

**REGULAR MEETING OF THE FLORIN RESOURCE  
CONSERVATION DISTRICT BOARD OF DIRECTORS**

**Agenda**

**Tuesday, July 15, 2025**

**6:30 PM**

**9829 Waterman Road  
Elk Grove, CA 95624**

**Compliance with Government Code Section 54957.5**

Public records, including writings related to an agenda item for an open session of a regular meeting of the Florin Resources Conservation District that are distributed less than 72 hours before the meeting, are available by email request. In addition, such writings may be posted, whenever possible, on the Elk Grove Water District website at [www.egwd.org](http://www.egwd.org). The Board will discuss all items on the agenda and may take action on any item listed as an "Action" item. The Board may discuss items that do not appear on the agenda but will not act on those items unless there is a need to take immediate action and the Board determines by a two-thirds (2/3) vote that the need for action arose after posting of the agenda. If necessary, the Meeting will be adjourned to Closed Session to discuss items on the agenda listed under "Closed Session." At the conclusion of the Closed Session, the meeting will reconvene to "Open Session."

**CALL TO ORDER, ROLL CALL AND PLEDGE OF ALLEGIANCE**

**Public Comment**

This is the opportunity for the public to comment on non-agenda items within the subject matter jurisdiction. Comments are limited to three (3) minutes.

**Page Numbers**

**1. Proclamations and Announcements**

Associate Director Comment

Public Comment

**2. Consent Calendar**

**4-5**

(Stefani Phillips, Board Secretary and Patrick Lee, Treasurer)

- |  |              |
|--|--------------|
| a. Minutes of Regular Meeting of June 17, 2025           | <b>6-10</b>  |
| b. Accounts Payable Check History – June 2025            | <b>11-23</b> |
| c. Board and Employee Expense/Reimbursements – June 2025 | <b>24</b>    |
| d. Active Accounts – June 2025                           | <b>25</b>    |
| e. Bond Covenant Status for FY 2024-25 – June 2025       | <b>26</b>    |
| f. CASH - Detail Schedule of Investments – June 2025     | <b>27</b>    |
| g. Consultants Expenses – June 2025                      | <b>28</b>    |
| h. Major Capital Improvement Projects – June 2025        | <b>29</b>    |

Associate Director Comment

Public Comment

**Recommended Action/Information: Approve Florin Resource Conservation District  
Consent Calendar items a – h.**

	Page Numbers
<b>3. Elk Grove Water District Fiscal Year 2024-25 Quarterly Operating Budget Status Report</b> (Patrick Lee, Finance Manager/Treasurer)  Associate Director Comment  Public Comment  <b>Recommended Action/Information: Information only.</b>	30-37
<b>4. Elk Grove Water District Fiscal Year 2024-25 Quarterly Capital Reserve Status Report</b> (Patrick Lee, Finance Manager/Treasurer)  Associate Director Comment  Public Comment  <b>Recommended Action/Information: Information only.</b>	38-41
<b>5. Truck Purchase</b> (Ben Voelz, Associate Engineer)  Associate Director Comment  Public Comment  <b>Recommended Action/Information: Authorize the General Manager to execute a purchase order in the amount of \$100,555.43 to The Ford Store Morgan Hill to procure a Ford F650 dump truck.</b>	42-52
<b>6. Vacuum Excavator Trailer Purchase</b> (Ben Voelz, Associate Engineer)  Associate Director Comment  Public Comment  <b>Recommended Action/Information: Authorize the General Manager to execute a purchase order in the amount of \$142,931.96 to Ditch Witch West to procure a new vacuum excavator trailer.</b>	53-62
<b>7. Advanced Metering Infrastructure Meters and SmartPoint Purchase</b> (Ben Voelz, Associate Engineer)  Associate Director Comment  Public Comment  <b>Recommended Action/Information: Authorize the General Manager to execute a purchase order with Aqua Metric Sales Company in the amount of \$1,283,590.26 for the procurement of water meters and Advanced Metering Infrastructure SmartPoints.</b>	63-70



**8. Railroad Water Treatment Plant Programmable Logic Controller Replacement Project Contract** 71-278  
(Ben Voelz, Associate Engineer)

Associate Director Comment

Public Comment

**Recommended Action/Information:** Authorize the General Manager to execute a construction contract in the amount of \$598,000 with Telstar Instruments for the Railroad Water Treatment Plant Programmable Logic Controller Replacement Project.

**9. Legislative Matters and Potential Direction to Staff** 279-282  
(Travis Franklin, Program Manager)

Associate Director Comment

Public Comment

**Recommended Action/Information:** Information only.

**10. General Manager's Report** 283-284  
(Bruce Kamilos, General Manager)

Associate Director Comment

Public Comment

**Recommended Action/Information:** Information only.

**11. Elk Grove Water District Operations Report – June 2025** 285-338  
(Bruce Kamilos, General Manager)

Associate Director Comment

Public Comment

**Recommended Action/Information:** Information only.

**12. Directors Comments**

Adjourn to Regular Meeting – August 19, 2025

July 15, 2025

TO: Chair and Directors of the Florin Resource Conservation District

FROM: Stefani Phillips, Board Secretary and Patrick Lee, Treasurer

SUBJECT: **CONSENT CALENDAR**

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### **RECOMMENDATION**

It is recommended that the Florin Resource Conservation District Board of Directors approve Florin Resource Conservation District Consent Calendar items a – h.

### **SUMMARY**

Consent Calendar items a – h are standing items on the Regular Board Meeting agenda.

By this action, the Florin Resource Conservation District (FRCD) Board of Directors will approve FRCD Consent Calendar items a – h.

### **DISCUSSION**

#### **Background**

Consent Calendar items are standing items on the Regular Board Meeting agenda.

#### **Present Situation**

Consent Calendar items a – h are standing items on the Regular Board Meeting agenda.

### **ENVIRONMENTAL CONSIDERATIONS**

There are no direct environmental considerations associated with this report.

### **STRATEGIC PLAN CONFORMITY**

This item conforms to the FRCD/Elk Grove Water District 2025-2030 Strategic Plan. The monthly Consent Calendar report provides transparency, which aligns with Goal No. 1 - Governance, of the Strategic Plan 2025-2030.

July 15, 2025

**CONSENT CALENDAR**

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Page 2

**FINANCIAL SUMMARY**

There is no financial impact associated with this report.

Respectfully submitted,



STEFANI PHILLIPS  
BOARD SECRETARY

And



PATRICK LEE  
TREASURER

Attachments

**MINUTES OF THE REGULAR MEETING OF THE  
FLORIN RESOURCE CONSERVATION DISTRICT  
BOARD OF DIRECTORS**

**Tuesday, June 17, 2025**

The regular meeting of the Florin Resource Conservation District Board of Directors was called to order at 6:30 p.m. by Chair Tom Nelson at 9829 Waterman Road, Elk Grove, CA.

**Call to Order, Roll Call, and Pledge of Allegiance.**

Directors Present:	Joshua Green, Paul Lindsay, Lisa Medina, Elliot Mulberg, Tom Nelson
Directors Absent:	None
Staff Present:	Bruce Kamilos, General Manager; Patrick Lee, Finance Manager/ Treasurer; Stefani Phillips, Human Resources Administrator/Board Secretary; Donella Murillo, Finance Supervisor; Travis Franklin, Program Manager; Ben Voelz, Associate Engineer; Amber Kavert, Human Resources Technician
Staff Absent:	None
Associate Directors Present:	Robert Stresak
Associate Directors Absent:	Kim Martin
General Counsel Present:	Josh Horowitz, BKS Law

**Public Comment**

Board Secretary Stefani Phillips presented the Employer of Choice video to the Florin Resource Conservation District (FRCD) Board of Directors (Board).

**1. Proclamations and Announcements**

Nothing to report.

**2. Consent Calendar**

- a. Minutes of Regular Board Meeting of May 15, 2025
- b. Accounts Payable Check History – May 2025
- c. Board and Employee Expense/Reimbursements – May 2025
- d. Active Accounts – May 2025
- e. Bond Covenant Status for FY 2024-25 – May 2025
- f. CASH - Detail Schedule of Investments– May 2025
- g. Consultants Expenses – May 2025
- h. Major Capital Improvement Projects – May 2025

Item a was pulled to address a clerical correction; Item b was pulled for clarification on check-related questions, which staff answered.

MSC (Lindsay/Mulberg) to approve Florin Resource Conservation District Consent Calendar items a-h with amendments. 5/0: Ayes: Nelson, Green, Lindsay, Medina, and Mulberg.

**3. Year to Date Revenues and Expenses Compared to Budget – May 2025**

Finance Manager Patrick Lee presented the item to the Board.

Director Elliot Mulberg asked about the District's Revenues in Excess of All Expenditures being \$700,000 and if it likely will even out. Mr. Lee informed him that it will potentially even out, stating the schedule is on a cash basis and doesn't reflect any invoices that will be paid after June 30<sup>th</sup>, which are any invoices that we pay for in arrears.

#### **4. Public Hearing – Status of Vacancies and Recruitment Retention Efforts**

Chair Tom Nelson opened the public hearing.

Ms. Phillips explained the public hearing was being conducted in accordance with Assembly Bill (AB) 2561, which mandates periodic reviews of staffing and hiring practices to promote transparency and compliance with state workforce regulations. She mentioned the FRCD/Elk Grove Water District (District) currently has no vacancies and maintains a fully staffed workforce of 29 employees. The average employee tenure exceeds 10 years, reflecting strong retention and a stable workforce. Ms. Phillips also stated the District has not encountered challenges in recruitment, and no barriers to hiring have been identified. This review has been conducted in compliance with AB 2561, with no changes to current practices recommended. These findings support the District's ongoing commitment to effective governance and strategic workforce planning.

Associate Director Robert Stresak asked why AB 2561 was established. General Counsel Josh Horowitz mentioned the bill was a union sponsored bill and their politics were driving the bill to some extent.

Chair Nelson closed the public hearing.

#### **5. Florin Resource Conservation District/Elk Grove Water District Fiscal Year 2025-26 Operating Budget**

Mr. Lee presented the item to the Board for approval and adoption.

The District's proposed budget for Fiscal Year (FY) 2025-26 projects total operating revenues of approximately \$18.48 million and total expenses of approximately \$20.83 million including Capital Improvement and Capital Repair & Replacement Reserve contributions of approximately \$4.38 million. The projected expenses in excess of revenues are approximately \$2.35 million, which will be funded by appropriations from reserves carried over from prior years. Despite many non-discretionary cost increases and inflation, staff undertook efforts to find cost reductions to minimize increases, and these are reflected in the FY 2025-26 budget. The budget has a decrease in total expenses of \$0.13 million (-0.61%) from the adopted budget for FY 2024-25.

MSC (Medina/Lindsay) to adopt Resolution No. 06.17.25.01, approving the Florin Resource Conservation District/Elk Grove Water District Fiscal Year 2025-26 Operating Budget projecting revenues of \$18.48 million and expenses of \$20.83 million and appropriating \$2.35 million from operating reserves to fund expenses in excess of revenues for Fiscal Year 2025-26. 5/0: Ayes: Nelson, Green, Lindsay, Medina, and Mulberg.

#### **6. Fiscal Year 2025-26 Investment Policy Guidelines**

Mr. Lee presented the item to the Board.

The District's Investment Policy Guidelines requires annual readoption and delegation of investment authority annually. California Government Code sections 53600 – 53610 establishes the guidelines for the investment of public funds including the types of allowable investments and maximum amounts of each type of investment. Staff has reviewed the policy for compliance with applicable government codes and is not recommending any changes to the Investment Policy Guidelines at this time.

MSC (Lindsay/Medina) to adopt Resolution No. 06.17.25.02, approving the Fiscal Year 2025-26 Investment Policy Guidelines of the Florin Resource Conservation District and delegating investment authority to the Finance Manager/Board Treasurer. 5/0: Ayes: Nelson, Lindsay, Green, Medina, and Mulberg.

## **7. Elk Grove Water District Employee Policy Manual Amendment – Observed Holidays**

Ms. Phillips presented the item to the Board.

Section 5.2.1 of the Manual currently provides employees with 12 paid holidays, including one (1) floating holiday. While the floating holiday is specifically credited on a fiscal year basis, the provision does not state that the remaining holidays follow the fiscal year calendar. In addition, although the Manual authorizes the General Manager to determine how holidays falling on an employee's 9/80 day off are handled, it does not clearly specify when or how any additional floating holidays, resulting from such situations, should be credited. The proposed revision to Section 5.2.1 provides clearer guidance on how and when additional floating holidays will be credited when a fixed holiday falls on an employee's 9/80 day off. The updated language establishes a consistent and transparent approach to administering holiday benefits in these situations. In addition, the holiday calendar has been realigned to follow the District's fiscal year for better alignment and administration. Minor wording changes and reorganization have also been made to improve the clarity and readability of the section.

Director Joshua Green noted that the language currently states 12 paid holidays and one (1) additional paid floating holiday. Staff acknowledged the observation, thanked Director Green, and stated the language would be revised to reflect 12 paid holidays, including one (1) floating holiday.

MSC (Lindsay/Medina) to adopt Resolution No. 06.17.25.03, amending the 2024 Elk Grove Water District Employee Policy Manual, Section 5.2.1, Observed Holidays with language amendment. 5/0: Ayes: Nelson, Green, Lindsay, Medina, and Mulberg.

## **8. Bylaws of the Florin Resource Conservation District**

Ms. Phillips presented the item to the Board.

At the April 28, 2025 Special Meeting, the Board directed staff to update the Bylaws of the FRCD to reflect the roles of the Chair and Vice-Chair to be permanently designated as the Board's labor negotiators with the General Manager when the terms of their employment agreement is under negotiation. This direction was given as part of a motion to formalize their responsibilities in the General Manager's salary, compensation and benefits negotiations. Staff made the change to the Bylaws.

MSC (Mulberg/Green) to adopt Resolution No. 06.17.25.04, amending and replacing the Bylaws of the Florin Resource Conservation District. 5/0: Ayes: Nelson, Lindsay, Green, Medina and Mulberg

## **9. Nomination of Sacramento Local Agency Formation Commission Special District Commissioners**

Ms. Phillips presented the item to the Board.

Sacramento Local Agency Formation Commission (LAFCo) is seeking nominations for one (1) Special District Commissioner and one (1) Alternate Special District Representative to serve a four-year term beginning January 1, 2026. Nominations for the Commissioner position will be compiled, and a ballot will subsequently be distributed to each special district for voting.

The Board chose not to nominate anyone.

## **10. California Special Districts Association Board of Directors 2025 Election of Director for Seat B – Sierra Network**

Ms. Phillips presented the item to the Board.

The California Special Districts Association (CSDA) is conducting an election for its Board of Directors, Seat B – Sierra Network. The elected individual will serve a three-year term beginning January 1, 2026, and ending December 31, 2028. The CSDA Board of Directors serves as the organization's governing body and is responsible for setting policy and overseeing member services, legislative advocacy, educational programs, and resource development. Six (6) candidates were listed on the ballot, along with their candidate statements for the Boards review.

Director Mulberg explained the process and recommended Rich Lozano. Director Josh Green seconded Director Mulberg's recommendation.

MSC (Mulberg/Lindsay) to elect Rich Lozano for Seat B - Sierra Network of the California Special Districts Association Board of Directors for term 2026-2028. 5/0: Ayes: Nelson, Lindsay, Green, Medina and Mulberg.

## **11. Legislative Matters and Potential Direction to Staff**

Program Manager Travis Franklin presented the legislative matters that have the potential to impact the District.

Mr. Franklin mentioned the Association of California Water Agencies (ACWA) is encouraging member agencies to contact their elected officials in the U.S. Congress and urge them to preserve funding for critical water infrastructure programs. Proposed funding cuts target the Environmental Protection Agency's State Revolving Funds (SRFs) with a \$2.4 billion reduction and the Water Infrastructure Finance and Innovation Act (WIFIA) with a \$64 million cut. Funding reductions are also proposed for the Bureau of Reclamation. Particularly hard-hit Bureau programs include the Aging Infrastructure Program, WaterSmart Program (including Title XVI Water Recycling) and Water Infrastructure Improvements for the Nation (WIIN) Act water storage funding. All of these Bureau programs were zeroed out in the president's budget proposal. Staff provided a customizable letter ACWA has provided members for the Board's review.

After discussion, the Board directed staff to send the letter to Representative Doris Matsui, Representative Ami Bera, Senator Alex Padilla, and Senator Adam Schiff.

## **12. General Manager's Report**

Mr. Kamilos presented the General Manager's Report to the Board before turning it over to staff to provide information on the items presented in the report.

Mr. Franklin has been doing the District's Municipal Services Review in-house for the Sacramento Local Agency Formation Commission application regarding the detachment of FRCD territory that lies outside the Elk Grove Water District service boundaries.

As requested by the Board, all current consultants/contracts have been provided with the District's new Artificial Intelligence Policy and have confirmed they will adhere to the policy.

Mr. Lee gave the Board an update on the Enterprise Resource Planning implementation, explaining staff has gone live with the finance model.

On Chair Nelson's request, Mr. Lee gave a report on Parametric Insurance, which is a type of insurance where payouts are triggered based on predefined, measurable parameters or events,

rather than traditional loss assessments. He explained this insurance is just a concept that the Association of California Water Agencies Joint Powers Insurance Authority (ACWA JPIA) is looking into and not a product offered currently.

Lastly, Mr. Kamilos mentioned that staff discovered they could use the \$1200 wellness grant received from ACWAJPIA towards the cost of premiums for the District's Employee Assistance Program.

### **13. Elk Grove Water District Operations Report – May 2025**

Mr. Kamilos went over the EGWD Operations Report for May 2025.

Associate Engineer Ben Voelz reported that the Storage Tank Project is 90% complete and will be completed by July.

Mr. Kamilos stated the District coordinated with Sacramento County Water Agency (SCWA) personnel to exercise the six (6) shared interties. He also informed the Board staff has been in communication with SCWA about Service Area 2 flushing and fees from that hydrant flushing. This conversation led to another discussion about the mutual agreement for water loss factor. Staff is currently going back and forth with SCWA on what the water loss factor percentage should be.

There was a discussion on how to determine water loss.

Mr. Kamilos gave kudos to Water Treatment Supervisor Aaron Hewitt for his good work since becoming supervisor.

### **14. Directors Comments**

Nothing to report.

Adjourn to Regular Board Meeting on July 15, 2025.

Respectfully submitted,



Stefani Phillips, Board Secretary

AK/SP



## Accounts Payable

## Checks by Date - Detail by Check Number

06/01/2025 - 06/30/2025



Check No	Vendor No Invoice No	Vendor Name Description	Check Date Reference	Check Amount
62749	10215 57552	Arrow Construction Asphalt Resurfacing Webb Street	06/04/2025	49,945.00
Total for Check Number 62749:				49,945.00
62750	10008 10807	Auto Solutions By Single Repairs & Maintenance Truck #413	06/04/2025	195.68
Total for Check Number 62750:				195.68
62751	10219 79054	Backflow Distributors, Inc Tools - Distribution	06/04/2025	110.00
Total for Check Number 62751:				110.00
62752	10013 1091739	Benefit Resources Monthly ADMIN for May 2025	06/04/2025	175.00
Total for Check Number 62752:				175.00
62753	10224 BPI519617	Brenntag Pacific, Inc Chemicals - Treatment	06/04/2025	3,667.60
Total for Check Number 62753:				3,667.60
62754	10014 SI02575	BSK Associates Sampling - Treatment	06/04/2025	52.00
Total for Check Number 62754:				52.00
62755	10020 30030338 30030338	Capital Rubber & Gasket Repairs & Maintenance Vactor Materials - Utility Crew	06/04/2025	52.14 129.67
Total for Check Number 62755:				181.81
62756	10023 May 2025 May 2025 May 2025 May 2025 May 2025 May 2025 May 2025 May 2025 May 2025 May 2025 May 2025 May 2025 May 2025 May 2025	Card Services Materials Training Brandon Wagner Materials Safety Materials Repairs & Maintenance Refund Repairs & Maintenance Tools Repairs & Maintenance Credit Training Canceled Repairs & Maintenance Repairs & Maintenance Materials Supplies	06/04/2025	116.67 1,495.00 14.58 34.32 31.72 -145.93 225.60 76.06 86.78 -1,195.00 145.93 145.00 256.65 26.03

Check No	Vendor No Invoice No	Vendor Name Description	Check Date Reference	Check Amount
	May 2025	Materials		30.42
			Total for Check Number 62756:	1,343.83
62757	10024	Card Services	06/04/2025	
	May 2025	ACWA 2024 Spring Conf - Tom Nelson		995.61
	May 2025	Monthly Software Programs		56.34
			Total for Check Number 62757:	1,051.95
62758	10025	Card Services	06/04/2025	
	May 2025	Monthly Software		40.00
			Total for Check Number 62758:	40.00
62759	10028	Card Services	06/04/2025	
	May 2025	Late Fee		23.03
	May 2025	Monthly Software Programs		27.77
	May 2025	Hotel Deposit - Springbrook Conference Octobe		202.95
	May 2025	Registration - Springbrook Conference October		895.00
	May 2025	Airfare - Springbrook Conference October 2025		264.96
			Total for Check Number 62759:	1,413.71
62760	10030	Card Services	06/04/2025	
	May 2025	CSDA Conference - Elliot Mulberg		495.00
	May 2025	Meal		4.99
	May 2025	Employee Appreciation		7.80
			Total for Check Number 62760:	507.79
62761	10415	Chicago Title Co.	06/04/2025	
	0782640200 0625	Closed Account - 8709 Lorna Ct		56.56
			Total for Check Number 62761:	56.56
62762	10452	Chioma Nwokike	06/04/2025	
	1400670200 0625	Closed Account - 9304 Fox Springs Wy		43.68
			Total for Check Number 62762:	43.68
62763	10036	Cintas	06/04/2025	
	4231244688	OPS Uniforms		177.49
	4231809678	OPS Uniforms		177.49
			Total for Check Number 62763:	354.98
62764	10258	Coverall North America, Inc	06/04/2025	
	1000203775	Monthly Janitorial Service ADMIN		1,050.00
			Total for Check Number 62764:	1,050.00
62765	10064	Elk Grove Lock and Safe Co	06/04/2025	
	30197	Keys - Distribution		16.38
			Total for Check Number 62765:	16.38
62766	10449	Fidelity National Title	06/04/2025	
	1510650100 0625	Closed Account - 9798 Silvergate Ln		100.51
			Total for Check Number 62766:	100.51
62767	10286	Fidelity National Title Company	06/04/2025	

Check No	Vendor No Invoice No	Vendor Name Description	Check Date Reference	Check Amount
	0511100000 0625	Closed Account - 8804 Fontana Ct		160.49
			Total for Check Number 62767:	160.49
62768	10440	Fidelity National Title Company	06/04/2025	
	0423480000 0625	Closed Account - 8636 Hume Ct		52.10
	1400670200 0625	Closed Account - 9304 Fox Springs Wy		1.59
			Total for Check Number 62768:	53.69
62769	10075	David Frederick	06/04/2025	
	Boot Reim 0625	Boot Reimbursement June 2025		113.14
			Total for Check Number 62769:	113.14
62770	10453	Kathleen Eddy	06/04/2025	
	0880140100 0625	Credit Balance Refund - 8964 Royal Gate		395.97
			Total for Check Number 62770:	395.97
62771	10099	Brandon Kent	06/04/2025	
	Boot Reim 0625	Boot Reimbursement June 2025		288.17
			Total for Check Number 62771:	288.17
62772	10115	Miscowater	06/04/2025	
	47313B35243	Materials - Treatment		1,683.19
	47634B35241	Materials - Treatment		295.55
			Total for Check Number 62772:	1,978.74
62773	10448	National Coating & Lining By BrandSafwa	06/04/2025	
	VI0328860	Storage Tank #2		135,375.00
	VI0328861	Storage Tank #2		53,295.00
			Total for Check Number 62773:	188,670.00
62774	10328	Network Design Associates, Inc	06/04/2025	
	94699	Rack Ears for New Switches ADMIN		671.84
			Total for Check Number 62774:	671.84
62775	10450	Orange Coast Title	06/04/2025	
	1180070103 0625	Closed Account - 8972 East Valley Dr		107.33
			Total for Check Number 62775:	107.33
62776	10125	O'Reilly Auto Parts	06/04/2025	
	2585-258135	Repairs & Maintenance		32.61
	2585-260046	Materials		28.86
	2884-1331284	Repairs & Maintenance		45.88
	2884-1331284	Repairs & Maintenance		83.99
	2884-1331284	Materials Utility		40.14
			Total for Check Number 62776:	231.48
62777	10126	Pace Supply Corp	06/04/2025	
	0610470021	Materials - WMRP - CIP		14,269.54
	0610484204	Materials Distribution		132.52
			Total for Check Number 62777:	14,402.06
62778	10451	Placer Title Company	06/04/2025	

Check No	Vendor No Invoice No	Vendor Name Description	Check Date Reference	Check Amount
	1561310101 0625	Closed Account - 9594 Mecem Ct		14.64
			Total for Check Number 62778:	14.64
62779	10144 0922-009551679	Republic Services #922 Waste, Organics, Recycle - ADMIN	06/04/2025	649.88
			Total for Check Number 62779:	649.88
62780	10160 3973596-0	Sierra Office Supplies Supplies - ADMIN	06/04/2025	34.43
			Total for Check Number 62780:	34.43
62781	10175 2037835 2037835	Threattrack Security Inc. VIPRE Security ADMIN VIPRE Security MOC	06/04/2025	871.00 871.00
			Total for Check Number 62781:	1,742.00
62782	10178 TT083995-006 TT084605-004 TT085676-001	Trench & Traffic Supply Rental Equipment WMRP - CIP Rental Equipment WMRP - CIP Rental Equipment WMRP - CIP	06/04/2025	381.72 47.85 642.40
			Total for Check Number 62782:	1,071.97
62783	10186 00718594	USABluebook Supplies - Treatment	06/04/2025	99.79
			Total for Check Number 62783:	99.79
62784	10265 100	Dave Weber Building Maintenance ADMIN	06/04/2025	375.00
			Total for Check Number 62784:	375.00
62785	10446 1610150100 0625	WFG National Title Insurance Company Closed Account - 8469 Saint Arvant Ct	06/04/2025	166.38
			Total for Check Number 62785:	166.38
62786	10003 12410933	Air Works Inc Repairs & Maintenance HVAC - MOC	06/11/2025	264.26
			Total for Check Number 62786:	264.26
62787	10005 13KT-9VY1-FRWQ 1M17-JDGY-FJ36 1YP7-NCV7-F4TQ	Amazon Capital Services WIN 911 Alert Machine Safety Materials	06/11/2025	735.15 10.85 130.46
			Total for Check Number 62787:	876.46
62788	10454 I44175	Area Portable Services, Inc Facilities Rental	06/11/2025	633.77
			Total for Check Number 62788:	633.77
62789	10011 P82907062	Batteries Plus Battery Supplies	06/11/2025	315.09

Check No	Vendor No Invoice No	Vendor Name Description	Check Date Reference	Check Amount
Total for Check Number 62789:				315.09
62790	10014	BSK Associates	06/11/2025	
	SI02597	Sampling		228.00
	SI02648	Sampling		36.00
	SI02715	Sampling		228.00
	SI02830	Sampling		36.00
	SI02854	Sampling		71.00
	SI02864	Sampling		228.00
	SI02870	Sampling		71.00
	SI03030	Sampling		71.00
	SI03031	Sampling		71.00
Total for Check Number 62790:				1,040.00
62791	10022	Card Services	06/11/2025	
	May 2025	Materials - WMRP -CIP		72.21
Total for Check Number 62791:				72.21
62792	10026	Card Services	06/11/2025	
	May 2025	Materials - WMRP - Utility Lead		239.26
	May 2025	Repairs & Maintenance Equipment		221.64
Total for Check Number 62792:				460.90
62793	10029	Card Services	06/11/2025	
	May 2025	Materials - Distribution Supervisor		83.86
Total for Check Number 62793:				83.86
62794	10036	Cintas	06/11/2025	
	4232715850	Uniforms - OPS		182.22
Total for Check Number 62794:				182.22
62795	10040	Consolidated Communications	06/11/2025	
	May 2025	Internet & Phones - MOC/ADMIN		878.66
	May 2025	Internet & Phones - MOC/ADMIN		878.67
Total for Check Number 62795:				1,757.33
62796	10046	County of Sacramento	06/11/2025	
	90447734	June 2022-June 2023 Construction		8,097.11
	90447735	July 2023- June 2024 Construction		3,544.00
	90447736	July 2024- Apr 2025 Construction		7,300.60
	90447737	Jan -Feb 2025 Flushing Rep		3,933.90
Total for Check Number 62796:				22,875.61
62797	10258	Coverall North America, Inc	06/11/2025	
	1000203771	Janitorial Services - MOC		499.00
Total for Check Number 62797:				499.00
62798	10260	CSI Services, Inc	06/11/2025	
	17025	Storage Tank #2 Inspection		10,770.00
Total for Check Number 62798:				10,770.00
62799	10053	DB Constructional Landscape	06/11/2025	

Check No	Vendor No Invoice No	Vendor Name Description	Check Date Reference	Check Amount
	June 2025	Maintenance of all wells and offices		3,360.00
			Total for Check Number 62799:	3,360.00
62800	10267 103575	Delphia Consulting, LLC Sage HR Programming	06/11/2025	120.00
			Total for Check Number 62800:	120.00
62801	10056 9355237	DMV Pull Notice	06/11/2025	10.00
			Total for Check Number 62801:	10.00
62802	10303 1107907	Industrial Test Systems, Inc Materials - Treatment	06/11/2025	353.93
			Total for Check Number 62802:	353.93
62804	10101 299270	Lanset America Corp Disaster Recovery - Quarterly Payment	06/11/2025	1,617.99
			Total for Check Number 62804:	1,617.99
62805	10125 2585-261480	O'Reilly Auto Parts Repairs & Maintenance of Equipment	06/11/2025	15.57
			Total for Check Number 62805:	15.57
62806	10350 0204973	Preferred Alliance, Inc Non-Radom Tests - HR	06/11/2025	70.00
			Total for Check Number 62806:	70.00
62807	10144 0922-009552687	Republic Services #922 Waste, Recycle, and Organics - MOC	06/11/2025	2,572.73
			Total for Check Number 62807:	2,572.73
62808	10150 April 2025	Sacramento County Utilities Sewage Collection Charges - MOC	06/11/2025	329.57
			Total for Check Number 62808:	329.57
62809	10160 3974018-0 3974111-0 3974112-0 3974112-1	Sierra Office Supplies Supplies - ADMIN Supplies - ADMIN Supplies - ADMIN Supplies - ADMIN	06/11/2025	393.19 403.47 161.39 221.92
			Total for Check Number 62809:	1,179.97
62810	10161 185955 May 25	SMUD Electricity Ranch Park and Kelsey Dr	06/11/2025	2,502.89
			Total for Check Number 62810:	2,502.89
62811	10161 2933501 May 25	SMUD Electricity 9715 RailRoad Wy	06/11/2025	10,586.18
			Total for Check Number 62811:	10,586.18
62812	10161	SMUD	06/11/2025	

