



RANCHO MURIETA COMMUNITY SERVICES DISTRICT

15160 Jackson Road, Rancho Murieta, CA 95683

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IMPROVEMENTS COMMITTEE

(Directors Randy Jenco and John Merchant)

Special Meeting

March 11, 2025, at 8:00 a.m.

AGENDA

1. Call to Order

2. Comments from the Public

If you wish to speak during Comments from the Public or would like to comment regarding an item appearing on the meeting agenda, please complete a public comment card and submit to the Board Secretary prior to Public Comments. We will hold all comments until the Public Comment section.

3. Improvements Staff Report

A. ***Discussion Item* WSC Urban Water Management Plan (UWMP) and Vision Scopes**

B. ***Discussion Item* Potable Water Storage System Evaluation and Recommendations Preliminary Cost Estimates**

C. ***Discussion Item* Correspondence from John Merchant**

D. ***Discussion Item* Fire Hydrant and Fire Flow Studies**

E. ***Discussion Item* Monthly Water Inventory and Production Report**

F. ***Discussion Item* Alameda Lift Station RFP Scoring CIP #23-11-02**

G. ***Discussion Item* Reclaimed Water Permit Modification for Clementia Reservoir**

H. ***Discussion Item* District Administration Office Appearance Improvements**

4. *Discussion Item* Unanswered IWMP Questions

5. Director and Staff Comments/Suggestions

6. Adjournment

"In accordance with California Government Code Section 54957.5, any writing or document that is a public record, relates to an open session agenda item and is distributed less than 24 hours prior to a special meeting, will be made available for public inspection in the District offices during normal business hours. If, however, the document is not distributed until the regular meeting to which it relates, then the document or writing will be made available to the public at the location of the meeting."

In compliance with the Americans with Disabilities Act if you are an individual with a disability and you need a disability-related modification or accommodation to participate in this meeting or need assistance to participate in this teleconference meeting, please contact the District Office at 916-354-3700 or awilder@rmcsd.com. Requests must be made as soon as possible.

Note: This agenda is posted pursuant to the provisions of the Government Code commencing at Section 54950. Posting location is District Office. The date and time of this posting is March 6, 2025 at 3:00 p.m.

MEMORANDUM

Date: March 11, 2025
To: Improvements Committee
From: Eric Houston- Director of Operations
Subject: Monthly Improvements Committee Updates

A. WSC Urban Water Management Plan (UWMP) and Water Vision

WSC is here to discuss the two attached scopes of work.

B. Potable Water Storage System Evaluation and Recommendations Draft Report

Please see attached Domenichelli & Associates report for discussion.

C. Correspondence from John Merchant

D. Fire Hydrant and Fire Flow Studies

Please see attached images of fire hydrants and attachments of fire flow testing reports.

E. Monthly Water Inventory and Production Report

Please see the attached report. A recent error has been found and corrected and is not reflected in the current report. This will be addressed and corrected prior to next month's Improvements Committee Meeting.

F. Alameda Lift Station RFP Scoring CIP #23-11-02

Please see the attached scoring tabulation for the RFP scoring. M-3 was the lowest priced bidder \$135,379.00. Beating the second bid by \$25,476.

G. Reclaimed Water Permit Initiation of permit modification process for household use of water from Clementia reservoir and modification of reclaimed permit for indirect potable water reuse by refilling drinking water reservoirs with reclaimed water during drought periods if needed.

H. District Admin Office Appearance

Staff is in the process of procuring bids to complete landscaping work.

Task 1 Project Management

1.1 Project Administration

- Provide project administration, coordination, and perform quality control reviews of deliverables. Prepare project schedule and update as required based upon actual progress and the District's direction. Prepare monthly progress reports to be submitted with each monthly invoice.

1.2 Agency Coordination Support

- Coordinate communication with the District and DWR including telephone calls, emails, letters, and other correspondence.
- Contact and coordinate communication with Sacramento County and other interested parties as required by the Urban Water Management Planning Act.

1.3 Review Documents for 2025 UWMP

- Review support documents including but not limited to the Integrated Water Master Plan, and other relevant documentation to help aid the preparation of the 2025 UWMP.

1.4 Back-up Data Folder

- Compile deliverables, data, calculations, reporting forms, and outside references in an electronic folder and submit to the District at the end of the project.

Task 2 Meetings

2.1 Kickoff Meeting

- WSC will plan, organize and conduct one virtual kickoff meeting for the District. The purpose of the Kickoff Meeting will be to: (1) establish roles and responsibilities; (2) review scope, schedule and deliverables; (3) review available data and establish data needs; (4) review UWMP requirements and methodology; (5) discuss agency coordination; and (6) review public outreach strategy.
- Provide tabular summary of compiled reference material and a listing of outstanding data needs.

Deliverables:

- (1) Electronic copies of a draft agenda and project schedule with milestones will be provided at least two days before the meeting.
- (2) Meeting minutes and action item assignments will be provided within one week following the meeting.
- (3) Data request log

2.2 Administrative Draft Review Meeting

- WSC will plan, organize and conduct one virtual Administrative Draft Review Meeting with the District. The purpose of the meeting will be to: (1) review schedule and deliverables; (2) review outstanding data requests; (3) review District comments on the administrative draft; (4) and establish action items and next steps.

Deliverables:

- (1) Electronic copies of a draft agenda and meeting materials will be provided at least two days before the meeting.
- (2) Meeting minutes and action item assignments will be provided within one week following the meeting.

2.3 Draft Review Meeting

- WSC will plan, organize and conduct one virtual Draft Review Meeting for the District. The purpose of the meeting will be to: (1) review District comments on the draft and (2) and establish action items and next steps.

Deliverables:

- (1) Electronic copies of a draft agenda and meeting materials will be provided at least two days before the meeting.
- (2) Meeting minutes and action item assignments will be provided within one week following the meeting.

2.4 Final Draft Hearing and Presentation to the District Board

- WSC will attend one District board meeting virtually/in-person. The purpose of the meeting will be to: (1) present and discuss the Final Draft; (2) review scope, schedule and deliverables; (3) receive District board comments on the draft; (4) and receive public comments on the draft.

Deliverables:

- (1) Electronic copies of handouts and/or a PowerPoint presentation will be provided to the District at least two days before the meeting if necessary.

Task 3 2025 UWMP Section Preparation

3.1 Plan Preparation

- Describe the purpose and background of the UWMP; coordination with other agencies and public outreach efforts; and plan adoption and submittal required by the UWMP Act.

3.2 System Description

- Describe the District's water distribution system, service area, population and demographics, climate, government structure, and known development projects.

3.3 System Demands

- Update historical water demands based on customer consumption and total production data from 2021 through 2025.
- Update the SB7 2025 compliance water use based on DWR's requirements.
- Calculate and describe the District's urban water use objective in context of the Making Conservation a California Way of Life Regulation as set forth by Assembly Bill 1668 and Senate Bill 606.
- Incorporate the results of the AWWA Water Audit software distribution system water loss audit prepared by the District.
- Develop updated water demand projections through 2045 including for lower income household requirements.
- Update and describe the Water Use Reduction Plan based on changes since the 2020 UWMP.

3.4 System Supplies

- Describe water supply sources, existing and projected supply volumes, potential future water supply options, and future water supply projects.

3.5 Supply Reliability and Water Shortage Contingency Planning

- Describe factors affecting supply reliability.
- Incorporate the District's Water Shortage Contingency Plan (WSCP) or make minor updates as needed since the last WSCP adoption.

3.6 Demand Management Measures (DMM)

- Provide a narrative description of the DMMs implemented by the District.

3.7 UWMP Checklist

- Update DWR's UWMP checklist with relevant sections of the UWMP.

3.8 DWR Standardized Reporting Forms and Electronic Submittal

- Report on progress towards meeting water conservation targets specified by SB7 in the standardized water use reporting form established by DWR.
- Prepare and submit an electronic copy of the UWMP to DWR, including standardized forms, tables, or displays specified by DWR.

Task 4 2020 UWMP Document Preparation

4.1 Administrative Draft

- Prepare the Administrative Draft UWMP and compile appendices into an electronic file in PDF format.

Deliverables: One (1) electronic copy of the Administrative Draft UWMP

4.2 Draft

- Incorporate comments and direction from the Administrative Draft review Meeting. Prepare the Draft UWMP and compile appendices into an electronic file in PDF format.

Deliverables: One (1) electronic copy of the Draft UWMP

4.3 Final Draft

- Incorporate comments and direction from the Draft Meeting. Prepare the Final Draft UWMP and compile appendices into an electronic file in PDF format.

Deliverables: One (1) electronic copy of the Final Draft UWMP

4.4 Final

- Incorporate minor comments from the Final Draft Public Hearing and adoption meeting. Insert the District Board's letter of adoption of the UWMP. Prepare the Final UWMP and compile appendices into an electronic file in PDF format.

Deliverables: One (1) electronic copy of the Final UWMP to the District, Sacramento County, surrounding agencies, wholesale suppliers, DWR, and the California State Library.

Task 1 Project Management

1.1 Project Administration

- Prepare and submit monthly progress reports summarizing activities completed, upcoming work, budget status, and challenges.
- Submit monthly invoices with detailed descriptions of the work completed during the billing period.
- Provide project administration and coordination with project team.
- Build and maintain a detailed project schedule including public involvement events using Microsoft Project.
- Track and monitor the project budget and conformance to contracted scope of services.
- Maintain a decision log that will document key decisions as the project advances.

1.2 Meetings and Coordination

- Conduct a Kick-Off Meeting to review project goals, deliverables, and schedules. Meetings will be an hour in duration and attended by up to two WSC employees.
- Conduct bi-weekly Core Team Check-ins, including District personnel and WSC's Project Manager, Project Engineer, and Strategic Communications Lead. Meetings are assumed to be a half-hour in duration for the length of the project.

Deliverables:

- (1) Monthly progress reports, including summaries of work completed, upcoming tasks, and general status of the project schedule and budget.
- (2) Monthly invoices.
- (3) Kick-Off Meeting agenda and minutes to encourage clear communication and documentation of decisions and action items.

Assumptions:

- (1) Project duration is 18 months.
- (2) Meetings will be virtual unless otherwise specified.

Task 2 Strategic Communications Plan

Notes: This task supports internal alignment on stakeholder prioritization, building on the District's existing stakeholder list (one workshop potentially).

2.1 Internal Alignment

- Design and facilitate a 90-minute meeting to define goals, identify challenges, and

2.2 Messaging and Brand Creation

- Coordinate and facilitate one 90- minute workshop with the client team to create master messaging to articulate how to best appeal to the various stakeholder audiences. This will be used in communications with stakeholders. Consistent messaging will enhance trust, awareness, and credibility.
- Create a project sub-brand. WSC will create a sub-brand that complements the District's existing brand. It will be specific to the project to give it a unique identity that stakeholders easily recognize. We'll develop the sub brand through **hosting (2) two 90-minute workshops with the District**. The brand is used on collateral materials like presentation templates and brochures.

Deliverables:

- (1) Agenda for one Master Messaging Workshop
- (2) Master Messaging Draft and Final Documents – delivered in Word
- (3) Facilitate Two 90-minute project brand workshops. Provide agenda and slide deck for workshops
- (4) Sub-Brand guideline document delivered in PDF format

Assumptions:

- (1) Messaging and Brand Creation workshops with the District are virtual
- (2) Agendas, branding document, and Master Messaging documents will be delivered in Word or PDF
- (3) Three rounds of review on each product is assumed.

2.3 Content Development

- **Website content.** Coordinate closely with District Staff to develop content for the District's website to explain the project, the rationale behind it, and opportunities for public input. This will be updated as needed throughout the project lifecycle to keep the information relevant. Includes one custom timeline graphic and up to five stock images.
- **Online Survey.** Coordinate with District Staff to create an online survey to garner information about public values. District will manage and disseminate the survey.
- **Social Media.** Develop six posts for three platforms over the course of the lifecycle (e.g., Next Door, LinkedIn, Facebook) to publicize engagement opportunities and key project updates.
- **E-newsletter.** Write text for the District to use in its newsletter to publicize key engagement opportunities.
- **Project postcard.** Design a postcard that quickly describes the planning effort and invite residents to public workshops. This is designed to be quick and easy to read and drive people to the website for more information.
- **Project brochure.** For use as a leave-behind, handout at workshops, and a handout available at the District's office. It will be designed to be quick and easy to read to increase readership and retention.

