | Marin, CA**

Designed and operated seawater RO pilot plant and delivered a report.

#### **Marin MWD**

Prepared Preliminary Design Report for 5 MGD seawater RO treatment plant.



**JON  
HANLON, PE**  
QA/QC

#### EDUCATION

California Polytechnic State  
University, San Luis Obispo  
BS Mechanical Engineering

#### LICENSES & REGISTRATIONS

California Professional Engineer -  
Mechanical - No. M33232

NACE Certified Coating Inspector  
#10431924

#### PROFESSIONAL ASSOCIATIONS

National Association of Corrosion  
Engineers (NACE)

American Water Works Association

American Society of Mechanical  
Engineers

American Public Works Association

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

## Water Supply/Treatment/Storage/Pumping/Distribution

### Ojai Wellfield Improvements, Casitas Municipal Water District | Ojai, CA

Project Engineer. Design of new well facilities including a new 400 gpm well, and conversion of multiple submersible well pumps to vertical turbine pumps. Project includes development of new District standards for wellhead instrumentation and controls utilizing automation and variable frequency drives. Project also includes evaluation and rehabilitation of multiple pump/well failures critical to the District's water system.

### Well Failure Analysis, Pleasant Valley County Water District | Ventura County, CA

Project Engineer. Municipal well failure analysis included review of well performance and construction documents. Analysis identified mode of failure was due to well misalignment. Prepared report identifying options for replacement which included use of a smaller vertical turbine pump or submersible pump.

### Fairview Well Rehabilitation, Calleguas Municipal Water District | Ventura County, CA

Project Engineer. Project to rehabilitate an inactive Aquifer Storage and Recovery (ASR) well and return it to service as a backup groundwater production well. Project includes video and biological inspection of the well, followed by preparation of plans and specifications for redevelopment of the well and system upgrades. System upgrades consist of installation of a new pump and motor, new motor control center including variable frequency drive, programmable logic controller, provisions for backup generation, replacement of piping and associated appurtenances, and addition of a disinfection system.

### Rio Mesa Well, Valley Children's Hospital | Madera, CA

Project Engineer. Valley Children's Hospital (VCH) recently acquired the property located to the southeast of the existing hospital. The property consists of a golf course and includes a potable and non-potable water supply well. VCH plans to improve the capacity of the non-potable well, improve the well to meet potable water standards, and incorporate the well into the VCH water system as an additional water supply. The Rio Mesa well will also continue to be used for landscape irrigation of the golf course.

### Well #11 Treatment Project | Arroyo Grande, CA

Project Engineer. MKN provided construction observation services during construction of Well 11 for the City of Arroyo Grande. The project included installation of a submersible well pump, an iron and arsenic treatment system, and associated piping and building. Design of the project was done by others, and MKN provided the City with process engineering support following failure of the treatment system to perform as expected. The well water exhibited extremely unusual chemistry, resisting conventional methods of oxidizing iron. MKN has been working with City staff to develop alternative oxidation methods, including permanganate and ozonation, to achieve the required water quality.

## **Jon Hanlon, PE**

### **RELEVANT EXPERIENCE (CONT.)**

#### **Wellhead Arsenic and TCP Removal Project | Bakersfield, CA**

Project Engineer. The City of Bakersfield (City) operates five wells that have been taken out of service due to elevated levels of arsenic in the produced water. The location of the wells makes them key wells for the City's system when surface water supplies are limited. MKN was retained to evaluate proposed absorptive treatment systems at all five wells and assist the City with final design and construction support. The conceptual treatment system design consists of iron-oxide based adsorptive media, pre-oxidation chemical skids, pH adjustment using liquid carbon dioxide, and organic chemical removal using activated carbon.

#### **Well 22 Treatment Evaluation | Solvang, CA**

Project Manager. The City retained MKN to evaluate the feasibility of treating water from existing Well 22 and future Well 23 for potable use. Iron and manganese concentrations exceeded secondary maximum drinking water contaminant levels (SMCLs) and odor was observed in the Well 22 water sample. MKN performed an evaluation of treatment alternatives to meet sulfide, iron, and manganese water quality goals. The evaluation summarized constraints, potential locations, necessary equipment, and planning-level costs for a centralized treatment facility and connection to the City distribution system.

#### **Sherwood Well Arsenic Treatment Plant | Paso Robles, CA**

Project Engineer. Project to design and construct arsenic removal facilities at two 1.4 MGD City groundwater wells. Treatment plant utilized regenerable iron-based adsorbent media. Activated carbon was utilized for chlorine and sulfide removal and taste and odor control.

#### **Denner Well Sulfide Removal | Paso Robles, CA**

Project Engineer. Provided process evaluation and recommendations for treatment system to reduce sulfides and salts in winery process water. The final system utilized aeration, ozone, greensand, activated carbon, reverse osmosis, and orthophosphate injection for corrosion control.

#### **Meadow Creek Wells Treatment Project | Pismo Beach, CA**

Project Engineer. Evaluated water quality and treatment goals and recommended treatment process for supplemental groundwater sources. Water quality issues included iron/manganese, high TDS, sulfides, color, odor and turbidity.

#### **City of Guadalupe Municipal Well Design | Guadalupe, CA**

Project Manager. Design of a new 1,000 gpm municipal water production well in the City off Guadalupe. Design included flowmeter, controls and instrumentation, SCADA, electrical systems, and piping improvements.

#### **Tognazzini Well Improvements | Guadalupe, CA**

Project Manager. Project to rehabilitate City municipal water well. Design included well rehabilitation, replacement of flowmeter, controls, SCADA, and electrical systems, as well as piping improvements.

#### **Wellfield Evaluation and Rehabilitation | San Simeon CSD, CA**

Project Manager. Produced construction plans and specifications for two new wellhead facilities including disinfection, pumps, process piping, electrical, and SCADA.

#### **Avery Well Project | Paso Robles, CA**

Project Engineer. Designed municipal well to supplement the City's potable water supply.

#### **Anita Well Treatment Feasibility Study | Goleta Water District, CA**

Project Engineer. As a Sub to MNS, MKN provided engineering services to evaluate the feasibility of treating water from a groundwater well that is high in iron, manganese, and disinfection byproducts. MKN evaluated several treatment options capable of meeting the water quality goals. The recommended approach was to reduce the concentration of contaminants through blending with another source, or by treatment through oxidation/filtration. Recommendations for disinfection byproduct control included chloroform removal through enhanced aeration. Provisions to allow filtration through the existing manganese dioxide filtration plant were recommended.





**FRANK  
DODGE, PE**  
PROCESS/MECHANICAL  
DESIGN

**EDUCATION**

University of California Irvine  
BS Mechanical Engineering

**LICENSES & REGISTRATIONS**

California Professional Engineer -  
Mechanical - M-38773

**PROFESSIONAL ASSOCIATIONS**

American Society of Civil Engineers  
(ASCE), Ventura/Santa Barbara,  
Vice President of Young Member  
Section (2017-2018)

Association of Water Agencies  
(AWA), Ventura County, Council  
Member (2017-2018)

Frank Dodge combines his technical and interpersonal skills with his project management experience to visualize project execution, foresee obstacles, and identify mitigations and cost savings. Mr. Dodge has experience as a Mechanical Design Engineer, Project Engineer, and Project Manager for consultants and owners working on water, wastewater, and other fluid and gas handling facility projects. He is consistently recognized as a hard worker with a strong drive to deliver excellent results, especially when matched against aggressive metrics and difficult project environments.

**Relevant Projects**

**Well No. 8 Nitrate Removal, Meiners Oaks Water District | Ventura County, CA**

Project Engineer. Delivered a Basis of Design and conducted a feasibility study for treating or blending Well No. 8 water to bring nitrate levels of delivered water within acceptable concentrations. The study included assessment of four alternatives, including blending, ion exchange, reverse osmosis, and biological treatment, and evaluated waste disposal alternatives.