Check No	Vendor No Invoice No	Vendor Name Description	Check Date Reference	Check Amount
	59633 May 25	Electricity 9205 Meadow Grove Dr		6,824.86
			Total for Check Number 62812:	6,824.86
62813	10161 6860502 May 25	SMUD Electricity 9829 Waterman Rd	06/11/2025	646.83
			Total for Check Number 62813:	646.83
62814	10161 6034535 May 25	SMUD Electricity 9035 Polhemus Dr	06/11/2025	1,951.10
			Total for Check Number 62814:	1,951.10
62815	10161 3793 May 25	SMUD Electricity 8840 Elk Wy	06/11/2025	40.13
			Total for Check Number 62815:	40.13
62816	10161 3548843 May 25	SMUD Electricity 9085 Elk Grove Bl	06/11/2025	1,338.74
			Total for Check Number 62816:	1,338.74
62817	10161 2839116 May 25	SMUD Electricity 9818 Dino Dr	06/11/2025	11,539.13
			Total for Check Number 62817:	11,539.13
62818	10161 1202265 May 25	SMUD Electricity 10113 Hampton Oak Dr	06/11/2025	6,586.47
			Total for Check Number 62818:	6,586.47
62819	10163 2320	Solutions by BG Inc. Daily Tasks & Tickets - IT	06/11/2025	6,266.11
			Total for Check Number 62819:	6,266.11
62820	10164 018153	Springbrook Holding Co. LLC ERP Subscription's	06/11/2025	37,275.00
			Total for Check Number 62820:	37,275.00
62821	10176 5034526859	Toshiba Financial Services Copier - ADMIN	06/11/2025	323.88
			Total for Check Number 62821:	323.88
62822	10178 TT085339-002	Trench & Traffic Supply Equipment Rental - WMRP - CIP	06/11/2025	1,163.70
			Total for Check Number 62822:	1,163.70
62823	10189 6114641157	Verizon Wireless	06/11/2025	590.12
			Total for Check Number 62823:	590.12
62826	10046 90447735-	County of Sacramento July 2023-June 2024 Construction	06/11/2025	0.18

Check No	Vendor No Invoice No	Vendor Name Description	Check Date Reference	Check Amount
Total for Check Number 62826:				0.18
62827	10002 447523	AFLAC Supplemental Medical	06/25/2025	856.56
Total for Check Number 62827:				856.56
62828	10467 1030190000	Agripino Nazareno Active Acct-8941 Blakemore Ct	06/25/2025	335.25
Total for Check Number 62828:				335.25
62829	10455 5067348-CVRK_EG	Alpha Analytical Laboratories, Inc Treatment-Odor Testing	06/25/2025	100.00
Total for Check Number 62829:				100.00
62830	10005 164J-4KCJ=XXJX 176M-1TWM-4VV6 1939-X3FF-KFCQ 1HN6-NV1N-4CGC 1KFK-WY4W-MTTX 1KVL-4HVJ-HKY9 1YV3-9GTG-TWRJ	Amazon Capital Services Administration-Supplies Treatment-Supplies Distribution- Materials Treatment-Supplies Administration- Supplies Treatment-Supplies Treatment-Supplies	06/25/2025	32.61 463.01 86.76 171.80 64.78 251.13 173.60
Total for Check Number 62830:				1,243.69
62831	10211 INV0107978 INV0107979 INV0107980 INV0107981 INV0108028	Aqua-Metric Sales, Co. Tarriff Payment Tarriff Payment Tarriff Payment Tarriff Payment Tarriff Payment	06/25/2025	62.54 36.17 122.32 22.27 2,066.25
Total for Check Number 62831:				2,309.55
62832	10221 May 2025	BKS Law Firm, PC Legal Services	06/25/2025	4,913.20
Total for Check Number 62832:				4,913.20
62833	10224 BPI526694	Brenntag Pacific, Inc Treatment - Chemicals	06/25/2025	2,892.18
Total for Check Number 62833:				2,892.18
62834	10464 0921110101	Brian O'Donnell Clsd Acct-9039 Crowley Way	06/25/2025	237.55
Total for Check Number 62834:				237.55
62835	10014 SI03054 SI03144 SI03152 SI03168 SI03250 SI03296 SI03297 SI03314	BSK Associates Treatment-Sampling Treatment-Sampling Treatment-Sampling Treatment-Sampling Treatment-Sampling Treatment-Sampling Treatment-Sampling Treatment-Sampling	06/25/2025	228.00 71.00 71.00 228.00 40.00 71.00 71.00 71.00



Check No	Vendor No Invoice No	Vendor Name Description	Check Date Reference	Check Amount
			Total for Check Number 62835:	851.00
62836	10228 32754	California Cut & Core, Inc CIP-Flat Saw Concrete/Asphalt	06/25/2025	1,025.00
			Total for Check Number 62836:	1,025.00
62837	10017 38762	California Steam Utility- Equipment Repairs/Maintenance	06/25/2025	96.79
			Total for Check Number 62837:	96.79
62838	10237 10425433-00	Certex USA, Inc. Utility- Equipment Repairs/Maintenance	06/25/2025	1,000.63
			Total for Check Number 62838:	1,000.63
62839	10238 27955	Check Processors, Inc CPI May 2025	06/25/2025	290.60
			Total for Check Number 62839:	290.60
62840	10414 0190280501 1163640100	Chicago Title Co. Clsd Acct-9516 Emerald Park Dr #4 Clsd Acct-9250 Dever Cir	06/25/2025	69.88 91.34
			Total for Check Number 62840:	161.22
62841	10415 1522310100	Chicago Title Co. Clsd Acct-9775 Helenite Ct	06/25/2025	74.26
			Total for Check Number 62841:	74.26
62842	10416 0843380001	Chicago Title Co. Clsd Acct-8601 Zircon Crest Ct	06/25/2025	90.25
			Total for Check Number 62842:	90.25
62843	10242 1621690103	Chicago Title Company Clsd Acct-8851 Garrity Dr	06/25/2025	65.40
			Total for Check Number 62843:	65.40
62844	10243 0019010102	Chicago Title Company Clsd Acct-8539 Elk Grove Blvd	06/25/2025	19.56
			Total for Check Number 62844:	19.56
62845	10036 4233412971	Cintas Uniforms-OPS	06/25/2025	182.22
			Total for Check Number 62845:	182.22
62846	10038 EP25-00018	City of Elk Grove Encroachment Permit	06/25/2025	2,000.00
			Total for Check Number 62846:	2,000.00
62847	10052 3P101323 DP2502743 DP2502743	Dataprose LLC CCR Report Bill Insert Postage Billing Services	06/25/2025	550.44 5,445.52 1,813.25

Check No	Vendor No Invoice No	Vendor Name Description	Check Date Reference	Check Amount
			Total for Check Number 62847:	7,809.21
62848	10469 0830430001	Fidelity National Title Comany	06/25/2025	29.47
			Total for Check Number 62848:	29.47
62849	10460 0921110101	Fidelity National Title Company Clsd Acct-9039 Crowley Way	06/25/2025	107.09
			Total for Check Number 62849:	107.09
62850	10458 0330110002	First American Title Company Clsd Acct-8641 Lodestone Cir	06/25/2025	8.54
			Total for Check Number 62850:	8.54
62851	10463 1280610201	Gary Quiambao Clsd Acct-9559 Lazy Saddle Way	06/25/2025	247.14
			Total for Check Number 62851:	247.14
62852	10076 9520111957	Grainger Treatment-Tools	06/25/2025	763.83
			Total for Check Number 62852:	763.83
62853	10079 14538648	Hach Company Treatment- Supplies	06/25/2025	842.85
			Total for Check Number 62853:	842.85
62854	10298 96915	Handford Sand & Gravel, Inc CIP- Materials	06/25/2025	3,045.00
			Total for Check Number 62854:	3,045.00
62855	10303 1110145	Industrial Test Systems, Inc Treatment-Testing Supplies	06/25/2025	35.98
			Total for Check Number 62855:	35.98
62856	10093 9853 9853 9871 9880 9880 9880	Jay's Trucking Service CIP- WMR Dump Fees Distribution- Dump Fee CIP- WMR Dump Fees CIP- WMR Dump Fees Utility- Materials CIP-Inventory	06/25/2025	450.00 60.00 1,300.65 1,950.78 350.14 13,306.88
			Total for Check Number 62856:	17,418.45
62857	10462 0600060101	John Aquila Clsd Acct- 8929 Lismore Dr	06/25/2025	0.21
			Total for Check Number 62857:	0.21
62858	10465 1601540200	Josefina Bigornia Active Acct-9467 Rush Creek Ct	06/25/2025	411.87
			Total for Check Number 62858:	411.87

Check No	Vendor No Invoice No	Vendor Name Description	Check Date Reference	Check Amount
62859	10459 1740200101	Lennar Title, Inc Clsd Acct-9266 Seabiscuit Ln	06/25/2025	102.04
Total for Check Number 62859:				102.04
62860	10125 2585246608 2585-247098 2585-252652	O'Reilly Auto Parts Treatment-Fuse Materials Chemical Line Protection	06/25/2025	5.75 29.66 29.66
Total for Check Number 62860:				65.07
62861	10126 0610470021-1 0610504771 0610531548 0610536479 0610540697	Pace Supply Corp CIP-WMR Materials Distribution-Materials CIP- WMR Materials CIP- WMR Materials Treatment- Materials	06/25/2025	525.42 1,754.69 683.05 1,141.61 342.37
Total for Check Number 62861:				4,447.14
62862	10127 June 2025	Pacific Gas & Electric Company Admin	06/25/2025	32.34
Total for Check Number 62862:				32.34
62863	10130 3404512	Pest Control Center Inc Pest Control- MOC	06/25/2025	84.00
Total for Check Number 62863:				84.00
62864	10468 0011470400	Rhonda Phillips Active Acct-9167 Gove St	06/25/2025	357.23
Total for Check Number 62864:				357.23
62865	10466 1462290302	Robert Gillette Active Acct-9413 Red Spruce Way	06/25/2025	792.99
Total for Check Number 62865:				792.99
62866	10359 16957	Robertson-Bryan, Inc CCR & PHG	06/25/2025	2,307.00
Total for Check Number 62866:				2,307.00
62867	10461 0423480000	Rolfe Appel Clsd Acct-8636 Hume Ct	06/25/2025	262.02
Total for Check Number 62867:				262.02
62868	10145 27541	Rooco Rents CIP- WMR Materials	06/25/2025	1,340.28
Total for Check Number 62868:				1,340.28
62869	10150 May-June 2025	Sacramento County Utilities Sewage/Garbage - Admin	06/25/2025	328.17
Total for Check Number 62869:				328.17
62870	10159 156766	Sierra Chemical Company Treatment-Chemicals	06/25/2025	3,009.60

Check No	Vendor No Invoice No	Vendor Name Description	Check Date Reference	Check Amount
			Total for Check Number 62870:	3,009.60
62871	10160 3976547-0	Sierra Office Supplies Admin-Supplies	06/25/2025	357.64
			Total for Check Number 62871:	357.64
62872	10457 1590510100	SoCal Title Company Clsd Acct-9370 Willow Pond Cir	06/25/2025	162.46
			Total for Check Number 62872:	162.46
62873	10163 2322	Solutions by BG Inc. IT - Computer Services	06/25/2025	6,266.08
			Total for Check Number 62873:	6,266.08
62874	10379 71170621205	Southwest Answering Service, Inc Answering Service	06/25/2025	1,483.83
			Total for Check Number 62874:	1,483.83
62875	10167 OP#56079	SWRCB-DWOCB Renewal Certification-Jaylen D. Gordon-Ford	06/25/2025	110.00
			Total for Check Number 62875:	110.00
62876	10170 10735375	Teichert Aggregates CIP- WMR Materials	06/25/2025	1,117.61
			Total for Check Number 62876:	1,117.61
62877	10456 25153	The Stitchful Studio Hats for EGWD	06/25/2025	808.13
			Total for Check Number 62877:	808.13
62878	10445 1600520202	Title Forward of California, Inc Clsd Acct- 9408 Riverbend Ct	06/25/2025	72.60
			Total for Check Number 62878:	72.60
62879	10392 46352	Ultra Truck Works, Inc Utility- Repairs & Maintenance -Auto	06/25/2025	21.74
			Total for Check Number 62879:	21.74
62880	10188 June 2025	Emmanuel Vasquez Boot Reimbursement	06/25/2025	260.99
			Total for Check Number 62880:	260.99
62881	10192	Wex Bank	06/25/2025	
	105553995	Management A-Fuel		34.82
	105553995	Card Fees		34.02
	105553995	Treatment-Fuel		560.71
	105553995	Tech Services-Fuel		103.13
	105553995	Distribution-Fuel		1,971.91
	105553995	Utility-Fuel		2,178.47
			Total for Check Number 62881:	4,883.06

Check No	Vendor No Invoice No	Vendor Name Description	Check Date Reference	Check Amount
Report Total (130 checks):				486,765.84

BOARD AND EMPLOYEE MONTHLY EXPENSE/REIMBURSEMENTS

As of 06/30/2025

INDIVIDUAL	DESCRIPTION	AMOUNT PAID
Dave Frederick	Boot Reimbursement	\$113.14
Brandon Kent	Boot Reimbursement	\$288.17
Elliot Mulberg	CSDA Conference	\$495.00
Donella Murillo	Airfare - Springbrook Conference	\$264.96
Donella Murillo	Hotel Deposit - Springbrook Conference	\$202.95
Donella Murillo	Springbrook Conference Registration	\$895.00
Tom Nelson	ACWA 2025 Spring Conference	\$995.61
Emmanuel Vasquez	Boot Reimbursement	\$260.99
Brandon Wagner	TPC Training - Electrical	\$1,495.00
		\$5,010.82

Active Account Information  
As of 06/30/2025

	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
Water Accounts:												
Metered												
Residential	12,421	12,444	12,441	12,444	12,443	12,445	12,465	12,483	12,518	12,522	12,525	12,552
Commercial	359	360	360	359	358	358	358	356	356	356	354	356
Irrigation	190	191	190	190	190	190	190	190	190	190	190	190
Fire Service	191	192	191	192	191	191	192	191	191	191	191	192
Total Accounts	13,161	13,187	13,182	13,185	13,182	13,184	13,205	13,220	13,255	13,259	13,260	13,290

Active Account Information  
FY 2022/2023

	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
Water Accounts:												
Metered												
Residential	12,330	12,336	12,327	12,337	12,350	12,357	12,376	12,367	12,365	12,374	12,405	12,425
Commercial	363	361	360	360	359	359	359	358	359	359	358	359
Irrigation	190	190	190	190	190	190	190	190	191	190	190	190
Fire Service	188	189	189	189	190	191	191	190	192	191	190	191
Total Accounts	13,071	13,076	13,066	13,076	13,089	13,097	13,116	13,105	13,107	13,114	13,143	13,165

**Bond Covenant Status  
For Fiscal Year 2024-25  
As of 06/30/2025**

**Operating Revenues:**

<b>Charges for Services</b>	\$	17,976,596
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**Operating Expenses:**

Salaries & Benefits	4,765,818	
Seminars, Conventions and Travel	31,325	
Office & Operational	1,490,804	
Purchased Water	3,632,845	
Outside Services	830,372	
Equipment Rent, Taxes, and Utilities	498,112	
<b>Total Operating Expenses</b>	11,249,276	

<b>Net Operating Income</b>	\$	6,727,320
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Annual Interest & Principal Payments		
\$3,888,029	\$	3,888,029 <sup>(1)</sup>

<b>Debt Service Coverage Ratio, YTD Only:</b>		<b>1.73</b>
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<b>Required</b>		<b>1.15</b>
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**Notes**

<sup>(1)</sup> Reflects budget divided by number of months year to date.  
However, first Principal/Interest Payments made in September.  
Projected Annual Budget Coverage Ratio is

**1.26**



CASH - Detail Schedule of Investments  
As of 06/30/2025

G/L Account : Fund		<u>Account number / name</u>	<u>Investment Name</u>	<u>Investment Type</u>		<u>Restrictions</u>	<u>Market Value</u>		
<u>HELD BY BOND TRUSTEE:</u>									
1110-000-20	Water	BNY 892744 FRCD 2014A DEBT SERVICE	Dreyfus Inst Treasury	MM Mutual Fund		Restricted	0.00		
1112-000-20	Water	BNY 743850 FRCD 2016A DEBT SERVICE	Dreyfus Inst Treasury	MM Mutual Fund		Restricted	0.00		
						<b>Subtotal</b>	<b>\$ -</b>		
1001-000-20	Water	Cash on Hand				Unrestricted	<b>\$ 300.00</b>		
<u>HELD BY F&amp;M BANK:</u>									
1011-000-20	Water	F&M 08-032017-01 OPERATING ACCOUNT				Unrestricted	2,954,216.12		
1084-000-20	Water	F&M 08-03201702-31 MONEY MARKET			0.21%	Unrestricted	1,172,539.06		
1031-000-20	Water	F&M 08-032912-01 CREDIT CARD ACCOUNT				Unrestricted	1,267,083.11		
1061-000-20	Water	F&M 08-032890-01 PAYROLL ACCOUNT				Unrestricted	228,211.15		
1071-000-20	Water	F&M 08-032920-01 DRAFTS ACCOUNT				Unrestricted	130,568.06		
						<b>Subtotal</b>	<b>\$ 5,752,617.50</b>		
<u>INVESTMENTS</u>									
1080-000-20	Water	Office of the Treasurer - Sacramento California	LAIF	Investment Pool	4.27%	Unrestricted	<b>\$ 7,098,687.58</b>		
							-		
1081-000-20	Water	CALTrust Medium Term		Investment	2.07%	Unrestricted	<b>\$ 1,497,830.84</b>		
1082-000-20	Water								
	<u>PURCHASE DATE</u>	<u>CUSIP</u>	<u>ISSUED BY</u>	<u>CALL DATE</u>	<u>MATURITY DATE</u>	<u>% of Portfolio</u>	<u>Current Yield</u>	<u>COST BASIS</u>	<u>MARKET VALUE</u>
	9/30/2016	N/A	US Bank	N/A	N/A	3.80%	4.22%	\$ 156,470.50	\$ 156,470.50
	11/19/2020	3135GA5H0	Federal Home Loan (FHLB)	07/10/20 - qrtly	11/25/2025	23.90%	0.590%	\$ 1,000,000.00	984,870.00
	7/31/2020	3133ERKW0	Federal Home Loan (FHLB)	07/15/2025 - qrtly	7/15/2027	24.30%	5.170%	\$ 1,000,000.00	1,000,200.00
	7/29/2021	3133EMT36	Federal Home Loan (FHLB)	04/15/26- qrtly	4/26/2026	23.70%	0.890%	\$ 1,000,000.00	974,690.00
	7/31/2020	3136G4YP2	Federal Natl MTG ASSN	07/09/2021 - qrtly	7/9/2025	24.30%	0.720%	\$ 1,000,000.00	999,200.00
								<b>\$ 4,156,470.50</b>	<b>\$ 4,115,430.50</b>
								<b>Total</b>	<b>\$ 18,464,866.42</b>
								<b>Total Restricted</b>	<b>\$ -</b>
								<b>Total Unrestricted</b>	<b>\$ 18,464,866.42</b>
YTM = Yield to Maturity									
qtrly = quarterly									
cont. = continuous									
								<b>Total</b>	<b>\$ 18,464,866.42</b>
								<b>Total Restricted</b>	<b>\$ -</b>
								<b>Total Unrestricted</b>	<b>\$ 18,464,866.42</b>
								<b>Total</b>	<b>\$ 18,464,866.42</b>
								<b>Total Restricted</b>	<b>\$ -</b>
								<b>Total Unrestricted</b>	<b>\$ 18,464,866.42</b>
								<b>Total</b>	<b>\$ 18,464,866.42</b>
								<b>Total Restricted</b>	<b>\$ -</b>
								<b>Total Unrestricted</b>	<b>\$ 18,464,866.42</b>
								<b>Total</b>	<b>\$ 18,464,866.42</b>
								<b>Total Restricted</b>	<b>\$ -</b>
								<b>Total Unrestricted</b>	<b>\$ 18,464,866.42</b>
								<b>Total</b>	<b>\$ 18,464,866.42</b>
								<b>Total Restricted</b>	<b>\$ -</b>
								<b>Total Unrestricted</b>	<b>\$ 18,464,866.42</b>
								<b>Total</b>	<b>\$ 18,464,866.42</b>
								<b>Total Restricted</b>	<b>\$ -</b>
								<b>Total Unrestricted</b>	<b>\$ 18,464,866.42</b>
								<b>Total</b>	<b>\$ 18,464,866.42</b>
								<b>Total Restricted</b>	<b>\$ -</b>
								<b>Total Unrestricted</b>	<b>\$ 18,464,866.42</b>
								<b>Total</b>	<b>\$ 18,464,866.42</b>
								<b>Total Restricted</b>	<b>\$ -</b>
								<b>Total Unrestricted</b>	<b>\$ 18,464,866.42</b>
								<b>Total</b>	<b>\$ 18,464,866.42</b>
								<b>Total Restricted</b>	<b>\$ -</b>
								<b>Total Unrestricted</b>	<b>\$ 18,464,866.42</b>
								<b>Total</b>	<b>\$ 18,464,866.42</b>
								<b>Total Restricted</b>	<b>\$ -</b>
								<b>Total Unrestricted</b>	<b>\$ 18,464,866.42</b>
								<b>Total</b>	<b>\$ 18,464,866.42</b>
								<b>Total Restricted</b>	<b>\$ -</b>
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# Consultant Expenses

As of 06/30/2025

## Fiscal Retainer Contracts

	Description	Total Contract	Current Month	Paid to date	2024-2025 FY Budget	Percent of year (100%)
BKS Law Firm, PC	Task orders	TBD	\$ 4,913	\$ 50,608		
Liebert Cassidy Whitmore	Task orders	TBD	\$ -	\$ 1,784		
Total				\$ 52,392	\$ 140,000	37.42%
Solutions by BG, Inc.	Task orders		\$ 12,532	\$ 221,921	\$ 275,350	80.60%

## Major Contracts

Consultant	Description	Total Contract	Paid to date	2023-2024 FY Budget	Percent of Contract Amount
	PSA		\$ -		#DIV/0!
	PSA		\$ -		#DIV/0!
	PSA		\$ -		#DIV/0!

**Major Capital Improvement Project  
Budget vs Actuals  
As of 06/30/2025**

Capital Project	Total					Jun					
	Total Project Budget	Project Exp to Date	Percent Spent	Capitalized Labor	Fund Type	Project Type	2024-25 Budget	Project Exp	Total YTD <sup>(1)</sup>	YTD % Spent	% of Project Complete
Locust St/EG Blvd Alley Watermain	\$ 360,955	\$ 349,106	96.72%	\$ 54,995	R&R	Supply/Distribution	\$ 192,000	\$ -	\$ 180,151	93.83%	100%
Bond Rd Watermain Relocation	131,000	-	0.00%	-	R&R	Supply/Distribution	131,000	-	-	0.00%	0%
Grove Street Watermain	483,108	284,572	58.90%	119,280	R&R	Supply/Distribution	479,000	-	280,464	58.55%	90%
Webb Street Watermain	435,000	328,662	75.55%	104,800	R&R	Supply/Distribution	435,000	49,945	328,662	75.55%	100%
Lark Street Watermain	397,000	225,802	56.88%	111,569	R&R	Supply/Distribution	397,000	60,726	225,802	56.88%	75%
Storage Tank Interior Repairs <sup>(2)</sup>	1,110,300	593,848	53.49%	-	R&R	Treatment	1,110,300	199,440	593,848	53.49%	75%
Media Replacement - HVWTP Filter Vessel	110,000	-	0.00%	-	R&R	Treatment	110,000	-	-	0.00%	0%
Network Switch Replacement	22,000	9,416	42.80%	-	R&R	Building and Site	22,000	-	9,416	42.80%	100%
Mobile Backup Generator	150,000	141,094	94.06%	-	R&R	Building and Site	150,000	-	141,094	94.06%	100%
ERP System	520,000	47,593	9.15%	-	R&R	Building and Site	520,000	37,275	47,593	9.15%	20%
AMI Project	350,000	91,936	26.27%	-	CIP	Supply/Distribution	350,000	2,066	91,936	26.27%	35%
Well 15D Construction <sup>(3)</sup>	58,000	-	0.00%	-	CIP	Supply/Distribution	58,000	-	-	0.00%	0%
Brinkman Transmission Main	124,900	24,900	19.94%	-	CIP	Supply/Distribution	100,000	-	-	0.00%	0%
Valve Exercising Skid	103,000	102,122	99.15%	-	CIP	Building and Site	103,000	-	102,122	99.15%	100%
Admin Building Landscaping <sup>(3)</sup>	137,000	146,217	106.73%	-	CIP	Building and Site	137,000	-	146,217	106.73%	100%
Truck Replacement	291,000	143,262	49.23%	-	CIP	Building and Site	291,000	-	143,262	49.23%	75%
Unforeseen Capital Projects	100,000	32,187	32.19%	-	-	-	100,000	-	32,187	32.19% <sup>(4)</sup>	-
Sub-Total	\$ 4,883,263	\$ 2,520,718	51.62%	\$ 390,644			\$ 4,685,300	\$ 349,452	\$ 2,322,755	49.58%	

<sup>(1)</sup> Includes \$390,644 in capitalized labor through 06/30/2025

<sup>(2)</sup> On 01/21/2025 the Board approved an amendment appropriating an additional \$450,300 from future reserves to the Storage Tank Interior Repairs project.

On 02/11/2025 the Board approved an amendment appropriating an additional \$400,000 from future reserves to the Storage Tank Interior Repairs project.

<sup>(3)</sup> On 11/19/2024 the Board approved the reallocation of \$42,000 from Well 15D Construction to Admin Building Landscaping project.

<sup>(4)</sup> Includes unforeseen capital projects, including:

Alta Concrete - Admin landscape proj	18,930
Aqua Sierra - Backwash Flow Meter	13,257
Total \$	32,187

July 15, 2025

TO: Chair and Directors of the Florin Resource Conservation District

FROM: Patrick Lee, Finance Manager/Treasurer

SUBJECT: **ELK GROVE WATER DISTRICT FISCAL YEAR 2024-25 QUARTERLY  
OPERATING BUDGET STATUS REPORT**

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### **RECOMMENDATION**

This item is presented for discussion purposes only. No action by the Florin Resource Conservation District Board of Directors is requested at this time.

### **SUMMARY**

Staff is presenting the quarterly budget status report through the fourth quarter of fiscal year 2024-25. This report is to keep the Florin Resource Conservation District (District) Board of Directors (Board) and the public informed on the financial status of the Elk Grove Water District (EGWD).

### **DISCUSSION**

#### **Background**

On June 18, 2024, the Board approved the District's Fiscal Year (FY) 2024-25 Operating Budget. The adopted budget projects total revenues of approximately \$17.29 million and total expenses of approximately \$20.11 million, including appropriations into the District's FY 2024-25 Capital Improvement Program (CIP) reserves of approximately \$3.83 million. The projected expenses in excess of revenues of approximately \$2.81 million will be funded by operating reserves carried over from prior years.

At the January 21, 2025 regular Board meeting, the Board amended the FY 2024-25 District Operating Budget and the District FY 2025-2029 CIP by increasing the appropriation to capital reserves by \$0.45 million, resulting in total expenditures of \$20.106 million, including appropriations of \$4.285 million to the FY 2024-25 CIP.

At the February 11, 2025 regular Board meeting, the Board amended the FY 2024-25 District Operating Budget and the District FY 2025-29 CIP by increasing the appropriation to capital reserves by \$0.40 million, resulting in total expenditures of \$20.556 million, including appropriations of \$4.685 million to the FY 2024-25 CIP.

## **ELK GROVE WATER DISTRICT FISCAL YEAR 2024-25 QUARTERLY OPERATING BUDGET STATUS REPORT**

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Page 2

### Present Situation

A summary of the EGWD's financial status through June 30, 2025 (Attachment 1) is provided with this report and a detailed analysis of the changes in each revenue and expenditure category is as follows:

Revenues collected through the fourth quarter of the fiscal year total \$17,976,596 which is 103.97% of the \$17,290,295 annual budget. The revenues are \$1,356,668 or 8.16% above the same period of the prior year due to a revenue rate increase of 4.50% that went into effect January 1, 2025, an overall increase in consumption in FY 2024-25 and an increase in the number of new accounts in Service Area 2.

Total Operating Expenses were \$11,249,279 through the fourth quarter, which is 90.66% of the annual budget of \$12,407,617. The actual operating expenses were \$380,631 or 3.50% above the same period of the prior fiscal year as follows:

Personnel expenditures total \$4,765,818, which is 92.58% of the \$5,147,848 annual budget. The actual expenses were \$46,277 or 0.98% above the same period of the prior fiscal year. The increase is due mainly to a COLA increase of 3.63% effective July 1, 2024, merit increases for eligible employees, increased medical premiums and increased employer contribution rates to CalPERS for retirement benefits, offset by a vacant customer service position since January of 2025.

Seminars, Conventions and Travel expenditures total \$31,325, which is 76.72% of the annual budget of \$40,833. The actual expenses were \$(1,630) or -4.95% below the same period of the prior fiscal year due mainly to the cancellation of the Spring CSMFO conference due to scheduling conflicts with the ERP implementation.

Office and Operational expenditures total \$1,490,804, which is 94.17% of the annual budget of \$1,583,053. The actual expenses were \$102,945 or 7.42% above the same period of the prior fiscal year due mainly to an increase in insurance premiums, unforeseen automotive repairs and an increase in tool for the utility crew and meter purchases.

Estimated Purchased Water costs total \$3,632,845, which is 100.97% of the annual budget of \$3,597,993. The actual expenses were \$294,255 or 8.81% above the same period of the prior fiscal year. The increase is due mainly to an overall increase in consumption during the months of July through October 2024 and an increase in the number of accounts in Service Area 2.

**ELK GROVE WATER DISTRICT FISCAL YEAR 2024-25 QUARTERLY OPERATING  
BUDGET STATUS REPORT**

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Page 3

Outside Services expenditures total \$830,372, which is 56.56% of the annual budget of \$1,468,060. The actual expenses were \$(110,256) or -11.72% below the same period of the prior fiscal year. The decrease is due mainly to reduced sampling costs as UCMR 5 sampling was completed in 2023, reduced contracted services costs due to the completion of the ERP solicitation and selection services, and cost savings from not having to hold an election.

Equipment Rent, Taxes and Utilities expenditures total \$498,112, which is 87.41% of the annual budget of \$569,830. The actual expenses were \$49,040 or 10.92% above the same period of the prior fiscal year. The increase is due mainly to the increased electricity costs for pumping and increased sewer and garbage rates for services rendered.

**ENVIRONMENTAL CONSIDERATIONS**

There are no direct environmental considerations associated with this report.