Deliverables:

- (1) Create web content not to exceed 2,000 words; one timeline graphic and provide 5 images for web use.
- (2) Create survey questions (up to 10)
- (3) Create Six social media posts with image and caption
- (4) Create six e-newsletter entries not to exceed 300 words each.
- (5) one tri-fold brochure in PDF
- (6) one 6x9 post card in PDF designed for professional printing.

Assumptions:

- (1) The District will manage posting content on its website.
- (2) The District will post all social media assets
- (3) The District will disseminate the newsletter information.
- (4) The District will provide the contact database that is used in this task.
- (5) Survey to be created in District's preferred platform (Forms, Survey Monkey, etc.) by the District and disseminated by the District

2.4 Coordinate and Facilitate Stakeholder Meetings

Stakeholders will be strategically engaged at key milestones via in-person workshops. The goal of workshops is to hear concerns and educate stakeholders about the project need, process, and potential outcomes throughout the planning process.

- Citizen Stakeholder Working Group. We will host and facilitate six (6) meetings at key milestones.

Deliverables:

- (1) Meeting agendas for each meeting or workshop
- (2) Stakeholder packet for each workshop.
- (3) Workshop PowerPoint Presentation
- (4) Meeting/workshop summaries (less than two pages)
- (5) Name tags, comment cards, and pens when required.
- (6) Dry run/meeting to prepare for in-person Citizen stakeholder group meetings.

Assumptions:

- (1) WSC will design materials for meetings. The District will print paper copies of materials for in-person meetings.
- (2) 6 Citizen Stakeholder Group Meetings will be held in-person.
- (3) District will select and schedule location for meetings.
- (4) Three WSC representatives will attend each workshop.

Task 3 Updated Model and Storage Evaluation

This task includes updating the District's hydraulic water model to allow extended period analysis which will provide refinement of the system storage analysis and supply operations. The IWMP used water storage assumptions based on those developed by the State of Washington. While these assumptions can provide some level of planning guidance, typical practice in California is to utilize the water model to determine actual storage volumes used during operation of the system and define storage needs more accurately. By using this approach, the storage requirements will be based on specific operational parameters used in your water system instead of generalized assumptions.

3.1 Update Water Model

- Import the existing EPANet water model into an AquaTwin Water Modeling software to allow extended period analysis which will provide data over a 24 or 48 hour period, such as tank levels, flows, pressures, etc. The extended period capability will also allow development of various scenarios to assess changes in operation and resulting impacts on the system.

3.2 Refined Storage Analysis

- Use the updated water model to assess the actual storage requirements during operation and compare them to existing storage capacity.
- Evaluate storage scenarios to optimize existing storage, maximize storage use between pressure zones, and determine volumes of additional storage at various demand levels.

3.3 Documentation (in TM or Report Section formats)

- Summarize the water model update and storage analysis in a technical memorandum or report section (per District's preference).

Task 4 Develop and Characterize Potential Supply Solutions

The alternate supply solutions in the IWMP rely on data that must be extrapolated to meet supply needs. This task includes additional analysis to further support supply options and consider additional options.

4.1 Develop List of Potential Supply Solutions

- Identify and compile a comprehensive list of potential water supply solutions based on availability in the region, including purchased supplies, District development of new supplies, and repurposing of existing supplies. WSC will use input from stakeholders to understand the key drivers for the community in developing a list of potential supply options. Key tasks for this effort may include:

- Incorporate regional planning considerations, such as interagency collaboration opportunities or shared resource agreements.
- Develop a data driven approach to the assessment of available groundwater resources in Rancho Murieta. Past studies have focused on a single irrigation well and it is not certain whether the groundwater basin can support multiple wells to increase supply.
 - Evaluate prior groundwater (GW) supply studies, identify gaps or uncertainties in the existing assessments, and determine further assessments required to validate groundwater as a feasible supply source.
 - Evaluate groundwater target service level alternatives, identify the most operationally and economically justifiable alternative, and provide recommendations.
 - Consider integration of groundwater into the water system, such as pumping directly to storage reservoirs or WTP.

4.2 Evaluate Potential Supply Solutions

- Develop evaluation criteria considering cost, reliability, sustainability, and regulatory compliance.
- Perform a high-level screening to eliminate infeasible options.
- Engage with stakeholders to gauge their opinions of the feasible options. Incorporate feedback into evaluation.
- Conduct a detailed technical and financial analysis of shortlisted solutions.
- Assess environmental and community impacts of potential supply solutions.

4.3 Recommend Solutions to include in Capital Improvement Program

- Recommendations will be coordinated with the District and key stakeholders.
- Prioritize supply solutions based on evaluation results.
- Develop an adaptable implementation plan. Include project triggers, projected timelines, and estimated costs.

4.4 Documentation (in TM or Report Section formats)

- Summarize findings and recommendations in a technical memorandum or report section.
- Document cost estimating assumptions in a separate technical memorandum.

Task 5 Asset Renewal Planning

5.1 Document Existing Asset Condition

As the District approaches build-out conditions and the system ages, deteriorates, and breaks more often; the focus of capital resource will shift from capacity upgrades towards investment in aging infrastructure. Published industry useful life estimates for District pipe materials range from 70 to 105 years or a replacement rate of 0.95% to 1.4% of the system per year.

Rather than use a generic age-based approach to identify and justify appropriate investment levels, WSC proposes to leverage your data and District staff input to forecast future breaks and quantify how various investment levels will impact service levels 30 to 50 years into the future. Our goal is to help you quantify the return on various investment levels so you can strike the appropriate balance between near term costs and long term service levels and gain political buy-in. Investment levels will be placed in the context of national, regional, and local benchmarking to illustrate how the District's proposed service levels and investments compare.

5.2 By utilizing performance data from your system, the capital budgets can be directed to the assets which are the most likely to fail first and are in the greatest need of replacement. These may or may not be the oldest assets in your system. Develop a Performance Based Renewal Program

- Using the asset list identified in Task 5.1, WSC will provide recommendations for an ongoing asset management program to continuously collect system performance data and utilize the data to refine the condition assessment system. By documenting system condition along the way, the replacement of infrastructure can be spread over many years, avoiding large expenditures in a single year, now and into the future.

5.3 Documentation (in TM or Report Section formats)

- Summarize condition analysis results and recommend improvements in a technical memorandum or report section.
- Include maps, tables, and figures to illustrate findings and proposed solutions.

Task 6 Develop Adaptive Implementation Plan

This task includes the development of an adaptive implementation strategy for the recommended future supply portfolio. Individual subtasks are detailed below.

6.1 Development of Adaptable Implementation Strategy

- Outline the individual actions required to implement the selected supply portfolio.
- Designate the triggers for each action item.
- Develop an implementation timeline.

6.2 Rate Implications

- Estimate how rates will be impacted based on recommended supply portfolio estimated lifecycle costs.
- Estimates will be based on capital and O&M costs.
- A formal rate study will not be included in this analysis.

6.3 Policy Recommendations

- Draft recommended policies used to guide the District's Water Supply Management program.

6.4 Documentation (in TM or Report Section formats)

- Summarize recommended implementation plan in a technical memorandum or report section (per District's preference).



Technical Memorandum

Rancho Murieta Community Service District (RMCS D)

Potable Water Storage System Evaluation and Recommendations

Prepared by: Joe Domenichelli, PE

Reviewed by: Daryl Heigher, P.E.

Date: January 17, 2025

SECTION 1-BACKGROUND AND PURPOSE

The Rancho Murieta Community Service District (District) provides potable water service to the community of Rancho Murieta. The potable water system is supplied from the dual train water treatment plant (WTP) The plant contains an older conventional filter plant (Plant 2) and a newer membrane plant (Plant 1). Plant 2 has a capacity to supply approximately 2 million gallons per day (MGD) and Plant 1, which is the primary source, has a capacity of approximately 4 MGD. The combined capacity of 6 MGD adequately serves the District which currently has an estimated maximum day demand of 2.5 to 3MGD. There are two pressure zones, each with a single storage tank to provide operational, fire protection and emergency storage. The Rio Oso Tank (upper zone) is a 1-million-gallon (MG) tank and the Van Vleck Tank (lower zone) is a 3 MG tank. In recent years, the District has been dealing with low level warnings triggered at the Rio Oso tank during peak demand days experienced in the summer months. The goals of this Technical Memorandum (TM) are to summarize the observed storage issues, explore possible causes and solutions, and to determine what capacity remains for future development utilizing existing supply and storage facilities.

SECTION 2- POTABLE WATER DEMANDS

This TM focuses on the distribution storage capacity relative to the demand for potable water within the Rio Oso (Pressure Zone) and the tank's capacity to support additional development within this upper pressure zone.

The District standard of 750 average annual gallons per day (GPD) per equivalent dwelling unit (EDU) is used as a demand factor for this effort. Per the District standard, the conversion from average annual demand to peak day demand is a factor of 2.1. To provide a perspective on District standard values compared to actual measured demand flow, we gathered demand data available for several summer months. For this comparison, our team gathered:

- 1) Rio Oso zone water billing data for several months, including hot summer months in 2023,
- 2) Water levels in the Rio Oso and Van Vleck tanks for July, August and September of 2024,
- 3) Inflow to the Rio Oso tank with a new temporary flow meter installed by D&A (mid-August) for August and September 2024.

The tank inflow and elevation data for both Rio Oso are at 1-minute intervals and have been correlated to match the timing. No inflow for the Van Vleck tank is available, however water surface levels were available at the same intervals and months as Rio Oso.

Table 1 provides a summary of the average day and peak day demands estimated for the Rio Oso zone distribution system, based on the standard values described above and the actual Equivalent Dwelling



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Units (EDUs) derived from billing data within the zone. It should be noted that these users are exclusively residential dwellings. Factors for converting the actual dwelling units to (EDUs) are also shown in Table 1, resulting in the estimated demands.

Table 1 Estimate of Demands Supplied from Rio Oso Tank

	Type	Connections	EDU Ratio	# of EDU	Demand Avg Day (GPD)	Demand Peak Day (GPD)	Demand Peak Day Demand (GPM)
Residential	EST1	267	1.0	267.0	200,250	420,525	292
	EST2	10	0.9	9.0	6,750	14,175	10
	CIR	353	0.7	247.1	185,325	389,183	270
	COT	177	0.7	123.9	92,925	195,143	136
	HPLX	0	0.5	0.0	-	-	0
	TWN	71	0.5	35.5	26,625	55,913	39
	VIL	0	0.5	0.0	-	-	0
	MV	0	0.3	0.0	-	-	0
Subtotal		878		682.5	511,875	1,074,938	746

Demand GPD per EDU 750

Max Day Peaking Factor 2.1

As a check of the Table 1 flow values, the D&A team installed a temporary clamp-on flow meter on the inflow pipe of the Rio Oso Tank in mid-August of 2024. Using the inflow data and the change in tank volume for corresponding days, we were able to calculate the outflow from the Rio Oso tank. This data was taken every minute of the day and is summarized below in Figure 1, showing the highest days of use for late August. Figure 2 was also developed from the August 2024 data to show a typical diurnal flow pattern for these high use days. Note that the diurnal curve is not typical of a large community, showing a much higher than expected peak demand in the morning with minor secondary peak demands later in the day. Also, the peaking factor from maximum day flow to peak hour flow is approximately 4.0. This is primarily due to the irrigation cycle for most of the users in the area being concentrated between the hours of 4am and 9am and the fact that this pressure zone is comprised completely of residential units with higher-than-average unit demands.

To further demonstrate the extreme peak flow conditions in the morning hours, the callouts on Figure 1 show the difference in inflow and outflow during the critical 5 hour period when demands are peaking. The outflow is approximately 2.2 times the inflow to the tank during these peak hours. Also seen on Figure 1, is that the total day demand approaches 0.90 MGD or 625 gallons per minute (gpm) on three of these August days. This equates to a factor of 2.8 between the 5-hour peak demand of 1,757gpm and the daily average of 625 gpm during these peak demand days.