**Granular Activated Carbon (GAC) Wellhead Treatment, Water Replenishment District of Southern California | Lynwood, CA**

Project Engineer. Developed a preliminary design report and construction documents for two 20,000-pound, skid-mounted, granular activated carbon (GAC) contact vessels, backwash system, piping modifications, new sewer lateral, and other on-site improvements to treat a 700-gpm drinking water well high in Tetrachloroethylene (PCE) and Trichloroethylene (TCE). The Engineer's Estimate of construction was \$890,000; this deviated less than 1% from the average of the 5 bids submitted.

**Iron and Manganese Wellhead Treatment, Water Replenishment District of Southern California | Maywood, CA**

Project Engineer. Developed a preliminary design report and construction documents for a 900-gpm Greensand Plus horizontal vessel filter system (filter, tank, pump, and controls), piping modifications, and other on-site improvements. This project was designed to treat elevated iron and manganese concentrations in drinking water at the Maywood Mutual Water Company #2 Maywood Ave Well. Construction of the water improvement system was estimated at \$1.7MM.

**Primary Clarifier Sludge and WAS Pumps Replacement, City of Camarillo (Camarillo Sanitary District) | Camarillo, CA**

Project Engineer. Propose solutions and develop plans and specifications for the replacement of the positive displacement pumps at the Camarillo Sanitary District's Wastewater Treatment Plant and the reconfiguration or replacement of piping, instrumentation, and control to support the new pumps. The pumps were subject to intermittent flow with high amounts of solids and grit. The three pump stations were Plant 3 Primary Clarifier Pump Station, Plant 1 Primary Clarifier Pump Station, and Plant 1 WAS Pump Station.

**Conejo Wellfield GAC Treatment, Camrosa Water District | Ventura County, CA**

Provide services as the Owner's Engineer including design deliverables review and overseeing the bid and construction phases. Project scope included six granular activated carbon (GAC) vessels, a carbon dioxide dissolution system, a sodium hydroxide feed system, vertical turbine booster pumps, bolted steel tanks, a standby generator, an MCC, and the rehabilitation of four water wells. Complexity was added through pre-purchasing the GAC vessels, MCC, CO2 system, and sodium hydroxide system, contractor prequalification, and two separate bid scopes (construction scope separate from the well rehab scope). Total estimated construction cost is between \$10 million and \$12 million.

## **Frank Dodge, PE**

### **RELEVANT EXPERIENCE (CONT.)**

#### **Ojai Valley Pumping Plant Performance Analysis, Casitas Municipal Water District | Ojai, CA**

Project Engineer. Analysis of the performance of the four existing pumps at the plant. The plant included two 350 hp centrifugal pumps capable of ~5,000 gpm and two vertical turbine pumps capable of ~4,500 gpm. The study tested the existing pumps and found a decrease in performance compared to their original design. A variety of replacement/upgrade alternatives were assessed based on the ability of the pumps to meet the pumping needs with maximum efficiency, minimum Time-of-Use energy costs, and lowest life-cycle costs.

#### **Bardsdale Water Treatment Pilot | Fillmore, CA**

Managed all Facility Engineering support and Operations interface for the installation of a pilot facility that successfully treated oilfield produced water to meet specifications acceptable for agricultural use. The pilot proved to be expensive, but exceeded the water quality targets and greatly reduced the wear on the system due to decreased corrosivity and solids in the water.

#### **Derrick Tank Rehabilitation, City of Coalinga | Coalinga, CA**

Project Engineer. Generated construction documents for the rehabilitation of the 7.5-million-gallon potable water steel tank. Rehabilitation scope included a new roof, new coatings, flexible connections on nozzles and required piping modifications, and replacement of the interior ladder. Bid options for the roof material were included to increase bidding competition due to material procurement volatility. Estimated construction cost was between \$3 million and \$5 million.

#### **The Preserve at Millerton Lake Recycled Water System Improvements, NVF-1 Investments | Madera County, CA**

Project Engineer. Developed preliminary and final design documents for a recycled water pump station supplying a 300+ gpm to an irrigation system for a housing development. The design included two vertical turbine can pumps and a hydropneumatic vessel. Developed P&IDs for the potable and recycled water systems to determine the controls strategy across the wells, booster pump stations, and reservoirs.

#### **Earl Schmidt Filtration Plant Tank No.1 Improvements, Santa Clarita Valley Water Agency | Santa Clarita, CA**

Project Engineer. Produced construction documents for a \$2.2 million rehabilitation and improvement effort for one of the two 5-million-gallon steel potable water storage tanks. The improvement scope included replacement of rafters, lateral bracing, and the dollar plate, exterior coating spot repair, complete interior coating replacement, new fall protection on the ladders, a new roof hatch, addition of a level indicator, installation of a flexible inlet coupling, and the addition of a tank mixer with the necessary electrical and controls.

#### **Hill Canyon Water Treatment Plant FOG Facility Improvements, City of Thousand Oaks | Camarillo, CA**

Project Engineer. Developed a preliminary design report and construction documents for a \$3+ million FOG facility to replace the City's existing facility. The new facility was designed to handle up to 20,000 gallons per day. The design included FOG screening and offload pumps, three storage tanks each with a heat exchanger and mixing pump, digester feed pumps, and an odor control system.

#### **Torrey Booster Compressor | Piru, CA**

Project Manager for the installation of an internal combustion engine-driven gas compressor along a natural gas transmission pipeline. An idle unit was identified and assessed, the facility site identified and prepared, connected compressor suction and discharge piping into the DOT gas transmission pipeline, overhauled and modified the compressor, and commissioned and started up the system. Project was against an aggressive timeline and completed in less than 2 months from project identification to startup of facility. Final cost was within 1% of cost estimate (\$820,000).

#### **Santa Clara Valley Gas Plant Compressor Broad Oaks Cylinder Upgrade | Piru, CA**

Project Manager for the multi-phase project to triple the natural gas sales capacity. The scope included: installing larger cylinders on two compressors at the SCVGP Gas Processing Facility; upgrading plant piping, pressure control system, and coalescing filter to increase capacity and pressure rating; upgrading the High Pressure Sales Pipeline to DOT specifications to increase capacity and pressure rating; decommission and abandon the Low Pressure Sales Pipeline per DOT specifications, including activity coordination with SoCal Gas; and coordinate and lead SCVGP shutdowns associated with tying in each phase of the project. Total project cost: \$4,500,000.



**STEFANOS  
WORD, EIT,  
ENV SP**  
PROCESS/MECHANICAL  
DESIGN

**EDUCATION**

University of the Pacific,  
Stockton, CA  
MSES Civil & Environmental  
Engineering  
BS Civil Engineering

**LICENSES & REGISTRATIONS**

California Engineer in Training  
No. 166164  
Envision Sustainability  
Professional (ENV SP) No.18683

**PROFESSIONAL ASSOCIATIONS**

American Water Works Association  
Water Environmental Federation  
California Water Environmental  
Association  
Central San Joaquin Section: Young  
Professionals Committee Chair  
American Society of Civil Engineers

Mr. Word is an Assistant Engineer with experience in the planning, design, and construction of water and wastewater treatment facilities and infrastructure. His project experience includes water and wastewater treatment facility design and analysis, permitting, development of master plans, field collection of data, pilot-and bench-scale testing, and construction phase services of facilities treating water quality issues. His experience in construction management includes treatment, distribution, and collection systems.

**City of Fresno Pump Station 177 Groundwater Treatment Facility | Fresno, CA**

Project Engineer. Project consists of planning, design, and construction of a 1.37 MGD granular activated carbon facility with several downstream chemical injections. The primary goal of the facility was to reduce the 1,2,3-TCP concentrations below the state-mandated maximum contaminant level of 5 µg/L and dissolved carbon dioxide concentrations to mitigate pipeline corrosion. Evaluated air stripping, sodium hydroxide injections, and break-tank deaeration as potential carbon dioxide removal treatment strategies. Prepared Basis of Design Report and prepared construction plans, specifications, and cost estimates.