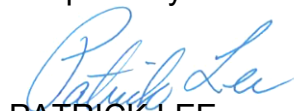
**STRATEGIC PLAN CONFORMITY**

This item conforms to the FRCD/EGWD's 2025-2030 Strategic Plan. Development and adoption of annual budgets that are balanced through cost-saving measures or transfers from operating reserves is specifically identified as an objective in the Fiscal Responsibility section of the Strategic Plan.

**FINANCIAL SUMMARY**

This report is provided to the Board for information only. There is no financial impact associated with this item at this time. Staff has provided a copy of the June 30, 2025 Quarterly Budget Review (Attachment 2) for the fourth quarter. The Quarterly Budget Review includes the line-item detail for the expenditure categories for the quarter-to-date for FY 2024-25, as well as the detail for last year's quarter-to-date.

Respectfully submitted,



PATRICK LEE  
FINANCE MANAGER/TREASURER

Attachments

## Attachment 1

**Elk Grove Water District**  
**Year to Date Revenues and Expenses Compared to Budget**  
**As of June 30, 2025**

	<b>General Ledger Reference</b>	<b>YTD Activity</b>	<b>Annual Budget</b>	<b>12/12=100.00% % Realized</b>
Revenues	4100 - 4900	\$ 17,976,596	\$ 17,290,295	103.97%
Operating Expenses				
Salaries & Benefits	5100 - 5280	5,156,462	5,612,028	91.88%
less Capitalized Labor		(390,644)	(464,180)	84.16%
Less CalPERS Prepayment for Remainder of Year		-		
Adjusted Salaries and Benefits		\$ 4,765,818	\$ 5,147,848	92.58%
Seminars, Conventions and Travel	5300 - 5350	31,325	40,833	76.72%
Office & Operational	5410 - 5494	1,490,804	1,583,053	94.17%
Purchased Water est. <sup>(1)</sup>	5495 - 5495	3,632,845	3,597,993	100.97%
Outside Services	5505 - 5580	830,372	1,468,060	56.56%
Equipment Rent, Taxes, Utilities	5620 - 5760	498,112	569,830	87.41%
Total Operational Expenses		\$ 11,249,276	\$ 12,407,617	90.66%
Net Operating Income		\$ 6,727,320	\$ 4,882,678	137.78%
Non-Operating Revenues				
Interest Received	9910 - 9910	319,892	25,000	1279.57%
Unrealized Gains/(Losses)	9911 - 9911	249,615	-	100.00%
Other Income/(Expense)	9920 - 9973	(117,229)	-	-100.00%
Total Non-Operating Revenues		\$ 452,279	\$ 25,000	1809.11%
Non-Operating Expenses				
Capital Expenses <sup>(2)</sup>				
Capital Improvements	1705 - 1760	483,537	1,039,000	46.54%
Capital Replacements <sup>(3)</sup>	1705 - 1760	1,807,031	3,546,300	50.96%
Unforeseen Capital Projects	1705 - 1760	32,187	100,000	32.19%
Total Capital Expenses		\$ 2,322,755	\$ 4,685,300	49.58%
Bond Interest Accrued <sup>(4)</sup>	7300 - 7300	1,108,029	1,108,029	100.00%
Total Non Operating Expenses		\$ 3,430,784	\$ 5,793,329	59.22%
Bond Retirement <sup>(4)</sup>		2,780,000	2,780,000	100.00%
Total Expenditures		17,007,781	20,955,946	81.16%
Revenues in Excess of All Expenditures, including Capital		\$ 968,815	\$ (3,665,651)	-26.43%

## Notes:

- <sup>(1)</sup> There is a lag in water billings from the Sacramento County Water Agency. Included above is an estimate of costs to date based on water used.
- <sup>(2)</sup> YTD Activity includes \$390,644 in capitalized labor charged to capital projects.
- <sup>(3)</sup> On 01/21/2025 the Board approved an amendment appropriating an additional \$450,300 from future reserves to the FY 24-25 CIP budget.
- <sup>(3)</sup> On 02/11/2025 the Board approved an amendment appropriating an additional \$400,000 from future reserves to the FY 24-25 CIP budget.
- <sup>(4)</sup> Bond retirement payments are made two times a year in September and March
- <sup>(5)</sup> Accounts receivable balance, which represents the difference between the total amount billed and total amount collected, as of June 30, 2025 is \$119,947.91

## Attachment 2

**ELK GROVE WATER DISTRICT  
QUARTERLY BUDGET REVIEW  
THROUGH JUNE 30, 2025  
FISCAL YEAR 2024-25**

Account	Description	FY 2024-25 Budget	Y-T-D 6/30/2025	100.00% Percentage	Y-T-D 6/30/2024	Change from prior year
4100	Water Payment Revenues - Residential	\$ 14,043,592	14,634,882	104.21%	13,822,506	\$ 812,376
4110	Water Payment Revenues - Commercial	2,682,696	2,659,440	99.13%	2,135,340	524,100
4120	Water Payment Revenues - Fire Service	232,007	286,633	123.55%	248,829	37,804
4200	Meter Fees/Plan Check/Water Capacity	126,000	98,704	78.34%	213,093	(114,390)
4201	Backflow Installation	22,500	24,625	109.44%	19,150	5,475
4202	Backflow Testing Fee	2,500	23,270	930.80%	17,745	5,525
4204	Failed Backflow Notification Fee	-	125	100.00%	-	125
4300	Fire Protection	-	1,404	100.00%	1,872	(468)
4520	Door Hanger Fees	110,000	113,875	103.52%	108,300	5,575
4530	Meter Testing Fee	-	-	0.00%	47	(47)
4540	New account Fees	20,000	18,960	94.80%	15,420	3,540
4550	NSF Fees	2,000	2,170	108.50%	2,223	(53)
4560	Fees & Penalties	-	24,067	100.00%	2,346	21,721
4570	Shut-off Fees	50,000	104,300	208.60%	61,900	42,400
4575	24 Hour Turn On	-	-	0.00%	-	-
4580	Restoration Fees	-	25	100.00%	25	-
4585	Administration Citations	-	-	0.00%	-	-
4590	Credit Card Fees	-	-	0.00%	-	-
4591	Sac County Release of Lien Fee	-	20	100.00%	(460)	480
4700	Rental Income	-	-	0.00%	-	-



**ELK GROVE WATER DISTRICT  
QUARTERLY BUDGET REVIEW  
THROUGH JUNE 30, 2025  
FISCAL YEAR 2024-25**

4900 Customer Refunds	(1,000)	(15,904)	1590.35%	(28,408)	12,505
<b>TOTAL GROSS REVENUES</b>	<b>\$ 17,290,295</b>	<b>\$ 17,976,596</b>	<b>103.97%</b>	<b>\$ 16,619,928</b>	<b>\$ 1,356,668</b>

Account	Description	FY 2024-25 Budget	Y-T-D 6/30/2025	100.00% Percentage	Y-T-D 6/30/2024	Change from prior year
	Salaries & Benefits					
5100	Executive Salary	271,038	254,049	93.73%	250,356	3,692
5110	Exempt Salaries	764,014	719,566	94.18%	687,223	32,343
5120	Non-Exempt Salaries	2,332,291	2,027,424	86.93%	2,005,232	22,192
5130	Overtime Compensation	46,000	105,416	229.17%	74,081	31,335
5140	On Call Pay	31,025	30,770	99.18%	30,855	(85)
5150	Holiday Pay	178,418	172,062	96.44%	124,218	47,845
5160	Vacation Pay	210,936	259,608	123.07%	243,021	16,588
5170	Personal Time Pay	142,734	144,446	101.20%	163,499	(19,053)
5200	Medical Benefits	767,989	700,224	91.18%	662,817	37,407
5195	EAP	911	883	96.95%	885	(2)
5201	EGWD Contribution H.S.A	33,200	32,550	98.04%	30,800	1,750
5210	Dental/Vision/Life Insurance	62,011	60,317	97.27%	61,931	(1,615)
5220	Retirement Benefits	403,515	398,265	98.70%	353,019	45,246
5225	Retirement Benefits - Post Employment	185,534	111,518	60.11%	224,383	(112,865)
5230	Medical Tax, Social Security and SUI	75,445	59,158	78.41%	55,949	3,208
5240	Worker's Compensation Insurance	71,537	59,138	82.67%	43,220	15,917
5250	Education Assistance	2,500	-	0.00%	-	-
5260	Employee Training	27,150	12,959	47.73%	8,530	4,429
5270	Employee Recognition	5,780	8,111	140.33%	3,029	5,082
5280	Meetings	-	-	0.00%	304	(304)
	Less Capitalized Expenditures	(464,180)	(390,644)	84.16%	(303,811)	(86,833)
	Less Remaining CalPERS prepayment	-	-	N/A	-	-
	<b>Category Subtotal</b>	<b>5,147,848</b>	<b>4,765,818</b>	<b>92.58%</b>	<b>4,719,541</b>	<b>46,277</b>

Account	Description					
	Seminars, Conventions and Travel					
5300	Airfare	3,350	2,486	74.22%	2,018	469
5310	Hotels	12,300	8,778	71.37%	7,716	1,062
5320	Meals	8,983	4,750	52.88%	6,697	(1,946)
5330	Auto Rental	750	206	27.43%	-	206
5340	Seminars & Conferences	7,085	8,172	115.34%	9,635	(1,463)
5350	Mileage Reimbursement, Parking, Tolls	2,365	1,208	51.07%	1,140	68

**ELK GROVE WATER DISTRICT  
QUARTERLY BUDGET REVIEW  
THROUGH JUNE 30, 2025  
FISCAL YEAR 2024-25**

5375 Auto Allowance	6,000	5,725	95.42%	5,750	(25)
Category Subtotal	<b>40,833</b>	<b>31,325</b>	<b>76.72%</b>	<b>32,955</b>	<b>(1,630)</b>

Account	Description	FY 2024-25 Budget	Y-T-D 6/30/2025	100.00% Percentage	Y-T-D 6/30/2024	Change from prior year
	Office & Operational					
5410	Advertising	17,200	4,615	26.83%	4,971	(356)
5415	Association Dues	134,250	135,107	100.64%	151,158	(16,051)
5420	Insurance	174,200	185,809	106.66%	160,120	25,688
5425	Licenses, Certifications, Fees	3,485	2,490	71.45%	2,789	(299)
5430	Repairs & Maintenance - Automotive	42,000	60,213	143.36%	53,136	7,077
5432	Repairs & Maintenance - Building	76,768	76,043	99.06%	72,316	3,727
5434	Repairs & Maintenance - Computers	11,425	7,657	67.02%	10,785	(3,127)
5435	Repairs & Maintenance - Equipment	120,500	86,155	71.50%	111,145	(24,990)
5438	Fuel	56,720	48,305	85.16%	52,201	(3,896)
5440	Materials	189,300	148,173	78.27%	154,675	(6,503)
5445	Chemicals	65,000	60,445	92.99%	43,904	16,541
5450	Meter Repairs	205,840	230,885	112.17%	167,650	63,235
5453	Permits	95,000	94,524	99.50%	79,886	14,638
5455	Postage	83,325	78,926	94.72%	66,698	12,227
5460	Printing	26,750	12,136	45.37%	13,096	(960)
5465	Safety Equipment	18,000	16,077	89.32%	13,017	3,060
5470	Software Programs & Updates	148,070	145,267	98.11%	148,324	(3,057)
5475	Supplies	28,020	25,311	90.33%	17,705	7,606
5480	Telephone	35,000	26,613	76.04%	25,473	1,140
5485	Tools	19,500	24,137	123.78%	16,778	7,359
5490	Clothing Allowance	7,700	5,338	69.32%	4,696	642
5491	EGWD-Other Clothing	15,000	13,610	90.74%	12,575	1,035
5493	Water Conservation Materials	10,000	2,969	29.69%	4,760	(1,791)
	Category Subtotal	<b>1,583,053</b>	<b>1,490,804</b>	<b>94.17%</b>	<b>1,387,859</b>	<b>102,945</b>

**ELK GROVE WATER DISTRICT  
QUARTERLY BUDGET REVIEW  
THROUGH JUNE 30, 2025  
FISCAL YEAR 2024-25**

Account	Description					
5495	Purchased Water	3,597,993	3,632,845	100.97%	3,338,590	294,255
Account	Description	FY 2024-25 Budget	Y-T-D 6/30/2025	100.00% Percentage	Y-T-D 6/30/2024	Change from prior year
	Outside Services					
5505	Administration Services	5,400	2,164	40.06%	2,183	(20)
5510	Bank Charges	265,800	259,313	97.56%	222,595	36,719
5515	Billing Services	25,700	22,998	89.49%	20,627	2,371
5520	Contracted Services	407,040	347,887	85.47%	473,652	(125,764)
5525	Accounting Services	30,000	31,658	105.53%	27,720	3,938
5530	Engineering	25,000	13,854	55.42%	44,553	(30,699)
5535	Legal Services	140,000	58,211	41.58%	49,224	8,987
5540	Financial Consultants	-	-	0.00%	-	-
5545	Community Relations	4,000	802	20.05%	962	(160)
5550	Pre-employment	1,000	26	2.60%	56	(30)
5552	Misc. Medical	3,000	3,366	112.19%	2,455	910
5555	Janitorial	22,200	19,343	87.13%	20,390	(1,047)
5560	Bond Administration	6,800	6,170	90.74%	5,973	197
5570	Security	32,120	34,350	106.94%	36,379	(2,029)
5575	Sampling	40,000	28,170	70.43%	33,859	(5,688)
9950	Election Costs	460,000	2,061	0.45%	-	2,061
	Category Subtotal	1,468,060	830,372	56.56%	940,627	(110,256)
Account	Description	FY 2024-25 Budget	Y-T-D 6/30/2025	100.00% Percentage	Y-T-D 6/30/2024	Change from prior year
	Equipment Rent, Taxes and Utilities					
5620	Equipment Rental	22,700	24,976	110.03%	30,304	(5,328)
5710	Property Taxes	2,800	800	28.57%	861	(61)
5740	Electricity	485,800	411,069	84.62%	364,117	46,952
5750	Natural Gas	6,000	3,808	63.46%	3,251	557
5760	Sewer and Garbage	52,530	57,459	109.38%	50,540	6,919
	Category Subtotal	569,830	498,112	87.41%	449,072	49,040
	Total Operating Expenses	12,407,617	11,249,276	90.66%	10,868,645	380,631

July 15, 2025

TO: Chair and Directors of the Florin Resource Conservation District

FROM: Patrick Lee, Finance Manager/Treasurer

SUBJECT: **ELK GROVE WATER DISTRICT FISCAL YEAR 2024-25 QUARTERLY CAPITAL RESERVE STATUS REPORT**

### **RECOMMENDATION**

This item is presented for discussion purposes only. No action by the Florin Resource Conservation District Board of Directors is requested at this time.

### **SUMMARY**

On June 16, 2020, the Florin Resource Conservation District (District) Board of Directors (Board) adopted the District's Reserve and Capital Investments Policy (Policy), establishing the funding levels for each of the District's respective reserve funds. Per the Policy, the District's unrestricted net position as of July 1 of each fiscal year is allocated first to the Operating Reserve (120 days of budgeted operating and maintenance expenses), then to the upcoming year's capital budget, followed by elections/special studies, with the balance allocated to future capital improvements and future capital replacements in the ratio of 75:25, respectively. The total unaudited unrestricted net position available to be allocated to reserves on July 1, 2024 was \$18,196,757.

Through the fourth quarter of Fiscal Year 2024-25, the District expended \$2,322,755 for capital projects and \$2,061 for election costs leaving a remaining total reserve balance on June 30, 2025 of \$15,871,941.

### **DISCUSSION**

#### **Background**

On May 21, 2024, the Board approved the District's Fiscal Year (FY) 2025-29 Capital Improvement Program (CIP) appropriating \$3.8 million in unrestricted funds to the FY 2024-25 CIP.

At the January 21, 2025 regular Board meeting, the Board amended the FY 2024-25 District Operating Budget and the District FY 2025-2029 CIP by increasing the appropriation to capital reserves by \$0.45 million, resulting in total expenditures of \$20.106 million, including appropriations of \$4.285 million to the FY 2024-25 CIP.

### **AGENDA ITEM No. 4**

## **ELK GROVE WATER DISTRICT FISCAL YEAR 2024-25 QUARTERLY CAPITAL RESERVE STATUS REPORT**

Page 2

At the February 11, 2025 regular Board meeting, the Board amended the FY 2024-25 District Operating Budget and the District FY 2025-29 CIP by increasing the appropriation to capital reserves by \$0.40 million, resulting in total expenditures of \$20.556 million, including appropriations of \$4.685 million to the FY 2024-25 CIP.

### Present Situation

The District appropriated reserve funds for FY 2024-25 as follows:

• Operations Reserves (120 days of O&M budget)	\$ 5,349,253
• FY 2024-25 Capital Improvement Fund	\$ 1,089,000
• FY 2024-25 Capital Replacement Fund	\$ 3,596,300
• Elections and Special Studies	\$ 460,000
• Future Capital Improvements	\$ 5,776,653
• Future Capital Replacements	<u>\$ 1,925,551</u>
	\$ 18,196,757

The District has expended \$2,322,755 for capital projects through June 30, 2025 as follows:

• Capital Improvement Fund	
○ Valve Exercising Skid	\$ 102,122
○ AMI Project	\$ 91,936
○ Admin Building Landscape	\$ 146,217
○ Truck Replacements	\$ 143,262
○ Unforeseen – Backwash Flow Meter	<u>\$ 13,257</u>
TOTAL	\$ 515,724
• Capital Replacement Fund	
○ Locust/EG BLVD Alley Watermain	\$ 180,151
○ Grove Street Watermain	\$ 280,464
○ Webb Street Watermain	\$ 328,662
○ Lark Street Watermain	\$ 225,802
○ Storage Tank Interior Repairs	\$ 593,848
○ Network Switch	\$ 9,416
○ Mobile Backup Generator	\$ 141,094
○ ERP System	<u>\$ 47,593</u>
TOTAL	\$ 1,807,030

July 15, 2025

**ELK GROVE WATER DISTRICT FISCAL YEAR 2024-25 QUARTERLY CAPITAL RESERVE STATUS REPORT**

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Page 3

The District's remaining reserve fund balances as of June 30, 2025 after capital expenditures and election costs are as follows:

• Operations Reserves (120 days)	\$ 5,349,253
• FY 2024-25 Capital Improvement Fund	\$ 573,276
• FY 2024-25 Capital Replacement Fund	\$ 1,789,270
• Elections and Special Studies	\$ 457,939
• Future Capital Improvements	\$ 5,776,653
• Future Capital Replacements	\$ 1,925,551
	<u>\$ 15,871,942</u>

**ENVIRONMENTAL CONSIDERATIONS**

There are no environmental considerations associated with this report.

**STRATEGIC PLAN CONFORMITY**

This item conforms to the FRCD/EGWD's 2025-2030 Strategic Plan. Developing and adopting annual budgets that are balanced through cost saving measures or transfers from operating reserves is specifically identified as an objective in the Fiscal Responsibility section of the Strategic Plan.

**FINANCIAL SUMMARY**

There is no financial impact with this report. Staff has provided a copy of the June 30, 2025, Quarterly Capital Reserves Review (attached) for the fourth quarter.

Respectfully submitted,



PATRICK LEE  
FINANCE MANAGER/TREASURER

Attachment

**AGENDA ITEM No. 4**

**ELK GROVE WATER RESERVES**  
**Fiscal Year 2024-25**  
**As of June 30, 2025**

Total Available <u>\$    18,196,757</u> at 7/1/2024 (unaudited)					
<b>Operating Reserves</b>	<b>Capital Improvements</b>	<b>Capital Replacements</b>	<b>Elections/ Special Studies</b>	<b>Future Capital Improvements</b>	<b>Future Capital Replacements</b>
Needed	Funded	Funded	Funded	Funded	Funded
\$    5,349,253	\$    1,089,000	\$    3,596,300	\$    460,000	\$    5,776,653	\$    1,925,551
Available	Expended	Expended	Expended	Expended	Expended
-	\$    515,724	\$    1,807,030	\$    2,061	\$    -	\$    -
Remaining	Remaining	Remaining	Remaining	Remaining	Remaining
\$    5,349,253	\$    573,276	\$    1,789,270	\$    457,939	\$    5,776,653	\$    1,925,551

**Capital Improvement Funds**

<b>Supply/Dist. Improvements</b>	<b>Treatment Plant Improvements</b>	<b>Bldng/Site/Veh. Improvements</b>	<b>Unforeseen Capital Projects</b>
Funded	Funded	Funded	Funded
\$    450,000	\$    -	\$    589,000	\$    50,000
Expended	Expended	Expended	Expended
\$    91,936	\$    -	\$    391,601	\$    32,187
Remaining	Remaining	Remaining	Remaining
\$    358,064	\$    -	\$    197,399	\$    17,813

**Capital Replacement Funds**

<b>Supply/Dist. Improvements</b>	<b>Treatment Plant Improvements</b>	<b>Bldng/Site/Veh. Improvements</b>	<b>Unforeseen Capital Projects</b>
Funded	Funded	Funded	Funded
\$    1,634,000	\$    370,000	\$    692,000	\$    50,000
Expended	Expended	Expended	Expended
\$    1,015,079	\$    593,848	\$    198,103	\$    -
Remaining	Remaining	Remaining	Remaining
\$    618,921	\$    (223,848)	\$    493,897	\$    50,000

July 15, 2025

TO: Chair and Directors of the Florin Resource Conservation District

FROM: Ben Voelz, Associate Engineer

SUBJECT: **TRUCK PURCHASE**

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### **RECOMMENDATION**

It is recommended that the Florin Resource Conservation District Board of Directors authorize the General Manager to execute a purchase order in the amount of \$100,555.43 to The Ford Store Morgan Hill to procure a Ford F650 dump truck.

### **SUMMARY**

Following the adoption of the Florin Resource Conservation District/Elk Grove Water District (District) Fiscal Year (FY) 2025-26 Operating Budget and FY 2026-2030 Capital Improvement Program (CIP), staff solicited bids from three (3) vendors for the procurement of one (1) new District utility vehicle for use by the Utility Department. The Ford Store Morgan Hill was the lowest responsive, responsible bidder for a Ford F650 dump truck with a bid amount of \$100,555.43. Purchasing a new District truck is included in the approved FY 2025-26 CIP budget. The approved budget for the Truck Replacements Project is \$120,000.

### **DISCUSSION**

#### **Background**

On May 20, 2025, by Resolution No. 05.20.25.01, the Board adopted the FY 2026-30 CIP and appropriated \$4,375,000 for capital improvement projects for FY 2025-26. This fiscal year's CIP includes a Truck Replacements Project with a budget of \$120,000.

The District-owned F550 Dump truck that requires replacement is 18 years old.

#### **Present Situation**

With Board approval, staff plans to purchase the Ford F650 dump truck as soon as possible to avoid any price inflation.



## **TRUCK PURCHASE**

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Page 2

Staff solicited bids from three (3) vendors. A summary of the bid prices is shown below.

<u>Company Name</u>	<u>F650 Dump Bid Amount</u>
Future Ford of Sac.	\$106,608.63
Elk Grove Ford	\$106,549.13
<b>The Ford Store Morgan Hill</b>	<b>\$100,555.43</b>

Staff recommends the Board authorize the General Manager to execute a purchase order (attached) in the amount of \$100,555.43 to The Ford Store Morgan Hill to procure a Ford F650 dump truck.

## **ENVIRONMENTAL CONSIDERATIONS**

California Environmental Quality Act (CEQA) does not apply to proposed vehicle purchases. Procurement of these vehicles falls under the purchase exemptions for zero emission vehicles as part of the current California Air Resources Control Board Advanced Clean Fleet Regulation.

## **STRATEGIC PLAN CONFORMITY**

The recommendation made in this staff report conforms to Strategic Goal 3, Planning and Operational Efficiency. Strategic Goal 3 directs EGWD to practice ongoing infrastructure renewal and organizational improvement through planning and increased operational efficiency. Implementing the projects contained in the capital improvement program meets this directive.

## **FINANCIAL SUMMARY**

The financial impact of the purchase for the Truck Replacements Project is \$100,555.13. The funds for this project will be paid for from the approved fiscal year 2025-26 CIP reserve fund.

Respectfully submitted,



BEN VOELZ  
ASSOCIATE ENGINEER

Attachment

## Attachment

**PURCHASE ORDER  
FOR  
FLORIN RESOURCE CONSERVATION DISTRICT**

Purchase Order No. 26-

GL# 20-000-1745-401

<b>Seller:</b>		<b>Buyer:</b>	
Name	The Ford Store Morgan Hill	Elk Grove Water District	9829 Waterman Rd.
Address	17045 Condit Rd.	Elk Grove, CA 95624	
City, State Zip	Morgan Hill, CA 95037	Attn: Bruce Kamilos, General Manager	
Attn:	Mark Wexler	Phone: 916.685.3556	Fax: 916.685.5376
Phone:	(408) 782-8202      Cell: (925) 499-1878		
E-mail:	<a href="mailto:mark.wexler@tfsmh.com">mark.wexler@tfsmh.com</a>	E-mail:	<a href="mailto:bkamilos@egwd.org">bkamilos@egwd.org</a>
<b>Project Information:</b>		<b>Ship To:</b>	
2025 Ford F650 Truck		Elk Grove Water District 9715 Railroad St. Elk Grove, CA 95624 Attn: Alan Aragon	
Please forward all invoices to <a href="mailto:accountspayable@egwd.org">accountspayable@egwd.org</a>			
Order Date	Delivery Date	Ship Via	FOB
7/7/2025	per contract terms		
			Payment Terms
			Net 30 days of invoice

Buyer and Seller agree as follows:

**MATERIAL, EQUIPMENT AND/OR SERVICES TO BE PROVIDED:** Seller shall furnish the material, equipment and/or services described below which is incorporated into and made part of this Purchase Order. In the event of any conflict between the language in this Purchase Order and the language in the Professional Services Agreement or Construction Contract, the language in the Professional Services Agreement or Construction Contract shall prevail over the language in this Purchase Order.

Description Item No.	Estimated Quantity	Unit Price	Ext. Price	Delivery Date
Market Value	1	\$95,697.00	\$95,697.00	
Discount Savings	1	\$-3,809.00	\$-3,809.00	
Vehicle Price	1	\$91,888.00	\$91,888.00	
Accessories	1	\$450.00	\$450.00	
Document Prep Fee	1	\$85.00	\$85.00	
Tire/Battery/VTR Fee	1	\$10.50	\$10.50	
Other Fee	1	\$34.00	\$34.00	
Sales Tax	1	\$8,087.93	\$8,087.93	
<b>Due On Delivery</b>			<b>\$100,555.43</b>	

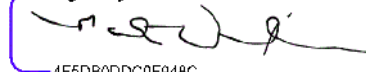
*[Attach Additional Sheets if necessary]***Buyer:**

**By: Bruce Kamilos**  
**Title: General Manager**

**By: Patrick Lee**  
**Title: Finance Manager**

**Seller:**

Signed by:



4F5DB0DDC0F948C...

**By: Mark Wexler****Title: Commercial Vehicle & Fleet Sales Director**

# PURCHASE ORDER TERMS AND CONDITIONS

**ARTICLE 1. DEFINITIONS:** The Term "Buyer" as used in this PO means the FLORIN RESOURCE CONSERVATION DISTRICT, and the term "Seller" means the person, firm, or corporation from whom the commodity of service described in the PO it ordered. The term "Material, Equipment, and/or Services" includes materials, supplies, equipment, drawings, data and other property to be furnished and all services including design, delivery, installation, inspection, and testing specified or required to furnish any material, equipment, and/or services.

**ARTICLE 2. ACCEPTANCE OF THE PO:** The attached Acceptance Copy shall be signed and returned by the Seller within ten (10) calendar days after it is received by the Seller. The receipt by the Buyer of the signed Acceptance Copy or the initiation of performance under this PO by the Seller shall constitute acceptance of the PO by the Seller, including all of the terms and conditions herein. Acceptance is limited to the terms stated herein. Any additional or different terms and conditions proposed by the Seller are rejected unless expressly agreed to in writing by an authorized representative of the Buyer's Purchasing Department.

**ARTICLE 3. COMPLETE AGREEMENT:** This PO, including all applicable terms, conditions and specifications, shall constitute the sole and exclusive agreement between the parties. This PO supersedes all other writings and negotiations written or oral. Buyer will not be responsible for goods delivered or services rendered without a PO properly signed by the Buyer Purchasing Agent or authorized agent. When this PO covers a continuing service rendered over a stated period of time, Seller must obtain a new order upon expiration of the time period to authorize the continuance of the service for an additional period of time.

**ARTICLE 4. DEFAULT:** The Buyer may terminate the whole or any part of Seller's work in any one of the following circumstances: (1) If the Seller fails to make delivery or fails to perform within the time specified herein or any authorized extension thereof; or (2) If Seller delivers nonconforming goods; or (3) If Seller fails to perform in accordance with the material provisions of this PO, or so fails to make progress as to endanger performance of this PO in accordance with its terms. In the event of any such failure Buyer will provide Seller with written notice of the default and Buyer's intention to terminate for default if Seller fails to cure the default to Buyer's satisfaction within seven calendar days of Buyer's notice. If Seller fails to cure or correct the default to Buyer's satisfaction within seven days, Buyer may, without further notice to Seller, procure upon such terms and in such manner as the Buyer may deem appropriate, items similar to those terminated, and the Seller shall be liable to the Buyer for any excess costs of such similar items; however, the Seller shall continue the performance of this PO to the extent not terminated. The rights and remedies of the Buyer provided in this clause shall not be exclusive, and are in addition to any other rights and remedies provided by law or under this PO.

**ARTICLE 5. CHANGES:** Buyer may direct in writing changes, including additions to or deletions from the quantities originally ordered, or in the specifications or drawings. If any such change causes a material increase or decrease in the cost of, or the time required for, performance hereunder, an equitable adjustment shall be made in the price or schedule. Any claims for adjustment which Seller believes result from any change directed by Buyer shall be asserted in writing by Seller no later than ten (10) days from the date of Seller's receipt of any such direction. Equitable adjustments for any claims or changes under this agreement, including claims arising from terminations or suspensions directed under DEFAULT above, of this agreement, will be made by written Change Order. Nothing contained herein shall excuse Seller from proceeding with the change as directed prior to negotiation of any adjustment. Whether made pursuant to this clause or by mutual agreement, changes shall not be binding upon the Buyer, except when

confirmed in writing by a member of the Buyer's Purchasing Department.

**ARTICLE 6. INVOICES:** Unless otherwise specified in the PO, Seller shall send Buyer a single invoice upon completion of performance. Payment shall not be made prior to receipt and acceptance of items and an invoice.

**ARTICLE 7. PROVISIONS REQUIRED BY LAW DEEMED INSERTED:** Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provisions is not inserted, or is not correctly inserted then upon application of either party the contract shall forthwith be physically amended to make such insertion or correct.

**ARTICLE 8. RIGHT TO AUDIT:** Buyer reserves the right to access and audit the Seller's records for a period of four (4) years after payment of any invoice.