The August 0.9 MDG demand calculated correlates well with the estimated peak day demand value of 1.07 MGD in Table 1 using District standard values. In fact, we would expect that the August peak flow would be slightly lower than the actual peak day demand which occurred in July of 2024. July was by far the hottest month in 2024, when several days in a row reached greater than 100 degrees. Unfortunately, we did not have the flow meter installed until after these hottest days of July, in order to calculate actual peak day demand leaving the Rio Oso tank. However, we can compare the total water treatment plant (WTP) outflow on the peak demand day in July with that of the peak demand day in August to get a factor to scale the 0.9 MGD to a July maximum day demand value. Figures 3 and 4 below provide a

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graphical representation of the two storage tanks water surface levels, as well as an accounting of the total treated water effluent pumped from the WTP.

Figure 1 Rio Oso Tank - Inflow and Outflow (Demand) in August

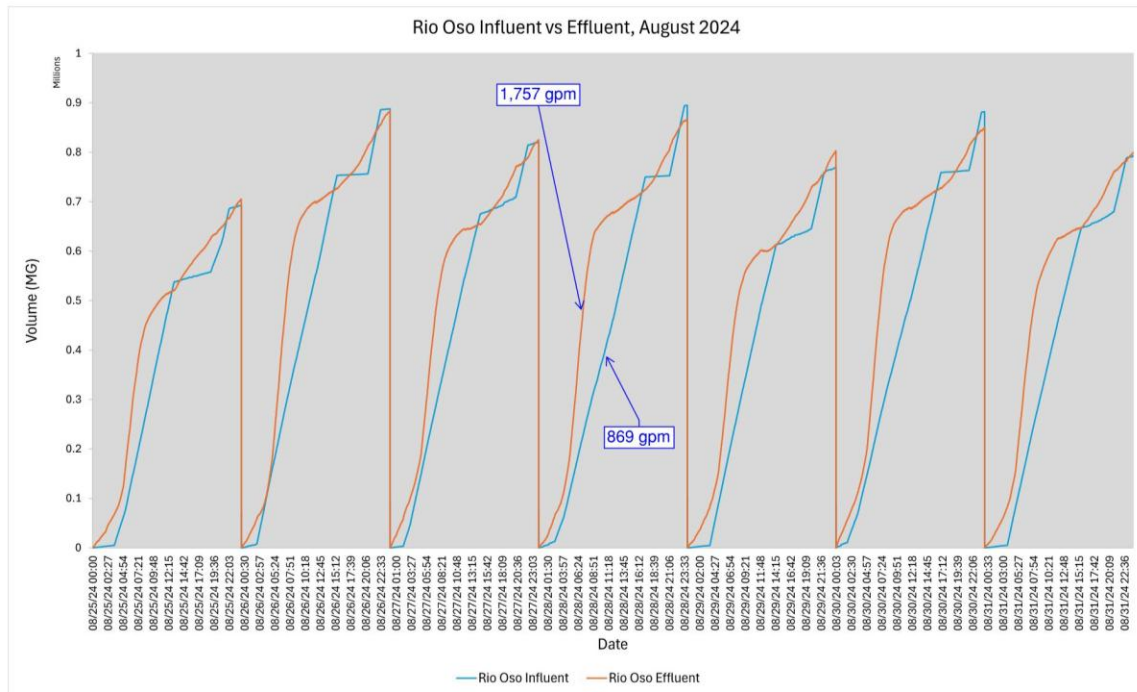


Figure 2 Maximum Day Diurnal Demand Flow Pattern for Rio Oso Zone

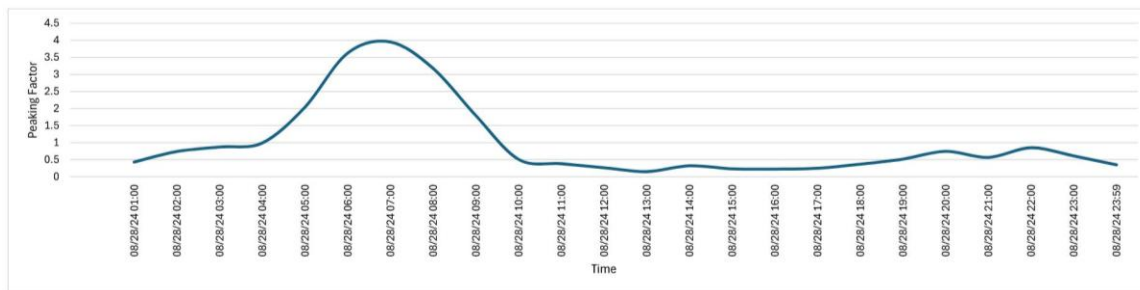


Figure 3 provides a graphical representation of the hottest days in July and the corresponding tank water levels for both Rio Oso Tank and the Van Vleck Tank. Also shown, in green, is the total WTP flow delivered to the system on those days (reset to zero at the end of each day). Figure 4 provides the same information for the tanks and the WTP flow for the August peak days. The ratio of the highest WTP daily delivery flows between these two months is 2.6MGD/2.3MGD, which is a factor of 1.13. Multiplying the 0.9MGD by 1.13 provides an estimate of 1.02MGD for the July peak day flow which is within 5% of the estimated demands in Table 1. Therefore, Table 1 will be used for future demand estimates in the upper pressure (Rio Oso) zone.



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Figure 3 Tank Levels for July 2024

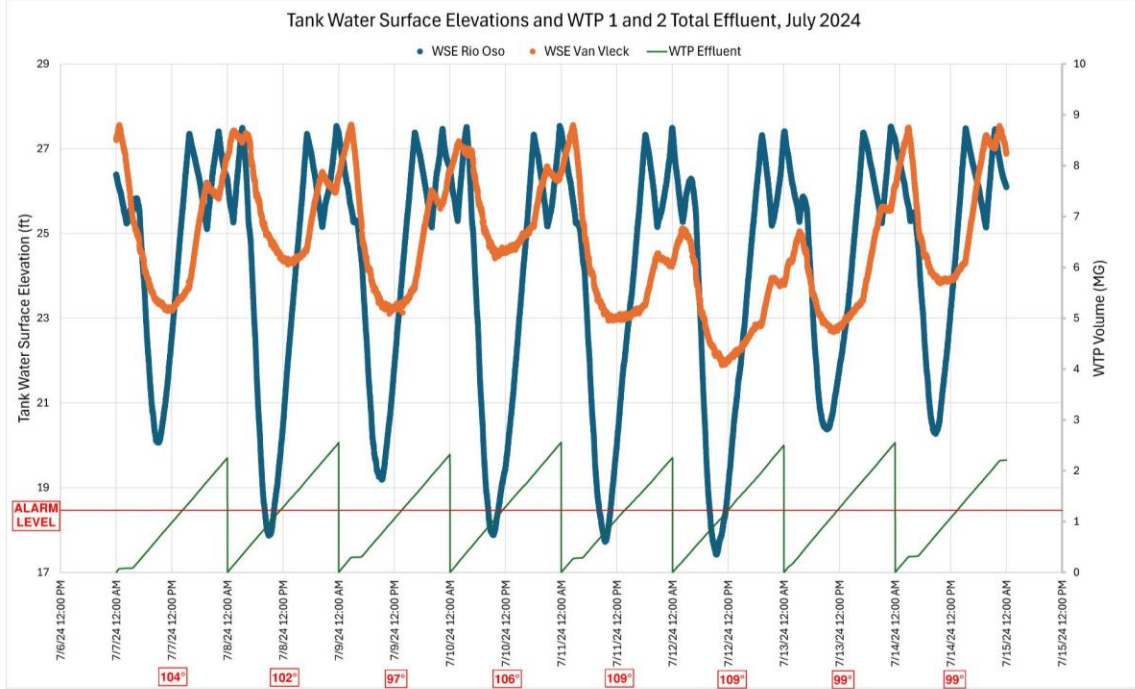
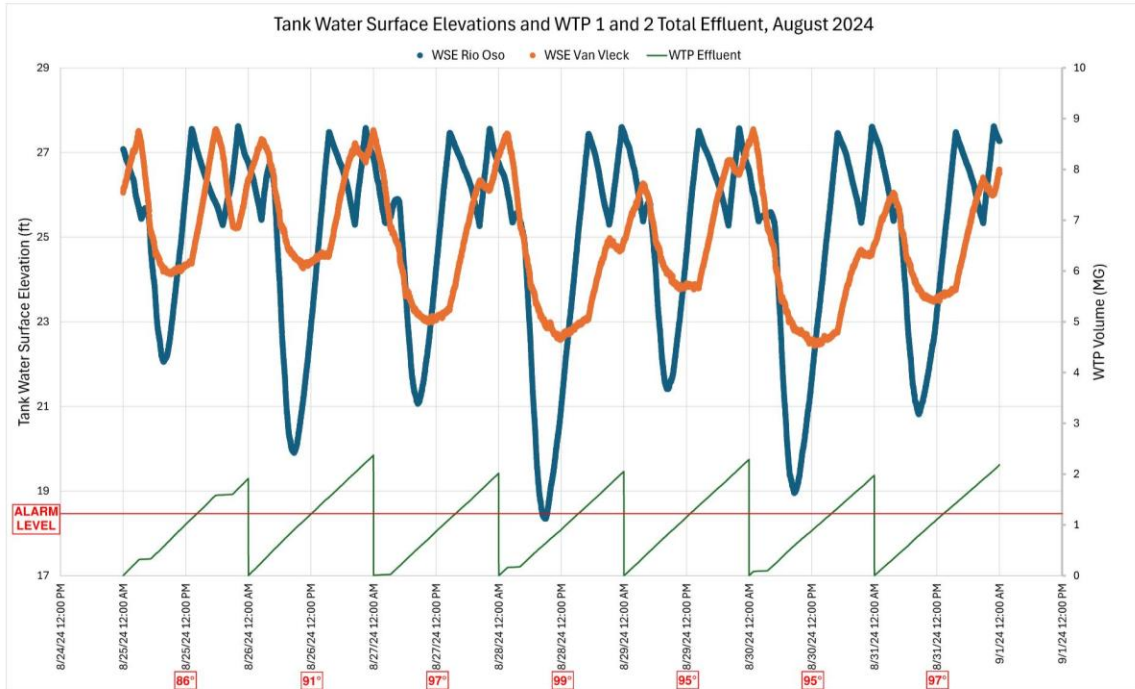


Figure 4 Tank Levels for August 2024





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SECTION 3-TANK STORAGE DEFICIENCIES

The tanks are considered full when the water depth is 27.5 feet and a low level alarm is triggered at a depth of 18.5 feet. The volume of water between these two levels is defined as the operational storage for the tank. The elevation of the Van Vleck tank is approximately 10 feet higher than Rio Oso tank and there is currently no check valve or altitude valve at this site. This allows a limited flow of water from Van Vleck to Rio Oso during low demand periods. Table 2 provides dimensions and tank volume information for the two tanks.

Table 2 Tank Data

Tank	Diameter (ft)	Maximum Usable Tank Level*	Usable Tank Volume (cubic ft)	Usable Tank Volume (gal)	Operational Volume - Elev 27.5 to 18.5 (gal)	Tank Volume per foot (gal)
Van Vleck	136	27.5	399,485	2,988,147	977,939	108,660
Rio Oso	80	27.5	138,230	1,033,961	338,387	37,599

* This level is approximately 0.5 feet below the overflow of the tank

As seen in Figure 3, the peak daily demands (flow leaving the tanks) occur during common irrigation times, primarily between 4am and 9am. During these hours in July, the Rio Oso tank dropped below the low-level warning depth of 18.5 feet, seven times on seven separate days. This required the use of water normally reserved for fire suppression and other emergency situations to help meet these peak operational demands. This overdraft of “operational storage” is considered a deficiency and should be remedied, especially before adding new demands on the Rio Oso tank system. Complete monthly tank level graphs for July and August can be found in Appendix A of this Technical Memorandum.

Figures 3 and 4 also show that as Rio Oso tank is dropping dramatically (as low as 17.3ft) during the morning hours, the Van Vleck tank seldom drops below a depth of 22.0 feet during July. As seen in Table 2, Van Vleck tank has significantly more storage per foot than Rio Oso and even at the lowest level in July had approximately 2.5 feet of operation storage remaining. We would recommend neither tank level be allowed to drop below 20.0 feet, allowing a 1.5 foot buffer for operational storage.