**City of Fresno Pump Station 185 Groundwater Treatment Facility | Fresno, CA**

Project Engineer. Project consists of planning, design, and construction of a 1.37 MGD granular activated carbon facility with several downstream chemical injections. The primary goal of the facility was to reduce the 1,2,3-TCP concentrations below the state-mandated maximum contaminant level of 5 µg/L and dissolved carbon dioxide concentrations to mitigate pipeline corrosion. Evaluated air stripping, sodium hydroxide injections, and break-tank deaeration as potential carbon dioxide removal treatment strategies. Prepared Basis of Design Report and prepared construction plans, specifications, and cost estimates.

**Coarsegold Water System Improvements, Arsenic Removal | Coarsegold, CA**

Project Engineer. Project consists of planning, design, and construction of an arsenic, iron, and manganese removal system comprised of a booster pump station, upstream sodium hypochlorite oxidation/disinfection, and multimedia filtration vessels. The primary goal of the system improvements was to reduce the arsenic, iron, and manganese concentration entering the distribution system below the local- and state-mandated maximum contaminant levels. Prepared Basis of Design Report, construction plans, specifications, and cost estimates.

**East Niles Community Services District: Well 19 Arsenic Treatment Facility | Bakersfield, CA**

Project Engineer. Project consists of planning, design, and construction of an arsenic removal facility comprised of an upstream sodium hypochlorite oxidation/disinfection and three 8-foot diameter iron-oxide media vessels. The primary goal of the system improvements was to reduce the arsenic concentration entering the Kern-Citrus reservoir to reduce the blended arsenic concentration below the state-mandated maximum contaminant level of 10 µg/L. Prepared Basis of Design Report and prepared construction plans, specifications, and cost estimates.

**Atascadero Mutual Water Company: PFAS Removal Facility | Atascadero, CA**

Project Engineer. Project consists of planning, design, and construction of a 2 MGD PFAS removal facility designed to interchangeably use GAC or IX to reduce PFOS and PFOA below state-mandated response levels. Designed piloting facility, prepared testing protocol, conceptual and basis of design reports. Prepared construction plans, specifications, and cost estimates. (Ongoing).

## **Stefanos, EIT, Env Sp**

### **RELEVANT EXPERIENCE (CONT.)**

#### **Meiners Oaks Water District Nitrate Removal Feasibility Study | Ventura, CA**

Project Engineer. Project consists of performing a feasibility analysis and design criteria for implementing strong-base anion exchange, biological pressure filtration, and two-stage brackish water reverse osmosis treatment alternatives to remove nitrates from Well 8. Prepared feasibility study consisting of membrane, biological, and ion exchange projections, design criteria, costs, process flow diagrams, and conceptual facility layouts.

#### **Three Crowns Industrial Park 1,2,3-Trichloropropane Removal | Fresno, CA**

Project Engineer. Project consisted of planning and design of pressurized granular activated carbon (GAC) vessels to remove 1,2,3-Trichloropropane from three groundwater wells that serve as the sole source of potable water for Three Crowns Industrial Park. Performed planning and preliminary design of a centralized treatment system in a lead-lag configuration of GAC vessels followed a downstream hypochlorite disinfection system.

#### **Belmont Water Corporation 1,2,3-Trichloropropane Removal | Fresno, CA**

Project Engineer. Project consists of planning, design, and construction of multiple point-of-entry (POE) screening and GAC cartridge systems for forty-one residential service connections. The project prompted the State Water Resources Control Board Division of Drinking Water (DDW) to recognize POE and POU as an acceptable treatment technology and implement a set of guidelines for pilot testing of such systems. Project resulted in the treatment technology being the first implemented and permitted system in California to use POE technology to remove 1,2,3-TCP from potable water supplies. (Ongoing).

#### **Central Union School Water System Improvements, Arsenic Removal | Lemoore, CA**

Project Engineer. Project consists of planning and design of an arsenic removal system comprised of a 10,000-gallon steel water storage tank, booster pump station, upstream sodium hypochlorite oxidation/disinfection, and iron-oxide media vessels. The primary goal of the system improvements was to reduce the arsenic concentration entering the distribution system below the state-mandated maximum contaminant level of 10 µg/L. Prepared Treatment Alternatives Evaluation, Basis of Design Reports, and conducted Bench-Scale Testing with Ferric Oxide Media. Prepared construction plans, specifications, and cost estimates.

#### **Lancaster Mobile Home Park Water System Improvements, Arsenic Removal | Lancaster, CA**

Project Engineer. Project consists of planning, design, and construction of an arsenic removal system comprised of a booster pump station, upstream sodium hypochlorite oxidation/disinfection, and iron-oxide media vessels. The primary goal of the system improvements was to reduce the arsenic concentration entering the distribution system below the state-mandated maximum contaminant level of 10 µg/L. Prepared Treatment Alternatives Evaluation, Basis of Design Reports, and conducted Bench-Scale Testing with Ferric Oxide Media. Prepared construction plans, specifications, and cost estimates.

#### **Jackson Ranch Development DBP Facility | Kettleman City, CA**

Project Engineer. Project consists mitigating disinfection byproduct formation for a development receiving potable water from a 5-mile transmission pipeline connected to Kettleman City. Prepared Feasibility Study/Basis of Design TM that reviewed updated water quality, disinfection methods and disinfectants used, proposed water infrastructure, DBP formation potential and design criteria for the recommended treatment facility alternative. Prepared construction plans, specifications, and cost estimates. (Ongoing)

#### **Jackson Ranch Development DBP Evaluation | Kettleman City, CA**

Project Engineer. Project consists of evaluating disinfection byproduct formation for a development receiving potable water from a 5-mile transmission pipeline connected to Kettleman City. Prepared TM that reviewed existing water quality, disinfection methods and disinfectants used, existing water infrastructure, DBP formation potential and treatment alternatives/mitigation measures, and raw water treatment alternatives for the development's fire water supply.

#### **Coalinga WTP TTHM Reduction | Coalinga, CA**

Project Engineer. Project consists of planning, design, and construction of liquid carbon dioxide and sodium permanganate storage and injection facilities to reduce total trihalomethane concentrations in the WTP effluent. Prepared Design Criteria TM that established design parameters and background information. Prepared plans, specifications, and cost estimate for construction of both chemical storage and injection facilities.





**JASON  
WILSON, PE**  
CIVIL/SITE DESIGN

#### EDUCATION

University of Central Florida  
Orlando, FL

BS Civil Engineering

#### LICENSES & REGISTRATIONS

California Professional  
Engineer - Civil - No. C89117

#### PROFESSIONAL ASSOCIATIONS

American Society of Civil  
Engineers

California Water Environment  
Association

Mr. Wilson is a Project Manager with design experience as a Project Engineer specializing in water supply and distribution systems specifically pumping station design, surge analysis, transmission mains, distribution systems, water treatment, and construction management. Mr. Wilson is also experienced in wastewater collection systems assessment and rehabilitation.

## Water Supply/Treatment/Storage/Pumping/Distribution

### East Niles Community Services District, Well 22 Arsenic Treatment | Bakersfield, CA

Project Manager for the project that included the design and installation of an well head arsenic treatment system at the District's Well 22 Site. Contributions included engineering and construction phase services. Engineering phase contributions to the project included, treatment vessel design, pipe design and alignment, hydraulic calculations, development of construction documents and bid phase services. Construction phase contributions are expected to include reviewing technical submittals, responding to RFI's, and construction management.

### East Niles Community Services District, Well 21 TCP Treatment| Bakersfield, CA

Project Manager for the project that included the design and installation of an well head 1,2,3 Trichloropropane (TCP) treatment system at the District's Well 21 Site. The Well 21 TCP treatment system also included a separate Water treatment system of the District's nearby Choate Street Well. Contributions included engineering phase services. Engineering phase contributions to the project included, treatment vessel and process piping sizing, design and placement, yard piping design and alignment, hydraulic calculations, development of construction documents and bid phase services. Construction phase contributions include reviewing technical submittals, responding to RFI's, and construction management.