**ARTICLE 9. TITLE AND RISK OF LOSS:** All prices shall be F.O.B. Destination. The Seller shall be responsible for safe and adequate packing of the items, which shall conform to the carriers' requirements. The Seller shall separately number all cases and packages, showing the corresponding numbers on the invoices. An itemized packing slip bearing this PO number shall be placed in each container. No extra charge shall be made for packaging or packing materials unless authority therefor is set forth in this PO. Seller shall assume and pay for any and all loss or damage to the merchandise from any cause whatsoever until delivered to Buyer at the specified destination.

**ARTICLE 10. DELIVERY:** Timely performance and deliveries are essential to this PO. The Buyer reserves the right to refuse deliveries made in advance of the delivery schedule. Over shipment allowances, if authorized, will be applied to the entire order. If the Buyer agrees to accept deliveries after the date of delivery has passed, the Buyer shall have the right to direct the Seller to make shipment to the delivery point set forth in this PO by the most expeditious means, and the total cost of such expedited shipment and handling shall be borne by the Seller. Acceptance of late deliveries shall not be deemed a waiver of the Buyer's right to hold the Seller liable for any loss or damage resulting therefrom, nor shall it act as a modification of the Seller's obligation to make future deliveries in accordance with the delivery schedule.

**ARTICLE 11. DELAYS:** Seller will not be liable for delays in performing its obligations to the extent the delay is caused by an unforeseeable condition which is beyond Seller's reasonable control and without Seller's fault or negligence. Acts of God, such as storms or floods, as well as government priorities, acts of civil or military authorities, fires, strikes, epidemics, war or riot are examples of events which will be excusable for being beyond Seller's reasonable control, only upon fulfillment of the following conditions: (a) within seven (7) days of the commencement of any excusable delay, Seller shall provide Buyer with written notice of the cause and extent thereof as well as a request for a schedule extension for the estimated duration thereof, and (b) within seven (7) days of the cessation of the event causing delay Seller shall provide Buyer with written notice of the actual delay incurred, upon receipt of which, the date of promised delivery shall be extended for the time actually lost by reason of an excusable delay.

**ARTICLE 12. INSPECTION AND APPROVAL:** All items are subject to final inspection and approval after delivery to Buyer. If any items are defective in material or workmanship or otherwise not in conformity with the requirements of this PO, the Buyer shall have the right to require Seller to correct or replace them. Final acceptance or rejection shall be made by the Buyer as promptly as practicable after delivery. Final acceptance shall be conclusive except with respect to latent defects,

fraud or such gross mistakes as amount to fraud, or with respect to the Buyer's rights under the "Warranty" clause.

**ARTICLE 13. WARRANTIES-GUARANTEES:** The Seller warrants that the items, at time of delivery, shall conform to the Buyer's specifications, the requirements of this PO, approved sample or samples, if any, and are free from defects in design, material and workmanship. Unless otherwise specified in the PO, this warranty shall remain in effect for a one (1) year period after delivery or for such period of time as the item is normally warranted. At the Buyer's option, the Seller shall promptly either repair or replace defective items after receipt of the Buyer's written notice of a defect. Transportation charges for the return and redelivery of defective items shall be borne by the Seller. Seller also warrants that said merchandise is free and clear of all liens and encumbrances whatsoever and the Seller has good and marketable title to same, and Seller agrees to indemnify, defend and hold the Buyer, its officers, agents and employees free and harmless against any and all claimants to said merchandise.

**ARTICLE 14. COMPLIANCE WITH ALL APPLICABLE LAWS:** Seller's performance shall in all ways strictly conform with all applicable State, Federal and local laws, regulations, safety orders, and working conditions to which it is subject including, but not limited to, safety rules and regulations prevailing wages under the California Labor Code. Seller shall execute and deliver any and all documents as may be required to effect or evidence compliance.

**ARTICLE 15. EQUAL OPPORTUNITY EMPLOYER:** It is the policy of Buyer that in connection with all materials furnished or work performed under this PO, there be no discrimination against employees because of race, religion, color, sex or national origin, and therefore the Seller agrees to comply with applicable Federal and California laws including, but not limited to, the California Fair Employment Practices Act.

**ARTICLE 16. PERMITS OR LICENSES:** Seller and all of its employees or agents shall secure and maintain in force such licenses and permits as are required by law, and by the City, in connection with the furnishing of Material, Equipment, and/or Services herein requested.

**ARTICLE 17. INDEMNITY:** Seller assumes all risk in connection with performance or non-performance of this PO. Seller shall indemnify, defend, and hold harmless Buyer and its elected officials, officers and employees, from all liabilities, obligations, orders, claims, actual damages, governmental fines or penalties, and expenses of defense with respect to such claims (including attorneys' fees and costs) of any kind or nature which may be caused by or arise from furnishing the Material, Equipment, and/or Services, whether such activities or performance thereof be by Seller or by anyone directly or indirectly employed or contracted with by Seller, and whether such liabilities, obligations, orders, claims, actual damages, governmental fines or penalties, and expenses of defense with respect to such claims (including attorneys' fees and costs) shall accrue or be discovered before or after termination of this agreement.

**ARTICLE 18. TAXES:** Unless prohibited by law, Seller shall pay and has included in the prices of this PO any federal, state or local tax, transportation tax, or other tax which is required to be imposed upon the items ordered hereunder, or by reason of their sale or delivery.

**ARTICLE 19. TERMINATION FOR CONVENIENCE:** Buyer shall have the right to terminate this PO in whole or in part at any time, and from time to time, by written or telegraphic notice effective upon receipt by Seller of such notice, even though Seller is not in breach of any obligation hereunder. Upon receipt of notice of termination, Seller shall immediately discontinue performance and shall comply with Buyer's instructions concerning disposition of completed and partially completed items, work in progress and materials acquired pursuant to this PO. Upon termination, Contractor shall be compensated only for those services or goods which have been adequately rendered and delivered to the District through the effective date of such termination. Contractor shall be entitled to no further compensation. However, said payment shall not exceed the price specified herein for such items. Seller shall advise the Buyer, in writing, of Seller's claim, if any, for termination costs within ten (10) days after receipt of the notice of termination. Termination in accordance with this article shall not affect Buyer's obligation to pay for items accepted by Buyer prior to such termination.

**ARTICLE 20. GOVERNING LAW; VENUE; DEFINITIONS:** The definition of terms used, interpretation of this PO and rights of all parties hereunder shall be construed under and governed by the laws of the State of California. Any litigation with respect to this PO shall be brought and conducted in Sacramento County, California.

**ARTICLE 21. EXCUSE; WAIVER:** Any act or omission of Buyer which Seller might claim as an excuse for its own failure to perform shall be deemed waived by Seller unless it shall notify Buyer of its intention to assert such excuse within ten (10) days after the occurrence of any such act or omission. No action or failure to act by Buyer shall constitute a waiver of a right or duty afforded it under this PO, nor shall such action or failure to act constitute approval of or acquiescence in a breach, except as may be specifically agreed in writing. Seller expressly waives the effect of any statutory or common law provision which construes ambiguities in a contract against the party who drafted the contract.

**ARTICLE 22. INSURANCE:** If Seller or its employees or agents come onto Buyer's property in connection with this Purchase Order, Seller agrees to carry (i) Workers Compensation Insurance as required by law and Employer's Liability Insurance in the amount of \$1,000,000 per occurrence; (ii) Commercial General Liability Insurance covering personal injuries (including death) in the amount of \$1,000,000 per occurrence, \$ 2 million aggregate, and (iii) automobile liability insurance covering bodily injuries (including death) in the amount of \$1,000,000 per person, and \$1,000,000 per occurrence, property damage in the amount of \$1,000,000. Buyer shall be named as an "Additional Insured" by endorsement under the Commercial General Liability and Automobile Liability policies. The policy shall stipulate that the insurance afforded the Additional Insured shall apply as primary insurance and that any other insurance carried by Buyer will be excess only and will not contribute with this insurance. Seller shall submit written proof of such insurance to Buyer prior to entrance on Buyer's property. Seller shall supply such bonds as required by Buyer.

**THIS CONCLUDES THE TERMS AND CONDITIONS DATED 7/7/2025 consisting of Article 1 through Article 22**

## Chris Phillips

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**From:** Mark Wexler <sales.consultant@tfsmh.com>  
**Sent:** Monday, June 09, 2025 4:02 PM  
**To:** Chris Phillips  
**Subject:** 2025 F650 5-7 Yd Dump - The Ford Store Morgan Hill  
**Attachments:** ELK GROVE WATER DISTRICT F650 Dump Quote #416111W.PDF

Christopher -

Thanks for reaching out to us and happy to try to help with the project. Attached is a Good Faith Quote for your review/approval. I assumed you are Exempt to Title/Reg/Weight fees are \$0. Please let me know if you have any questions or need any more information. Thank you very much!

*Mark Wexler*

**Commercial Vehicle & Fleet Sales Director**

**The Ford Store Morgan Hill**

**Email: [Mark.Wexler@TFSMH.com](mailto:Mark.Wexler@TFSMH.com)**

**Office: 408-782-8202 || Cell: 925-499-1878**

This email was **sent to:** [cphillips@egwd.org](mailto:cphillips@egwd.org).

**From:** Ford Store Morgan Hill 17045 Condit Rd Morgan Hill, CA 95037

[Update Preferences](#) - to update your communication preferences.

[Unsubscribe](#) - to stop all future email communications [REF\_V646947-1198441\_NO].

[Terms and Conditions](#)

Your privacy is important to us. To view the categories of personal information we collect and the purposes for which the information is used, or to exercise your rights under the California Consumer Privacy Act (CCPA), visit <https://www.fordstoremorganhill.com/privacy.aspx>.



**The Ford Store Morgan Hill**

**Elk Grove Water District**  
**2025 Ford F650Sd 5-7 Yd Scelzi Dump**  
**VIN: 1FDNF6AN7SDF02738**  
**Stock# 416111W Miles: 150**  
**Salesperson: Mark Wexler**  
**06/09/2025 3:57 PM**

Incentive programs and rebates are estimates, subject to change and verification. Tax Profile: 8.75% Tax

## Cash Deal Structure

<b>Market Value</b>	<b>95,697.00</b>
<b>Discount Savings</b>	<b>-3,809.00</b>
<b>Vehicle Price</b>	<b>91,888.00</b>
<b>Accessories</b>	<b>450.00</b>
<b>Document Prep Fee</b>	<b>85.00</b>
<b>Tire/Battery/VTR Fee</b>	<b>10.50</b>
<b>Other Fee</b>	<b>34.00</b>
<b>Sales Tax</b>	<b>8,087.93</b>

<b>Due On Delivery</b>	<b>100,555.43</b>
------------------------	-------------------

<b>Tax: 8.75% TAX</b>	<b>8.75 %</b>
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**Cash Total includes: Delivery to Elk Grove \$450**

## GOOD FAITH ESTIMATE!

This is a 2025 Ford F650 Regular Cab 4x2 with 7.3L Gas engine. It has a Scelzi 5-7 Yd Dump Body with one (1) Underbody Toolbox.

A Ford Protect Extended Service Plan is recommended and can be purchased in varying time and mileage bands based on expected annual mileage.

The sales tax rate has been estimated at 8.75% for Elk Grove. The Title/Reg/Weight Fees for DMV are estimated at \$0 assuming you are Exempt.

Thank you for the opportunity and we look forward to supporting the sale, maintenance and service of your vehicles at The Ford Store Morgan Hill.

**Mark Wexler**  
**Commercial Vehicle & Fleet Sales Director**  
**Mark.Wexler@TFSMH.com**  
**Ofc : 408-782-8202 / Cell : 925-499-1878**

**Fair Pricing and Exceptional Service!**

**Scelzi Enterprises, Inc.**

Truck Body Manufacturing

P.O. Box 12066  
Fresno, CA. 93776

Phone # 559-237-5541 Fax # 559-496-3202

**Invoice**

Date	Invoice #
5/8/2024	283218

<b>Bill To</b>
FORD STORE OF MORGAN HILL 17045 CONDIT ROAD MORGAN HILL, CA 95037

<b>Ship To</b>
WILL CALL

P.O. Number	Terms	Rep	Delivery Date	Via		F.O.B.	Work Order	
	Net 10	RD/CG	5/8/2024	WILL CALL		ORIGIN	283218	
Model	5/7 YD DUMP	Serial	052462175	VIN	SDF02738 P		Attn	MARK WEXLER

Qty	Item Code	Description	Price Each	Amount
0	Body Info	Body Info: - Model: 5/7 YD DUMP - Serial Number: 052462175 - Key Number: W170 - Key Qty: 4.00 - Finish: Painted - Color: Z1 - Oxford White	0.00	0.00
0	Chassis Info	Chassis Info: - VIN: 1FDNF6AN7SDF02738	0.00	0.00
1	5/7 YD DUMP	10' SQUARE STYLE HIGH TENSILE CROSS-MEMBER DESIGN 5-7 CUBIC YARD DUMP BODY BODY: 10' LONG X 86" WIDE INSIDE X 24" SIDES X 32" TAILGATE X 36-40" BULKHEAD 3/16" HIGH TENSILE FLOOR WITH BEVELED SIDE CORNERS 10 GA HI-TENSILE BULKHEAD 2 ROWS HORIZONTAL CORRUGATION 3/16" HI-TENSILE 6 PANEL TAILGATE DOUBLE-ACTING ALL HD HARDWARE		

A FINANCE CHARGE AT THE RATE OF 2% PER MONTH (24% ANNUALLY)  
WILL BE CHARGED ON PAST DUE ACCOUNTS.  
Merchandise left in shop at a rate of \$5.00 per day for storage - after 30 days will be sold

Purchaser herein releases Scelzi Enterprises from any and all liability related to and arising from any modification of and/or tampering with any product manufactured, installed, and/or repaired by Scelzi Enterprises.  
Should purchaser default in any of the terms hereof, he agrees to pay all costs, including, but not limited to reasonable attorney fees incurred by Scelzi Enterprises seeking enforcement herein of damages for breach or in pursuing any other remedy available to Scelzi Enterprises.  
As the purchaser, I agree to the terms and conditions herein.

**Total****Payments/Credits****Balance Due**PLEASE PAY FROM THIS INVOICE NO  
STATEMENT WILL BE RENDERED.

By \_\_\_\_\_

**Scelzi Enterprises, Inc.**

Truck Body Manufacturing

P.O. Box 12066  
Fresno, CA. 93776

Phone # 559-237-5541 Fax # 559-496-3202

**Invoice**

Date	Invoice #
5/8/2024	283218

<b>Bill To</b>
FORD STORE OF MORGAN HILL 17045 CONDIT ROAD MORGAN HILL, CA 95037

<b>Ship To</b>
WILL CALL

P.O. Number	Terms	Rep	Delivery Date	Via		F.O.B.		Work Order
	Net 10	RD/CG	5/8/2024	WILL CALL		ORIGIN		283218
Model	5/7 YD DUMP	Serial	052462175	VIN	SDF02738 P		Attn	MARK WEXLER

Qty	Item Code	Description	Price Each	Amount
		10GA HI-TEN SIDES 4 FLANGE BOXED TOP RAIL ON SIDES DOUBLE WALL CONSTRUCTION SLOPED RUNNING BOARDS FULL DEPTH REAR CORNER POST 4" CHANNEL CROSSBARS ON 12" CENTERS 6" CHANNEL LONGS 1/4 SIZE CAB SHIELD 8" X 3/16" HIGH TENSILE SPREADER APRON LED LIGHT KIT OVAL STOP & TURN MUD FLAPS REAR HINGED MANUALLY OPERATED TAILGATE LOCKS SCELZI SEMI-AUTOMATIC TARP SYSTEM WITH BLACK MESH TARP BACKUP ALARM REQUIRED ON ALL DUMPS STANDARD IS ECCO 510 HOIST: SCELZI SUB-FRAME UNDERBODY HOIST CLASS 50 172 TON CAPACITY AT 12" OVERHANG FULL STEEL SUB-FRAME		

A FINANCE CHARGE AT THE RATE OF 2% PER MONTH (24% ANNUALLY)  
 WILL BE CHARGED ON PAST DUE ACCOUNTS.  
 Merchandise left in shop at a rate of \$5.00 per day for storage - after 30 days will be sold

**Total**

Purchaser herein releases Scelzi Enterprises from any and all liability related to and arising from any modification of and/or tampering with any product manufactured, installed, and/or repaired by Scelzi Enterprises.  
 Should purchaser default in any of the terms hereof, he agrees to pay all costs, including, but not limited to reasonable attorney fees incurred by Scelzi Enterprises seeking enforcement herein of damages for breach or in pursuing any other remedy available to Scelzi Enterprises.  
 As the purchaser, I agree to the terms and conditions herein.

**Payments/Credits****Balance Due**

PLEASE PAY FROM THIS INVOICE NO  
 STATEMENT WILL BE RENDERED.

By \_\_\_\_\_



**Scelzi Enterprises, Inc.**  
Truck Body ManufacturingP.O. Box 12066  
Fresno, CA. 93776

Phone # 559-237-5541 Fax # 559-496-3202

**Invoice**

Date	Invoice #
5/8/2024	283218

<b>Bill To</b>
FORD STORE OF MORGAN HILL 17045 CONDIT ROAD MORGAN HILL, CA 95037

<b>Ship To</b>
WILL CALL

P.O. Number	Terms	Rep	Delivery Date	Via		F.O.B.	Work Order	
	Net 10	RD/CG	5/8/2024	WILL CALL		ORIGIN	283218	
Model	5/7 YD DUMP	Serial	052462175	VIN	SDF02738 P		Attn	MARK WEXLER

Qty	Item Code	Description	Price Each	Amount
		DOUBLE ACTING POWER UP DOWN PTO AND DIRECT MOUNT PUMP HYDRAULIC OIL TANK WITH 8S-B SOLENOID OPERATED VALVE LED BODY RAISED WARNING LIGHT BODY PROP INSIDE CAB CONTROL 1EA - 580 PREMIER HEAVY DUTY PINTLE WITH 3/4" BUCK PLATE 1EA - SINGLE CENTER DITCH GATE 1EA - 7 PRONG FLAT RV PLUG 12707 48X18X18 UNDERBODY TOOLBOX FRAME MOUNTED		
1	TOOL BOX		0.00	0.00
1	HAZ MAT - HW...	HAZARDOUS WASTE DISPOSAL FEE	50.00	50.00
1	WEIGHT CERTI...	WEIGHT CERTIFICATE OF COMPLETED UNIT 12,700 LBS	45.00	45.00
1	FET - NON	VEHICLE 33,000 LBS AND UNDER ARE NOT SUBJECT TO EXCISE TAX 26,000	0.00	0.00
1	WILL CALL	CUSTOMER TO PICK UP COMPLETED UNIT IN FRESNO CA	0.00	0.00

A FINANCE CHARGE AT THE RATE OF 2% PER MONTH (24% ANNUALLY)  
WILL BE CHARGED ON PAST DUE ACCOUNTS.

Merchandise left in shop at a rate of \$5.00 per day for storage - after 30 days will be sold

**Total**

Purchaser herein releases Scelzi Enterprises from any and all liability related to and arising from any modification of and/or tampering with any product manufactured, installed, and/or repaired by Scelzi Enterprises.

Should purchaser default in any of the terms hereof, he agrees to pay all costs, including, but not limited to reasonable attorney fees incurred by Scelzi Enterprises seeking enforcement herein of damages for breach or in pursuing any other remedy available to Scelzi Enterprises.

As the purchaser, I agree to the terms and conditions herein.

**Payments/Credits**

\$0.00

**Balance Due**

PLEASE PAY FROM THIS INVOICE NO  
STATEMENT WILL BE RENDERED.

By \_\_\_\_\_

**Warranty Coverage for 2025-Model  
F53/F59/F-600/F-650/F-750 Truck  
(years or miles, whichever occurs first)**

COVERAGE	Two Years	Three Years	Four Years	Five Years	Life of Truck
Basic		Unlimited Miles			
7.3l Gas Engine w/Transmission					100,000 Miles (or 4,000 engine hours)
6.7L PowerStroke Diesel Engine					250,000 Miles (or 10,000 engine hours)
TorqShift Transmission powered by 6.7L PowerStroke Diesel Engine					250,000 Miles
Corrosion			Unlimited Miles		
Frame					Unlimited Miles
Noise Emissions					

July 15, 2025

TO: Chair and Directors of the Florin Resource Conservation District

FROM: Ben Voelz, Associate Engineer

SUBJECT: **VACUUM EXCAVATOR TRAILER PURCHASE**

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### **RECOMMENDATION**

It is recommended that the Florin Resource Conservation District Board of Directors authorize the General Manager to execute a purchase order in the amount of \$142,931.96 to Ditch Witch West to procure a new vacuum excavator trailer.

### **SUMMARY**

Following the adoption of the Florin Resource Conservation District/Elk Grove Water District (District) Fiscal Year (FY) 2025-26 Operating Budget and FY 2026-2030 Capital Improvement Program (CIP), staff solicited bids from three (3) vendors for the procurement of one (1) new vacuum excavator (Vactor) trailer for use by the Utility Department. Ditch Witch West was the lowest responsive, responsible bidder for a new Vactor trailer with a bid amount of \$142,931.96. Purchasing a new Vactor is included in the approved FY 2025-26 CIP budget. The approved budget for the Vactor Trailer Replacements Project is \$175,000.

### **DISCUSSION**

#### **Background**

On May 20, 2025, by Resolution No. 05.20.25.01, the Board adopted the FY 2026-30 CIP and appropriated \$4,375,000 for capital improvement projects for FY 2025-26. This fiscal year's CIP includes a Vactor Trailer Replacements Project with a budget of \$175,000.

The District-owned Vermeer V500 vacuum excavator that requires replacement is 18 years old.

#### **Present Situation**

With Board approval, staff plans to purchase the Vactor trailer as soon as possible to avoid any price inflation.

## **VACUUM EXCAVATOR TRAILER PURCHASE**

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Page 2

Staff solicited bids from three (3) vendors. A summary of the bid prices is shown below.

<u>Company Name</u>	<u>Vactor Trailer Bid Amount</u>
Municipal Maintenance Equipment	\$166,098.20
RDO Equipment Co.	\$159,959.31
<b>Ditch Witch West</b>	<b>\$142,931.96</b>

Staff recommends that the Board authorize the General Manager to execute a purchase order (attached) in the amount of \$142,931.96 to Ditch Witch West to procure a new Vactor trailer.

## **ENVIRONMENTAL CONSIDERATIONS**

California Environmental Quality Act (CEQA) does not apply to proposed vehicle purchases. The internal combustion engine incorporated in the equipment complies with the current California Air Resources Control Board (CARB) Tier 4 standards for diesel engines.

## **STRATEGIC PLAN CONFORMITY**

The recommendation made in this staff report conforms to Strategic Goal 3, Planning and Operational Efficiency. Strategic Goal 3 directs EGWD to practice ongoing infrastructure renewal and organizational improvement through planning and increased operational efficiency. Implementing the projects contained in the capital improvement program meets this directive.

## **FINANCIAL SUMMARY**

The financial impact of the purchase for the Truck Replacements project is \$142,931.96. The funds for this project will be paid for from the approved fiscal year 2025-26 CIP reserve fund.

Respectfully submitted,



BEN VOELZ  
ASSOCIATE ENGINEER

Attachment

**Attachment**  
**PURCHASE ORDER**  
**FOR**  
**FLORIN RESOURCE CONSERVATION DISTRICT**

Purchase Order No. 26-

GL# 20-000-1700-423

<b>Seller:</b>		<b>Buyer:</b>	
Name	Ditch Witch West	Elk Grove Water District	
Address	1959 West Fir Ave.	9829 Waterman Rd.	
City, State Zip	Perry, OK 73077	Elk Grove, CA 95624	
Attn:	Kevin Young	Attn: Bruce Kamilos, General Manager	
Phone:	(916) 806-4356	Fax:	(580) 336-0617
Phone:		Fax:	916.685.3556
E-mail:	<a href="mailto:rgroat@ditchwitchwest.com">rgroat@ditchwitchwest.com</a>	E-mail:	<a href="mailto:bkamilos@egwd.org">bkamilos@egwd.org</a>
<b>Project Information:</b>		<b>Ship To:</b>	
Hydro Vacuum Excavator		Elk Grove Water District	
		9715 Railroad St.	
		Elk Grove, CA 95624	
		Attn: Alan Aragon	
Please forward all invoices to <a href="mailto:accountspayable@egwd.org">accountspayable@egwd.org</a>			
Order Date	Delivery Date	Ship Via	FOB
7/7/2025	per contract terms		
			Payment Terms
			Net 30 days of invoice

Buyer and Seller agree as follows:

**MATERIAL, EQUIPMENT AND/OR SERVICES TO BE PROVIDED:** Seller shall furnish the material, equipment and/or services described below which is incorporated into and made part of this Purchase Order. In the event of any conflict between the language in this Purchase Order and the language in the Professional Services Agreement or Construction Contract, the language in the Professional Services Agreement or Construction Contract shall prevail over the language in this Purchase Order.

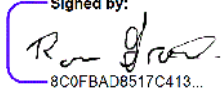
Description Item No.	Estimated Quantity	Unit Price	Ext. Price	Delivery Date
HX50A – HX50A	1	\$106,082.31	\$106,082.31	
025-1034 – VT24 800 Gal Heavy Trailer	1	\$21,016.14	\$21,016.14	
Corporate Account Price			\$127,098.45	
Materials Surcharge			\$2,541.97	
Total Freight			\$1,788.00	
Total Tax			\$11,343.54	
Installation Charge			\$160.00	
<b>Total Amount</b>			<b>\$142,931.96</b>	

[Attach Additional Sheets if necessary]

**Buyer:**

**By: Bruce Kamilos**  
**Title: General Manager**

**By: Patrick Lee**  
**Title: Finance Manager**

**Seller:**   
 Signed by:  
 8C0FBAD8517C413...  
**By: Ron Groat**  
**Title: Product Support/Sales**

# PURCHASE ORDER TERMS AND CONDITIONS

**ARTICLE 1. DEFINITIONS:** The Term "Buyer" as used in this PO means the FLORIN RESOURCE CONSERVATION DISTRICT, and the term "Seller" means the person, firm, or corporation from whom the commodity of service described in the PO it ordered. The term "Material, Equipment, and/or Services" includes materials, supplies, equipment, drawings, data and other property to be furnished and all services including design, delivery, installation, inspection, and testing specified or required to furnish any material, equipment, and/or services.

**ARTICLE 2. ACCEPTANCE OF THE PO:** The attached Acceptance Copy shall be signed and returned by the Seller within ten (10) calendar days after it is received by the Seller. The receipt by the Buyer of the signed Acceptance Copy or the initiation of performance under this PO by the Seller shall constitute acceptance of the PO by the Seller, including all of the terms and conditions herein. Acceptance is limited to the terms stated herein. Any additional or different terms and conditions proposed by the Seller are rejected unless expressly agreed to in writing by an authorized representative of the Buyer's Purchasing Department.

**ARTICLE 3. COMPLETE AGREEMENT:** This PO, including all applicable terms, conditions and specifications, shall constitute the sole and exclusive agreement between the parties. This PO supersedes all other writings and negotiations written or oral. Buyer will not be responsible for goods delivered or services rendered without a PO properly signed by the Buyer Purchasing Agent or authorized agent. When this PO covers a continuing service rendered over a stated period of time, Seller must obtain a new order upon expiration of the time period to authorize the continuance of the service for an additional period of time.

**ARTICLE 4. DEFAULT:** The Buyer may terminate the whole or any part of Seller's work in any one of the following circumstances: (1) If the Seller fails to make delivery or fails to perform within the time specified herein or any authorized extension thereof; or (2) If Seller delivers nonconforming goods; or (3) If Seller fails to perform in accordance with the material provisions of this PO, or so fails to make progress as to endanger performance of this PO in accordance with its terms. In the event of any such failure Buyer will provide Seller with written notice of the default and Buyer's intention to terminate for default if Seller fails to cure the default to Buyer's satisfaction within seven calendar days of Buyer's notice. If Seller fails to cure or correct the default to Buyer's satisfaction within seven days, Buyer may, without further notice to Seller, procure upon such terms and in such manner as the Buyer may deem appropriate, items similar to those terminated, and the Seller shall be liable to the Buyer for any excess costs of such similar items; however, the Seller shall continue the performance of this PO to the extent not terminated. The rights and remedies of the Buyer provided in this clause shall not be exclusive, and are in addition to any other rights and remedies provided by law or under this PO.

**ARTICLE 5. CHANGES:** Buyer may direct in writing changes, including additions to or deletions from the quantities originally ordered, or in the specifications or drawings. If any such change causes a material increase or decrease in the cost of, or the time required for, performance hereunder, an equitable adjustment shall be made in the price or schedule. Any claims for adjustment which Seller believes result from any change directed by Buyer shall be asserted in writing by Seller no later than ten (10) days from the date of Seller's receipt of any such direction. Equitable adjustments for any claims or changes under this agreement, including claims arising from terminations or suspensions directed under DEFAULT above, of this agreement, will be made by written Change Order. Nothing contained herein shall excuse Seller from proceeding with the change as directed prior to negotiation of any adjustment. Whether made pursuant to this clause or by mutual agreement, changes shall not be binding upon the Buyer, except when

confirmed in writing by a member of the Buyer's Purchasing Department.

**ARTICLE 6. INVOICES:** Unless otherwise specified in the PO, Seller shall send Buyer a single invoice upon completion of performance. Payment shall not be made prior to receipt and acceptance of items and an invoice.

**ARTICLE 7. PROVISIONS REQUIRED BY LAW DEEMED INSERTED:** Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provisions is not inserted, or is not correctly inserted then upon application of either party the contract shall forthwith be physically amended to make such insertion or correct.

**ARTICLE 8. RIGHT TO AUDIT:** Buyer reserves the right to access and audit the Seller's records for a period of four (4) years after payment of any invoice.

**ARTICLE 9. TITLE AND RISK OF LOSS:** All prices shall be F.O.B. Destination. The Seller shall be responsible for safe and adequate packing of the items, which shall conform to the carriers' requirements. The Seller shall separately number all cases and packages, showing the corresponding numbers on the invoices. An itemized packing slip bearing this PO number shall be placed in each container. No extra charge shall be made for packaging or packing materials unless authority therefor is set forth in this PO. Seller shall assume and pay for any and all loss or damage to the merchandise from any cause whatsoever until delivered to Buyer at the specified destination.

**ARTICLE 10. DELIVERY:** Timely performance and deliveries are essential to this PO. The Buyer reserves the right to refuse deliveries made in advance of the delivery schedule. Over shipment allowances, if authorized, will be applied to the entire order. If the Buyer agrees to accept deliveries after the date of delivery has passed, the Buyer shall have the right to direct the Seller to make shipment to the delivery point set forth in this PO by the most expeditious means, and the total cost of such expedited shipment and handling shall be borne by the Seller. Acceptance of late deliveries shall not be deemed a waiver of the Buyer's right to hold the Seller liable for any loss or damage resulting therefrom, nor shall it act as a modification of the Seller's obligation to make future deliveries in accordance with the delivery schedule.