SECTION 4- IDENTIFICATION OF POTENTIAL SOLUTIONS

Given the operational storage deficiency described above for the Rio Oso tank, the most obvious solution is to add storage in this zone. Adding a new tank has been discussed by the District, along with other community members, including the development teams currently in the process of adding new residential units to Rancho Murieta. Determining how much storage to provide, where to site a new tank, how it will be funded, and the actual design and construction to complete the project will take considerable time. This will result in potentially long delays in the current land development process and extending the risk of having less than desired emergency storage available until a new tank is on-line.

In the interim, as a new tank design is being developed, there are possible modifications to the water delivery system and the existing tanks that could temporarily provide more water to the Rio Oso tank during the peak morning hours. The following lists possible interim modifications:



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- 1. Throttle flow to the Van Vleck Tank at the WTP** - This involves installing a motorized control valve, along with related electrical components, on the WTP discharge pipe to the Van Vleck Tank, reducing flow to VanVleck, and increasing flow to Rio Oso during peak demand morning hours. Added monitoring and control logic for the delivery system will also be required. This is the primary recommended interim modification, as it will make the largest impact toward mitigating the depletion of the Rio Oso tank storage.
- 2. Modification to Rio Oso Tank level control** – Minor modifications to the level controls can be made to extend inflow duration to the Rio Oso tank. The Rio Oso tank has an automatic shut off (altitude) valve that shuts off flow from the inflow pipe when the tank is full. The valve remains shut until the tank level reduces to an elevation of 25.5 feet. Allowing the valve to open sooner can allow incoming flow when the tank begins to deliver morning demands. This would have a less significant impact on the overall volume required than the throttling alternative, but can add a small factor of safety.
- 3. Modification to Van Vleck call for water control** - The Van Vleck tank does not have an altitude valve to shut off flow when full. Instead, there is a level sensor that shuts down the discharge pumps from the WTP when the tank reaches its full level of 27.5 feet (same level as Rio Oso). When the water depth has fallen to 25.5 feet, the Van Vleck tank controls will call for water and the pumps will come back on-line. With the treatment plant pumps off, only a limited amount of gravity flow from Van Vleck can reach the Rio Oso tank. If the pumps could be called on sooner in the morning hours, the flow to both tanks would increase earlier. However, upon review of the inflow and tank level data, the pumps appear to be running for nearly the entirety of the highest peak flow periods as the call for water and the opening of the Rio Oso valves usually coincide during maximum demand hours. As with the raising of the Rio Oso altitude valve opening level, the raising of the Van Vleck call for water level will provide only limited benefit, however, combined they should be considered as a possible addition to the above alternative 1 solution.

SECTION 5- RESULTS OF INTERIM SOLUTIONS ANALYSES

The effects of raising inflow control levels at the tanks (between 0.5 to 1.0 ft) should be tried in order to extend duration of flow into the Rio Oso tank. Without more flow measuring data at the tanks, this alternative will have to be attempted and tested during high demand periods to see if the impact can measurably help relieve the storage deficiency at the Rio Oso tank.

The flow throttling alternative to the Van Vleck tank, has been given a greater level of analysis for addressing the interim deficiency in Rio Oso tank storage. Table 3 provides design parameters for reducing the volume of flow to Van Vleck tank and increasing flow to the Rio Oso tank by installing an automatic throttling (control) valve system in the piped supply to Van Vleck tank. The valve would be located at the water treat plant where it discharges into the distribution system. The control concept is to monitor the depths in both tanks and modulated the throttling valve to attempt to keep the two tank levels as close to the same as possible during the morning peak demands. The worst case day of July 12th, 2024 was used as a maximum demand day model (see Figure 3). The tank levels on this day are used a basis to calculate the throttling required to equalize the tank levels. On this day, to equalize the tank levels, the Rio Oso tank would have needed to rise 3.5 feet and the Van Vleck Tank would need to lower 1.2 feet. Given the corresponding storage volumes per foot from Table 2, the matching tank level and calculated water volume transferred, are shown in Table 3.



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Table 3 Potential Impacts of a Throttling Alternative

Tank	Lowest Tank Level Figure 3 (July 12)	Level Change by Throttling (ft)	Matching Tank Level after throttling (ft)	Throttling Volume Change (gal)	Minimum Allowable Tank Level (ft)*	Storage Level Available (ft)**	Storage Volume Available (gal)*
Van Vleck	22.0	-1.2	20.8	131,261	20.0	0.8	86,059
Rio Oso	17.3	+3.5	20.8	131,261	20.0	0.8	29,745
* Provides a minimum cushion of 1.5ft to alarm level							
** Storage level available after throttling							

The resulting minimum water depth in each tank is 20.8 feet. This provides 2.3 feet of cushion above the 18.5 alarm level in the tanks during a maximum day demand, under current conditions. With a volume transfer of approximately 131,300 gallons over a 5-hour period, the inflow to Rio Oso would be increased by approximately 440 gallons per minute. This would increase the maximum velocity in the pipe from approximately 2 feet per second to 3 feet per second and would not negatively impact pipeline integrity.

Another important goal of this tank analysis is to estimate how the interim alternative modifications to the tank operations and storage would impact the system’s capacity for the addition of future dwelling units. By implementing the flow throttling alternative, some of the 2.3 feet of storage above the low level alarm for operating storage could be allocated to newly developed dwelling units. Given the uncertainties of the precise effectiveness of the throttling effort and the probability of unexpected down-time of the WTP effluent pumping, relying on the entire 2.3 feet of additional storage would not be practical nor recommended. To account for the many variables and potential issues with the Rio Oso storage facility, we recommend leaving a cushion 1.5 feet. This equates to an operational tank low water elevation of 20.0 feet as seen in Table 3. In doing so, this reduces the available usable volume in the Rio Oso tank to 0.8 feet or 29,745 gallons. Comparatively, the larger Van Vleck tank which serves the significantly larger (gravity zone) will have a cushion of approximately 86,000 gallons at the same 0.8 feet of available tank volume.

Using the District standard demand units per EDU, for the Maximum Day Demand from Table 1 and the ratio of the peak 5 hour flow to the max day flow of 2.8 described in Section 2, a peak demand per EDU is established. The added storage required in the tank per EDU would then be the peak 5 hour demand minus the added maximum day inflow that would be necessary from the WTP as shown in Table 4.

Table 4 Added Storage Required per EDU for New Development

	CSD Standard per EDU (gal/day) *	CSD Standard Per EDU (gpm)	Peak 5 hour flow/max day flow**	Peak 5 hour demand per EDU (gpm)	Peak 5 hours EDU demand minus max day inflow (gpm)	Peak 5 hours Storage Required per EDU (gal)***
Max Day Demand	1,575	1.1	2.8	3.1	2.0	591
* Equal 750 gpd x 2.1 peaking factor						
** See Section 2 for development of this peaking factor						
*** Converts the 2.0 gpm per EDU to storage volume over 5 hours						



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With a storage requirement per EDU established in Table 4, the number of new dwelling units that can be supported by the interim, short term solutions can be determined. Based on the available added storage volume after throttling derived in Table 3, and applying the unit storage required in Table 4, the number of new units possible to add has been calculated. Table 5 shows the estimated number of equivalent dwelling units that can be supported by each tank after the installation and operation of the throttling improvements.

Table 5 Additional EDUs served after Interim Improvements Completed

Tank	Storage Available (ft)	Storage Available (gal)	Peak 5 hours Storage Required per EDU (gal)	Equitable Additional Units *
Van Vleck	0.8	86,059	591	146
Rio Oso	0.8	29,745	591	50

* Equals Storage Available/Peak 5 Hour Storage Required per EDU

SECTION 6 – SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

D&A has identified two system improvements which should be pursued by the District in order to increase the reliability of the potable water system. The first improvement focuses on addressing emergency storage deficiencies while the second focuses on improving the operational capacity of the system.

1. Storage Capacity Increase

Currently, the Rio Oso and Van Vleck tanks only have enough fire suppression plus emergency storage capacity to supply the RMCSD for approximately 24 hours during a supply system shut down on a maximum demand day. This assumes the tanks are 66% full at the time of the emergency. Due to the lack of redundancy in the raw and treated water supply and convey systems, the District should consider increasing this storage capacity with a new storage tank.

In addition, the operational tank storage to supply water to the community during high summer demands is currently inadequate in the upper (Rio Oso) pressure zone. In July of 2024, The Rio Oso tank dropped below the low level alarm operational storage level on seven days. This operational storage in the tank is meant to supply water during peak demand hours, when the water supply from the water treatment plant (typically the average maximum day flow), cannot keep up with these higher peaks during the day.

To resolve this current deficiency, D&A recommends that additional operational storage capacity be added along with the new tank described above. The size and location of a new tank needs to be investigated, designed and constructed. This will take considerable time. With the current inadequate peak storage volumes and new dwelling units planned to come on-line in the near future, an interim solution should be pursued right away.



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2. Interim Supply and Storage Control Solutions

The current distribution system lacks basic controllability and monitoring. D&A recommends preliminary designs be started to enhance the water treatment plant (WTP) and tank storage facilities to provide additional control valves, pressure sensors, and flow meters which could be used to assist in distribution of flow during peak demands and reduce the likelihood for system instabilities and tank storage deficiencies.

The primary solution that could be implemented in the relatively short term is to take advantage of excess operational storage capacity in the Van Vleck tank that serves the lower (gravity) zone, and use that volume to help meet the Rio Oso tank deficiency. By modifying the tanks level and supply monitoring and control, peak daily flows can be diverted from the Van Vleck supply line to the Rio Oso supply. Adding a control valve to throttle (reduce) flow to the Van Vleck tank and in turn increase flow to the Rio Oso tank during early morning peak demands, will help alleviate the storage over-draft condition at Rio Oso. Also changing control levels in the tanks may be of some help.

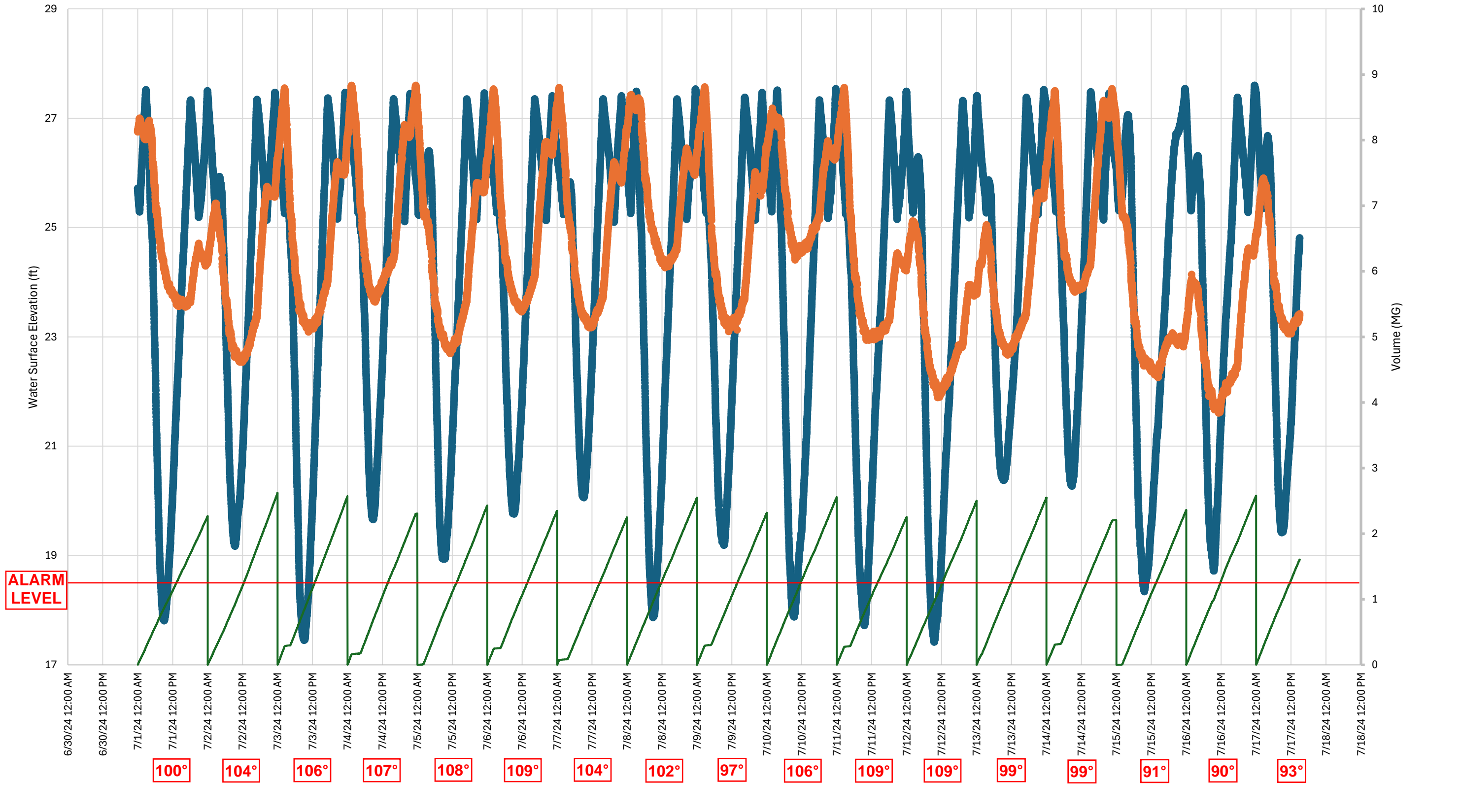
An analysis of the throttling alternative showed that the potential to eliminate low level alarms at the Rio Oso tank is promising. In fact, if done with the right physical improvements and precise and efficient control system programming, it can also redistribute enough flow at the proper times to adequately serve some added dwelling units to the both the Rio Oso and Van Vleck service areas. The number of added dwelling units have been estimated and are shown in Table 5 of this Technical Memorandum.