### Valley Children's Hospital, Rio Mesa Well & Pipeline | Madera, CA

Project Engineer for the project that included the design of a 600 gpm well equipping and transmission pipeline project that will add a third potable water well to the hospitals water distribution system. Contributions to the project included, Hydraulic calculations and analysis, development of system and pump curves, vertical turbine pump design, coordination of subconsultants, generation of construction documents. Construction phase contributions included reviewing technical submittals, responding to RFI's, and field inspections.

### Department of Water Resources, Five Wells Arsenic Treatment Project | Bakersfield, CA

Assistant Engineer for the project that included the installation of arsenic treatment systems at City owned groundwater wells. Contributions included engineering and construction phase services. Engineering phase contributions to the project conducted under the supervisions of the project engineer included, pipe design and placement, hydraulic calculations, development of construction documents and bid phase services. Construction phase contributions to the project included reviewing technical submittals, responding to RFI's, construction observation, construction management, start-up testing, development of progress pay estimates and evaluation of contract change orders.

### East Niles Community Services District, Well 19 Arsenic Treatment | Bakersfield, CA

Project Manager for the project that included the design and installation of a 1,650 gpm well head arsenic treatment system at the District's Well 19 Site. Contributions included engineering and construction phase services. Engineering phase contributions to the project included, treatment vessel design, pipe design and alignment, hydraulic calculations, development of construction documents and bid



## **Jason Wilson, PE**

### **RELEVANT EXPERIENCE (CONT.)**

phase services. Construction phase contributions are expected to include reviewing technical submittals, responding to RFI's, and construction management.

#### **Private Developer – Booster Pump Station | California**

Project Engineer for an as yet unconstructed project that included the design of a 2,500 gpm booster pump station, 130,000 gal water storage tank, and a hydropneumatic tank. Contributions to the project included, hydraulic calculations and analysis, development of system and pump curves, hydraulic modeling, vertical turbine pump design, hydropneumatic tank design, water storage tank detailing, coordination of subconsultants, and generation of construction documents.

#### **Private Developer – Welded Steel Water Storage Tank | California**

Project Engineer for the project that included design and construction of a 250,000 gal welded steel water storage tank and associated site piping. Contributions to the project included selection of pipe material, size and alignment, tank detailing, overflow pipe design, generation of construction document, and construction phase services.

#### **East Niles Community Services District, East Niles Pump Station Concrete Water Storage Tank | Bakersfield, CA**

Project Engineer for the project that included the design and installation of a 1.1 MG concrete water storage tank. Engineering phase contributions to the project included, pipe design, hydraulic calculations, development of construction documents, and bid phase services. Expected contributions as the project moves into its construction phase are expected to include reviewing technical submittals, responding to RFI's, reviewing change order request, and construction management.

#### **City of Delano, Well No. 4 Tank Site Improvements | Delano, CA**

Project Engineer for the project that included tank improvements and coating rehabilitation of a 1.2 MG welded steel water storage tank. Contributions to the project included analysis of existing interior and exterior coating conditions, consultation with specialized consultants, selection of coating rehabilitation methods and procedures, selection of improved tank mixing methods, generation of construction documents and bid phase services. Construction phase contributions included reviewing technical submittals, responding to RFI's, independent testing consultant coordination, and construction management.

#### **East Niles Community Services District, Water Line Extension for Office | Bakersfield, CA**

Project Engineer for the project that included the design and installation of a water line extension for the future District offices. Contributions included engineering and construction phase services. Engineering phase contributions to the project included, pipe design, alignment selection, hydraulic calculations, development of construction documents, and bid phase services. Construction phase contributions to the project included reviewing technical submittals, responding to RFI's, construction observation, and construction management.

#### **East Niles Community Services District, Rosewood Pump Station Relocation | Bakersfield, CA**

Project Engineer for the project that included the design of a 2,500 gpm replacement booster pump station and transmission pipeline for aging infrastructure. Contributions to the project included, Hydraulic calculations and analysis, development of system and pump curves, vertical turbine pump design, water transmission pipeline design, coordination of subconsultants, generation of construction documents, and bid phase services. Construction phase contributions are expected to include reviewing technical submittals, responding to RFI's, and construction management.

#### **East Niles Community Services District, Brentwood Sewer Main Extension | Bakersfield, CA**

Project Engineer for the project that included the design and installation of a sewer main connecting the future District offices to the District's collection system. Contributions included engineering and construction phase services. Engineering phase contributions to the project included, alignment selection, development of construction documents, and bid phase services. Construction phase contributions to the project included reviewing technical submittals, responding to RFI's, and construction management.



## AMMAR HANNA, EIT

CIVIL/SITE DESIGN

### EDUCATION

California State University, Fresno

BS Civil Engineering

### LICENSES & REGISTRATIONS

California Engineer in Training  
No. 171630

### PROFESSIONAL ASSOCIATIONS

American Society of Civil Engineers

American Public Works Association

California Water Environmental  
Association

The Engineering Honor Society of  
Phi Kappa Phi

Ammar Hanna is an Assistant Engineer with Michael K. Nunley & Associates in the Fresno, California office. His project experience includes design, reporting, master planning, construction observation, and construction management of various water and wastewater facilities. Additionally, he has previous experience drafting public water and wastewater hydraulic systems, working on streets, piping, and site development projects, and with field investigation & construction observation. He is proficient in WaterCAD, SewerCAD, ArcMap/ArcGIS, Civil3D, Microsoft Excel, and Adobe Acrobat Pro DC

### Family Tree Farms New Potable Groundwater Well | Reedley, CA

Design Engineer. Completed engineering and permitting services for the addition of a new potable water groundwater well to replace an existing well. Ammar's work involved evaluating source capacity, preparing well improvement plans and specifications, developing site improvements civil plans, preparing permit applications, and obtaining CEQA Clearance.

### Big Sandy Rancheria Wastewater System Improvements | Auberry, CA

Design Engineer. Improvements for this project included a community-wide gravity wastewater collection system to collect and transport wastewater, a wastewater treatment plant capable of treating up to 100,000 gallons per day (gpd) of wastewater, and decommissioning and abandonment of existing onsite septic systems. Ammar's involvement in the project included design and layout of the sewer collection system throughout the mountainous terrain of Big Sandy Rancheria. This involved performing site visits of the Big Sandy Rancheria area, and design of the horizontal and vertical alignments including plan and profile, details, notes, and specifications.

### Community Service Area 22 Master Plan Update | Madera, CA

Assistant Engineer. Completed a master plan update for the water distribution and wastewater collection systems to serve the planned buildout expansion of Community Service Area 22. Tasks consisted of evaluation of existing water and wastewater facilities, analysis of a GIS-based hydraulic water model, and identification of deficiencies under existing and future conditions.

### Preserve at Millerton Lake WWTP | Madera, CA

Assistant Engineer and Construction Observer for the design and construction of a 250,000 gpd WWTP located West of Millerton Lake in Madera County, CA. Ammar's involvement included permitting processes and procedures, site visits, and Construction Observation for compliance with the engineer's design.

### Selma-Kingsburg-Fowler Collection System Cleaning and CCTV Inspection | Fowler, CA

Assistant Engineer. Improvements of this project included cleaning and inspection of the three cities' selected sewer lines and structures, directing the cleaning operations, developing a 5 year CIP to address collection system deficiencies identified and stay within the District's long term budgeting guidelines. The project would also develop a dynamic grading system to allow addition of future projects into the CIP with the appropriate priorities. Ammar's involvement included observation and evaluation of sewer structures, preparation of CIP spreadsheet, and preparation of Risk Maps and Capital Improvement Project Report.