**ARTICLE 11. DELAYS:** Seller will not be liable for delays in performing its obligations to the extent the delay is caused by an unforeseeable condition which is beyond Seller's reasonable control and without Seller's fault or negligence. Acts of God, such as storms or floods, as well as government priorities, acts of civil or military authorities, fires, strikes, epidemics, war or riot are examples of events which will be excusable for being beyond Seller's reasonable control, only upon fulfillment of the following conditions: (a) within seven (7) days of the commencement of any excusable delay, Seller shall provide Buyer with written notice of the cause and extent thereof as well as a request for a schedule extension for the estimated duration thereof, and (b) within seven (7) days of the cessation of the event causing delay Seller shall provide Buyer with written notice of the actual delay incurred, upon receipt of which, the date of promised delivery shall be extended for the time actually lost by reason of an excusable delay.

**ARTICLE 12. INSPECTION AND APPROVAL:** All items are subject to final inspection and approval after delivery to Buyer. If any items are defective in material or workmanship or otherwise not in conformity with the requirements of this PO, the Buyer shall have the right to require Seller to correct or replace them. Final acceptance or rejection shall be made by the Buyer as promptly as practicable after delivery. Final acceptance shall be conclusive except with respect to latent defects,

fraud or such gross mistakes as amount to fraud, or with respect to the Buyer's rights under the "Warranty" clause.

**ARTICLE 13. WARRANTIES-GUARANTEES:** The Seller warrants that the items, at time of delivery, shall conform to the Buyer's specifications, the requirements of this PO, approved sample or samples, if any, and are free from defects in design, material and workmanship. Unless otherwise specified in the PO, this warranty shall remain in effect for a one (1) year period after delivery or for such period of time as the item is normally warranted. At the Buyer's option, the Seller shall promptly either repair or replace defective items after receipt of the Buyer's written notice of a defect. Transportation charges for the return and redelivery of defective items shall be borne by the Seller. Seller also warrants that said merchandise is free and clear of all liens and encumbrances whatsoever and the Seller has good and marketable title to same, and Seller agrees to indemnify, defend and hold the Buyer, its officers, agents and employees free and harmless against any and all claimants to said merchandise.

**ARTICLE 14. COMPLIANCE WITH ALL APPLICABLE LAWS:** Seller's performance shall in all ways strictly conform with all applicable State, Federal and local laws, regulations, safety orders, and working conditions to which it is subject including, but not limited to, safety rules and regulations prevailing wages under the California Labor Code. Seller shall execute and deliver any and all documents as may be required to effect or evidence compliance.

**ARTICLE 15. EQUAL OPPORTUNITY EMPLOYER:** It is the policy of Buyer that in connection with all materials furnished or work performed under this PO, there be no discrimination against employees because of race, religion, color, sex or national origin, and therefore the Seller agrees to comply with applicable Federal and California laws including, but not limited to, the California Fair Employment Practices Act.

**ARTICLE 16. PERMITS OR LICENSES:** Seller and all of its employees or agents shall secure and maintain in force such licenses and permits as are required by law, and by the City, in connection with the furnishing of Material, Equipment, and/or Services herein requested.

**ARTICLE 17. INDEMNITY:** Seller assumes all risk in connection with performance or non-performance of this PO. Seller shall indemnify, defend, and hold harmless Buyer and its elected officials, officers and employees, from all liabilities, obligations, orders, claims, actual damages, governmental fines or penalties, and expenses of defense with respect to such claims (including attorneys' fees and costs) of any kind or nature which may be caused by or arise from furnishing the Material, Equipment, and/or Services, whether such activities or performance thereof be by Seller or by anyone directly or indirectly employed or contracted with by Seller, and whether such liabilities, obligations, orders, claims, actual damages, governmental fines or penalties, and expenses of defense with respect to such claims (including attorneys' fees and costs) shall accrue or be discovered before or after termination of this agreement.

**ARTICLE 18. TAXES:** Unless prohibited by law, Seller shall pay and has included in the prices of this PO any federal, state or local tax, transportation tax, or other tax which is required to be imposed upon the items ordered hereunder, or by reason of their sale or delivery.

**ARTICLE 19. TERMINATION FOR CONVENIENCE:** Buyer shall have the right to terminate this PO in whole or in part at any time, and from time to time, by written or telegraphic notice effective upon receipt by Seller of such notice, even though Seller is not in breach of any obligation hereunder. Upon receipt of notice of termination, Seller shall immediately discontinue performance and shall comply with Buyer's instructions concerning disposition of completed and partially completed items, work in progress and materials acquired pursuant to this PO. Upon termination, Contractor shall be compensated only for those services or goods which have been adequately rendered and delivered to the District through the effective date of such termination. Contractor shall be entitled to no further compensation. However, said payment shall not exceed the price specified herein for such items. Seller shall advise the Buyer, in writing, of Seller's claim, if any, for termination costs within ten (10) days after receipt of the notice of termination. Termination in accordance with this article shall not affect Buyer's obligation to pay for items accepted by Buyer prior to such termination.

**ARTICLE 20. GOVERNING LAW; VENUE; DEFINITIONS:** The definition of terms used, interpretation of this PO and rights of all parties hereunder shall be construed under and governed by the laws of the State of California. Any litigation with respect to this PO shall be brought and conducted in Sacramento County, California.

**ARTICLE 21. EXCUSE; WAIVER:** Any act or omission of Buyer which Seller might claim as an excuse for its own failure to perform shall be deemed waived by Seller unless it shall notify Buyer of its intention to assert such excuse within ten (10) days after the occurrence of any such act or omission. No action or failure to act by Buyer shall constitute a waiver of a right or duty afforded it under this PO, nor shall such action or failure to act constitute approval of or acquiescence in a breach, except as may be specifically agreed in writing. Seller expressly waives the effect of any statutory or common law provision which construes ambiguities in a contract against the party who drafted the contract.

**ARTICLE 22. INSURANCE:** If Seller or its employees or agents come onto Buyer's property in connection with this Purchase Order, Seller agrees to carry (i) Workers Compensation Insurance as required by law and Employer's Liability Insurance in the amount of \$1,000,000 per occurrence; (ii) Commercial General Liability Insurance covering personal injuries (including death) in the amount of \$1,000,000 per occurrence, \$ 2 million aggregate, and (iii) automobile liability insurance covering bodily injuries (including death) in the amount of \$1,000,000 per person, and \$1,000,000 per occurrence, property damage in the amount of \$1,000,000. Buyer shall be named as an "Additional Insured" by endorsement under the Commercial General Liability and Automobile Liability policies. The policy shall stipulate that the insurance afforded the Additional Insured shall apply as primary insurance and that any other insurance carried by Buyer will be excess only and will not contribute with this insurance. Seller shall submit written proof of such insurance to Buyer prior to entrance on Buyer's property. Seller shall supply such bonds as required by Buyer.

**THIS CONCLUDES THE TERMS AND CONDITIONS DATED 7/7/2025 consisting of Article 1 through Article 22**

## Chris Phillips

---

**From:** Ron Groat <rgroat@ditchwitchwest.com>  
**Sent:** Friday, June 20, 2025 12:51 PM  
**To:** Chris Phillips  
**Subject:** sourcewell quote  
**Attachments:** 20225413.pdf

Here ya go chris,



Ron Groat  
Product Support/Sales

Phone: (916) 806-4356  
Email: rgroat@ditchwitchwest.com





The Charles Machine Works, Inc.  
 Ditch Witch Division  
 1959 West Fir Avenue  
 P.O.Box 66  
 Perry, OK 73077  
 Phone No : 1-800-654-6481  
 Fax No : 580 336 0617  
 Email : global@ditchwitch.com

# Quotation

## Information

Quotation No. 20225413  
 Document Date 06/10/2025  
 Customer No. 516276  
 Dealership DITCH WITCH WEST (WEST  
 SACRAMENTO,  
 WEST SACRAMENTO  
 PO \_\_\_\_\_  
 Created by Todd Miller

## Sold-to Party Address

ELK GROVE WATER SERVICE  
 SOURCEWELL MEMBER 184225  
 9715 RAILROAD STREET  
 ELK GROVE CA 95624-2456

## Global Account Price Quote Quote Valid until : 07/18/2025

TAXES ARE AN ESTIMATE AT TIME OF QUOTATION-ACTUAL TAX WILL BE CALCULATED AT TIME OF INVOICING. IF TAXES ARE QUOTED AND THIS IS A TAX EXEMPT TRANSACTION, PLEASE PROVIDE TAX EXEMPT CERTIFICATE OR LEASING DETAILS WITH YOUR PURCHASE ORDER.

FOR MODEL SPECIFICATIONS OR OTHER INFORMATION, VISIT OUR WEBSITE AT [WWW.DITCHWITCH.COM](http://WWW.DITCHWITCH.COM)

Page 1 of 2

## Quotation Details

Qty	Material Description	Unit Price	Discount	Amount
1EA	<p>*****</p> <p>SOURCEWELL CONTRACT</p> <p>110421-CMW</p> <p>*****</p> <p>PER SOURCEWELL CONTRACT</p> <p>PLEASE ISSUE PURCHASE ORDER TO</p> <p>THE CHARLES MACHINE WORKS, INC</p> <p>*****</p> <p>HX50A - HX50A</p> <p>With the following configuration:</p> <p>Debris Tank 800 Gallon</p> <p>Water Tank 400 Gallons</p> <p>Controls Right Hand Traffic</p> <p>Reverse Flow Yes</p> <p>Hose and Tooling 4 Inch</p> <p>Filter Cyclonic Separator</p> <p>HX Boom Powered 4in Hoses</p> <p>Water Heater No</p> <p>Options Prospector Digging Lance</p> <p>Options Trailer Tongue Tool Box</p> <p>Options Water Air Gap</p> <p>Quiet Option Yes</p> <p>Prospector Digging Lance Yes</p>			106,082.31

### Confidentiality Notice:

This quote may contain confidential information. The information is intended only for the individual or entity named. If you are not the intended recipient, please immediately notify us at 1-800-654-6481 to arrange for return of the document.



The Charles Machine Works, Inc.  
 Ditch Witch Division  
 1959 West Fir Avenue  
 P.O.Box 66  
 Perry, OK 73077  
 Phone No : 1-800-654-6481  
 Fax No : 580 336 0617

### Sold-to Party Address

ELK GROVE WATER SERVICE  
 SOURCEWELL MEMBER 184225  
 9715 RAILROAD STREET  
 ELK GROVE CA 95624-2456

## Quotation

### Information

**Quotation No.** 20225413  
**Document Date** 06/10/2025  
**Customer No.** 516276  
**Dealership** DITCH WITCH WEST (WEST  
 SACRAMENTO,  
 WEST SACRAMENTO  
**PO** \_\_\_\_\_  
**Created by** Todd Miller

### Global Account Price Quote

**Quote Valid until : 07/18/2025**

TAXES ARE AN ESTIMATE AT TIME OF QUOTATION-ACTUAL TAX WILL BE CALCULATED AT TIME OF INVOICING. IF TAXES ARE QUOTED AND THIS IS A TAX EXEMPT TRANSACTION, PLEASE PROVIDE TAX EXEMPT CERTIFICATE OR LEASING DETAILS WITH YOUR PURCHASE ORDER.

**FOR MODEL SPECIFICATIONS OR OTHER INFORMATION, VISIT OUR WEBSITE AT [WWW.DITCHWITCH.COM](http://WWW.DITCHWITCH.COM)**

Page 2 of 2

### Quotation Details

Qty	Material Description	Unit Price	Discount	Amount
	Water Air Gap Yes			
	Trailer Tongue Tool Box Yes			
	Hydraulic Oil Standard			
	Color Standard			
	Trailer Jack Hydraulic			
1EA	HX50A-PREP - HX50A Vacuum Excavator Prep Ass embly			
1EA	025-1034 - VT24 800 GAL HEAVY TRAILER			21,016.14
		Corporate Account Price		127,098.45
		Materials Surcharge		2,541.97
		Total Freight		1,788.00
		Total Tax		11,343.54
		Installation Charge		160.00
		<b>Total Amount</b>		<b>\$ 142,931.96</b>

### Confidentiality Notice:

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# HX LINE

## HYDRO VACUUM EXCAVATORS



### FEATURES & BENEFITS

#### OPTIMAL POWER

Equipped with 24.8-hp (18.5-kW), 49-hp (36.5-kW) and 74-hp (55.2-kW) Kubota® diesel engines for more power and performance.

#### PROVEN PRODUCTIVITY

The HX Line provides optimal suction and water pressure for mid- and large-scale jobs and features a new patent-pending make-or-break seal design, which optimizes air flow for increased efficiency and simplified plumbing.

#### ENGINEERED FOR VERSATILITY

Compact without sacrificing power, the HX Line is ideal for microtrenching, slot trenching, potholing, and more.

#### CUSTOMER-DRIVEN DESIGN

Featuring a low-profile design, the HX Line offers better visibility and maneuverability without compromising ground clearance. Plus, the optional VT9 and VT9H trailers are under 10K GVWR and do not require a CDL for towing.

#### SUPERIOR FILTRATION

Standard cyclonic filtration system minimizes filter cleaning frequency and increases productivity.

#### TIME SAVING TANK UPGRADES

With a variety of tank sizes to fit your needs, the Ditch Witch® HX Line also has updated black tanks that block sunlight to eliminate algae growth.



# HX LINE HYDRO VACUUM EXCAVATOR SPECIFICATIONS

## DIMENSIONS

	<b>HX30 500 GAL SPOILS</b>	<b>HX50 500 GAL SPOILS</b>	<b>HX75 500 GAL SPOILS</b>
Length overall	218 in (5.54 m) or 232.1 in (5.90m)	232.1 in (5.90 m)	232.1 in (5.90 m)
Width	96 in (2.44 m)	96 in (2.44 m)	96 in (2.44 m)
Height	84.4 in (2.14 m)	87.9 in (2.23 m)	87.9 in (2.23 m)
Weight, empty	6,240 lb (2830 kg) or 7,698 lb (3492 kg)	8,640 lb (3919 kg)	9,008 lb (7711 kg)
Water tanks	80 gal, 200 gal or 400 gal	200 gal	200 gal
Trailer GVWR	9,999 lb (4535 kg), 12,000 lb (5443kg) 14,000 lb (6350kg), or 17,000 lb (7711 kg)	17,000 lb (7711 kg)	17,000 lb (7711 kg)
	<b>800 GAL SPOILS</b>	<b>800 GAL SPOILS</b>	<b>800 GAL SPOILS</b>
Length	269.4 in (6.84 m)	269.4 in (6.84 m)	269.4 in (6.84 m)
Width	96 in (2.44 m)	96 in (2.44 m)	96 in (2.44 m)
Height	85 in (2.16 m) or 88.7 in (2.25 m)	88.2 in (2.24 m) or 110.2 in (2.8 m)	88.2 in (2.24 m) or 88.7 in (2.25 m)
Weight, empty	8538 lb (3873 kg) or 9,008 lb (4086 kg)	9,610 lb (4359 kg) or 10,443 lb (4737 kg)	10,000 lb (4536 kg) or 10,830 lb (4912 kg)
Water Tanks	200 gal or 400 gal	200 gal or 400 gal	200 gal or 400 gal
Trailer GVWR	20,000 lb (9072 kg) or 24,000 lb (10866 kg)	20,000 lb (9072 kg) or 24,000 lb (10886 kg)	20,000 lb (9072 kg) or 24,000 lb (10886 kg)
		<b>1200 GAL SPOILS</b>	<b>1200 GAL SPOILS</b>
Length		269.4 in (6.84 m)	269.4 in (6.84 m)
Width		96 in (2.44 m)	96 in (2.44 m)
Height		97 in (2.46m)	97in (2.46 m)
Weight, empty		13,148 lb (5964 kg)	13,524lb (6134 kg)
Water tanks		600 gal	600 gal
Trailer GVWR		26,000 lb (11793 kg)	25,990 lb (6804 kg)

## POWER

	<b>HX30</b>	<b>HX50</b>	<b>HX75</b>
Engine	Kubota® D1105	Kubota® D1803-CR-TE4B	Kubota® V3307-CR-T-E5B
Fuel	Diesel	Diesel	Diesel
Manufacturer's gross power rating	24.8 hp (18.5 kW)	49 hp (37 kW)	74.3 hp (55.2 kW)
Emissions compliance	EPA Tier 4 (EU Stage V)	EPA Tier 4 (EU Stage IIIA)	EPA Tier 4 (EU Stage V)
Cooling medium	Liquid	Liquid	Liquid
Aspiration	Natural	Direct	Turbo
Number of cylinders	3	3	4
Rated speed	3,000 rpm	2,700 rpm	2,600 rpm

## FLUID CAPACITY

	<b>HX30</b>	<b>HX50</b>	<b>HX75</b>
Fuel tank capacity	25 gal (94.6 L)	30 gal (113.6 L)	30 gal (113.6 L)
Engine oil	5.2 qt (4.9 L)	8 qt (7.6 L)	12 qt (11.4 L)
Hydraulic reservoir	6.3 gal (23.8 L)	10 gal (37.9 L)	10 gal (37.9 L)
Hydraulic system	7.75 gal (29.3 L)	12 gal (45.4 L)	12 gal (45.4 L)
Water pump oil	0.47 qt (0.4 L)	0.7 qt (0.7 L)	0.7 qt (0.7 L)
Cooling system	1.25 gal (4.7 L)	2.6 gal (9.8 L)	2.8 gal (10.6 L)

## VACUUM SYSTEM

	<b>HX30</b>	<b>HX50</b>	<b>HX75</b>
Air flow	512 cfm (14.5 m³/min)	1,005 cfm (28.5 m³/min)	1,315 cfm (37.2 m³/min)
Vacuum, max	15 in Hg (381 mm Hg)	16 in Hg (406 mm Hg)	16 in Hg (406 mm Hg)
Vacuum tank capacity	500/800 gal (1893/3028 L)	500/800/1200 gal (1893/3028/4542 L)	500/800/1200 gal (1893/3028/4542 L)
Tank outlet valve size	6 in (152 mm)	6 in (152 mm)	6 in (152 mm)
Filter type	Washable polyester	Washable polyester	Washable polyester
Filter area	73 ft² (6.8 m²)	73 ft² (6.8 m²)	73 ft² (6.8 m²)
Suction hose	3 in (76 mm)	4 in (102 mm)	4 in (102 mm)

## WATER SYSTEM

	<b>HX30</b>	<b>HX50</b>	<b>HX75</b>
Water pump flow	4.2 gpm (15.9 l/min)	5.3 gpm (20.1 l/min)	5.5 gpm (20.8 l/min)
Water pump pressure, max	3,000 psi (207 bar)	3,000 psi (207 bar)	3,000 psi (207 bar)

## HYDRAULIC SYSTEM

	<b>HX30</b>	<b>HX50</b>	<b>HX75</b>
Flow rate	3.6 gpm (14 l/min)	5.5 gpm (21 l/min)	7.5 gpm (28 l/min)
Pressure	2,500 psi (172 bar)	2,500 psi (172 bar)	2,500 psi (172 bar)

Specifications are general and subject to change without notice. If exact measurements are required, equipment should be weighed and measured. Due to selected options, delivered equipment may not necessarily match that shown.



July 15, 2025

TO: Chair and Directors of the Florin Resource Conservation District

FROM: Ben Voelz, Associate Engineer

SUBJECT: **ADVANCED METERING INFRASTRUCTURE METERS AND SMARTPOINT PURCHASE**

---

### **RECOMMENDATION**

It is recommended that the Florin Resource Conservation District Board of Directors authorize the General Manager to execute a purchase order with Aqua Metric Sales Company in the amount of \$1,283,590.26 for the procurement of water meters and Advanced Metering Infrastructure SmartPoints.

### **SUMMARY**

The Elk Grove Water District (District) solicited a sole-source bid from Aqua Metric Sales Company (Aqua Metric) in the amount of \$1,283,590.26 for the purchase of water meters and Advanced Metering Infrastructure (AMI) SmartPoints as part of the District's 2025-26 Capital Improvement Program (CIP) AMI Project. Aqua Metric is the only authorized Sensus distributor and Sensus systems integration specialist in Northern California. District policy permits sole-source procurement when only one (1) source exists for supplies or services. The approved fiscal year (FY) 2025-26 CIP budget for the AMI Project is \$1,634,000.

### **DISCUSSION**

#### **Background**

Aqua Metric is the only authorized Sensus distributor and Sensus systems integration specialist in Northern California. Aqua Metric supplies the metering materials, installation expertise, and integration services needed to install the AMI infrastructure.

The backbone infrastructure of the AMI network was installed in June 2025. Integration of the Sensus FlexNet software with the District's billing software is planned for Fall/Winter 2025.

The District has Sensus water meters installed throughout its service areas. However, not all the Sensus water meters currently in operation are compatible with the full suite of

## **ADVANCED METERING INFRASTRUCTURE METERS AND SMARTPOINT PURCHASE**

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Page 2

features that AMI technology can provide. Therefore, the incompatible water meters must be replaced with AMI compatible meters to utilize the full capability of AMI technology.

Staff planned to focus on the commercial meter routes in the FY 2025-26 phase of the AMI Project which includes the majority of the large diameter meters in the District's service areas. The commercial meter routes are comprised of 3,038 meters scattered throughout the service areas. Under this year's AMI Project, all 3,038 meters will receive an AMI SmartPoint and 530 water meters will be replaced with AMI compatible meters. All installation work will be carried out by District field staff.

On May 20, 2025, by Resolution No. 05.20.25.01, the Board adopted the FY 2026-30 CIP and appropriated \$4,375,000 for capital improvement projects for FY 2025-26. This fiscal year's CIP includes the AMI Project with a budget of \$1,634,000.

### **Present Situation**

Staff plans to purchase the AMI meters and SmartPoints as soon as possible to avoid any price inflation. The District solicited a sole-source bid from Aqua Metric in the amount of \$1,283,590.26 for the procurement of water meters and AMI SmartPoints. District policy permits sole-source procurement when only one source exists for supplies or services.

Staff recommends the Board authorize the General Manager to execute a purchase order (attached) with Aqua Metric Sales Company in the amount of \$1,283,590.26 for the procurement of water meters and AMI SmartPoints.

### **ENVIRONMENTAL CONSIDERATIONS**

California Environmental Quality Act (CEQA) does not apply to proposed equipment purchases.

### **STRATEGIC PLAN CONFORMITY**

The recommendation made in this staff report conforms to Strategic Goal 3, Planning and Operational Efficiency. Strategic Goal 3 directs the District to practice ongoing infrastructure renewal and organizational improvement through planning and increased operational efficiency. Implementing AMI meets this directive.

July 15, 2025

**ADVANCED METERING INFRASTRUCTURE METERS AND SMARTPOINT  
PURCHASE**

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**FINANCIAL SUMMARY**

The financial impact of the AMI meters and SmartPoint purchase is \$1,283,590.26. The funds for the AMI Project will be paid for from the approved fiscal year 2025-26 CIP reserve fund.

Respectfully submitted,



BEN VOELZ  
ASSOCIATE ENGINEER

Attachments

## Attachment

**PURCHASE ORDER  
FOR  
FLORIN RESOURCE CONSERVATION DISTRICT**

Purchase Order No. 26-

GL# 20-000-1740-421

<b>Seller:</b>		<b>Buyer:</b>		
Name Aqua-Metric Sales Company		Elk Grove Water District		
Address 1060 National Drive #5		9829 Waterman Rd.		
City, State Zip Sacramento, CA 95834		Elk Grove, CA 95624		
Attn: Mike Bortoletto		Attn: Bruce Kamilos, General Manager		
Phone: (916) 668-4656 Cell: (916) 824-4552		Phone: 916.685.3556 Fax: 916.685.5376		
E-mail: <a href="mailto:mike.bortoletto@aqua-metric.com">mike.bortoletto@aqua-metric.com</a>		E-mail: <a href="mailto:bkamilos@egwd.org">bkamilos@egwd.org</a>		
<b>Project Information:</b>		<b>Ship To:</b>		
AMI Meters and Smartpoints.		Elk Grove Water District		
		9715 Railroad St.		
		Elk Grove, CA 95624		
		Attn: Ben Voelz		
Please forward all invoices to <a href="mailto:accountspayable@egwd.org">accountspayable@egwd.org</a>				
Order Date	Delivery Date	Ship Via	FOB	Payment Terms
7/7/2025	per contract terms			Net 30 days of invoice

Buyer and Seller agree as follows:

**MATERIAL, EQUIPMENT AND/OR SERVICES TO BE PROVIDED:** Seller shall furnish the material, equipment and/or services described below which is incorporated into and made part of this Purchase Order. In the event of any conflict between the language in this Purchase Order and the language in the Professional Services Agreement or Construction Contract, the language in the Professional Services Agreement or Construction Contract shall prevail over the language in this Purchase Order.

Description Item No.	Estimated Quantity	Unit Price	Ext. Price	Delivery Date
520M SmartPoint	3038	\$178.00	\$540,764.00	
1" iPerl	215	\$235.00	\$50,525.00	
1.5 Omni	68	\$1,145.00	\$77,860.00	
2" Omni	225	\$1,740.00	\$391,500.00	
3" Omni	13	\$2,124.00	\$27,612.00	
4" Omni	7	\$3,840.00	\$26,880.00	
6" Omni	2	\$6,645.00	\$13,290.00	
Subtotal			\$1,128,431.00	
Tarrieff			\$56,421.55	
Sales Tax			\$98,737.71	
<b>Total</b>			<b>\$1,283,590.26</b>	

**Buyer:**

**By: Bruce Kamilos**  
**Title: General Manager**

**By: Patrick Lee**  
**Title: Finance Manager**

**Seller:**

DocuSigned by:  
*Mike Bortoletto*  
B248B359B45F472...  
**By: Mike Bortoletto**  
**Title: Solutions Specialist**



## PURCHASE ORDER TERMS AND CONDITIONS

**ARTICLE 1. DEFINITIONS:** The Term "Buyer" as used in this PO means the FLORIN RESOURCE CONSERVATION DISTRICT, and the term "Seller" means the person, firm, or corporation from whom the commodity of service described in the PO it ordered. The term "Material, Equipment, and/or Services" includes materials, supplies, equipment, drawings, data and other property to be furnished and all services including design, delivery, installation, inspection, and testing specified or required to furnish any material, equipment, and/or services.

**ARTICLE 2. ACCEPTANCE OF THE PO:** The attached Acceptance Copy shall be signed and returned by the Seller within ten (10) calendar days after it is received by the Seller. The receipt by the Buyer of the signed Acceptance Copy or the initiation of performance under this PO by the Seller shall constitute acceptance of the PO by the Seller, including all of the terms and conditions herein. Acceptance is limited to the terms stated herein. Any additional or different terms and conditions proposed by the Seller are rejected unless expressly agreed to in writing by an authorized representative of the Buyer's Purchasing Department.

**ARTICLE 3. COMPLETE AGREEMENT:** This PO, including all applicable terms, conditions and specifications, shall constitute the sole and exclusive agreement between the parties. This PO supersedes all other writings and negotiations written or oral. Buyer will not be responsible for goods delivered or services rendered without a PO properly signed by the Buyer Purchasing Agent or authorized agent. When this PO covers a continuing service rendered over a stated period of time, Seller must obtain a new order upon expiration of the time period to authorize the continuance of the service for an additional period of time.

**ARTICLE 4. DEFAULT:** The Buyer may terminate the whole or any part of Seller's work in any one of the following circumstances: (1) If the Seller fails to make delivery or fails to perform within the time specified herein or any authorized extension thereof; or (2) If Seller delivers nonconforming goods; or (3) If Seller fails to perform in accordance with the material provisions of this PO, or so fails to make progress as to endanger performance of this PO in accordance with its terms. In the event of any such failure Buyer will provide Seller with written notice of the default and Buyer's intention to terminate for default if Seller fails to cure the default to Buyer's satisfaction within seven calendar days of Buyer's notice. If Seller fails to cure or correct the default to Buyer's satisfaction within seven days, Buyer may, without further notice to Seller, procure upon such terms and in such manner as the Buyer may deem appropriate, items similar to those terminated, and the Seller shall be liable to the Buyer for any excess costs of such similar items; however, the Seller shall continue the performance of this PO to the extent not terminated. The rights and remedies of the Buyer provided in this clause shall not be exclusive, and are in addition to any other rights and remedies provided by law or under this PO.

**ARTICLE 5. CHANGES:** Buyer may direct in writing changes, including additions to or deletions from the quantities originally ordered, or in the specifications or drawings. If any such change causes a material increase or decrease in the cost of, or the time required for, performance hereunder, an equitable adjustment shall be made in the price or schedule. Any claims for adjustment which Seller believes result from any change directed by Buyer shall be asserted in writing by Seller no later than ten (10) days from the date of Seller's receipt of any such direction. Equitable adjustments for any claims or changes under this agreement, including claims arising from terminations or suspensions directed under DEFAULT above, of this agreement, will be made by written Change Order. Nothing contained herein shall excuse Seller from proceeding with the change as directed prior to negotiation of any adjustment. Whether made pursuant to this clause or by mutual agreement, changes shall not be binding upon the Buyer, except when

confirmed in writing by a member of the Buyer's Purchasing Department.

**ARTICLE 6. INVOICES:** Unless otherwise specified in the PO, Seller shall send Buyer a single invoice upon completion of performance. Payment shall not be made prior to receipt and acceptance of items and an invoice.

**ARTICLE 7. PROVISIONS REQUIRED BY LAW DEEMED INSERTED:** Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provisions is not inserted, or is not correctly inserted then upon application of either party the contract shall forthwith be physically amended to make such insertion or correct.

**ARTICLE 8. RIGHT TO AUDIT:** Buyer reserves the right to access and audit the Seller's records for a period of four (4) years after payment of any invoice.

**ARTICLE 9. TITLE AND RISK OF LOSS:** All prices shall be F.O.B. Destination. The Seller shall be responsible for safe and adequate packing of the items, which shall conform to the carriers' requirements. The Seller shall separately number all cases and packages, showing the corresponding numbers on the invoices. An itemized packing slip bearing this PO number shall be placed in each container. No extra charge shall be made for packaging or packing materials unless authority therefor is set forth in this PO. Seller shall assume and pay for any and all loss or damage to the merchandise from any cause whatsoever until delivered to Buyer at the specified destination.

**ARTICLE 10. DELIVERY:** Timely performance and deliveries are essential to this PO. The Buyer reserves the right to refuse deliveries made in advance of the delivery schedule. Over shipment allowances, if authorized, will be applied to the entire order. If the Buyer agrees to accept deliveries after the date of delivery has passed, the Buyer shall have the right to direct the Seller to make shipment to the delivery point set forth in this PO by the most expeditious means, and the total cost of such expedited shipment and handling shall be borne by the Seller. Acceptance of late deliveries shall not be deemed a waiver of the Buyer's right to hold the Seller liable for any loss or damage resulting therefrom, nor shall it act as a modification of the Seller's obligation to make future deliveries in accordance with the delivery schedule.