Overall, addressing short term and long-term tank storage capacity should be a priority of the District and potential solutions have been identified for implementation as a guide for future improvements.

APPENDIX A - SUPPORTING DATA

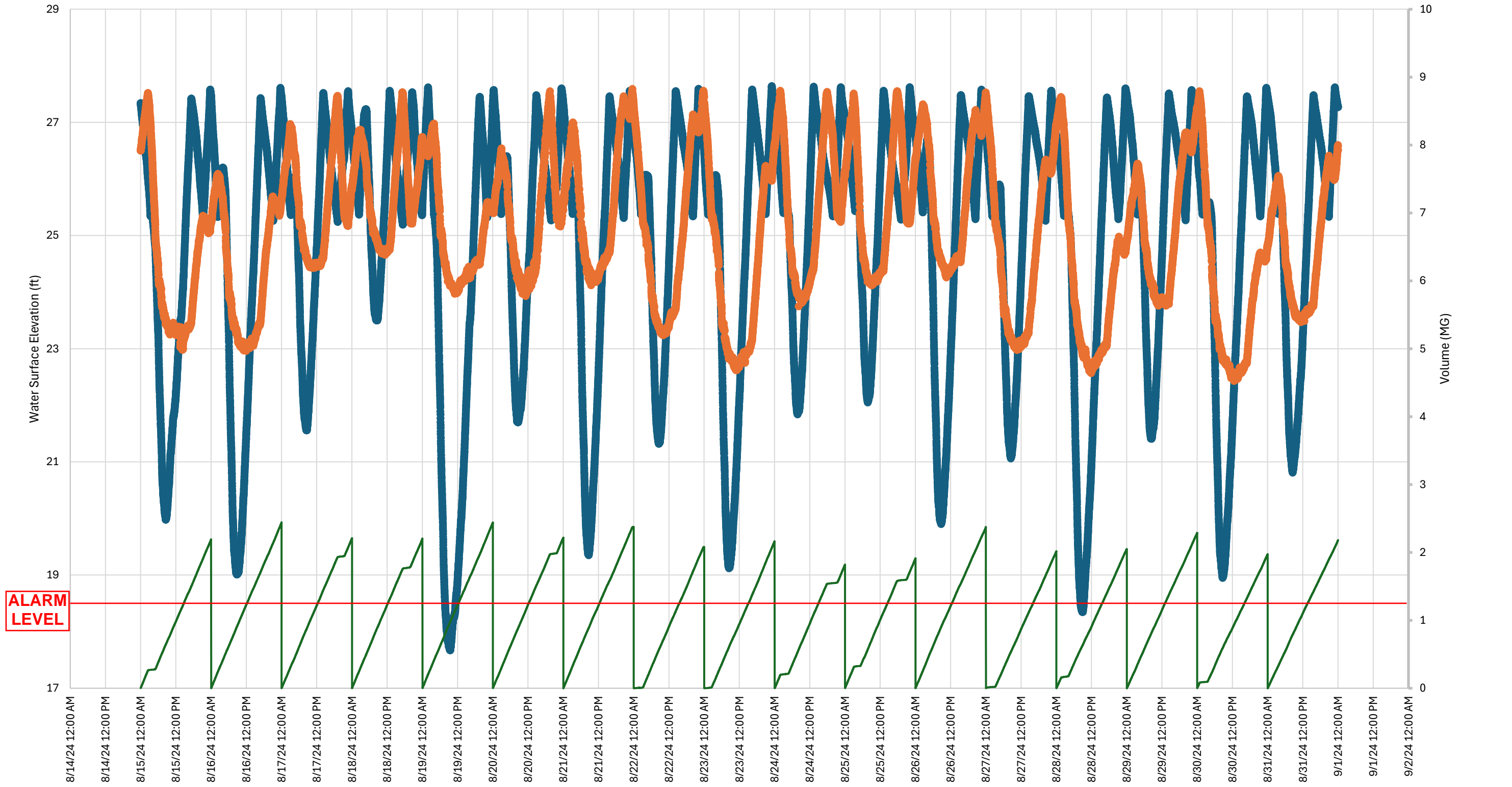
Tank Water Surface Elevations and WTP 1 and 2 Total Effluent, July 2024

● WSE Rio Oso ● WSE Van Vleck — WTP Effluent

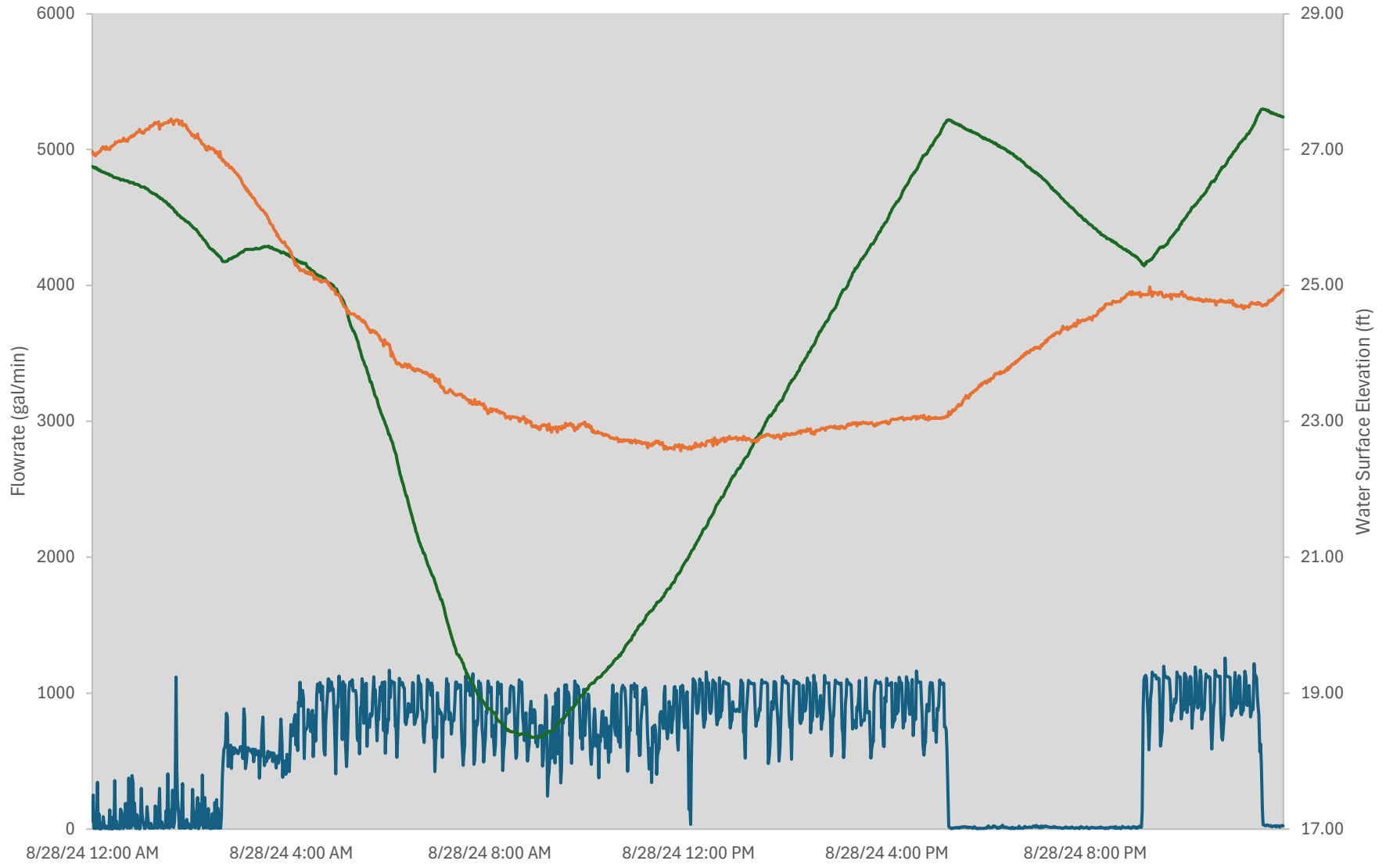


Tank Water Surface Elevations and WTP 1 and 2 Total Effluent, August 2024

● WSE Rio Oso ● WSE Van Vleck — WTP Effluent



Flowrate and Water Elevation Over Time



99° Date

— Rio Oso Flowrate — WSE Rio Oso — WSE Van Vleck

To: The existing and entitled ratepayers of the RMCS D *

The River Valley Times recently reported that the Board of Directors of the RMCS D (the District) approved a \$30,000 initial deposit to the Sacramento County Water Agency (SCWA). This “deposit” was required by SCWA to assess the feasibility of delivering (selling) SCWA water in areas beyond its district boundaries. As a SCWA water source will terminate at Sunrise Blvd and Jackson Highway, it was suggested this water source might mitigate the District’s inadequate water storage and/or provide the District with an “emergency water supply”. Developers also asked that SCWA evaluate the use of SCWA water to support future development. The board voted to approve this deposit as an expenditure from its water augmentation fund. *Prior* to the issuance of any deposit, RMCS D staff and SCWA concluded, in terms of both time and cost, this project was undeliverable. SCWA has guaranteed water to 25,000 additional homes inside the Sunrise Blvd/ Jackson Highway Corridor. The time frame suggested by SCWA to act on RMCS D’s proposal was that approval, if possible, could take “decades” with a finished cost exceeding \$15,000,000. SCWA must also construct the additional infrastructure necessary to provide water already promised inside its boundaries, further rendering the SCWA solution as an unrealistic option.

The lack of water, for both an emergency and additional development, require the District to approach this problem as two separate priorities. The District must address these priorities simultaneously, as it investigates water sources beyond what is available from the Cosumnes River. As a first step, the board must approve and establish an *emergency water policy* directed to its existing and entitled ratepayers*. At the heart of our emergency water policy is a nonnegotiable tenet:

RMCS D must maintain no less than a one year supply of water in emergency storage. This one year supply of water must be a physical source and must be perpetually maintained.

This emergency supply begins with the use of Lake Clementia. The District must petition the State Water Resources Control Board to amend both Clementia’s recreational license and its purpose of use. The District must prepare and execute a plan to identify and validate alternative water sources that will contribute to the emergency water supply. Alternative water sources must supplement water currently diverted from the

Cosumnes River. RMCS D does not possess sufficient water to sustain its customers in a multi-year drought and the District must not delay in its accomplishment of its first priority which is the priority of finding emergency water.