### Design of Gettysburg Sewer Pipeline Rehabilitation | Fresno, CA

Assistant Engineer. Ammar's involvement included assisting in preparing a preliminary engineering plan, specifications, and a cost estimate document to rehabilitate approximately ½ mile of existing 12" sewer pipeline for the City's collection system. Project consisted of cure-in-place pipe trenchless rehabilitation method along with repair of existing manhole structures.

## **Ammar Hanna, EIT**

### **RELEVANT EXPERIENCE (CONT.)**

#### **Santa Cruz Port District Lift Stations Assessment | Santa Cruz, CA**

Assistant and Design Engineer. Improvements of the project included a project site visit, assessment of the ten sanitary sewer lift stations that service the Santa Cruz Port District, proposing a rehabilitation program for all 10 lift stations that fits the District's budget, reviewing the proposed alternatives with the District, and preparing a final report based on the District's comments and preferences.

#### **7.5MG Derrick Reservoir Rehabilitation – Preliminary Engineering, City of Coalinga | Coalinga, CA**

Assistant Engineer. This phase of the project included the Preliminary Engineering for the rehabilitation of a 7.6MG welded steel reservoir. Ammar's involvement included coordinating with coatings and structural subconsultants, reviewing previous reports and record drawings, and developing a Preliminary Engineering Report including rehabilitation alternatives, a recommendation for roof replacement, structural and freeboard analysis, opinions of probable construction costs, and a full replacement estimate.

#### **7.5MG Derrick Reservoir Rehabilitation – Final Design, City of Coalinga | Coalinga, CA**

Assistant Engineer. This phase of the project includes the Final Design of the Rehabilitation Project. Work will include full removal and replacement of coatings, demolition of the existing roof and replacement with an aluminum dome, seismic upgrades, piping and appurtenance modifications, and safety enhancements.

# Lloyd Trick, P.E.

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Project Engineer

Education: BS (Electrical Engineering), University of Alberta, 1988.

## Experience

### **1996 - Present: MSO Technologies, Inc., Thousand Oaks, CA**

Responsible for electrical engineering and software engineering of automated control systems. Electrical engineering work includes site audits, specification and selection of all electrical system components, and creation of detailed installation and panel drawings. Software engineering work includes software module design, foreign device interfaces, PLC programming and HMI configuration. Works as on site representative during system commissioning period. Specialties include wireless communication networks and DC power system design.

### **1995: U2 Systems, Inc., Irvine, CA**

Project Engineer responsible for electrical engineering and software engineering of automated control systems. Electrical engineering work includes site audits, specification and selection of all electrical system components, and creation of detailed installation and panel drawings. Software engineering work includes software module design, foreign device interfaces, PLC programming and HMI configuration.

### **1990-1994: UMA Engineering Inc., El Centro, CA**

Design Engineer responsible for the design and implementation of automated control systems. Reported directly to Engineering Manager on individual project basis. Worked closely with client engineers and field personnel during design and commissioning of field sites. The control system software required on most projects usually involves local programmable logic controllers (PLCs), remote telemetry units (RTUs), and human-machine interface (HMI) software.

### **1988-1990: UMA Engineering Ltd., Lethbridge, Alberta, Canada**

Staff Engineer responsible for the design and implementation of automated control systems. Worked closely with client engineers and field personnel during design and commissioning of field sites. The control system software required on most projects usually involves local programmable logic controllers (PLCs), and human-machine interface (HMI) software.

## Computer Languages

Ladder Logic, Pascal, Assembly, Fortran, Basic, AutoCAD

## Operating Systems

PLC's, Windows, Unix, Linux

## Certifications and Memberships

State of California Registered Electrical Engineer, E014247

**MSO** Technologies, Inc.

# David Patrick, P.E.

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Project Manager / Project Engineer

Education: BS (Agricultural Engineering), California Polytechnic State University, San Luis Obispo, CA 1988.

## Experience

### **1996 - Present: MSO Technologies, Inc., Thousand Oaks, CA**

Responsible for management, definition, design, and implementation of industrial automation and information systems. Provides dual management and engineering role as determined by project size and available resources. Acts as technical resource during team meetings while primarily responsible for overall project management, execution and control.

### **1993 - 1996: Vision Engineering Corp., Sacramento, CA**

Manufacturing Execution Systems (MES) Group Leader. Responsible for management and technical direction of software engineering teams. Typical project included conceptual design, development, and implementation of integrated data acquisition, control, database, and reporting systems. Worked closely with clients to specify and integrate new and existing hardware and software components. Specialties include networking, bar code, HMI, PLC integration, and database systems.

### **1988-1993: UMA Engineering Inc., El Centro, CA**

Responsible for the design and implementation of automated control systems. Reported directly to Engineering Manager on individual project basis. Worked closely with client engineers and field personnel during design and commissioning of field sites. The control system software required on most projects usually involves local programmable logic controllers (PLCs), remote telemetry units (RTUs), human-machine interface (HMI) software, and database and LAN networking software for the host systems.

## Computer Languages

IEC 1131, Ladder Logic, Basic, Visual Basic, SQL, PL\SQL, TAL, IRL

## Operating Systems

PLC's, Windows, Unix

## Certifications and Memberships

State of California Registered Civil Engineer C51089



# Michael Parolini, S.E., LEED AP

## Managing Partner | Principal-In-Charge

Michael is a California licensed Structural and Civil Engineer. Although he specializes in education and municipal projects, his experience covers all aspects of structural engineering, including new construction and evaluation for commercial, residential, non-building structures, municipal, governmental, military, educational, historical, rehabilitation and photo-voltaic. He has completed projects utilizing structural systems of all the major building materials such as timber, steel, cold-formed steel, masonry, and concrete. He has also designed projects of varying scale with non-conventional materials including aluminum, fiber-reinforced polymers (FRP), rammed earth, structural glass, and strawbale.

For the past 15 years, Michael has been a member of the faculty at California Polytechnic State University, San Luis Obispo (Cal Poly). As a Lecturer in the Architectural Engineering Department, he has taught classes in structural graphics, industry communication, timber, and steel. He takes pride in giving back to his alma mater in a sharing of knowledge capacity.

Michael is also an outside Structural Plan Review Engineer for the Division of State Architect (DSA) with all four (4) regional offices (Sacramento, Oakland, Los Angeles & San Diego). His in-depth knowledge of K-12 and Community College project requirements and approval hurdles is a positive addition to all education projects.

### Education

BS Architectural Engineering  
Cal Poly, San Luis Obispo 2003

### Registrations

#### *Structural Engineer*

California	S5405
Arizona	53141
Hawaii	14832-S
Oregon	85894



**LICENSING**

Professional Land Surveyor No.  
7807, California

**EDUCATION**

B.S. Surveying Engineering,  
California State University Fresno,  
1999

**PROFESSIONAL AFFILIATIONS**

Past Officer, California Land  
Surveyors Association, State &  
Channel Islands Chapter

Past President, ACEC, Channel  
Coast Chapter

Past Committee Member,  
Channel Islands CLSA Chapter -  
Joint Professional Practices  
Committee

Member, International Right of  
Way Association (IRWA)

**BACKGROUND**

James Fallon has nearly 20 years of experience on a wide variety of land surveying and geomatics projects. He has been responsible for the direct management and production of survey tasks in support of public works and private land development projects, both in the field and in the office. Work performed includes topographic mapping, monument preservation, public agency map and document review, geodetic control networks, boundary surveys, easement and legal description preparation, subdivision mapping, lot line adjustments, ALTA land title surveys, condominium plans, right of way acquisition surveys, construction staking, and data acquisition for Geographic Information Systems (GIS). His work includes numerous public infrastructure projects, encompassing many miles of corridor surveys for design improvements in Ventura, Los Angeles and Santa Barbara Counties.