**ARTICLE 11. DELAYS:** Seller will not be liable for delays in performing its obligations to the extent the delay is caused by an unforeseeable condition which is beyond Seller's reasonable control and without Seller's fault or negligence. Acts of God, such as storms or floods, as well as government priorities, acts of civil or military authorities, fires, strikes, epidemics, war or riot are examples of events which will be excusable for being beyond Seller's reasonable control, only upon fulfillment of the following conditions: (a) within seven (7) days of the commencement of any excusable delay, Seller shall provide Buyer with written notice of the cause and extent thereof as well as a request for a schedule extension for the estimated duration thereof, and (b) within seven (7) days of the cessation of the event causing delay Seller shall provide Buyer with written notice of the actual delay incurred, upon receipt of which, the date of promised delivery shall be extended for the time actually lost by reason of an excusable delay.

**ARTICLE 12. INSPECTION AND APPROVAL:** All items are subject to final inspection and approval after delivery to Buyer. If any items are defective in material or workmanship or otherwise not in conformity with the requirements of this PO, the Buyer shall have the right to require Seller to correct or replace them. Final acceptance or rejection shall be made by the Buyer as promptly as practicable after delivery. Final acceptance shall be conclusive except with respect to latent defects,

fraud or such gross mistakes as amount to fraud, or with respect to the Buyer's rights under the "Warranty" clause.

**ARTICLE 13. WARRANTIES-GUARANTEES:** The Seller warrants that the items, at time of delivery, shall conform to the Buyer's specifications, the requirements of this PO, approved sample or samples, if any, and are free from defects in design, material and workmanship. Unless otherwise specified in the PO, this warranty shall remain in effect for a one (1) year period after delivery or for such period of time as the item is normally warranted. At the Buyer's option, the Seller shall promptly either repair or replace defective items after receipt of the Buyer's written notice of a defect. Transportation charges for the return and redelivery of defective items shall be borne by the Seller. Seller also warrants that said merchandise is free and clear of all liens and encumbrances whatsoever and the Seller has good and marketable title to same, and Seller agrees to indemnify, defend and hold the Buyer, its officers, agents and employees free and harmless against any and all claimants to said merchandise.

**ARTICLE 14. COMPLIANCE WITH ALL APPLICABLE LAWS:** Seller's performance shall in all ways strictly conform with all applicable State, Federal and local laws, regulations, safety orders, and working conditions to which it is subject including, but not limited to, safety rules and regulations prevailing wages under the California Labor Code. Seller shall execute and deliver any and all documents as may be required to effect or evidence compliance.

**ARTICLE 15. EQUAL OPPORTUNITY EMPLOYER:** It is the policy of Buyer that in connection with all materials furnished or work performed under this PO, there be no discrimination against employees because of race, religion, color, sex or national origin, and therefore the Seller agrees to comply with applicable Federal and California laws including, but not limited to, the California Fair Employment Practices Act.

**ARTICLE 16. PERMITS OR LICENSES:** Seller and all of its employees or agents shall secure and maintain in force such licenses and permits as are required by law, and by the City, in connection with the furnishing of Material, Equipment, and/or Services herein requested.

**ARTICLE 17. INDEMNITY:** Seller assumes all risk in connection with performance or non-performance of this PO. Seller shall indemnify, defend, and hold harmless Buyer and its elected officials, officers and employees, from all liabilities, obligations, orders, claims, actual damages, governmental fines or penalties, and expenses of defense with respect to such claims (including attorneys' fees and costs) of any kind or nature which may be caused by or arise from furnishing the Material, Equipment, and/or Services, whether such activities or performance thereof be by Seller or by anyone directly or indirectly employed or contracted with by Seller, and whether such liabilities, obligations, orders, claims, actual damages, governmental fines or penalties, and expenses of defense with respect to such claims (including attorneys' fees and costs) shall accrue or be discovered before or after termination of this agreement.

**ARTICLE 18. TAXES:** Unless prohibited by law, Seller shall pay and has included in the prices of this PO any federal, state or local tax, transportation tax, or other tax which is required to be imposed upon the items ordered hereunder, or by reason of their sale or delivery.

**ARTICLE 19. TERMINATION FOR CONVENIENCE:** Buyer shall have the right to terminate this PO in whole or in part at any time, and from time to time, by written or telegraphic notice effective upon receipt by Seller of such notice, even though Seller is not in breach of any obligation hereunder. Upon receipt of notice of termination, Seller shall immediately discontinue performance and shall comply with Buyer's instructions concerning disposition of completed and partially completed items, work in progress and materials acquired pursuant to this PO. Upon termination, Contractor shall be compensated only for those services or goods which have been adequately rendered and delivered to the District through the effective date of such termination. Contractor shall be entitled to no further compensation. However, said payment shall not exceed the price specified herein for such items. Seller shall advise the Buyer, in writing, of Seller's claim, if any, for termination costs within ten (10) days after receipt of the notice of termination. Termination in accordance with this article shall not affect Buyer's obligation to pay for items accepted by Buyer prior to such termination.

**ARTICLE 20. GOVERNING LAW; VENUE; DEFINITIONS:** The definition of terms used, interpretation of this PO and rights of all parties hereunder shall be construed under and governed by the laws of the State of California. Any litigation with respect to this PO shall be brought and conducted in Sacramento County, California.

**ARTICLE 21. EXCUSE; WAIVER:** Any act or omission of Buyer which Seller might claim as an excuse for its own failure to perform shall be deemed waived by Seller unless it shall notify Buyer of its intention to assert such excuse within ten (10) days after the occurrence of any such act or omission. No action or failure to act by Buyer shall constitute a waiver of a right or duty afforded it under this PO, nor shall such action or failure to act constitute approval of or acquiescence in a breach, except as may be specifically agreed in writing. Seller expressly waives the effect of any statutory or common law provision which construes ambiguities in a contract against the party who drafted the contract.

**ARTICLE 22. INSURANCE:** If Seller or its employees or agents come onto Buyer's property in connection with this Purchase Order, Seller agrees to carry (i) Workers Compensation Insurance as required by law and Employer's Liability Insurance in the amount of \$1,000,000 per occurrence; (ii) Commercial General Liability Insurance covering personal injuries (including death) in the amount of \$1,000,000 per occurrence, \$ 2 million aggregate, and (iii) automobile liability insurance covering bodily injuries (including death) in the amount of \$1,000,000 per person, and \$1,000,000 per occurrence, property damage in the amount of \$1,000,000. Buyer shall be named as an "Additional Insured" by endorsement under the Commercial General Liability and Automobile Liability policies. The policy shall stipulate that the insurance afforded the Additional Insured shall apply as primary insurance and that any other insurance carried by Buyer will be excess only and will not contribute with this insurance. Seller shall submit written proof of such insurance to Buyer prior to entrance on Buyer's property. Seller shall supply such bonds as required by Buyer.

**THIS CONCLUDES THE TERMS AND CONDITIONS DATED 7/7/2025 consisting of Article 1 through Article 22**



Sales Quote

July 7, 2025

**Aqua-Metric Sales Company**  
Mike Bortoletto - Solutions Specialist  
1060 National Drive #5. Sacramento, CA 95834  
Phone: (916)668-4656 | Cell: (916)-824-4552

Quote for: Elk Grove Water District - AMI Project  
Attention: Ben Voelz  
Address: 9715 Railroad St  
City, State, ZIP: Elk Grove, CA 95624  
Phone: 916.685.3556  
Email:

Quantity	Description	Unit Price	Line Total
0			
3038	520M SmartPoint	\$178.00	\$540,764.00
215	1" iPerl TRPL 100CF	\$235.00	\$50,525.00
68	1.5" Omni C2 TRPL 100CF	\$1,145.00	\$77,860.00
225	2" Omni C2 TRPL 100CF	\$1,740.00	\$391,500.00
13	3" Omni C2 TRPL 100CF	\$2,124.00	\$27,612.00
7	4" Omni C2 TRPL 100CF	\$3,840.00	\$26,880.00
2	6" Omni C2 TRPL 100CF	\$6,645.00	\$13,290.00
TAXES AND FEES. All prices quoted are exclusive of federal taxes, state taxes, municipal taxes, tariffs, duties, and other government-imposed fees (collectively the "Taxes and Fees") related to the procurement, installation, and delivery of materials and equipment. Customer shall be liable for all applicable Taxes and Fees imposed upon the Goods purchased. Taxes and Fees will be added to each applicable invoice and are the responsibility of the Customer. If Customer is exempt from sales tax, Customer is required to provide all applicable tax exemption documentation at the time of purchase. Any changes in Taxes and Fees may result in adjustments to the final invoice accordingly.			

Subtotal	\$1,128,431.00
Tarriff	\$56,421.55
Shipping & Handling	
Sales Tax	\$98,737.71
<b>Total</b>	<b>\$1,283,590.26</b>

This quote for the product and services named above is subject to the following terms::

1. All quotes are subject to the Aqua-Metric Terms of Sale.
2. Quote is valid for thirty days.
3. Freight allowed on single orders exceeding \$80,000.00.
4. Net Thirty Days to Pay
5. Returned product may be subject to a 25% restocking fee.
6. Sales Tax and/or Freight charges are approximated and may vary on final invoice.



# Memorandum

**To:** Patrick Lee, Finance Manager

**From:** Ben Voelz, Associate Engineer

**Date:** July 1, 2025

**Re:** SOLE-SOURCE JUSTIFICATION – AQUA METRIC SALES COMPANY

Per the adopted Elk Grove Water District (EGWD/District) FY 2026-2030 five-year Capital Improvement Program and the adopted EGWD FY 2025-2026 Operating Budget, the District has allocated funds to install Advanced Metering Infrastructure (AMI) over the next three (4) years. The first phase of the AMI project was installing the backbone infrastructure including installing radio receiver base stations and integrating the Sensus FlexNet software with the District's billing software. This installation of the radio receiver base stations was completed in June of 2025. Integration of the Sensus Flexnet software is planned for September – December of 2025. Aqua Metric Sales Company (Aqua Metric) is the only authorized Sensus distributor and Sensus systems integration specialist in Northern California. Aqua Metric provides the materials, installation expertise, and integration services needed to integrate the Sensus FlexNet software and supply AMI ready water meters and AMI SmartPoints .

The District's Public Works Construction Contracts Policy permits sole-source procurement when:

- 1) Only one known source exists for supplies or services as determined by documented research; or
- 2) No other reasonable alternative source exists that meets the District's requirements; or
- 3) Only one source meets the business needs of the District (e.g., compatibility, unique feature to meet District's business need, etc.); or
- 4) An urgent need for the goods or service will not permit a delay resulting from the competitive solicitation.

Sole sourcing the services of Aqua Metric is justified on the basis of item 1 above as Aqua Metric is the only source in Northern California that is an authorized Sensus supplier, installer, and integrator of Sensus products and software.

July 15, 2025

TO: Chair and Directors of the Florin Resource Conservation District

FROM: Ben Voelz, Associate Engineer

SUBJECT: **RAILROAD WATER TREATMENT PLANT PROGRAMMABLE LOGIC  
CONTROLLER REPLACEMENT PROJECT CONTRACT**

### **RECOMMENDATION**

It is recommended that the Florin Resource Conservation District Board of Directors authorize the General Manager to execute a construction contract in the amount of \$598,000 with Telstar Instruments for the Railroad Water Treatment Plant Programmable Logic Controller Replacement Project.

### **SUMMARY**

The Elk Grove Water District (District) received bids for the Railroad Water Treatment Plant (RRWTP) Programmable Logic Controller (PLC) Replacement Project on July 3, 2025. This is a project that replaces the two (2) PLC's that control the Railroad Water Treatment Plant. Four (4) contractors submitted bids for the project. Telstar Instruments was the lowest responsive, responsible bidder with a bid amount of \$598,000. The approved fiscal year 2025-26 budget for the RRWTP PLC Replacement Project is \$800,000.

### **DISCUSSION**

#### **Background**

On May 20, 2025, by Resolution No. 05.20.25.01, the Board adopted the FY 2026-30 CIP and appropriated \$4,375,000 for capital improvement projects for FY 2025-26. This fiscal year's CIP includes a RRWTP PLC Replacement Project with a budget of \$800,000.

The RRWTP is controlled by two (2) PLC's (PLC 1 and PLC 2). PLC 1 was installed in 2004 when the RRWTP was constructed and put into service. PLC 2 was installed shortly after in 2005. Both PLCs are Schneider Electric SCADAPack 32 PLCs.

Per the District's Asset Management Programs, both PLCs have reached the end of their useful life. Additionally, Schneider Electric (the manufacturer) discontinued sales of SCADAPack 32 PLCs in June of 2023 and will end technical support of the units by 2028.

## **RAILROAD WATER TREATMENT PLANT PROGRAMMABLE LOGIC CONTROLLER REPLACEMENT PROJECT CONTRACT**

Page 2

In 2023, staff contracted with JSP Automation, an electrical engineering consultant, to design and draft improvement plans to replace and upgrade the PLCs at the RRWTP. The new design will consolidate the operational controls of the RRWTP into one (1) PLC.

### Present Situation

Staff received and opened four (4) sealed bids on July 3, 2025, at 2:00 pm. The bids are summarized below.

	<u>Company Name</u>	<u>Bid Amount</u>
1	<b>Telstar Instruments</b>	<b>\$598,000.00</b>
2	E-Tech Group	\$475,931.00
3	Tesco Controls	\$789,792.07
4	Big Valley Electric	\$815,000.00
	<i>Engineer's Estimate</i>	\$700,000

E-Tech Group had the lowest bid price but did not furnish the required bid bond guarantee and did not acknowledge the issued bid addendums. Since E-Tech did not furnish the required documentation and acknowledgements with their bid, the bid was deemed non-responsive. Therefore, the lowest responsive, responsible bid is \$589,000 by Telstar Instruments.

It is recommended that the Board authorize the General Manager to execute a construction contract (attached) in the amount of \$589,000 with Telstar Instruments for the Railroad Water Treatment Plant PLC Replacement Project.

### **ENVIRONMENTAL CONSIDERATIONS**

The proposed project has been determined to be categorically exempt from environmental review under the provisions of California Environmental Quality Act (CEQA) Class 1, Section 15301 (d) (Restoration or Repair of existing facilities). A Notice of Exemption (NOE) will be filed with the County Clerk for this project.

July 15, 2025

**RAILROAD WATER TREATMENT PLANT PROGRAMMABLE LOGIC CONTROLLER  
REPLACEMENT PROJECT CONTRACT**

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**STRATEGIC PLAN CONFORMITY**

The recommendation made in this staff report conforms to Strategic Goal 3, Planning and Operational Efficiency. Strategic Goal 3 directs the District to practice ongoing infrastructure renewal and organizational improvement through planning and increased operational efficiency. Implementing the projects contained in the capital improvement program meets this directive.

**FINANCIAL SUMMARY**

The total financial impact of the RRWTP PLC Replacement Project is \$598,000. The funds for this project will be paid for from the approved fiscal year 2025-26 CIP reserve fund.

Respectfully submitted,



BEN VOELZ  
ASSOCIATE ENGINEER

Attachments

## **FLORIN RESOURCE CONSERVATION DISTRICT**

### **RAILROAD WATER TREATMENT PLANT PLC REPLACEMENT PROJECT**

#### **BID AND CONTRACT DOCUMENTS**



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## **FLORIN RESOURCE CONSERVATION DISTRICT**

### **NOTICE INVITING BIDS**

#### **Railroad Water Treatment Plant PLC Replacement Project**

The Florin Resource Conservation District (“District”) will receive sealed bids for the Railroad Water Treatment Plant PLC Replacement Project at the office of the Elk Grove Water District office, located 9829 Waterman Rd. Elk Grove, CA, no later than Thursday, July 3, 2025 at 2:00 PM at which time or thereafter said bids will be opened and read aloud. Bids received after this time will be returned unopened. Bids shall be valid for 60 calendar days after the bid opening date.

Work includes furnishing of all labor, materials, tax, equipment and services for the Railroad Water Treatment Plant PLC Replacement Project as outlined in the Drawing and Specifications for this project.

Bids must be submitted on the District’s Bid Forms. Bidders are responsible for purchasing and obtaining all the contract documents. The District will make the Contract Documents available for review at Sacramento Regional Builders Exchange, 5370 Elvas Avenue, Sacramento, CA 95819, (916) 442-8991. Electronic copies of the Contract Documents in PDF format may also be obtained by emailing Ben Voelz at [bvoelz@egwd.org](mailto:bvoelz@egwd.org).

Bids must be accompanied by cash, a certified or cashier’s check, or a Bid Bond in favor of the District in an amount not less than ten percent (10%) of the submitted Total Bid Price.

A non-mandatory Pre-Bid Conference will be held at the job site located at 9715 Railroad St. in Elk Grove, California on Wednesday, June 18, 2025, at 9:00 am. Bidders are encouraged to attend the Pre-Bid Conference. Bids will be accepted from any bidder who did not attend the Pre-Bid Conference.

Each bid shall be accompanied by the security referred to in the Contract Documents, the non-collusion affidavit, the list of proposed subcontractors, and all additional documentation required by the Instructions to Bidders.

The successful bidder will be required to furnish the District with a Performance Bond equal to 100% of the successful bid, and a Payment (Labor and Materials) Bond equal to 100% of the successful bid, prior to execution of the Contract. All bonds are to be secured from a surety that meets all of the State of California bonding requirements, as defined in Code of Civil Procedure Section 995.120, and is admitted by the State of California. Pursuant to Public Contract Code Section 22300, the successful bidder may substitute certain securities for funds withheld by District to ensure his performance under the Contract.

The Director of Industrial Relations has determined the general prevailing rate of per diem wages in the locality in which this work is to be performed for each craft or type of worker needed to execute the Contract which will be awarded to the successful bidder, copies of which are on file

### **NOTICE INVITING BIDS**

and will be made available to any interested party upon request at Department of Industrial Relations, 2031 Howe Avenue Suite 100, Sacramento, CA 95825 or online at <http://www.dir.ca.gov/dlsr>. A copy of these rates shall be posted by the successful bidder at the job site. The successful bidder and all subcontractor(s) under him, shall comply with all applicable Labor Code provisions, which include, but are not limited to the payment of not less than the required prevailing rates to all workers employed by them in the execution of the Contract, the employment of apprentices, the hours of labor and the debarment of contractors and subcontractors.

All public works projects shall comply with the Department of Industrial Relations (DIR) prevailing wage monitoring requirements. The DIR compliance monitoring program requires all contractors and subcontractors (of any tier) to be registered with DIR prior to bidding on or entering into a contract for a public works project. Each contractor submitting a bid must list on the Bid Schedule their DIR Public Works Contractor Registration number in the space provided. On the List of Subcontractors, the contractor must list the DIR registration number of all of its subcontractors in the space provided. Failure to provide this information may disqualify the contractor from the bid. The contractor who is awarded the contract must electronically submit all certified payroll records to DIR during the course of the project. The District shall file a PWC-100 form electronically with DIR within five (5) days of the award of contract. The filing of the PWC-100 form initiates DIR to track the prevailing wage payments from the contractor and subcontractors. Further information can be found under the public works section of DIR's website at [www.dir.ca.gov](http://www.dir.ca.gov).

Each bidder shall be a licensed contractor pursuant to the Business and Professions Code and shall be licensed in the following appropriate classification(s) of contractor's license(s), for the work bid upon, and must at minimum maintain the license(s) throughout the duration of the Contract: **California Class C-10.**

The successful bidder must fully comply with all applicable laws, rules and regulations in furnishing or using equipment and/or providing services, including, but not limited to, emissions limits and permitting requirements imposed by the Air Quality Management District (AQMD) and/or California Air Resources Board (CARB). Although the AQMD and CARB limits and requirements are more broad, the successful bidder shall specifically be aware of their application to "portable equipment", which definition is considered by AQMD and CARB to include any item of equipment with a fuel-powered engine. The successful bidder will be required to indemnify District against any fines or penalties imposed by AQMD, CARB, or any other governmental or regulatory agency for violations of applicable laws, rules and/or regulations by the successful bidder, its subcontractors, or others for whom the successful bidder is responsible under its indemnity obligations.

Pursuant to Public Contract Code Section 3400(b), if the District has made any findings designating certain materials, products, things, or services by specific brand or trade name, such findings and the materials, products, things, or services and their specific brand or trade names will be set forth in the Special Conditions.

## NOTICE INVITING BIDS

Award of Contract: The District shall award the Contract for the Project to the lowest responsive, responsible bidder as determined from the base bid alone and is deemed responsible by the District. The District reserves the right to reject any or all bids or to waive any irregularities or informalities in any bids or in the bidding process.

For further information, contact Associate Engineer, Ben Voelz, email [bvoelz@egwd.org](mailto:bvoelz@egwd.org), (916) 685-3556. The last date to submit questions shall be Friday, June 27, 2025 by 2:00 pm. All questions must be submitted in accordance with the procedures set forth in the Information for Bidders.

## **NOTICE INVITING BIDS**

## **FLORIN RESOURCE CONSERVATION DISTRICT**

### **INSTRUCTIONS TO BIDDERS**

#### **1. AVAILABILITY OF CONTRACT DOCUMENTS**

Bids must be submitted to the District on the Bid Forms which are a part of the Bid Package for the Project. Prospective bidders may obtain Contract Documents at the location(s) and at the time(s) indicated in the Notice Inviting Bids. Prospective bidders are encouraged to telephone in advance to determine the availability and cost of Contract Documents. Any applicable charges for the Contract Documents are the prospective bidders responsibility.

The District may also make the Contract Documents available for review at the plan rooms, as indicated in the Notice Inviting Bids.

#### **2. EXAMINATION OF CONTRACT DOCUMENTS**

The District has made copies of the Contract Documents available, as indicated above. Bidders shall be solely responsible for examining the Project Site and the Contract Documents, including any Addenda issued during the bidding period, and for informing itself with respect to local labor availability, means of transportation, necessity for security, laws and codes, local permit requirements, wage scales, local tax structure, contractors' licensing requirements, availability of required insurance, and other factors that could affect the Work. Bidders are responsible for consulting the standards referenced in the Contract. Failure of Bidder to so examine and inform itself shall be at its sole risk, and no relief for error or omission will be given except as required under State law.

#### **3. INTERPRETATION OF CONTRACT DOCUMENTS**

Discrepancies in, and/or omissions from the Plans, Specifications or other Contract Documents or questions as to their meaning shall be immediately brought to the attention of the District by submission of a written request for an interpretation or correction to the District. Such submission, if any, must be sent to the Associate Engineer, Ben Voelz, email [bvoelz@egwd.org](mailto:bvoelz@egwd.org).

Any interpretation of the Contract Documents will be made only by written addenda duly posted at Sacramento Regional Builders Exchange, 5370 Elvas Avenue, Sacramento, CA 95819, (916) 442-8991. An email will be sent to all known Plan Holders notifying Bidders that an addendum has been issued. The District will not be responsible for any explanations or interpretations provided in any other manner. No person is authorized to make any oral interpretation of any provision in the Contract Documents to any bidder, and no bidder should rely on any such oral interpretation.

Bids shall include complete compensation for all items that are noted in the Contract Documents as the responsibility of the Contractor.

### **INSTRUCTIONS TO BIDDERS**

#### **4. INSPECTION OF SITE; PRE-BID CONFERENCE AND SITE WALK**

Each prospective bidder is responsible for fully acquainting itself with the conditions of the Project Site (which may include more than one site), as well as those relating to the construction and labor of the Project, to fully understand the facilities, difficulties and restrictions which may impact the cost or effort required to complete the Project. To this end, a Pre-Bid Conference and Site Walk will be held on the Wednesday, June 18, 2025, at 9:00 am as indicated in the Notice Inviting Bids.

#### **5. ADDENDA**

The District reserves the right to revise the Contract Documents prior to the bid opening date. Revisions, if any, shall be made by written Addenda. All addenda issued by the District shall be included in the bid and made part of the Contract Documents. Pursuant to Public Contract Code Section 4104.5, if the District issues an Addendum which includes material changes to the Project less than 72 hours prior to the deadline for submission of bids, the District will extend the deadline for submission of bids. The District may determine, in its sole discretion, whether an Addendum warrants postponement of the bid submission date. Each prospective bidder shall provide District a name, address, facsimile number and email address to which a notification can be sent that an addendum has been posted to the Sacramento Regional Builders Exchange site as listed in the Notice Inviting Bids. Please Note: Bidders are responsible for ensuring that they have received any and all Addenda and should check the above sites prior to bid opening.

#### **6. ALTERNATE BIDS**

If alternate bid items are called for in the Contract Documents, the lowest bid will be determined on the basis of the base bid only. The time required for completion of the alternate bid items has been factored into the Contract duration and no additional Contract time will be awarded for any of the alternate bid items. The District may elect to include one or more of the alternate bid items, or to otherwise remove certain work from the Project scope of work, accordingly each Bidder must ensure that each bid item contains a proportionate share of profit, overhead and other costs or expenses which will be incurred by the Bidder.

#### **7. COMPLETION OF BID FORMS**

Bids shall only be prepared using copies of the Bid Forms which are included in the Contract Documents and are provided herein. The use of substitute bid forms other than clear and correct photocopies of those provided by the District will not be permitted. Bids shall be executed by an authorized signatory as described in these Instructions to Bidders. In addition, Bidders shall fill in all blank spaces (including inserting "N/A" where applicable) and initial all interlineations, alterations, or erasures to the Bid Forms. Bidders shall neither delete, modify, nor supplement the printed matter on the Bid Forms nor make substitutions thereon. **USE OF BLACK OR BLUE INK, INDELIBLE PENCIL OR A TYPEWRITER IS REQUIRED.** Deviations in the bid form may result in the bid being deemed non-responsive.

### **INSTRUCTIONS TO BIDDERS**

## **8. MODIFICATIONS OF BIDS**

Each Bidder shall submit its Bid in strict conformity with the requirements of the Contract Documents. Unauthorized additions, modifications, revisions, conditions, limitations, exclusions or provisions attached to a Bid may render it non-responsive and may cause its rejection. Bidders shall neither delete, modify, nor supplement the printed matter on the Bid Forms, nor make substitutions thereon. Oral, telephonic and electronic modifications will not be considered.

## **9. DESIGNATION OF SUBCONTRACTORS**

Pursuant to State law, the Bidders must designate the name and location of each subcontractor who will perform work or render services for the Bidder in an amount that exceeds one-half of one percent (1/2%) of the Bidder's Total Bid Price, as well as the portion of work each such subcontractor will perform on the form provided herein by the District. No additional time will be provided to bidders to submit any of the requested information in the Designation of Subcontractor form.

## **10. LICENSING REQUIREMENTS**

Pursuant to Section 7028.15 of the Business and Professions Code and Section 3300 of the Public Contract Code, all bidders must possess proper licenses for performance of this Contract. Subcontractors must possess the appropriate licenses for each specialty subcontracted. Pursuant to Section 7028.5 of the Business and Professions Code, the District shall consider any bid submitted by a contractor not currently licensed in accordance with state law and pursuant to the requirements found in the Contract Documents to be non-responsive, and the District shall reject the Bid. The District shall have the right to request, and Bidders shall provide within five (5) calendar days, evidence satisfactory to the District of all valid license(s) currently held by that Bidder and each of the Bidder's subcontractors, before awarding the Contract. Please also note that, pursuant to Public Contract Code Section 20676, sellers of "mined material" must be on an approved list of sellers published pursuant to Public Resources Code Section 2717(b) in order to supply mined material for this Contract.

## **11. SIGNING OF BIDS**

All Bids submitted shall be executed by the Bidder or its authorized representative. Bidders may be asked to provide evidence in the form of an authenticated resolution of its Board of Directors or a Power of Attorney evidencing the authority of the person signing the Bid to bind the Bidder to each Bid and to any Contract arising therefrom.

If a Bidder is a joint venture or partnership, it may be asked to submit an authenticated Power of Attorney executed by each joint venturer or partner appointing and designating one of the joint venturers or partners as a management sponsor to execute the Bid on behalf of Bidder. Only that joint venturer or partner shall execute the Bid. The Power of Attorney shall also: (1) authorize that particular joint venturer or partner to act for and bind Bidder in all matters relating to the Bid; and (2) provide that each venturer or partner shall be jointly and severally liable for any and all of the duties and obligations of Bidder assumed under the Bid and under any Contract arising therefrom.

### **INSTRUCTIONS TO BIDDERS**

The Bid shall be executed by the designated joint venturer or partner on behalf of the joint venture or partnership in its legal name.

## **12. BID GUARANTEE (BOND)**

Each bid shall be accompanied by: (a) cash; (b) a certified check made payable to the District; (c) a cashier's check made payable to the District; or (d) a bid bond payable to the District executed by the bidder as principal and surety as obligor in an amount not less than 10% of the maximum amount of the bid. Personal sureties and unregistered surety companies are unacceptable. The surety insurer shall be California admitted surety insurer, as defined in Code of Civil Procedure Section 995.120. The cash, check or bid bond shall be given as a guarantee that the bidder shall execute the Contract if it be awarded to the bidder, shall provide the payment and performance bonds and insurance certificates and endorsements as required herein within ten (10) calendar days after notification of the award of the Contract to the bidder. Failure to provide the required documents may result in forfeiture of the bidder's bid deposit or bond to the District and the District may award the Contract to the next lowest responsive, responsible bidder, or may call for new bids.

## **13. SUBMISSION OF SEALED BIDS**

Once the Bid and supporting documents have been completed and signed as set forth herein, they shall be placed, along with the Bid Guarantee and other required materials in an envelope, sealed, addressed and delivered or mailed, postage prepaid to the District at the place and to the attention of the person indicated in the Notice Inviting Bids. No oral or telephonic bids will be considered. No forms transmitted via the internet, e-mail, facsimile, or any other electronic means will be considered unless specifically authorized by District as provided herein. The envelope shall also contain the following in the lower left-hand corner thereof:

**Bid of \_\_\_\_\_ (Bidder's Name)**  
**for the Railroad Water Treatment Plant PLC Replacement Project**

## **14. DELIVERY AND OPENING OF BIDS**

Bids will be received by the District at the address shown in the Notice Inviting Bids up to the date and time shown therein. The District will leave unopened any Bid received after the specified date and time, and any such unopened Bid will be returned to the Bidder. It is the Bidder's sole responsibility to ensure that its Bid is received as specified. Bids may be submitted earlier than the date(s) and time(s) indicated.

Bids will be opened at the date and time stated in the Notice Inviting Bids, and the amount of each Bid will be read aloud and recorded. All Bidders may, if they desire, attend the opening of Bids. The District may in its sole discretion, elect to postpone the opening of the submitted Bids. District reserves the right to reject any or all Bids and to waive any informality or irregularity in any Bid. In the event of a discrepancy between the written amount of the Bid Price and the numerical amount of the Bid Price, the written amount shall govern.

## **INSTRUCTIONS TO BIDDERS**



## **15. WITHDRAWAL OF BID**

Prior to bid opening, a Bid may be withdrawn by the Bidder only by means of a written request signed by the Bidder or its properly authorized representative.

## **16. BASIS OF AWARD; BALANCED BIDS**

The District shall award the Contract to the lowest responsive, responsible Bidder submitting a responsive Bid. The District may reject any Bid which, in its opinion when compared to other bids received or to the District's internal estimates, does not accurately reflect the cost to perform the Work. The District may reject as non-responsive any bid which unevenly weights or allocates costs, including but not limited to overhead and profit to one or more particular bid items.