A one year emergency water reserve must equal the water necessary to sustain the community for one year of normal use.

“Normal usage” must be calculated exclusive of any conservation.. Simply stated: available emergency water must be calculated as “gross emergency storage” prior to any implementation of a conservation plan.

When sustained or intermittent drought prohibit the diversion of water from the Cosumnes, every ratepayer will be *required* to responsibly and aggressively conserve water. Penalties must be in place and enforcement must be vigorous. Mandatory conservation, if rigorously enforced, will allow the District to extend the emergency water supply beyond its physical, one year reserve. This emergency water policy contradicts previous water plans from 2006-2024. Historically, misguided plans use periods of mandatory conservation support a conclusion that our water supply will support future development. Previous water planning assumes that the District’s residents will be required to cut back their use of water by 30-50% during mandatory emergency conservation. Developers may then use these water savings to justify the development of additional residential dwellings.

Emergency conservation, while absolutely necessary, is not a planning tool to grow the community!

RMCS D must explore additional water sources, water banking and groundwater wells to augment its emergency supply. *This is not only CS D’s first priority, it is also the law.* Recent legislation (SB552) requires RMCS D, lay 2027, to both identify an emergency supply and implement a reliable and sustainable drought plan. *The District will not meet the requirements of SB552 in 2027. This is simply impossible.* The District, at a minimum, must demonstrate that it has, in good faith, initiated a plan to comply. Our present drought plan is woefully outdated and not supported by a realistic supply of emergency water.

The District must do more to minimize the consequences of the concerning deficiencies of our emergency water supply. This cannot

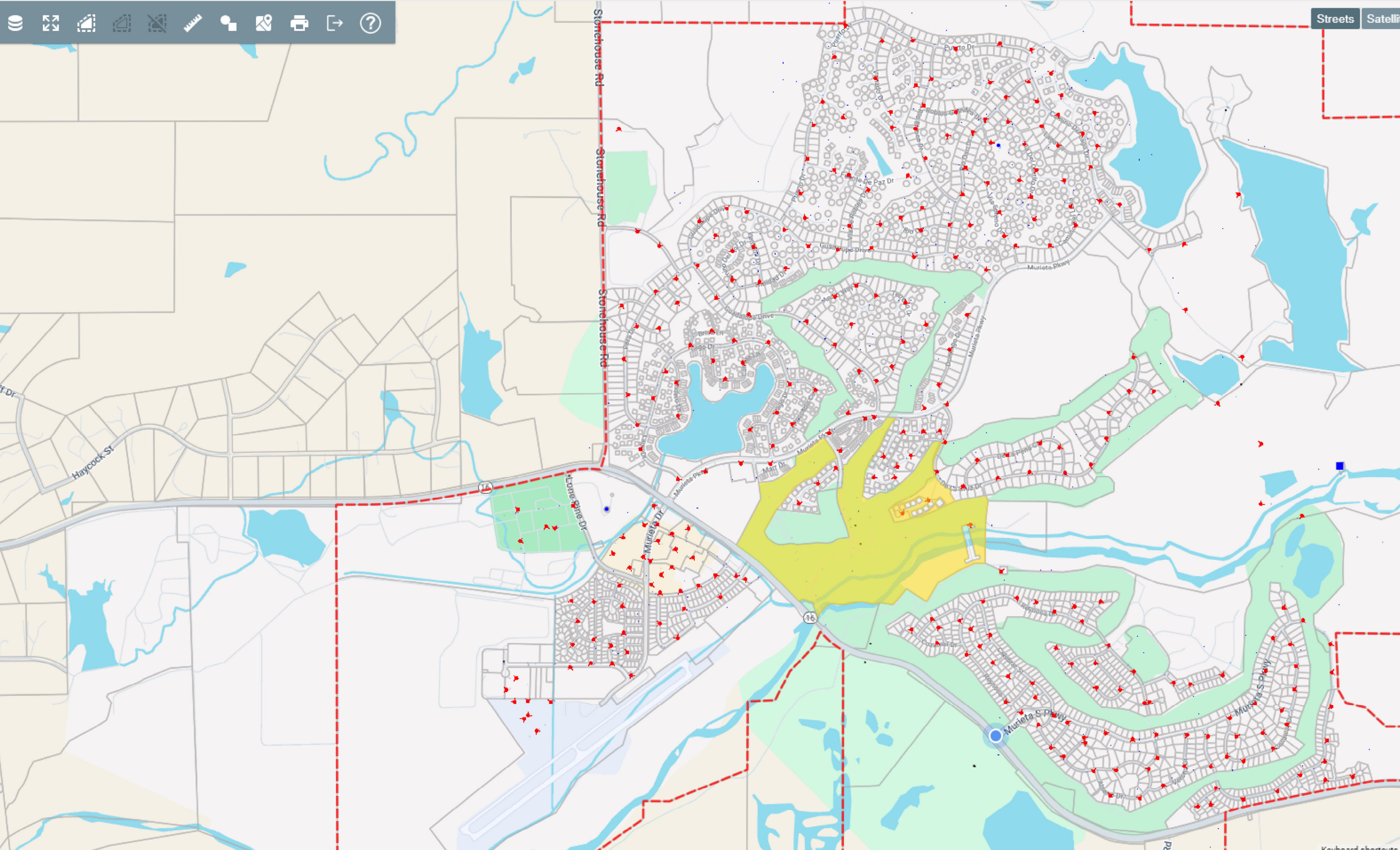
happen soon enough and this should be a priority included in the District's strategic plan.

Water code will soon require RMCS D to prepare an Urban Water Master Plan. While rushing to adopt the 2024 Integrated Water Master Plan, the District "opted" save money and abandon the formal structure of an urban water plan. Urban plans, by water code, require Districts to clearly define their emergency plan and an alternative source of emergency water. The draft of the water plan, currently in draft form, fails this test. Mandatory compliance with urban water code begins when residential connections exceed 3,000 homes and the District is less than 150 houses away from crossing this urban threshold. The (draft) 2024 Integrated Water Master Plan, does not meet these requirements and the District must revise or re-write it. The present plan offers no workable mitigation to support additional development or protect our ratepayers in an emergency. Fixing this, will cost a considerable amount of money but it is imperative that we do so.

This plan must be in place no later than the beginning of the new 2025/26 fiscal year. The District is treading water.....