Over **20 years** of experience with Base Topographic Mapping, Geodetic Control Surveys and Geographic Information Systems

Mr. Fallon has extensive experience with static GPS, real time kinematic GPS and GPS control networks utilizing Continuously Operating Reference Stations (CORS) through both the National Geodetic Survey (NGS) and California Spatial Reference Center (CSRC). Mr. Fallon is thoroughly familiar with AutoCAD Civil 3D, the Microsoft Office Suite, Trimble GPS processing software, ESRI ArcGIS and major surveying data collection and network adjustment software packages.

**EXPERIENCE**

**PUBLIC AGENCIES**

- Casitas Municipal Water District, Ojai, CA
- California American Water, Southern California
- United Water Conservation District, On-call Services Agreement, Ventura County, CA
- Calleguas Municipal Water District, Ventura County, CA
- Santa Clarita Valley Water Agency, On-Call Services Agreement, Santa Clarita, CA
- Ventura Regional Sanitation District, Santa Paula, CA
- County of Ventura, On-Call Services Agreement, Ventura, CA
- City of Ventura, On-Call Services Agreement, Ventura, CA
- City of Camarillo, On-Call Services Agreement, Camarillo, CA
- City of Port Hueneme, Port Hueneme, CA
- City of Oxnard, On-Call Services Agreement, Oxnard, CA
- Camarillo & Oxnard Airports, Ventura County, CA
- City of Santa Barbara, On-Call Services Agreement, Santa Barbara, CA

## RELEVANT PROJECTS

### **North Pleasant Valley Desalter, Camarillo, CA**

Project surveyor and task manager for the base mapping in support of design efforts on a new desalter facility and related waterlines. The project corridor covered approximately 7,500 linear feet and a 4 acre plant site. Mapping was performed by conventional ground methods, ground based Lidar and included record right of way and utility research and compilation.

### **Santa Felicia Dam Monitoring, Piru, CA**

Project surveyor and task manager for high precision monitoring surveying services as part of the biennial structural monitoring of the Santa Felicia Dam since 2005. The work includes high order leveling across miles of ground from and to the monitoring benchmark, across the dam crest and to other historical monitor points. Extensive horizontal and alignment measurements are made along the crest, and all the data are presented in historical tables for District review and use.

### **Lynnwood Drive Sewerline Replacement , Camarillo, CA**

Project surveyor and task manager for the base mapping for a replacement Camrosa Water District sewer line in Camarillo. Mapping was performed by conventional ground methods, ground based Lidar and included record utility research and right of way compilation.

### **Arbolada Pump Station Upgrade, Ojai, CA**

Project surveyor and task manager for the base mapping in support of design efforts on an upgrade to existing facilities within the Casitas Municipal Water District system. The project corridor covered approximately 3,500 linear feet and a 1 acre plant site. Mapping was performed by conventional ground methods, ground based Lidar and included record right of way and utility research and compilation.

### **Ojai Waterline Improvements, Ojai, CA**

Project surveyor and task manager for the base mapping in support of design efforts on an upgrade to existing facilities within the Casitas Municipal Water District system. The project corridors covered approximately 5,300 linear feet over 3 project areas. Mapping was performed by conventional ground methods, ground based Lidar and included record right of way and utility research and compilation.

### **Casitas Municipal Water District Pipeline Replacements, Ojai, CA**

Project surveyor and task manager for the base mapping in support of design efforts on several pipeline replacement projects. As of 2019, the project corridors covered approximately 10,000 linear feet and multiple reservoir sites. Mapping was performed by conventional ground methods, ground based Lidar and included record right of way and utility research and compilation.

### **Portrero Road Recycled Waterline Project, Thousand Oaks, CA**

Project surveyor and task manager for the base mapping in support of design efforts on a new recycled waterline and the extension of an existing Triunfo Sanitation District waterline. The project corridor covered approximately 4,000 linear feet. Mapping was performed by conventional ground methods, ground based Lidar and included record right of way and utility research and compilation.

### **California American Water Mission View Blend Station, Temple City, CA**

Project surveyor and task manager for the base mapping for a new 5,400-foot waterline connecting existing CAW pump stations. Mapping was performed aerial mapping, supplemented by ground surveys and included record utility research and compilation.

### **Middlebank Drive Waterline Project- Newhall Water Company, CA**

Project surveyor for the base mapping and construction of a replacement waterline within a residential neighborhood. Survey included ground based topographic mapping, utility research and providing construction staking for the installation of the new line.



## Education

BS, Geological Engineering,  
University of Wisconsin,  
Madison, 2001

## Registrations

- Registered Professional Civil Engineer: California No. 73221
- Applied Project Management Professional, APMP
- Ventura County Registered Well Inspector
- City of Oxnard Registered Well Inspector

## Professional Associations

- American Public Works Association – Ventura County Chapter, Executive Board Member (2017 to present)
- American Society of Civil Engineers, Younger Member Forum Board Member (2005-2009)
- California Geotechnical Engineering Association
- American Water Agencies of Ventura County

## Joined Yeh

4/2018

## Professional Experience

Loree has more than 21 years of professional engineering experience with 17 of those working along the Southern California coast providing geotechnical engineering and geology services for a wide range of private and public agency clients, utility districts, transportation departments, special geologic hazard districts, and construction services. She is proficient in AWWA and building code design for water infrastructure to complete reporting to characterize site and subsurface conditions, manage geologic hazards, and provide geotechnical parameters for the design of public improvements, structures, roadways and bridges, and utility infrastructure. Her experience includes efficient permitting, subsurface exploration and data collection to support design and reporting and construction services for deep and shallow foundation and earth retaining systems, highway pavements and structures, low impact development, seismic and geohazard evaluations, seepage and slope stability analyses, and landslide monitoring and instrumentation.

## Relevant Work History

### Signal Tank Zone Improvements, Casitas Municipal Water District, 2019-2020

**Project Manager** for geotechnical services for replacement of an existing welded steel water storage tank and new booster station as well as approximately 2,400 linear feet of new waterline to expand the Signal Zone system. The project is located within the City of Ojai and requires subsurface investigation within shallow bedrock as well as for pipelines with the City right of way. A portion of the new pipeline alignment will traverse an existing slope behind private residential homes. Geotechnical services included permitting, utility clearance, geophysics, backhoe exploration, drilling and sampling, laboratory testing, engineering and preparation of a draft and final geotechnical report.

### Arbolada Pump Station, Casitas Municipal Water District, 2019

**Project Manager** for the design of approximately 3,400 linear feet of new water line upgrades and replacements, two pressure reducing vaults, and a replacement pump station. Yeh used hollow stem auger drilling to retrieve soil samples for laboratory testing and evaluate subsurface conditions at select locations along the proposed alignments. Drilling for this project required included encroachment permitting with the city and arranging traffic control. In a draft and final geotechnical report, Yeh provided a typical trench design and material specifications for construction, geotechnical and seismic inputs for the design of the new pipeline, thrust blocks, pressure reducing vaults, and the pump station foundation slab, and general grading recommendations.

### Waterline Replacements and System Improvements, Casitas Municipal Water District, 2018

**Project Manager** for a geotechnical investigation along five replacement segments of waterline throughout the City of Ojai. The project included the design of a total of 7,000 linear feet of pressurized 8-inch PVC waterline. Geotechnical services included permitting, utility clearance, drilling and sampling, laboratory testing, engineering evaluations for pipeline design, thrust blocks, stabilization and backfill, and preparation of a draft and final geotechnical report.

### Heidelberger Tank and Pump Station, Casitas Municipal Water District, 2020

**Project Manager** to provide a range of mitigation options to avoid, protect, mitigate or manage ongoing erosion entering the District facility from the adjacent slope and drainages. The selected alternative was a debris diversion wall to help direct flow to a designated area that can be maintained and cleaned out, as needed.



### **Rincon Pump Station Upgrades, Casitas Municipal Water District, 2020**

**Project Manager** for geotechnical engineering services during construction for a new at-grade electrical building at the Rincon Pump Station in Oak View, CA. Yeh provided geotechnical observations during construction of the exposed subgrade soil and footing bottoms and reviewed the suitability of onsite soils for structural backfill. Yeh also managed materials testing and special inspections during grading and building construction.