## **17. DISQUALIFICATION OF BIDDERS; INTEREST IN MORE THAN ONE BID**

No bidder shall be allowed to make, submit or be interested in more than one bid. However, a person, firm, corporation or other entity that has submitted a subproposal to a bidder, or that has quoted prices of materials to a bidder, is not thereby disqualified from submitting a subproposal or quoting prices to other bidders submitting a bid to the District. No person, firm, corporation, or other entity may submit subproposal to a bidder, or quote prices of materials to a bidder, when also submitting a prime bid on the same Project.

## **18. INSURANCE REQUIREMENTS**

The successful bidder shall procure the insurance in the form and in the amount specified in the Contract Documents.

## **19. AWARD PROCESS**

Once all Bids are opened and reviewed to determine the lowest responsive and responsible Bidder, the District may award the contract. The apparent successful Bidder should begin to prepare the following documents: (1) the Performance Bond; (2) the Payment (Labor and Materials) Bond; and (3) the required insurance certificates and endorsements. Once the District notifies the Bidder of the award, the Bidder will have ten (10) consecutive calendar days from the date of this notification to execute the Contract and supply the District with all of the required documents and certifications. Regardless whether the Bidder supplies the required documents and certifications in a timely manner, the Contract time will begin to run ten (10) calendar days from the date of the notification. Once the District receives all of the properly drafted and executed documents and certifications from the Bidder, the District shall issue a Notice to Proceed to that Bidder.

## **20. FILING OF BID PROTESTS**

Bidders may file a "protest" of a Bid with the District's General Manager. In order for a Bidder's protest to be considered valid, the protest must:

- A. Be filed in writing within five (5) calendar days after the bid opening date;

### **INSTRUCTIONS TO BIDDERS**

- B. Clearly identify the specific irregularity or accusation;
- C. Clearly identify the specific District staff determination or recommendation being protested;
- D. Specify, in detail, the grounds of the protest and the facts supporting the protest; and
- E. Include all relevant, supporting documentation with the protest at time of filing.

If the protest does not comply with each of these requirements, it will be rejected as invalid.

If the protest is valid, the District's General Manager or other designated District staff member, shall review the basis of the protest and all relevant information. The General Manager will provide a written decision to the protestor. The protestor may then appeal the decision of the General Manager to the District Board.

## **21. WORKERS COMPENSATION**

Each bidder shall submit the Contractor's Certificate Regarding Workers' Compensation form.

## **22. SUBSTITUTION OF SECURITY**

The Contract Documents call for monthly progress payments based upon the percentage of the work completed. The District will retain five percent (5%) of each progress payment as provided by the Contract Documents. At the request and expense of the successful Bidder, the District will substitute securities for the amount so retained in accordance with Public Contract Code Section 22300.

## **23. PREVAILING WAGES**

The District has obtained from the Director of the Department of Industrial Relations the general prevailing rate of per diem wages in the locality in which this work is to be performed for each craft or type of worker needed to execute the Contract. These rates are on file and available at 2031 Howe Avenue Suite 100, Sacramento, CA 95825 or may be obtained online at <http://www.dir.ca.gov/dlsr>. Bidders are advised that a copy of these rates must be posted by the successful Bidder at the job site(s). All public works projects shall comply with the Department of Industrial Relations (DIR) prevailing wage monitoring requirements. The DIR compliance monitoring program requires all contractors and subcontractors (of any tier) to be registered with DIR prior to bidding on or entering into a contract for a public works project. Each contractor submitting a bid must list on the Bid Schedule their DIR Public Works Contractor Registration number in the space provided. On the List of Subcontractors, the contractor must list the DIR registration number of all of its subcontractors in the space provided. Failure to provide this information may disqualify the contractor from the bid. The contractor who is awarded the contract must electronically submit all certified payroll records to DIR during the course of the project. The District shall file a PWC-100 form electronically with DIR within five (5) days of

## **INSTRUCTIONS TO BIDDERS**

the award of contract. The filing of the PWC-100 form initiates DIR to track the prevailing wage payments from the contractor and subcontractors. Further information can be found under the public works section of DIR's website at [www.dir.ca.gov](http://www.dir.ca.gov).

#### **24. DEBARMENT OF CONTRACTORS AND SUBCONTRACTORS**

In accordance with the provisions of the Labor Code, contractors or subcontractors may not perform work on a public works project with a subcontractor who is ineligible to perform work on a public project pursuant to Section 1777.1 or Section 1777.7 of the Labor Code. Any contract on a public works project entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract. Any public money that is paid to a debarred subcontractor by the Contractor for the Project shall be returned to the District. The Contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the Project.

#### **25. PERFORMANCE BOND AND PAYMENT (LABOR AND MATERIALS) BOND REQUIREMENTS**

Within the time specified in the Contract Documents, the Bidder to whom a Contract is awarded shall deliver to the District four identical counterparts of the Performance Bond and Payment (Labor and Materials) Bond in the form supplied by the District and included in the Contract Documents. Failure to do so may, in the sole discretion of District, result in the forfeiture of the Bid Guarantee. The surety supplying the bond must be an admitted surety insurer, as defined in Code of Civil Procedure Section 995.120, authorized to do business as such in the State of California and satisfactory to the District. The Performance Bond and the Payment (Labor and Materials) Bond shall be for one hundred percent (100%) of the Total Bid Price.

#### **26. REQUEST FOR SUBSTITUTIONS**

The successful bidder shall comply with the substitution request provisions set forth in the Special Conditions, including any deadlines for substitution requests **which may occur prior to the bid opening date**.

#### **27. SALES AND OTHER APPLICABLE TAXES, PERMITS, LICENSES AND FEES**

Contractor and its subcontractors performing work under this Contract will be required to pay California sales tax and other applicable taxes, and to pay for permits, licenses and fees required by the agencies with authority in the jurisdiction in which the work will be located, unless otherwise expressly provided by the Contract Documents.

#### **28. EXECUTION OF CONTRACT**

As required herein the Bidder to whom an award is made shall execute the Contract in the amount determined by the Contract Documents. The District may require appropriate evidence that the persons executing the Contract are duly empowered to do so.

### **INSTRUCTIONS TO BIDDERS**

**END OF INSTRUCTION TO BIDDERS**

**INSTRUCTIONS TO BIDDERS**

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## BID FORM

NAME OF BIDDER: Telstar Instruments

The undersigned, hereby declare that we have carefully examined the location of the proposed Work, and have read and examined the Contract Documents, including all plans, specifications, and all addenda, if any, for the following Project:

### **Railroad Water Treatment Plant PLC Replacement Project**

We hereby propose to furnish all labor, materials, equipment, tools, transportation, and services, and to discharge all duties and obligations necessary and required to perform and complete the base bid portion of the Project for the following TOTAL BASE BID AMOUNT:

#### BASE BID SCHEDULE

Item No.	Item Description	Quantity	Unit	Unit Cost	Total Cost
1	Mobilization, Demobilization, Bonds and Insurance	1	LS	\$4,315.00	\$4,315.00
2	<b>Parts &amp; Equipment</b> – Main PLC and Filter Panel PLC Replacements Per. Design Drawings	1	LS	\$246,512.00	\$246,512.00
3	<b>Construction Services</b> – Turnkey Installation	1	LS	\$52,447.00	\$52,447.00
4	<b>Programming Services</b> - SCADA/ PLC/ IO Programming and Design	1	LS	\$114,687.00	\$114,687.00
5	<b>Engineering Services</b> – As-Built Drawings, Materials Submittals, O&M Manual(s), PLC Program Description Manual(s)	1	LS	\$119,632.00	\$119,632.00
6	Startup, Field Commissioning/Acceptance Testing, and Training	1	LS	\$60,407.00	\$60,407.00

**Engineer's Estimate \$700,000**

**Total Bid Amount** (Sum of all contract services including bid items 1-6) \$598,000.00

(numerical form)

**Total Bid Amount** (written form) Five Hundred Ninety-Eight Thousand and Zero Cents

**BID FORM**

In case of discrepancy between the unit price and the item cost set forth for a unit basis item, the unit price shall prevail and, shall be utilized as the basis for determining the lowest responsive, responsible bidder. However, if the amount set forth as a unit price is ambiguous, unintelligible or uncertain for any cause, or is omitted, or is the same amount as the entry in the "Item Cost" column, then the amount set forth in the "Item Cost" column for the item shall prevail and shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price. Final payment shall be determined by the Engineer from measured quantities of work performed based upon the unit price.

In case of discrepancy between the written price and the numerical price, the written price shall prevail.

Bidder certifies that it is registered with the Department of Industrial Relations (DIR) to bid and contract on Public Works projects, and that all of its subcontractors that will be used on the project are registered with DIR to bid and work on Public Works projects. **Contractor's DIR Public Works Contractor Registration No.** is 1000000899.

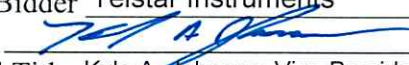
The undersigned agrees that this Bid Form constitutes a firm offer to the District which cannot be withdrawn for the number of calendar days indicated in the Notice Inviting Bids from and after the bid opening, or until a Contract for the Work is fully executed by the District and a third party, whichever is earlier.

Addenda No. 1 Addenda No. \_\_\_\_\_

Addenda No. \_\_\_\_\_ Addenda No. \_\_\_\_\_

1. Attached is the required bid security in the amount of not less than 10% of the Total Bid Price.
2. Attached is the fully executed Non-Collusion Affidavit form.
3. Attached is the completed Designation of Subcontractors form.
4. Attached is the completed Bidder Information Form.
5. Attached is the completed Contractor's Certificate Regarding Workers' Compensation form.
6. Bidder acknowledges and understands that, pursuant to Public Contract Code Section 20676, sellers of "mined material" must be on an approved list of sellers published pursuant to Public Resources Code Section 2717(b) in order to supply mined material for this Contract.

I hereby certify under penalty of perjury under the laws of the State of California, that all of the information submitted in connection with this Bid and all of the representations made herein are true and correct.

Name of Bidder Telstar Instruments  
Signature   
Name and Title Kyle A. Johnsen, Vice President  
Dated June 30, 2025

**BID FORM**

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**CONTRACTOR'S CERTIFICATE REGARDING  
WORKERS' COMPENSATION**

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this Contract.

Name of Bidder Telstar Instruments

Signature 

Name Kyle A. Johnsen

Title Vice President

Dated June 30, 2025

**CONTRACTOR'S CERTIFICATE REGARDING  
WORKERS' COMPENSATION**



## BID BOND

The makers of this bond are, Telstar Instruments  
Insurance Company, as Principal, and Nationwide Mutual  
Insurance Company, as Surety and are held and firmly bound  
unto the Florin Resource Conservation District, hereinafter called the District, in the penal sum of  
TEN PERCENT (10%) OF THE TOTAL BID PRICE of the Principal submitted to DISTRICT for  
the work described below, for the payment of which sum in lawful money of the United States,  
well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and  
assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal  
has submitted the accompanying bid dated July 3, 20 25, for Elk Grove Water District  
Locust St. Asphalt and Concrete Restoration Project.

If the Principal does not withdraw its bid within the time specified in the Contract  
Documents; and if the Principal is awarded the Contract and provides all documents to the District  
as required by the Contract Documents; then this obligation shall be null and void. Otherwise, this  
bond will remain in full force and effect.

Surety, for value received, hereby stipulates and agrees that no change, extension  
of time, alteration or addition to the terms of the Contract Documents shall in affect its obligation  
under this bond, and Surety does hereby waive notice of any such changes.

In the event a lawsuit is brought upon this bond by the District and judgment is  
recovered, the Surety shall pay all litigation expenses incurred by the District in such suit,  
including reasonable attorneys' fees, court costs, expert witness fees and expenses.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument  
under their several seals this 23rd day of June, 20 25, the name and corporate  
seal of each corporation.

(Corporate Seal)



(Attach Attorney-in-Fact Certificate)

Telstar Instruments

Principal

By

Kyle A. Johnson, Vice President

Nationwide Mutual Insurance Company

Surety

By

Lori L. Endsley  
Attorney-in-Fact

Title Lori L Endsley, Attorney- in-Fact

## BID BOND

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Power of Attorney

KNOW ALL MEN BY THESE PRESENTS THAT:

Nationwide Mutual Insurance Company, an Ohio corporation

hereinafter referred to severally as the "Company" and collectively as "the Companies" does hereby make, constitute and appoint:

CAROL BURNS; JENNIFER A WHEELER; LORI L ENDSLEY; NANCY LYNN STERN;  
RONALD D OSBORN; SHELLY RECEK; VERITY J RACHT;

each in their individual capacity, its true and lawful attorney-in-fact, with full power and authority to sign, seal, and execute on its behalf any and all bonds and undertakings, and other obligatory instruments of similar nature, in penalties not exceeding the sum of

**FIVE MILLION AND NO/100 DOLLARS (\$5,000,000.00)**

and to bind the Company thereby, as fully and to the same extent as if such instruments were signed by the duly authorized officers of the Company; and all acts of said Attorney pursuant to the authority given are hereby ratified and confirmed.

This power of attorney is made and executed pursuant to and by authority of the following resolution duly adopted by the board of directors of the Company:

"RESOLVED, that the president, or any vice president be, and each hereby is, authorized and empowered to appoint attorneys-in-fact of the Company, and to authorize them to execute and deliver on behalf of the Company any and all bonds, forms, applications, memorandums, undertakings, recognizances, transfers, contracts of indemnity, policies, contracts guaranteeing the fidelity of persons holding positions of public or private trust, and other writings obligatory in nature that the business of the Company may require; and to modify or revoke, with or without cause, any such appointment or authority; provided, however, that the authority granted hereby shall in no way limit the authority of other duly authorized agents to sign and countersign any of said documents on behalf of the Company."

"RESOLVED FURTHER, that such attorneys-in-fact shall have full power and authority to execute and deliver any and all such documents and to bind the Company subject to the terms and limitations of the power of attorney issued to them, and to affix the seal of the Company thereto; provided, however, that said seal shall not be necessary for the validity of any such documents."

This power of attorney is signed and sealed under and by the following bylaws duly adopted by the board of directors of the Company.

Execution of Instruments. Any vice president, any assistant secretary or any assistant treasurer shall have the power and authority to sign or attest all approved documents, instruments, contracts, or other papers in connection with the operation of the business of the company in addition to the chairman of the board, the chief executive officer, president, treasurer or secretary; provided, however, the signature of any of them may be printed, engraved, or stamped on any approved document, contract, instrument, or other papers of the Company.

IN WITNESS WHEREOF, the Company has caused this instrument to be sealed and duly attested by the signature of its officer the 1st day of April, 2024.

Antonio C. Albanese, Vice President of Nationwide Mutual Insurance Company

ACKNOWLEDGMENT

STATE OF NEW YORK COUNTY OF KINGS: ss

On this 1st day of April, 2024, before me came the above-named officer for the Company aforesaid, to me personally known to be the officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, deposes and says, that he is the officer of the Company aforesaid, that the seal affixed hereto is the corporate seal of said Company, and the said corporate seal and his signature were duly affixed and subscribed to said instrument by the authority and direction of said Company.



Sharon Laburda  
Notary Public, State of New York  
No. 01LA6427697  
Qualified in Kings County  
Commission Expires January 3, 2026

Notary Public  
My Commission Expires  
January 3, 2026

CERTIFICATE

I, Lezlie F. Chimienti, Assistant Secretary of the Company, do hereby certify that the foregoing is a full, true and correct copy of the original power of attorney issued by the Company; that the resolution included therein is a true and correct transcript from the minutes of the meetings of the boards of directors and the same has not been revoked or amended in any manner; that said Antonio C. Albanese was on the date of the execution of the foregoing power of attorney the duly elected officer of the Company, and the corporate seal and his signature as officer were duly affixed and subscribed to the said instrument by the authority of said board of directors; and the foregoing power of attorney is still in full force and effect.

IN WITNESS WHEREOF, I have hereunto subscribed my name as Assistant Secretary, and affixed the corporate seal of said Company this 23rd day of

June, 2025.

Assistant Secretary

**CALIFORNIA ACKNOWLEDGMENT**

CIVIL CODE § 1189

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of Fresno

On 06/23/2025 before me,

C. Parra, Notary Public  
Here Insert Name and Title of the Officer

personally appeared

Uni L Endsley  
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Place Notary Seal and/or Stamp Above

Signature

[Signature]  
Signature of Notary Public

**OPTIONAL**

Completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

**Description of Attached Document**

Title or Type of Document: Bid Bond

Document Date: 06/23/2025

Number of Pages: 2

Signer(s) Other Than Named Above: \_\_\_\_\_

**Capacity(ies) Claimed by Signer(s)**

Signer's Name: Uni L Endsley

☐ Corporate Officer – Title(s): \_\_\_\_\_

☐ Partner – ☐ Limited ☐ General

☐ Individual ☒ Attorney in Fact

☐ Trustee ☐ Guardian or Conservator

☐ Other: \_\_\_\_\_

Signer is Representing: \_\_\_\_\_

Signer's Name: \_\_\_\_\_

☐ Corporate Officer – Title(s): \_\_\_\_\_

☐ Partner – ☐ Limited ☐ General

☐ Individual ☐ Attorney in Fact

☐ Trustee ☐ Guardian or Conservator

☐ Other: \_\_\_\_\_

Signer is Representing: \_\_\_\_\_



**CALIFORNIA ACKNOWLEDGMENT**

CIVIL CODE § 1189

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of Sacramento

On June 24, 2025 before me, Juliann L. Gardiner, Notary Public  
Date Here Insert Name and Title of the Officer

personally appeared Kyle A. Johnson  
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



Place Notary Seal and/or Stamp Above

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature

Signature of Notary Public

**OPTIONAL**

Completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

**Description of Attached Document**

Title or Type of Document: Bid Bond

Document Date: 6/23/2025 Number of Pages: 3

Signer(s) Other Than Named Above: \_\_\_\_\_

**Capacity(ies) Claimed by Signer(s)**

Signer's Name: \_\_\_\_\_

☐ Corporate Officer – Title(s): \_\_\_\_\_

☐ Partner – ☐ Limited ☐ General

☐ Individual ☐ Attorney in Fact

☐ Trustee ☐ Guardian or Conservator

☐ Other: \_\_\_\_\_

Signer is Representing: \_\_\_\_\_

Signer's Name: \_\_\_\_\_

☐ Corporate Officer – Title(s): \_\_\_\_\_

☐ Partner – ☐ Limited ☐ General

☐ Individual ☐ Attorney in Fact

☐ Trustee ☐ Guardian or Conservator

☐ Other: \_\_\_\_\_

Signer is Representing: \_\_\_\_\_

### DESIGNATION OF SUBCONTRACTORS

In compliance with the Subletting and Subcontracting Fair Practices Act of the Public Contract Code of the State of California, each bidder shall set forth below: (a) the name and the location of the place of business and (b) the portion of the work which will be done by each subcontractor who will perform work or labor or render service to the Contractor in or about the construction of the work in an amount in excess of one-half of one percent (1/2%) of the Contractor's Total Bid Price. Notwithstanding the foregoing, if the work involves streets and highways, then the Contractor shall list each subcontractor who will perform work or labor or render service to Contractor in or about the work in an amount in excess of one-half of one percent (1/2%) of the Contractor's Total Bid Price or \$10,000, whichever is greater. No additional time shall be granted to provide the below requested information.

If no subcontractor is specified, for a portion of the work, or if more than one subcontractor is specified for the same portion of Work, to be performed under the Contract in excess of one-half of one percent (1/2%) of the Contractor's Total Bid Price or \$10,000, whichever is greater if the work involves streets or highways, then the Contractor shall be deemed to have agreed that it is fully qualified to perform that Work, and that it shall perform that portion itself.

Portion of Work	Subcontractor (include Contractor's License No. & DIR Public Works Contractor Registration No.)	Location of Business
N/A		

Name of Bidder Telstar Instruments

Signature 

Name and Title Kyle A. Johnsen, Vice President

Dated June 30, 2025

### DESIGNATION OF SUBCONTRACTORS

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## INFORMATION REQUIRED OF BIDDERS

### A. INFORMATION ABOUT BIDDER

NOTE: Where Bidder is a joint venture, pages shall be duplicated and information provided for all parties to the joint venture.

- 1.0 Bidders Name and address: Telstar Instruments; 4017 Vista Park Court, Sacramento, CA 95834
- 2.0 Bidders telephone no.: (916) 646-1999
- 3.0 Bidders fax no. and email address: (916) 646-1096; Contracts@telstarinc.com
- 4.0 Contractor' State License No. and Expiration Date: : 422364; 5/31/2026
- 5.0 Contractor's Primary classification: A, B
- 6.0 Contractor's Specialty classification: C10, C7

Name of Licensee, if different from (1) above. If Joint Venture or Partnership, list full names of all partners:

John D. Gardiner; President / Robert S. Marston; Secretary  
Kyle A. Johnsen; Vice President / Benjamin R. Herston; Treasurer

- 7.0 What type of work does the Bidder normally perform with its own forces?  
General Contracting, Electrical, Instrumentation, and Programming
- 8.0 Has Bidder ever failed to complete any work awarded to it? If so, note when, where, and why:  
No.

## INFORMATION REQUIRED OF BIDDERS

- 9.0 Within the last five years, has any officer or partner of Bidder's organization ever been an officer or partner of another organization when it failed to complete a contract? If so, state why and when:

No.

- 10.0 At any time in the last five years has your firm failed to satisfactorily complete any work whereby the owner was forced to either take legal action or contact the surety company bonding the project to resolve the conflict? If so, state the circumstance.

No.

## **B. LIST OF THREE SIMILAR COMPLETED PROJECTS - LAST THREE YEARS**

Please include only those projects which are similar enough to demonstrate Bidder's ability to perform the required Work. The list shall include the following information as a minimum:

1.0 Name of Project, and Owner: Remote I/O Upgrade of Dewatering PLC - City of Fresno

2.0 Name, address and contact information for Owner: Saul Sandoval Chavez; (559) 621-5636

5607 W. Jensen Ave, Fresno, CA 93706

3.0 Brief description of work involved: \_\_\_\_\_

The scope of work includes upgrading PLC #4 and PLC #6 by upgrading the existing Schneider Modicon 800 Series Programmable Logic Controller (PLC) Input/Output (I/O) control system with the installation of a Schneider Modicon M560 PLC and I/O Program to the EcoStruxure Control Expert software platform, and installation was limited to a 12 hour for the first & 24 hours continuous time limit for the second system, in order to minimize the disruption to plant operations. The scope of work also included project management, supervision, engineering, installation and commissioning of the PLC for a system complete and in-place with minimal disruptions to normal facility operations.

4.0 Contract amount: \$737,000.00

5.0 Date of Completion: July 2023

6.0 Name of Project, and Owner: Groundwater PFAS Treatment Facility - Alameda County Water District

7.0 Name, address and contact information for Owner: Ricky Vera; (510) 668-4483

1111 Mowry Avenue, Fremont, CA 94536

## **INFORMATION REQUIRED OF BIDDERS**

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8.0 Brief description of work involved: \_\_\_\_\_

Telstar performed the electrical construction and control system integration for the project. The scope included the procurement, integration, installation, and commissioning of TWO (2) new MCCs, TWO (2) Active Harmonic Filters, ONE (1) Hot standby PLC Control Panel, and SIX (6) individual Remote I/O Control Panels. Telstar performed the necessary modifications to the District's Medium Voltage switchgear to energize the new electrical system. Telstar performed the PLC Programming and worked closely with the District's SCADA programmer to implement a fully functioning control system.

9.0 Contract amount: \$3,196,800.00

10.0 Date of Completion: April 2025

11.0 Name of Project, and Owner: Deer Creek WWTP Process Control Improvements Project - El Dorado ID

12.0 Name, address and contact information for Owner: Ron Barney; (530) 622-4513

1565 Deer Creek Rd, Cameron Park, CA 95682

13.0 Brief description of work involved: \_\_\_\_\_

The EID Deer Creek Process Control Improvement Project to update the PLC, SCADA, and Communications for Plant Control system. The equipment that was updated included 3 VFDs panels, 2 pump motors, 3 Plant Power monitors, 8 PLCs panels, and the Wonderware SCADA system. The PLCs were upgraded from Allen Bradley PLC 5 and SLC processors to Compact Logix PLCs. As built details for 17 PLC panels were developed which included the 8 upgraded PLCs. A new fiber optic ring network system was installed utilizing the Allen Bradley Stratix network switches. The Wonderware Archestra SCADA system was replaced with the new Wonderware OMI High Efficiency graphics.

14.0 Contract amount: \$1,200,000.00

15.0 Date of Completion: February 2022

### C. EQUIPMENT SUPPLIER LISTING

The following are the names of the manufacturers and suppliers of major items of equipment and systems to be used by the Bidder in the work.

Section Number	Equipment Description	Manufacturer and/or Supplier
	Not Applicable	
13300 / 13340	PLC / Back Panel / Power Supply / Terminal Block	Allen Bradley / Saginaw / Weidmuller

### D. VERIFICATION AND EXECUTION

These Bid Forms shall be executed only by a duly authorized official of the Bidder:

I declare under penalty of perjury under the laws of the State of California that the foregoing information is true and correct:

### INFORMATION REQUIRED OF BIDDERS



Name of Bidder Telstar Instruments

Signature 

Company Name: Telstar Instruments

The Owner will check project references listed to verify information provided along with skills and capacity represented by Contractor. It is very important that the Bidder verify that all contact information is current for each name listed above.

The undersigned hereby states that all above representations are correct and true.

June 30, 2025

Date

Kyle A. Johnsen

Name

Vice President

Signatory Title

Telstar Instruments

Company Name

422364

CA Contractor License No.

C10, C7, A, B

License Classification

05/31/2026

License Expiration Date

Signature:



## INFORMATION REQUIRED OF BIDDERS

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### NON-COLLUSION AFFIDAVIT

I, Kyle A. Johnsen, being first duly sworn, deposes and says that he is the Vice President of Telstar Instruments the party making the attached bid; that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

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

Name of Bidder Telstar Instruments

Signature 

Name Kyle A. Johnsen

Title Vice President

Dated June 30, 2025

### INFORMATION REQUIRED OF BIDDERS

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## CONTRACT

THIS CONTRACT is made this \_\_\_\_ day of \_\_\_\_\_, 2025, in the County of Sacramento, State of California, by and between the Florin Resource Conservation District, hereinafter called District, and Telstar Instruments, hereinafter called Contractor. The District and the Contractor for the considerations stated herein agree as follows:

**ARTICLE 1. SCOPE OF WORK.** The Contractor shall perform all Work within the time stipulated the Contract and shall provide all labor, materials, equipment, tools, utility services, and transportation to complete all of the Work required in strict compliance with the Contract Documents as specified in Article 5 below for the following Project:

### **Railroad Water Treatment Plant PLC Replacement Project**

The Contractor and its surety shall be liable to the District for any damages arising as a result of the Contractor's failure to comply with this obligation.

**ARTICLE 2. TIME FOR COMPLETION.** The Work shall be commenced on the date stated in the District's Notice to Proceed. The Contractor shall substantially complete all Work required by the Contract Documents within 230 calendar days from the commencement date stated in the Notice to Proceed. By its signature hereunder, Contractor agrees the time for completion set forth above is adequate and reasonable to complete the Work.

**ARTICLE 3. CONTRACT PRICE.** The District shall pay to the Contractor as full compensation for the performance of the Contract, subject to any additions or deductions as provided in the Contract Documents, and including all applicable taxes and costs, the sum of Five-Hundred Ninety-Eight Thousand Dollars (\$ 598,000.00 ). Payment shall be made as set forth in the General Conditions.

**ARTICLE 4. LIQUIDATED DAMAGES.** In accordance with Government Code section 53069.85, it is agreed that the Contractor will pay the District the sum of \$2,500 for each and every calendar day of delay beyond the time prescribed in the Contract Documents for finishing the Work, as Liquidated Damages and not as a penalty or forfeiture. In the event this is not paid, the Contractor agrees the District may deduct that amount from any money due or that may become due the Contractor under the Contract. This Article does not exclude recovery of other damages specified in the Contract Documents.

**ARTICLE 5. COMPONENT PARTS OF THE CONTRACT.** The "Contract Documents" include the following:

Notice Inviting Bids  
Instructions to Bidders  
Contractor's Bid Forms

## CONTRACT

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Contractor's Certificate Regarding Workers' Compensation  
Bid Bond  
Designation of Subcontractors  
Information Required of Bidders  
Non-Collusion Affidavit form  
Contract  
Performance Bond  
Payment (Labor and Materials) Bond  
General Conditions  
Special Provisions (or Special Conditions)  
Technical Specifications  
Elk Grove Water Service Standard Construction Specifications  
Addenda  
Improvement Plans and Contract Drawings  
Approved and fully executed change orders  
Any other documents contained in or incorporated into the Contract

The Contractor shall complete the Work in strict accordance with all of the Contract Documents.

All of the Contract Documents are intended to be complementary. Work required by one of the Contract Documents and not by others shall be done as if required by all. This Contract shall supersede any prior agreement of the parties.

**ARTICLE 6. PROVISIONS REQUIRED BY LAW.** Each and every provision of law required to be included in these Contract Documents shall be deemed to be included in these Contract Documents. The Contractor shall comply with all requirements of applicable federal, state and local laws, rules and regulations, including, but not limited to, the provisions of the California Labor Code and California Public Contract Code which are applicable to this Project.

**ARTICLE 7. INDEMNIFICATION.** Contractor shall provide indemnification as set forth in the General Conditions.

**ARTICLE 8. PREVAILING WAGES.** Contractor shall be required to pay the prevailing rate of wages in accordance with the Labor Code which such rates shall be made available at 2031 Howe Avenue Suite 100, Sacramento, CA or may be obtained online at <http://www.dir.ca.gov/dlsr>. and which must be posted at the job site. All public works projects shall comply with the Department of Industrial Relations (DIR) prevailing wage monitoring requirements. The DIR compliance monitoring program requires all contractors and subcontractors (of any tier) to be registered with DIR prior to bidding on or entering into a contract for a public works project. Each contractor submitting a bid must list on the Bid Schedule their DIR Public Works Contractor Registration number in the space provided. On the List of Subcontractors, the contractor must list the DIR registration number of all of its subcontractors in the space provided. Failure to provide this information may disqualify the contractor from the bid. The contractor who is awarded the contract must electronically submit all certified payroll records to DIR during the course of the project. The District shall file a PWC-100 form electronically with DIR within five (5) days of

## CONTRACT

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the award of contract. The filing of the PWC-100 form initiates DIR to track the prevailing wage payments from the contractor and subcontractors. Further information can be found under the public works section of DIR's website at [www.dir.ca.gov](http://www.dir.ca.gov).

## **CONTRACT**

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IN WITNESS WHEREOF, this Contract has been duly executed by the above-named parties, on the day and year above written.