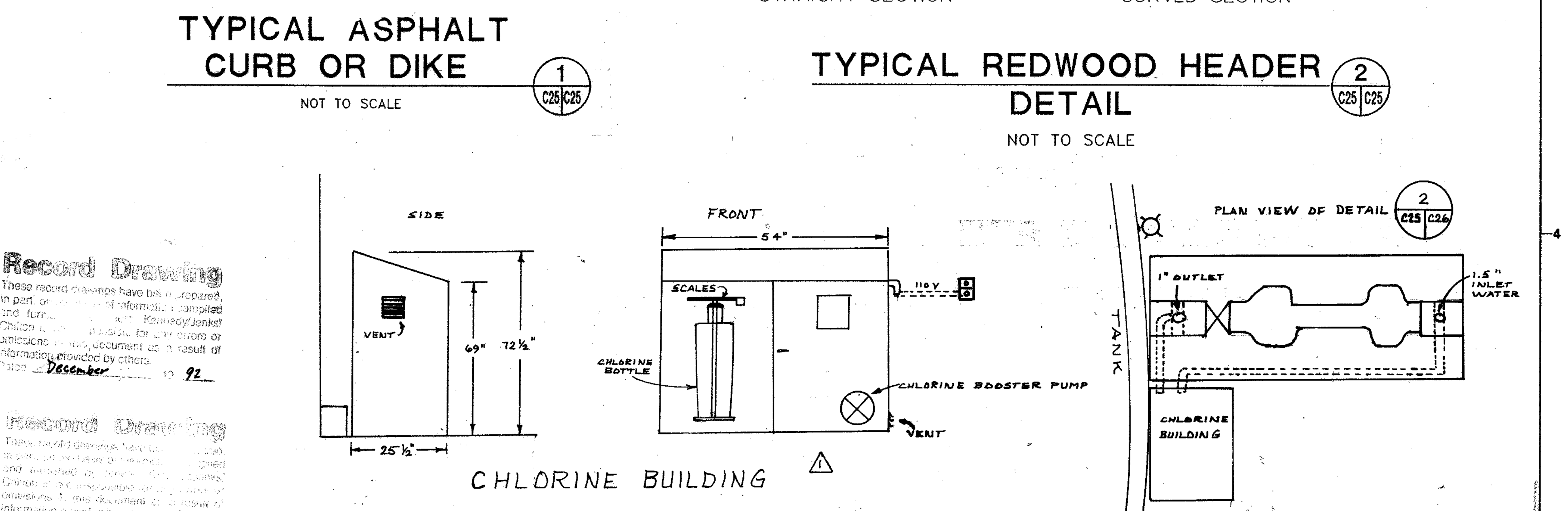
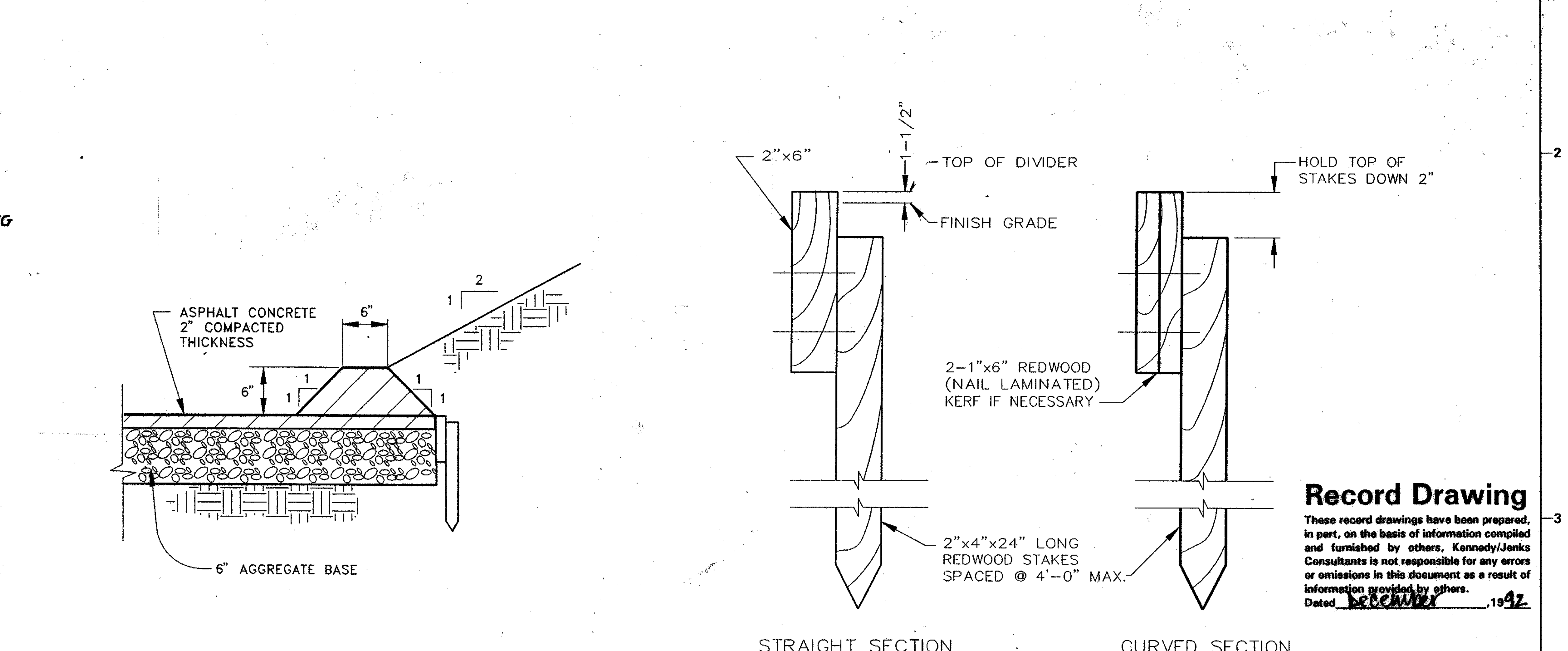
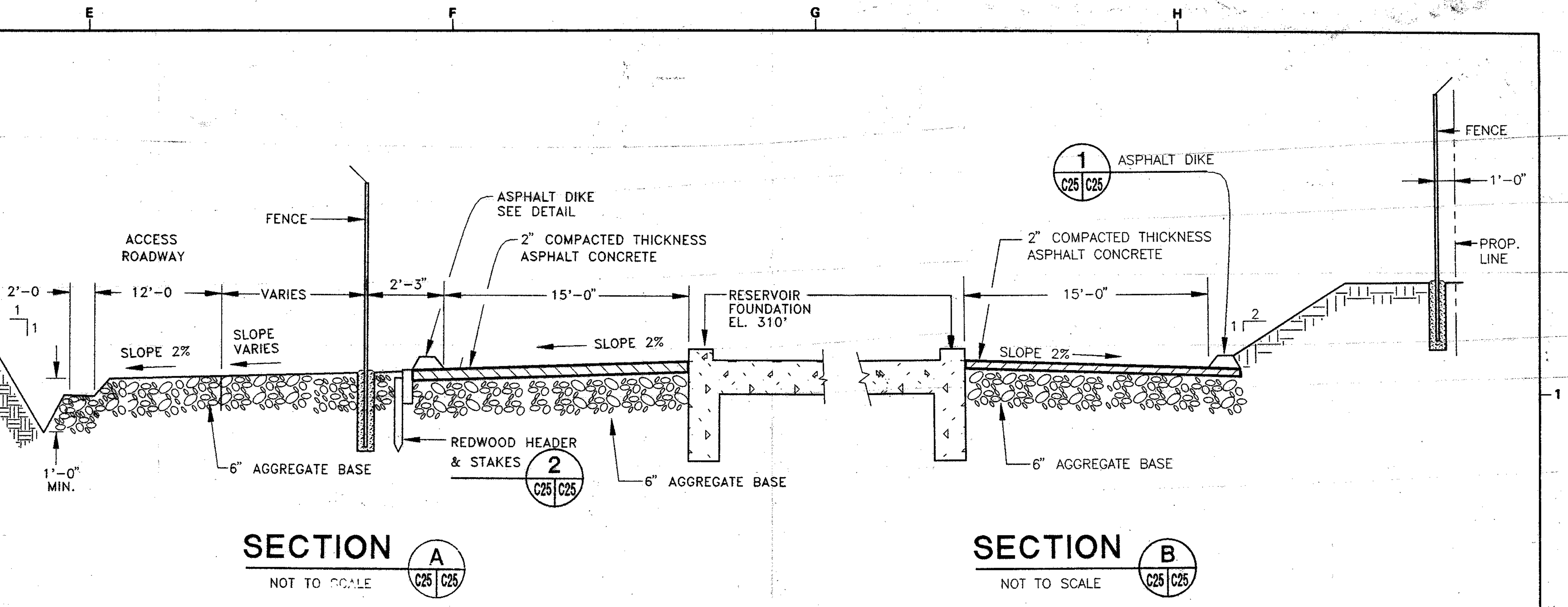
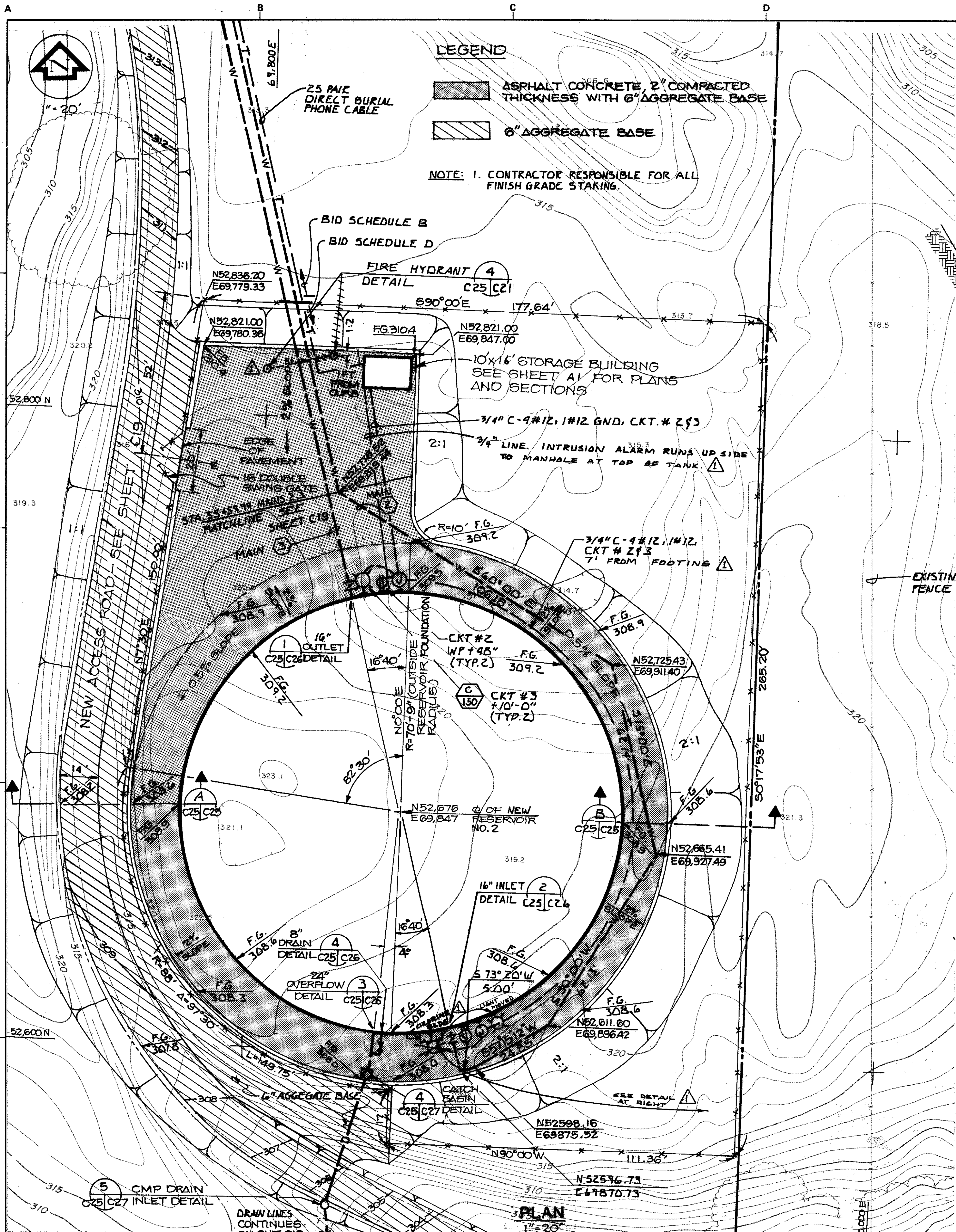
**entitled ratepayers" are current residential and commercial customers plus current development that has been approved by the County of Sacramento. These include Riverview, The Residences East & West and the Retreats. The CSD Board of Directors, in November 2024, voted to approve water for these developments.*

John Merchant
merchant30@gmail.com
916-761-2765



TOPOGRAPHIC MAP BY: **LOWELL INC.**
 GRID IS BASED ON LOCAL COORDINATE SYSTEM
 FIELD SURVEY CONTROL BY LOWELL & ASSOCIATES
 ELEVATIONS ARE BASED ON 1928 N.G.V.D.
 DATE OF PHOTOGRAPH: JULY 27, 1990
 CONTOUR INTERVAL: ONE FOOT

NOTE: IN OPEN UNRESTRICTED AREAS THIS MAP COMPLES WITH NATIONAL STANDARDS FOR MAP ACCURACY. IN AREAS OF DENSE VEGETATION WHERE THE GROUND IS OBTAINED FROM AERIAL PHOTOGRAPHS, ELEVATIONS MAY DEVIATE FROM CORRECT ELEVATION BY ONE HALF THE HEIGHT OF THE COVER.



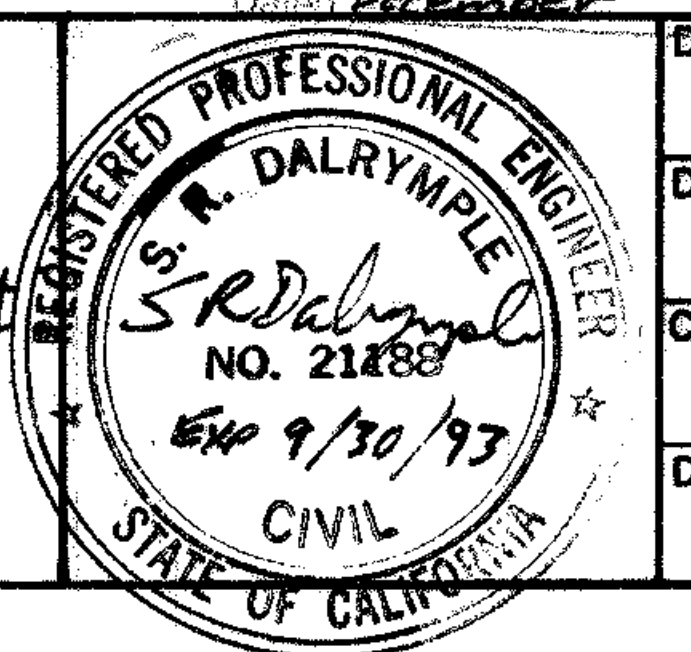
Record Drawing
 These record drawings have been prepared in part on the basis of information compiled and furnished by others. Kennedy/Jenks Consultants is not responsible for any errors or omissions in this document as a result of information provided by others.
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RECORD DRAWING INFORMATION			
Revised	Description	Submit	Appr'd. Date
			12/92
Refer to Tracing for Latest Revision			



Rancho Murieta Community Services District



Designed: R.K.W.	Drawn: E.A.A.	Checked: R.K.W.	Date: 4/24/91
RANCHO MURIETA SOUTH WATER SYSTEM IMPROVEMENTS			
Kennedy/Jenks/Chilton		Sacramento, California	
Submitted:		Approved:	

Reservoir Site Plan & Details

Scale: AS SHOWN
Job No.: 892502.00
Sheet: C25
of 40



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BETA Version

Fire Hydrant Flow Calculator

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- Use the tab key to navigate.
- Tab between each box to update the calculation.
- Be sure to tab past your final entry for a correct calculation.

Fire Flow Field Test for 15466 De La Cruz completed on 11/21/2023

Fire Hydrant FH-283 from RMCSO GIS Static: psi before flowing
 Residual: psi while flowing
 Pitot: pitot gage reading
 Diameter: size of opening tested
 This hydrant is flowing: GPM from the test outlet
 Projected available hydrant flow: GPM ^{Note 1}
 Fire Hydrant FH-282 from RMCSO GIS 2nd Static: secondary psi before flowing
 2nd Residual: secondary psi while flowing
 The main can be expected to flow about: GPM

Notes:

1. Projected available flows calculated at 20 psi residual, or ½ the static pressure for low pressure hydrants having static pressures of less than 40 psi.
2. This calculator is based on established Hazen-Williams formulas and is provided for convenience and estimation purposes only. The author and FireHydrant.org express no warranty for its suitability for any particular purpose.

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Note, fire hydrant closest to address was not flow tested but was 2nd fire hydrant tested with residual pressure due to orientation of hydrant and the problem of flooding other properties and washing out landscaping.



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Fire Hydrant Flow Calculator

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- Tab between each box to update the calculation.
- Be sure to tab past your final entry for a correct calculation.

Fire Flow Test for 15249 De La Pena completed on 3/4/2024

RMCS D GIS F.H. #296 Static: psi before flowing

 Residual: psi while flowing

 Pitot: pitot gage reading

 Diameter: size of opening tested

 This hydrant is flowing: GPM from the test outlet

 Projected available hydrant flow: GPM ^{Note 1}

RMCS D GIS F.H. #295 2nd Static: secondary psi before flowing

 2nd Residual: secondary psi while flowing

 The main can be expected to flow about: GPM

Notes:

1. Projected available flows calculated at 20 psi residual, or 1/2 the static pressure for low pressure hydrants having static pressures of less than 40 psi.
2. This calculator is based on established Hazen-Williams formulas and is provided for convenience and estimation purposes only. The author and FireHydrant.org express no warranty for its suitability for any particular purpose.