### **Civic Center Wastewater Treatment Plant Phase 2, City of Malibu, 2019 to present**

**Project Manager** for geotechnical services supporting the design of the next phase of the City's wastewater project. Services include geotechnical field investigation within private and public residential streets, which requires community coordination and advanced scheduling. Yeh is performing soil borings, rock coring, cone penetration testing, and geophysical surveys to explore the project as well as laboratory testing, engineering analyses and report preparation for approximately 3 miles of new pipeline, 5 sewer lift stations, an HDD segment through bedrock, and a jack and bore below Pacific Coast Highway.

### **Santa Paula Water Recycling Facility Advanced Treatment System, Odor Control Unit, and Bypass Basin, City of Santa Paula, 2019-2021**

**Project Manager** for geotechnical services for a new Advanced Treatment System at the existing Water Recycling Facility to reduce chloride concentrations in the treated water. The equipment will be housed in an at-grade structure constructed on a 17,000 square foot building pad. Up to 7 feet of fill will need to be placed within an existing basin to raise the site grades of the proposed structure. Yeh performed data review, drilling, laboratory testing, and prepared a Geotechnical Report for the project that included recommendations for shallow foundation design, seismic considerations, grading and material specifications. Yeh used existing geotechnical data to provide micropile recommendations for an adjacent odor control unit and also provided recommendations for grading an exiting percolation basin to be a lined effluent bypass basin.

### **Corona del Mar Treatment Plant Access Road Stabilization, Goleta Water District, City of Goleta, CA, 2019-2020**

**Project Manager** supporting the design of a re-aligned access road to the Corona del Mar Treatment Plant in Goleta, CA. A portion of the existing access road is failing and slipping out to the creek below due to ongoing erosion of the creek bank and eventual undermining of the road. Several repairs have been implemented over the years to stabilize the road and mitigate erosion. The more recent road failure has driven the Goleta Water District to acquire land adjacent to the existing road to re-align the failed segment away from the creek bank. Geotechnical services drilling and sampling, lab testing, and engineering analyses and input for wall design, roadway widening, and preparation of a draft and final geotechnical report.

### **Recycled Water Storage Reservoir at the Camarillo Water Reclamation Facility, City of Camarillo, CA, 2019 to present**

**Project Manager** for geotechnical services for design and construction of a partially buried 1-million gallon concrete water storage reservoir and associated conveyance pipelines at the existing water reclamation facility. Geotechnical services included permitting, utility clearance, drilling and sampling, well installation, environmental soil and water screening, geotechnical laboratory testing, engineering evaluations and preparation of a draft and final geotechnical report.

### **Hall Canyon Storm Drain Project, City of Ventura, CA, 2018**

**Project Engineer and Manager** for a geotechnical investigation conducted for the proposed design and construction of an 800 linear foot long segment of new 24-to 36-inch reinforced concrete pipe storm drain to be installed along Fairview Drive between Palomar Street and across Hall Canyon Road, where the pipe will tie into an existing Reinforced Concrete Box (Prince Baranca) located approximately 20 feet below grade. The scope of work including permitting and project coordination, subsurface exploration, laboratory testing, and geotechnical engineering and reporting.



**Michael D. Cantelmi,  
P.E. / Principal  
Mechanical Engineer**

#### **REGISTRATIONS**

CA #M23588

#### **EDUCATION**

##### **BSME**

California Polytechnic State  
University, San Luis Obispo |  
1981

#### **AFFILIATIONS**


- American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE), Past President, Board of Governors
- California Society for Healthcare Engineering (CSHE)
- Christians in Commerce, Past President
- Mentor - CSUF

#### **PROFESSIONAL SUMMARY**

Michael has 35 years of experience in project management and design of mechanical systems for multiple business sectors with many years working with higher education clients. Michael has worked as a design engineer on many projects at California State University, Fresno. Michael is versed in project administration, existing facilities review/evaluation, master planning, establishing design criteria and basis of design, operational efficiency review, energy analysis/life cycle cost analysis, project budgeting, indoor environmental air quality, construction documentation preparation, equipment specification, coordination of consultants, value engineering analysis, bidding/negotiations consultation, and construction administration.

#### **PROJECT EXPERIENCE**

- SCCC – Fresno City College – Child Development Center
- SCCC – Reedley College – Child Development Center
- SCCC – Madera Center Academic Village 2
- SCCC – Reedley College – Performing Arts Center
- SCCC – Reedley College – New Math, Science and Engineering Building
- CSU Fresno – Public Health Lab
- CSU Fresno – Cooling Tower Addition



**Arroyo Grande/Corporate Office**  
530 Paulding Circle, Ste. B  
Arroyo Grande, CA 93420

**Bakersfield**  
1800 21st St., Ste. C  
Bakersfield, CA 93301

**Fresno**  
8405 North Fresno St., Ste. 120  
Fresno, CA 93720

**Irvine**  
16310 Bake Parkway  
Irvine, CA 92618

**Oceanside**  
702 Civic Center Dr., Ste.104  
Oceanside, CA 92054

**Santa Clarita**  
23942 Lyons Ave., Ste. 215  
Newhall, CA 91321

**Ventura**  
121 North Fir St., Ste. G  
Ventura, CA 93001





## District Summary/Update

- **Casitas Lake Level:** 35 % 2/10/2022
- **Purchased Water:** The demand on our system has slowed down and the south casitas connection has been turned off as of 10/28/2021. The Fairview connection was turned off 1-6-2022. MOWD had continued limited blending with Casitas through December.
- **Wells:** Wells 1 & 2 on-line as of 1-7-2022  
Wells 4 & 7 on-line as of 1-13-2022
- **Annual Water Use Report:** (Complete)
- **Grant Funding:** Well Feasibility Study, Land Resiliency Partnership Projects, Advanced Metering Infrastructure (application in process)
- **Seasonal Rain Fall Totals:**

Casitas Dam	15.11"
Matilija Dam	19.63"
Stewart Canyon	15.97"
Nordhoff Ridge	20.43"
- **Staff:** Levi Maxwell was promoted to Field Supervisor 1/21/2022

### Scheduled/Unscheduled Work

<u>Type of Repair</u>	<u>Cause</u>	<u>Date</u>	<u>Location</u>	<u>Contractor</u>	<u>Amount \$</u>
Broken Wharfhead	Age/Leak	1/27/2022	El Sol Dr	Staff	\$575.00
Install Pipe Rack		2/4/2022	Shop	Staff	\$3,066.07
Restock Inventory	Used	2/8/2022	Shop	Famcon	TBD
Valve Exercising	Annual	2022	MOWD	Staff	N/A
Weed Abatement	Annual	2022	MOWD	Staff	N/A

**Current Well Levels and Specific Capacity**

<b>WELL #1</b>	<b>DEC 21'</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>	<b>JUL</b>	<b>AUG</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>
STATIC (ft)	26.6	24.9	28.05										
RUNNING (ft)	OFF	31.5	34										
DRAW DOWN (ft)	OFF	6.6	5.95										
Gallons Per Minute (GPM)	OFF	269276	276										
Specific Capacity (gal/ft DD)	OFF	41.8	46.39										
<b>WELL #2</b>	<b>DEC</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>	<b>JUL</b>	<b>AUG</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>
STATIC (ft)	25.95	24.6	28.45										
RUNNING (ft)	OFF	36.15	40.2										
DRAW DOWN (ft)	OFF	11.55	11.75										
Gallons Per Minute (GPM)	OFF	209	201										
Specific Capacity (gal/ft DD)	OFF	18.1	17.11										
<b>WELL #4</b>	<b>DEC</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>	<b>JUL</b>	<b>AUG</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>
STATIC (ft)	52.3	28.8	29.9										
RUNNING (ft)	OFF	54.9	55.9										
DRAW DOWN (ft)	OFF	26.1	26										
Gallons Per Minute (GPM)	OFF	380	337										
Specific Capacity (gal/ft DD)	OFF	14.5	12.96										
<b>WELL #7</b>	<b>DEC</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>	<b>JUL</b>	<b>AUG</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>
STATIC (ft)	55	19.8	22										
RUNNING (ft)	OFF	23.7	55.8										
DRAW DOWN (ft)	OFF	3.95	33.8										
Gallons Per Minute (GPM)	OFF	336	393										
Specific Capacity (gal/ft DD)	OFF	85	11.63										
<b>WELL #8</b>	<b>DEC</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>	<b>JUL</b>	<b>AUG</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>
STATIC (ft)	65.5	46	48.7										
RUNNING (ft)	OFF	OFF	OFF										
DRAW DOWN (ft)	OFF	OFF	OFF										
Gallons Per Minute (GPM)	OFF	OFF	OFF										
Specific Capacity (gal/ft DD)	OFF	OFF	OFF										

**Water Pumped, Sold, Purchased & Water Sales**

MONTH	PUMPED (AF)	SOLD (AF)	PURCHASED (AF)	WATER SALES (\$)
2021 JAN	0	40.35	40.35	\$55,869.54
FEB	59.13	43.26	0	\$45,273.85
MAR	45.88	37.35	0	\$38,245.86
APR	54.26	52.05	0	\$52,993.98
MAY	55.31	53.77	0	\$50,789.57
JUN	68.5	68.23	0	\$69,254.64
JUL	74.30	66.27	1.46	\$78,149.92
AUG	46.76	72.24	13.2	\$73,260.72
SEP	0.00	66.49	66.49	\$79,486.92
OCT	3.14	56.89	53.75	\$56,983.68
NOV	2.21	45.07	48.80	\$43,449.12
DEC	2.44	40.98	42.52	\$47,960.64
2022 JAN	31.61	32.73	5.67	\$42,686.16
<b>TOTAL 2022</b>	31.61	32.73	5.67	\$42,686.16
<b>TOTAL 2021</b>	231.65	423.83	217.77	\$648,269.32
<b>TOTAL 2020</b>	485.71	635.47	197.26	\$657,912.06

**Reserve Funds**

* Balance at the County of Ventura	\$ 1,419,913.19
Total Taxes	\$ 1,817.43
Total Interest from reserve account#	\$ 827.06

**Fiscal Year Total Revenues**

July 1 <sup>st</sup> – January 31 <sup>st</sup>	2020	\$ 1,419,613.19
July 1 <sup>st</sup> – January 31 <sup>st</sup>	2021	\$ 987,151.78



**Bank Balances**

* LAIF Balance	\$ 230,191.40
Transferred from L.A.I.F. to General	\$ 0.00
(#) Quarterly Interest from LAIF	\$132.44
* Money Market (Mechanics Bank)	\$ 7,622.98
Amount Transferred to Mechanics from County this month	\$0.00
Amount Transferred to General Fund from Money Market	\$ 0.00
Monthly Interest received from Money Market	\$ .13
General Fund Balance	\$ 84,011.92
Trust Fund Balance	\$ 7,088.53
* Capital Improvement Fund	\$ 14,042.54
(#) Quarterly Interest from Capital Account	\$ .12
Total Interest accrued	\$ 00.25

**Capital Improvement Projects for 2021-2022**  
**Budgeted capital funds \$ 724,000.00 FY 2021-2022**

1. Well 8 Nitrate Feasibility Study (Complete)
2. Engineer design report for the treatment plant (100% In Process)
3. Valve Replacements
4. El Sol and Lomita Tie-in (Engineering, TBD)
5. Tank Cleaning and Inspection (Complete)
6. Remove Meiners Rd Tank & Antenna Tower Install (Complete)
7. Chlorine Gas Alarms at well sites
8. Install CL17 at Wells 4 & 7
9. Crane for New Service Truck (Complete)
10. Air Compressor
11. Service Truck Generator
12. Service Truck Welder
13. Service Truck Tool (Complete)
14. Leak Detector/Sounder
15. Appropriations and Contingencies

## February 2022

### 1. Administrative

- SWRCB Water Arrearage Payment Program application approved to cover all residential arrearages accrued between March 2020 – June 2021, plus administrative costs, totalling \$15,000. Payment is pending, once received all required customer notifications will occur, as well as program required reporting.
- Form 700 Conflict of Interest forms notices have been sent out by Ventura County. Reminder that bi-annual AB 123 CA Local Agency Ethics & Harrassment trainings are due, Target Solutions online training emails are being sent to Directors and staff that need to complete the training.
- Public Records requests: VC Reporter has requested the attorney contract and billing for Hathaway, Perrett, Webster, Powers et al. law firm, any letters of interest in the Cozy Dell property, all documents and communications regarding old pump house on Maricopa Hwy, clarification of all current and historical MOWD Wells.
- Trainings attended: CSDA Brown Act Refresher, SAFER 2022 Drinking Water Needs Assessment, Target Solutions: Hazard Communications, Office Ergonomics & Fire Prevention Safety.

### 2. Financial (any items not covered in separate Financials Report)

- a. Audit for FY 20-21 – *Fanning & Karrh, CPA underway.*
- b. Accounts Receivable –The CA Executive Order 42-20 expired 12/31/2021. Late fees are set to resume with February 2022 billing, customers with arrearages can either pay off the outstanding balance or they can contact the office to setup a 12-month payment plan per Gov. Code §60372(2). The “new” 4/1/2020 SB 998 timeline for disconnects for non-payment (>\$200 @ 60 days) is in effect. CA SWRCB Arrearage Payment Program funds will be credited directly to accounts with balances remaining from March 2020 – June 2021, anticipated receipt of funds by month end.

### 3. Projects

- a. SWRCB Emergency Procedures
- b. Policy & Procedure, Resolution & Ordinance web posting.

#### 4. Billing/Customer Service

Month	#Total Service Orders	# Account Owner Changes	Monthly Customer Bill Total	Monthly Casitas Surcharge	Over-Allocation \$ (drought)	Other Conservation Penalties
Jan 21	89	12	\$115,479.25	\$0	\$2,730.00	\$0
Feb 21	75	13	\$108,605.39	\$0	\$2,460.00	\$0
Mar 21	73	16	\$108,985.68	\$0	\$1,936.00	\$0
Apr 21	125	9	\$127,363.90	\$0	\$5,084.00	\$0
May 21	134	11	\$129,394.85	\$0	\$5,525.00	\$0
Jun 21	72	20	\$147,682.37	\$0	\$9,566.00	\$0
Jul 21	139	8	\$145,721.09	\$0	\$8,865.00	\$0
Aug 21	151	13	\$153,370.61	\$0	\$10,660.00	\$0
Sep 21	116	10	\$174,988.52	\$29,089.01	\$8,742.00	\$0
Oct 21	93	17	\$163,260.86	\$31,512.78	\$6,206.00	\$0
Nov 21	52	15	\$141,776.01	\$25,886.00	\$3,094.00	\$0
Dec 21	53	6	\$141,663.91	\$27,318.06	\$3,002.00	\$0
Jan 22	110	5	\$110,228.55	\$12,978.37	\$882.00	\$0

\*Jan 2022: 85 re-check meter reads, majority due to low consumption.

#### Board of Directors

Board Member	Position	Term Ends	Term Type
Michel Etchart	President	2022	Long Term (Re-elected 2018)
James Kentosh	Vice President	2022	Long Term (Re-elected 2018)
Diana Engle	Director	2024	Long Term (Re-elected 2020)
Christian Oakland	Director	2024	Long Term (Elected 2020)
Loni Anderson	Director	2022	Appointed July 2021

#### 5. Complaints & Compliments

**Recommended Actions:** *Receive an update from the Board Secretary concerning miscellaneous matters and District correspondence. Provide feedback to staff.*

**Attachments:** None.