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- Use the tab key to navigate.
- Tab between each box to update the calculation.
- Be sure to tab past your final entry for a correct calculation.

Fire Flow Test on De La Cruz 03/04/2025 Completed at 10:20 am

GIS F.H. 283 at 15455 De La Cruz Static: psi before flowing

Residual: psi while flowing

Pitot: pitot gage reading

Diameter: size of opening tested

This hydrant is flowing: GPM from the test outlet

Projected available hydrant flow: GPM ^{Note 1}

GIS F.H. 284 at 15365 De La Cruz 2nd Static: secondary psi before flowing

2nd Residual: secondary psi while flowing

The main can be expected to flow about: GPM

Notes:

1. Projected available flows calculated at 20 psi residual, or ½ the static pressure for low pressure hydrants having static pressures of less than 40 psi.
2. This calculator is based on established Hazen-Williams formulas and is provided for convenience and estimation purposes only. The author and FireHydrant.org express no warranty for its suitability for any particular purpose.

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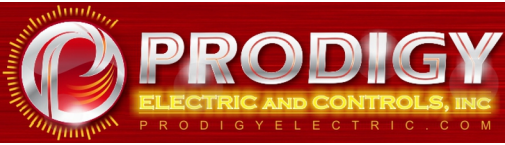
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Calero Reservoir

Chesbro Reservoir

Year	Month	Beginning Elevation in feet	Ending Elevation in feet	Reservoir Gain or Loss (feet)	Volume of Loss/ Gain (MG)	Volume of Loss/ Gain Acre Feet	Precipitation Acre Feet	Loss to Evaporation Acre Feet	Beginning Elevation (feet)	Ending Elevation (feet)	Reservoir Gain or Loss (feet)	Volume of Loss/ Gain Acre Feet	Volume in Acre Feet at Volume	Precipitation Acre Feet	Loss to Evaporation Acre Feet	Total Added by Rain in inches	Total Volume Pumped Acre Feet	Total Loss or Gain Acre Feet	Total Loss to Evaporation Acre Feet	Water Plant Influent Acre Feet	Water Plant Effluent Acre Feet	Underdrain Lossage Acre Feet	Unaccounted for Water Loss Acre Feet
2024	January	273.92	277.84	3.92	124.86	383.18	39.06	2.77	256.06	259.7	3.64	132.83	894.41	15.32	1.03	4.64	548.93	516.01	3.80	91.65	70.29	0.00	-91.65
	February	277.84	280.19	2.35	57.34	175.96	43.61	6.80	259.7	259.53	-0.17	-11.53	886.80	15.24	6.16	4.91	260.04	164.43	12.96	82.88	62.96	26.76	-109.64
	March	280.19	280.23	0.04	-6.09	-18.68	31.69	-102.72	259.53	255.31	-4.22	-21.13	738.16	10.48	1.10	3.56	39.40	-39.81	-101.62	84.19	79.71	26.49	-110.67
	April	280.23	283.02	2.79	105.39	323.43	20.83	41.35	255.31	260.59	5.28	199.62	936.93	7.88	13.48	2.24	388.30	523.06	54.83	98.53	92.17	26.31	-124.83
	May	283.02	282.20	-0.82	37.16	114.05	7.98	-98.40	260.59	265.16	4.57	111.60	1138.40	4.57	17.28	0.86	389.72	225.65	-81.13	183.12	159.94	27.21	-210.33
	June	282.20	281.06	-1.14	-32.26	-98.99	0.00	78.87	265.16	257.87	-7.29	-255.64	841.97	0.00	31.85	0	0.00	-354.63	110.73	232.64	203.97	27.42	-260.07
	July	281.06	277.08	-3.98	-113.21	-347.42	0.00	91.22	257.87	255.86	-2.01	-72.18	769.78	0.00	37.53	0	0.00	-419.60	128.75	269.05	239.22	26.98	-296.03
	August	277.08	274.25	-2.83	-70.71	-216.99	0.00	66.20	255.86	254.81	-1.05	-6.95	731.21	0.00	5.72	0	0.00	-223.94	71.91	253.03	223.99	27.50	-280.53
	September	274.25	270.58	-3.67	-58.66	-180.03	0.00	33.25	254.81	256.31	1.5	3.56	784.00	0.00	1.61	0	0.00	-176.47	34.86	221.40	192.30	0.00	-221.40
	October	270.58	263.93	-6.65	-135.67	-416.35	0.59	33.10	256.31	255.185	-1.125	0.00	745.15	0.00	0.00	0.05	0.00	-416.35	33.10	204.99	178.03	0.00	-204.99
	November	263.93	266.61	2.68	-3.10	-9.52	16.43	-0.47	255.185	256.06	0.875	3.55	766.24	10.64	0.54	3.13	91.01	-5.97	0.07	122.96	102.36	0.00	-122.96
	December	266.61	267.27	0.65	5.23	16.06	14.14	0.00	256.06	256.31	0.25	21.29	776.88	7.12	0.00	2.64	119.51	37.34	0.00	0.00	0.00	0.00	0.00

Master RFP Scoring Matrix							
		Respondents (Score Respondants 0-10)					
		GSW Construction		TNT Industrial Contractors		M-3	
Criteria	Criteria Weight	Score	Total	Score	Total	Score	Total
1. Understanding of Scope of Work & Project Objectives	10	10	100	10	100	10	100
2. Project Approach	20	20	400	20	400	20	400
3. Quality of Overall Work Plan	5	5	25	5	25	5	25
4. Proposed Project Schedule for Timely Completion of Work	5	5	25	5	25	5	25
5. Company Experience Completing Similar Projects	10	10	100	10	100	10	100
6. Individual Team Member Experience Completing Similar Projects	10	10	100	10	100	10	100
7. Reference Quality - to be scored by one reviewer	5	5	25	5	25	5	25
8. Pricing - to be ranked after items #1-7 are complete and fitted between 0-10 based on highest to lowest pricing.	35	8	280	9	315	10	350
		Totals:	1055	Totals:	1090		1125
Rank							



Quote

Please Remit To This Address: **Prodigy Electric And Controls, Inc.**
 PO Box 141
 Lincoln, CA 95648

Bill To: Rancho Murieta CSD
 15160 Jackson Road
 Rancho Murieta, CA

Quote #	40611
Date	1/24/2025
Total Due:	\$72,305.00
Terms	Net 15
P.O. No.	

Phone # 916.997.0798

CA License # 998361

Job Description

Alameda New panel

Description	Qty	Rate	Total
New Prodigy Panel for Alemeda : 1) 60" Tall x30" Wide x18" Deep Nema 3r Panel 2) Plc Idec, HMI ideo to match other newer sls panels in district. 3) Dead front, Pad lockable, sun shield, mushroom fan, Louvers in dead front and front door. 4) heater and fan with thermostats 5) 1@ 3 Phase Eaton starter with o/l. 6) adjustable Controls for 3 (n) floats, and 1 (n) transducer. 7) 1 transducer for level control 8) New verbatim cellular dialer mounted through dead front for safety 9) Breakers for Main, Pump 1 and controls. 10) HOA, Ptt Pump running Light and Elapsed time meter for each pump. 11) All internal wiring for a fully functional sewer pump station. 12) Flygt Controls relay supplied by customer and installed by us in panel. Panel has a 2 year warranty, from the date of start-up Install: New panel:	1	49,500.00	49,500.00
1) Add extra 2@ 2 inch conduit from mcc to wet well so there is 1@ 2" conduit for each pump and 1@ 2" conduit for level controls. Total of 2@ 2" conduits. 2) Add 1 underground j box with 2@ 2" eys to stop h2s from getting into the panel and pull box. 3) Add a concrete pad for new panel. 4) Remove old panel 5) Reroute power conduit to new panel. 8) Use 3 New floats (Low Water, High Water, and a secondary High Water for dialer. Note: Installation, start-up, and field services will be done at prevailing wage rates if things need done at emergency rate we will need to requote. Start-up: Testing and setting up panel with the district to make it function optimally as well as training for best practices with the new panel and controls.	1	19,350.00	19,350.00
Adder for a switched 10' led light pole attached to the panel.	1	2,000.00	2,000.00
Including its own breaker	1	1,455.00	1,455.00

Total \$72,305.00

From: [Tim Fassio](#)
To: [Travis Bohannon](#)
Subject: RE: Panel quote
Date: Monday, March 10, 2025 11:48:16 AM
Attachments: [image001.png](#)

Good morning Travis,

Due to a number of key unknowns in the requested scope of supply, AIC will be a no bid on this specific project request.

Best regards,

Tim Fassio | Sales Manager

Advanced Integration & Controls (AIC)

9332 Tech Center Drive, Suite 200 & 300 | Sacramento, CA 95826

Cell: 530-499-0405

Tim.Fassio@WaterAIC.com

www.wateraic.com



Please access the hyperlink below for an important electronic communications disclaimer:

http://www.lylesgroup.com/disclaimer_wml.html

From: Travis Bohannon <tbohannon@rmcsd.com>

Sent: Monday, March 10, 2025 11:35 AM

To: Tim Fassio <tim.fassio@wmlylesco.com>

Subject: RE: Panel quote

CAUTION: External Email.

Good morning Tim. I have not heard from you about the Alameda Liftstation panel. If you are not interested in quoting, can you please send me an email stating that. Thank you.

Travis Bohannon

Chief Plant Operator

Rancho Murieta Community Services District
P.O. Box 1050
Rancho Murieta, CA 95683
Schedule: M-F 8-5 PST
916-870-5368(work)
916-354-3736 (fax)
Visit us at www.RMCSD.com

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From: Tim Fassio <tim.fassio@wmlylesco.com>
Sent: Thursday, February 6, 2025 11:10 AM
To: Travis Bohannon <tbohannon@rmcsd.com>
Cc: AIC-Estimating <AIC-Estimating@wateraic.com>
Subject: RE: Panel quote

Good morning Travis,

I would love to quote you the needed control panel but will need additional information to understand the scope of supply attached. Do you have a set of plans & specifications available to provide the needed information?

Which company is quoting this out of curiosity? It appears that they included installation of the control panel, and all the instrumentation based on their scope info, but System Integrators / Electrical Equipment Suppliers don't typically install the equipment since that falls into the responsibility of the electrical contractor and general contractor (pre-vailing wage / certified payroll activities).

Info Needed Examples

- What is the voltage and amperage?
- What is the I/O count associated with the IDEC PLC?
 - Is IDEC PLC a sole sourced or truly wanted platform for Rancho Murieta (rarely if ever are IDEC PLCs used in Water / Wastewater)
- What is the HP of the pump?

Without specifications or direction on the desired manufacturers / electrical layout of the desired control panel & instrumentation system, it would be a complete guess on our end to

cover your needs.

Let me know if you'd like to chat about this one in detail or if this is a site visit type of situation for the scope development needed.

Best regards,

Tim Fassio | Sales Manager

Advanced Integration & Controls (AIC)

9332 Tech Center Drive, Suite 200 & 300 | Sacramento, CA 95826

Cell: 530-499-0405

Tim.Fassio@WaterAIC.com

www.wateraic.com



Please access the hyperlink below for an important electronic communications disclaimer:

http://www.lylesgroup.com/disclaimer_wml.html

From: Travis Bohannon <tbohannon@rmcsd.com>

Sent: Thursday, February 6, 2025 9:56 AM

To: Tim Fassio <tim.fassio@wmlylesco.com>

Subject: Panel quote

CAUTION: External Email.

Tim, attached is the information for the panel that I need a quote for. Can you please quote apples to apples for the quote. Thank you.

Travis Bohannon

Chief Plant Operator

Rancho Murieta Community Services District

P.O. Box 1050

Rancho Murieta, CA 95683

Schedule: M-F 8-5 PST

916-870-5368(work)

916-354-3736 (fax)

Visit us at www.RMCSD.com

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Unanswered and Unpublished Questions from the IWMP

Unanswered and Unpublished	Answered and Unpublished
90	31