<b>FLORIN RESOURCE CONSERVATION DISTRICT</b>	<b>TELSTAR INSTRUMENTS</b>
<b>By:</b>	<b>By:</b>
<div><div></div><div>Signature</div></div>	<div><div>Signed by: <i>Kyle A. Johnsen</i> EE3569D0B1424E0</div><div>Signature</div></div>
<div><div>Bruce Kamilos</div><div>Name</div></div>	<div><div>Kyle Johnsen</div><div>Name</div></div>
<div><div>General Manager</div><div>Title</div></div>	<div><div>Managing Director</div><div>Title</div></div>
<b>Attest:</b>	<div><div>422364</div><div>License Number</div></div>
<div><div></div><div>District Clerk</div></div>	
<b>Approved as to Form:</b>	
<div><div></div><div>Name</div></div>	
<div><div>General Counsel</div><div>Title</div></div>	

## PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, \_\_\_\_\_ (hereinafter referred to as “District”) has awarded to \_\_\_\_\_, (hereinafter referred to as the “Contractor”) an agreement for \_\_\_\_\_ (hereinafter referred to as the “Project”).

WHEREAS, the work to be performed by the Contractor is more particularly set forth in the Contract Documents for the Project dated \_\_\_\_\_, (hereinafter referred to as “Contract Documents”), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, the Contractor is required by said Contract Documents to perform the terms thereof and to furnish a bond for the faithful performance of said Contract Documents.

NOW, THEREFORE, we, \_\_\_\_\_, the undersigned Contractor and \_\_\_\_\_ as Surety, a corporation organized and duly authorized to transact business under the laws of the State of California, are held and firmly bound unto the District in the sum of \_\_\_\_\_ DOLLARS, (\$\_\_\_\_\_), said sum being not less than one hundred percent (100%) of the total amount of the Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that, if the Contractor, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the Contract Documents and any alteration thereof made as therein provided, on its part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and shall faithfully fulfill all obligations including the one-year guarantee of all materials and workmanship; and shall indemnify and save harmless the District, its officers and agents, as stipulated in said Contract Documents, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As a part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees including reasonable attorney’s fees, incurred by District in enforcing such obligation.

As a condition precedent to the satisfactory completion of the Contract Documents, unless otherwise provided for in the Contract Documents, the above obligation shall hold good for a period of one (1) year after the acceptance of the work by District, during which time if Contractor shall fail to make full, complete, and satisfactory repair and replacements and totally protect the District from loss or damage resulting from or caused by defective materials or faulty workmanship. The obligations of Surety hereunder shall continue so long as any obligation of

## PERFORMANCE BOND

Contractor remains. Nothing herein shall limit the District's rights or the Contractor or Surety's obligations under the Contract, law or equity, including, but not limited to, California Code of Civil Procedure section 337.15.

Whenever Contractor shall be, and is declared by the District to be, in default under the Contract Documents, the Surety shall remedy the default pursuant to the Contract Documents, or shall promptly, at the District's option:

- (1) Take over and complete the Project in accordance with all terms and conditions in the Contract Documents; or
- (2) Obtain a bid or bids for completing the Project in accordance with all terms and conditions in the Contract Documents and upon determination by Surety of the lowest responsive and responsible bidder, arrange for a Contract between such bidder, the Surety and the District, and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Contractor by the District under the Contract and any modification thereto, less any amount previously paid by the District to the Contractor and any other set offs pursuant to the Contract Documents.
- (3) Permit the District to complete the Project in any manner consistent with California law and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Contractor by the District under the Contract and any modification thereto, less any amount previously paid by the District to the Contractor and any other set offs pursuant to the Contract Documents.

Surety expressly agrees that the District may reject any contractor or subcontractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Contractor.

Surety shall not utilize Contractor in completing the Project nor shall Surety accept a bid from Contractor for completion of the Project if the DISTRICT, when declaring the Contractor in default, notifies Surety of the District's objection to Contractor's further participation in the completion of the Project.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project to be performed thereunder shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project.

## **PERFORMANCE BOND**



IN WITNESS WHEREOF, we have hereunto set our hands and seals this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
CONTRACTOR/PRINCIPAL

\_\_\_\_\_  
Name

By \_\_\_\_\_

SURETY:

By: \_\_\_\_\_  
Attorney-In-Fact

The rate of premium on this bond is \_\_\_\_\_ per thousand. The total amount of premium charges, \$ \_\_\_\_\_.  
(The above must be filled in by corporate attorney.)

**THIS IS A REQUIRED FORM**

Any claims under this bond may be addressed to:

(Name and Address of Surety) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Name and Address of Agent or Representative for service of process in California, if different from above) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Telephone number of Surety and Agent or Representative for service of process in California) \_\_\_\_\_

**PERFORMANCE BOND**

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[illegible]

On this \_\_\_\_\_ day of \_\_\_\_\_, in the year 20\_\_\_\_, before me, \_\_\_\_\_, a Notary Public in and for said state, personally appeared \_\_\_\_\_, known to me to be the person whose name is subscribed to the within instrument as the Attorney-In-Fact of the (Surety) acknowledged to me that he subscribed the name of the \_\_\_\_\_ (Surety) thereto and his own name as Attorney-In-Fact.

Notary Public in and for said State

(SEAL)

Commission expires: \_\_\_\_\_

NOTE: A copy of the Power-of-Attorney to local representatives of the bonding company must be attached hereto.

## PERFORMANCE BOND

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## **PAYMENT BOND (LABOR AND MATERIALS)**

KNOW ALL MEN BY THESE PRESENTS That

WHEREAS, the Florin Resource Conservation District (hereinafter designated as the “District”), by action taken or a resolution passed \_\_\_\_\_, 20\_\_\_\_ has awarded to \_\_\_\_\_ hereinafter designated as the “Principal,” a contract for the work described as follows:

\_\_\_\_\_  
(the “Project”); and

WHEREAS, said Principal is required to furnish a bond in connection with said contract; providing that if said Principal or any of its Subcontractors shall fail to pay for any materials, provisions, provender, equipment, or other supplies used in, upon, for or about the performance of the work contracted to be done, or for any work or labor done thereon of any kind, or for amounts due under the Unemployment Insurance Code or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of said Principal and its Subcontractors with respect to such work or labor the Surety on this bond will pay for the same to the extent hereinafter set forth.

NOW THEREFORE, we, the Principal and \_\_\_\_\_ as Surety, are held and firmly bound unto the District in the penal sum of \_\_\_\_\_ Dollars (\$\_\_\_\_\_) lawful money of the United States of America, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal, his or its subcontractors, heirs, executors, administrators, successors or assigns, shall fail to pay any of the persons named in Section 3181 of the Civil Code, fail to pay for any materials, provisions or other supplies, used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department or Franchise Tax Board from the wages of employees of the contractor and his subcontractors pursuant to Section 18663 of the Revenue and Taxation Code, with respect to such work and labor the Surety or Sureties will pay for the same, in an amount not exceeding the sum herein above specified, and also, in case suit is brought upon this bond, all litigation expenses incurred by the District in such suit, including reasonable attorneys’ fees, court costs, expert witness fees and investigation expenses.

This bond shall inure to the benefit of any of the persons named in Section 3181 of the Civil Code so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

It is further stipulated and agreed that the Surety on this bond shall not be exonerated or released from the obligation of this bond by any change, extension of time for performance, addition,

## **PAYMENT BOND (LABOR AND MATERIALS)**

alteration or modification in, to, or of any contract, plans, specifications, or agreement pertaining or relating to any scheme or work of improvement herein above described, or pertaining or relating to the furnishing of labor, materials, or equipment therefore, nor by any change or modification of any terms of payment or extension of the time for any payment pertaining or relating to any scheme or work of improvement herein above described, nor by any rescission or attempted rescission or attempted rescission of the contract, agreement or bond, nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under any such contract or agreement or under the bond, nor by any fraud practiced by any person other than the claimant seeking to recover on the bond and that this bond be construed most strongly against the Surety and in favor of all persons for whose benefit such bond is given, and under no circumstances shall Surety be released from liability to those for whose benefit such bond has been given, by reason of any breach of contract between the owner or District and original contractor or on the part of any obligee named in such bond, but the sole conditions of recovery shall be that claimant is a person described in Section 3110 or 3112 of the Civil Code, and has not been paid the full amount of his claim and that Surety does hereby waive notice of any such change, extension of time, addition, alteration or modification herein mentioned.

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed unoriginal thereof, have been duly executed by the Principal and Surety above named, on the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_ the name and corporate seal of each corporate party being hereto affixed and these presents duly signed b its undersigned representative pursuant to authority of its governing body.

(Corporate Seal of Principal,  
if corporation)

\_\_\_\_\_  
Principal (Property Name of Contractor)

By \_\_\_\_\_  
(Signature of Contractor)

(Seal of Surety)

\_\_\_\_\_  
Surety

By \_\_\_\_\_  
Attorney in Fact

(Attached Attorney-In-Fact Certificate and Required  
Acknowledgements)

\*Note: Appropriate Notarial Acknowledgments of Execution by Contractor and +surety and a power of Attorney MUST BE ATTACHED.

## **PAYMENT BOND (LABOR AND MATERIALS)**

## GENERAL CONDITIONS

### ARTICLE 1. DEFINITIONS

- a. Acceptable, Acceptance or words of similar import shall be understood to be the acceptance of the Engineer and/or the District .
- b. Act of God an Act of God is an earthquake of magnitude 3.5 on the Richter scale and tidal waves.
- c. Approval means written authorization by Engineer and/or District .
- d. Contract Documents includes all documents as stated in the Contract.
- e. District and Contractor are those stated in the Contract. The terms District and Owner may be used interchangeably.
- f. Day shall mean calendar day unless otherwise specifically designated.
- g. Engineer shall mean the Project Engineer and/or Manager designated by the Florin Resource Conservation District, acting either directly or through properly authorized agents, such as agents acting within the scope of the particular duties entrusted to them. Also sometimes referred to as the “District’s Representative,” “Engineer” or “Representative” in the Contract Documents.
- h. Equal, Equivalent, Satisfactory, Directed, Designated, Selected, As Required and similar words shall mean the written approval, selection, satisfaction, direction, or similar action of the Engineer and/or District.
- i. Indicated, Shown, Detailed, Noted, Scheduled or words of similar meaning shall mean that reference is made to the drawings, unless otherwise noted. It shall be understood that the direction, designation, selection, or similar import of the Engineer and/or District is intended, unless stated otherwise.
- j. Install means the complete installation of any item, equipment or material.
- k. Material shall include machinery, equipment, manufactured articles, or construction such as form work, fasteners, etc., and any other classes of material to be furnished in connection with the Contract. All materials shall be new unless specified otherwise.
- l. Perform shall mean that the Contractor, at Contractor’s expense, shall take all actions necessary to complete The Work, including furnishing of necessary labor, tools, and equipment, and providing and installing Materials that are indicated, specified, or required to complete such performance.
- m. Project is The Work planned by District as provided in the Contract Documents.

## GENERAL CONDITIONS

- n. Provide shall include provide complete in place, that is furnish, install, test and make ready for use.
- o. Recyclable Waste Materials shall mean materials removed from the Project site which are required to be diverted to a recycling center rather than an area landfill. Recyclable Waste Materials include asphalt, concrete, brick, concrete block, and rock.
- p. Specifications means that portion of the Contract Documents consisting of the written requirements for materials, equipment, construction systems, standards and workmanship for the work and those portions of the Elk Grove Water Service Standard Construction Specification, including all current supplements, addenda, and revisions thereof. In the case of conflict between the Elk Grove Water Service Standard Construction Specifications and the Contract Documents, the Contract Documents shall prevail.
- q. The Work means the entire improvement planned by the District pursuant to the Contract Documents.
- r. Work means labor, equipment and materials incorporated in, or to be incorporated in the construction covered by the Contract Documents.

## ARTICLE 2. CONTRACT DOCUMENTS

- a. **Contract Documents.** The Contract Documents are complementary, and what is called for by one shall be as binding as if called for by all.
- b. **Interpretations.** The Contract Documents are intended to be fully cooperative and to be complementary. If Contractor observes that any documents are in conflict, the Contractor shall promptly notify the Engineer in writing. In case of conflicts between the Contract Documents, the order of precedence shall be as follows:
  - 1. Change Orders or Work Change Directives
  - 2. Addenda
  - 3. Special Provisions (or Special Conditions)
  - 4. Technical Specifications
  - 5. Plans (Contract Drawings)
  - 6. Contract
  - 7. General Conditions
  - 8. Instructions to Bidders
  - 9. Notice Inviting Bids
  - 10. Contractor's Bid Forms
  - 11. Elk Grove Water Service Standard Construction Specifications
  - 12. Standard Plans
  - 13. Reference Documents

With reference to the Drawings, the order of precedence shall be as follows:

## GENERAL CONDITIONS

1. Figures govern over scaled dimensions
  2. Detail drawings govern over general drawings
  3. Addenda or Change Order drawings govern over Contract Drawings
  4. Contract Drawings govern over Standard Drawings
  5. Contract Drawings govern over Shop Drawings
- c. **Conflicts in Contract Documents.** Notwithstanding the orders of precedence established above, in the event of conflicts, the higher standard shall always apply.
- d. **Organization of Contract Documents.** Organization of the Contract Documents into divisions, sections, and articles, and arrangement of drawings shall not control the Contractor in dividing The Work among subcontractors or in establishing the extent of Work to be performed by any trade.

### **ARTICLE 3. CONTRACTS DOCUMENTS: COPIES & MAINTENANCE**

Contractor will be furnished, free of charge, an electronic copy of the final Contract Documents. Additional copies will be the responsibility of the contractor.

Contractor shall maintain a clean, undamaged set of Contract Documents at the Project site. Bids must be submitted on the District's Bid Forms. Bidders may obtain a copy of the Contract Documents at: Sacramento Regional Builders Exchange, 1331 T Street, Sacramento, CA 95811, (916) 442-8991.

### **ARTICLE 4. DETAIL DRAWINGS AND INSTRUCTIONS**

- a. **Examination of Contract Documents.** Before commencing any portion of The Work, Contractor shall again carefully examine all applicable Contract Documents, the Project site and other information given to Contractor as to materials and methods of construction and other Project requirements. Contractor shall immediately notify the Engineer of any potential error, inconsistency, ambiguity, conflict or lack of detail or explanation. If Contractor performs, permits, or causes the performance of any Work which is in error, inconsistent or ambiguous, or not sufficiently detailed or explained, Contractor shall bear any and all resulting costs, including, without limitation, the cost of correction. In no case shall the Contractor or any subcontractor proceed with Work if uncertain as to the applicable requirements.
- b. **Additional Instructions.** After notification of any error, inconsistency, ambiguity, conflict or lack of detail or explanation, the Engineer will provide any required additional instructions, by means of drawings or other written direction, necessary for proper execution of Work.
- c. **Quality of Parts, Construction and Finish.** All parts of The Work shall be of the best quality of their respective kinds and the Contractor must use all diligence to inform itself fully as to the required construction and finish. In no case shall Contractor proceed with The

### **GENERAL CONDITIONS**

Work without obtaining first from the Engineer such Approval may be necessary for the proper performance of Work.

- d. **Contractor's Variation from Contract Document Requirements.** If it is found that the Contractor has varied from the requirements of the Contract Documents including the requirement to comply with all applicable laws, ordinances, rules and regulations, the Engineer may at any time, before or after completion of the Work, order the improper Work removed, remade or replaced by the Contractor at the Contractor's expense.

## **ARTICLE 5. EXISTENCE OF UTILITIES AT THE WORK SITE**

- a. No excavations were made to verify the locations shown for underground utilities. The service connections to these utilities are not shown on the plans. It shall be the responsibility of the Contractor to determine the exact location of all service connections. The Contractor shall make its own investigations, including exploratory excavations, to determine the locations and type of service connections, prior to commencing Work which could result in damage to such utilities. The Contractor shall immediately notify the District in writing of any utility discovered in a different position than shown on the Plans or which is not shown on the Plans.
- b. All water meters, water valves, fire hydrants, electrical utility vaults, telephone vaults, gas utility valves, and other subsurface structures shall be relocated or adjusted to final grade by the Contractor. Locations of existing utilities shown on the Plans are approximate and may not be complete. The Contractor shall be responsible for coordinating its Work with all utility companies during the construction of The Work.
- c. Contractor, except in an emergency, shall contact the appropriate regional notification center, Underground Service Alert at 1-800-227-2600 at least two working days prior to commencing any excavation if the excavation will be performed in an area which is known, or reasonably should be known, to contain subsurface installations other than the underground facilities owned or operated by the District, and obtain an inquiry identification number from that notification center. No excavation shall be commenced or carried out by the Contractor unless such an inquiry identification number has been assigned to the Contractor or any subcontractor of the Contractor and the District has been given the identification number by the Contractor.

## **ARTICLE 6. SCHEDULE**

- a. **Estimated Schedule.** Within seven (7) days after the issuance of the Notice to Proceed, Contractor shall prepare a Project schedule and shall submit this to the Engineer for Approval. The receipt or Approval of any schedules by the Engineer or the District shall not in any way relieve the Contractor of its obligations under the Contract Documents. The Contractor is fully responsible to determine and provide for any and all staffing and resources at levels which allow for good quality and timely completion of the Project. Contractor's failure to incorporate all elements of Work required for the performance of the Contract or any inaccuracy in the schedule shall not excuse the Contractor from performing

## **GENERAL CONDITIONS**



all Work required for a completed Project within the specified Contract time period. If the required schedule is not received by the time the first payment under the Contract is due, Contractor shall not be paid until the schedule is received, reviewed and accepted by the Engineer.

- b. **Schedule Contents.** The schedule shall allow enough time for inclement weather. The schedule shall indicate the beginning and completion dates of all phases of construction; critical path for all critical, sequential time related activities; and “float time” for all “slack” or “gaps” in the non-critical activities. The schedule shall clearly identify all staffing and other resources which in the Contractor’s judgment are needed to complete the Project within the time specified for completion. Schedule duration shall match the Contract time. Schedules indicating early completion will be rejected.
- c. **Schedule Updates.** Contractor shall continuously update its construction schedule. Contractor shall submit an updated and accurate construction schedule to the Engineer whenever requested to do so by Engineer and with each progress payment request. The Engineer may withhold progress payments or other amounts due under the Contract Documents if Contractor fails to submit an updated and accurate construction schedule.

## **ARTICLE 7. SUBSTITUTIONS**

- a. Pursuant to Public Contract Code Section 3400(b) the District may make a finding that is described in the invitation for bids that designates certain products, things, or services by specific brand or trade name.
- b. Unless specifically designated in the Contract Documents, whenever any material, process, or article is indicated or specified by grade, patent, or proprietary name or by name of manufacturer, such Specifications shall be deemed to be used for the purpose of facilitating the description of the material, process or article desired and shall be deemed to be followed by the words “or equal.” Contractor may, unless otherwise stated, offer for substitution any material, process or article which shall be substantially equal or better in every respect to that so indicated or specified in the Contract Documents. However, the District may have adopted certain uniform standards for certain materials, processes and articles.
- c. Contractor shall submit requests, together with substantiating data, for substitution of any “or equal” material, process or article no later than thirty-five (35) days after award of the Contract. To facilitate the construction schedule and sequencing, some requests may need to be submitted before thirty-five (35) days after award of Contract. Provisions regarding submission of “or equal” requests shall not in any way authorize an extension of time for performance of this Contract. If a proposed “or equal” substitution request is rejected, Contractor shall be responsible for providing the specified material, process or article. The burden of proof as to the equality of any material, process or article shall rest with the Contractor. The District has the complete and sole discretion to determine if a material, process or article is an “or equal” material, process or article that may be substituted.

## **GENERAL CONDITIONS**

- d. Data required to substantiate requests for substitutions of an “or equal” material, process or article shall include a signed affidavit from the Contractor stating that, and describing how, the substituted “or equal” material, process or article is equivalent to that specified in every way except as listed on the affidavit. Substantiating data shall include any and all illustrations, specifications, and other relevant data including catalog information which describes the requested substituted “or equal” material, process or article, and substantiates that it is an “or equal” to the material, process or article. The substantiating data must also include information regarding the durability and lifecycle cost of the requested substituted “or equal” material, process or article. Failure to submit all the required substantiating data, including the signed affidavit, to the District in a timely fashion will result in the rejection of the proposed substitution.
- e. The Contractor shall bear all of the District’s costs associated with the review of substitution requests.
- f. The Contractor shall be responsible for all costs related to a substituted “or equal” material, process or article.
- g. Contractor is directed to the Special Conditions (if any) to review any findings made pursuant to Public Contract Code section 3400.

## **ARTICLE 8. SHOP DRAWINGS**

- a. Contractor shall check and verify all field measurements and shall submit with such promptness as to provide adequate time for review and cause no delay in his own Work or in that of any other contractor, subcontractor, or worker on the Project, one (1) electronic copy and three (3) copies of all shop or setting drawings, calculations, schedules, and materials list, and all other provisions required by the Contract. Contractor shall sign all submittals affirming that submittals have been reviewed and approved by Contractor prior to submission to Engineer. Each signed submittal shall affirm that the submittal meets all the requirements of the Contract Documents except as specifically and clearly noted and listed on the cover sheet of the submittal.
- b. Contractor shall make any corrections required by the Engineer, and file with the Engineer three (3) corrected copies each, and furnish such other copies as may be needed for completion of the Work. Owner’s approval of shop drawings shall not relieve Contractor from responsibility for deviations from the Contract Documents unless Contractor has, in writing, called Engineer’s attention to such deviations at time of submission and has secured the Engineer’s written Approval. Engineer’s Approval of shop drawings shall not relieve Contractor from responsibility for errors in shop drawings.

## **ARTICLE 9. SUBMITTALS**

- a. Contractor shall furnish to the Engineer for approval, prior to purchasing or commencing any Work, a log of all samples, material lists and certifications, mix designs, schedules, and

## **GENERAL CONDITIONS**

other submittals, as required in the specifications. The log shall indicate whether samples will be provided in accordance with other provisions of this Contract.

- b. Contractor will provide samples and submittals, together with catalogs and supporting data required by the Engineer, to the Engineer within a reasonable time period to provide for adequate review and avoid delays in the Work.
- c. These requirements shall not authorize any extension of time for performance of this Contract. Engineer will check and approve such samples, but only for conformance with design concept of work and for compliance with information given in the Contract Documents. Work shall be in accordance with approved samples and submittals.

## **ARTICLE 10. MATERIALS**

- a. Except as otherwise specifically stated in the Contract Documents, Contractor shall provide and pay for all materials, labor, tools, equipment, water, lights, power, transportation, superintendence, temporary constructions of every nature, and all other services and facilities of every nature whatsoever necessary to execute and complete this Contract within specified time.
- b. Unless otherwise specified, all materials shall be new and the best of their respective kinds and grades as noted and/or specified, and workmanship shall be of good quality.
- c. Materials shall be furnished in ample quantities and at such times as to ensure uninterrupted progress of The Work and shall be stored properly and protected as required by the Contract Documents. Contractor shall be entirely responsible for damage or loss by weather or other causes to materials or Work.
- d. No materials, supplies, or equipment for Work under this Contract shall be purchased subject to any chattel mortgage or under a conditional sale or other agreement by which an interest therein or in any part thereof is retained by the seller or supplier. Contractor warrants good title to all material, supplies, and equipment installed or incorporated in the work and agrees upon completion of all work to deliver the Project, to the District free from any claims, liens, or charges.
- e. Materials shall be stored on the Project site in such manner so as not to interfere with any operations of the District or any independent contractor.

## **ARTICLE 11. CONTRACTOR'S SUPERVISION**

Contractor shall continuously keep at the Project site, a competent and experienced full-time Project superintendent approved by the District. Superintendent must be able to proficiently speak, read and write in English. Contractor shall continuously provide efficient supervision of the Project.

## **GENERAL CONDITIONS**

## **ARTICLE 12. WORKERS**

- a. Contractor shall at all times enforce strict discipline and good order among its employees. Contractor shall not employ on the Project any unfit person or any one not skilled in the Work assigned to him or her.
- b. Any person in the employ of the Contractor whom the District may deem incompetent or unfit shall be dismissed from The Work and shall not be employed on this Project except with the written Approval of the District.

## **ARTICLE 13. SUBCONTRACTORS**

- a. Contractor agrees to bind every subcontractor to the terms of the Contract Documents as far as such terms are applicable to subcontractor's portion of The Work. Contractor shall be as fully responsible to the District for the acts and omissions of its subcontractors and of persons either directly or indirectly employed by its subcontractors, as Contractor is for acts and omissions of persons directly employed by Contractor. Nothing contained in these Contract Documents shall create any contractual relationship between any subcontractor and the District.
- b. The District reserves the right to Approve all subcontractors. The District's Approval of any subcontractor under this Contract shall not in any way relieve Contractor of its obligations in the Contract Documents.
- c. Prior to substituting any subcontractor listed in the Bid Forms, Contractor must comply with the requirements of the Subletting and Subcontracting Fair Practices Act pursuant to California Public Contract Code section 4100 et seq.

## **ARTICLE 14. PERMITS AND LICENSES**

Permits and licenses necessary for prosecution of The Work shall be secured and paid for by Contractor, unless otherwise specified in the Contract Documents.

- a. Contractor shall obtain and pay for all other permits and licenses required for The Work, including excavation permit and for plumbing, mechanical and electrical work and for operations in or over public streets or right of way under jurisdiction of public agencies other than the District.
- b. The Contractor shall arrange and pay for all off-site inspection of the Work related to permits and licenses, including certification, required by the specifications, drawings, or by governing authorities, except for such off-site inspections delineated as the District's responsibility pursuant to the Contract Documents.
- c. Before Acceptance of the Project, the Contractor shall submit all licenses, permits, certificates of inspection and required approvals to the District.

## **GENERAL CONDITIONS**

## **ARTICLE 15. UTILITY USAGE**

- a. All temporary utilities, including but not limited to electricity, water, gas, and telephone, used on the Work shall be furnished and paid for by Contractor. Contractor shall Provide necessary temporary distribution systems, including meters, if necessary, from distribution points to points on The Work where the utility is needed. Upon completion of The Work, Contractor shall remove all temporary distribution systems.
- b. Contractor shall provide necessary and adequate utilities and pay all costs for water, electricity, gas, oil, and sewer charges required for completion of the Project.
- c. All permanent meters Installed shall be listed in the Contractor's name until Project Acceptance.
- d. If the Contract is for construction in existing facilities, Contractor may, with prior written Approval of the District, use the District's existing utilities by compensating the District for utilities used by Contractor.

## **ARTICLE 16. INSPECTION FEES FOR PERMANENT UTILITIES**

All inspection fees and other municipal charges for permanent utilities including, but not limited to, sewer, electrical, phone, gas, water, and irrigation shall be paid for by the District. Contractor shall be responsible for arranging the payment of such fees, but inspection fees and other municipal fees relating to permanent utilities shall be paid by the District. Contractor may either request reimbursement from the District for such fees, or shall be responsible for arranging and coordination with District for the payment of such fees.

## **ARTICLE 17. TRENCHES**

- a. Trenches Five Feet or More in Depth. The Contractor shall submit to the District, in advance of excavation, a detailed plan showing the design of shoring, bracing, sloping or other provisions to be made for worker protection from the hazard of caving ground during the excavation of any trench or trenches five feet or more in depth. If the plan varies from shoring system standards, the plan shall be prepared by a registered civil or structural engineer. The plan shall not be less effective than the shoring, bracing, sloping, or other provisions of the Construction Safety Orders, as defined in the California Code of Regulations.
- b. Excavations Deeper than Four Feet. If work under this Contract involves digging trenches or other excavation that extends deeper than four feet below the surface, Contractor shall promptly, and before the following conditions are disturbed, notify the District, in writing, of any:
  - 1) Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be

## **GENERAL CONDITIONS**

removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

- 2) Subsurface or latent physical conditions at the site differing from those indicated.
- 3) Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract.

The District shall promptly investigate the conditions, and if it finds that the conditions do so materially differ, or do involve hazardous waste, and cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of The Work, shall issue a change order under the procedures described in the Contract Documents.

In the event that a dispute arises between the District and the Contractor as to whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of The Work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all Work to be performed under the Contract. Contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the parties.

#### **ARTICLE 18. DIVERSION OF RECYCLABLE WASTE MATERIALS**

In compliance with the applicable City of Elk Grove's waste reduction and recycling efforts, Contractor shall divert all Recyclable Waste Materials to appropriate recycling centers. Contractor will be required to submit weight tickets and written proof of diversion with its monthly progress payment requests if required by the City. Contractor shall complete and execute any certification forms required by the City or other applicable agencies to document Contractor's compliance with these diversion requirements. All costs incurred for these waste diversion efforts shall be the responsibility of the Contractor.

#### **ARTICLE 19. REMOVAL OF HAZARDOUS MATERIALS**

Should Contractor encounter material reasonably believed to be polychlorinated biphenyl (PCB) or other toxic wastes and hazardous materials which have not been rendered harmless at the Project site, the Contractor shall immediately stop work at the affected Project site and shall report the condition to the District in writing. The District shall contract for any services required to directly remove and/or abate PCBs and other toxic wastes and hazardous materials, if required by the Project site(s), and shall not require the Contractor to subcontract for such services. The Work in the affected area shall not thereafter be resumed except by written agreement of the District and Contractor.

### **GENERAL CONDITIONS**

## **ARTICLE 20. SANITARY FACILITIES**

Contractor shall provide sanitary temporary toilet buildings for the use of all workers. All toilets shall comply with local codes and ordinances. Toilets shall be kept supplied with toilet paper and shall have workable door fasteners. Toilets shall be serviced no less than once weekly and shall be present in a quantity of not less than 1 per 20 workers as required by CAL-OSHA regulation. The toilets shall be maintained in a sanitary condition at all times. Use of toilet facilities in The Work under construction shall not be permitted. Any other Sanitary Facilities required by CAL-OSHA shall be the responsibility of the Contractor.

## **ARTICLE 21. AIR POLLUTION CONTROL**

Contractor shall comply with all air pollution control rules, regulations, ordinances and statutes. All containers of paint, thinner, curing compound, solvent or liquid asphalt shall be labeled to indicate that the contents fully comply with the applicable material requirements.

Without limiting the foregoing, Contractor must fully comply with all applicable laws, rules and regulations in furnishing or using equipment and/or providing services, including, but not limited to, emissions limits and permitting requirements imposed by the Air Quality Management District (AQMD) and/or California Air Resources Board (CARB). Although the AQMD and CARB limits and requirements are more broad, Contractor shall specifically be aware of their application to "portable equipment", which definition is considered by AQMD and CARB to include any item of equipment with a fuel-powered engine. Contractor shall indemnify District against any fines or penalties imposed by AQMD, CARB, or any other governmental or regulatory agency for violations of applicable laws, rules and/or regulations by Contractor, its subcontractors, or others for whom Contractor is responsible under its indemnity obligations provided for in Article 48, Indemnification.

## **ARTICLE 22. COMPLIANCE WITH STATE STORM WATER PERMIT**

**Permit Compliance.** The Contractor shall comply with the District's National Pollutant Discharge Elimination System (NPDES) Permit No. CAG995001 issued by the Regional Water Quality Control Board in association with Low Threat General Waste Discharge Order No. R5-2013-0074-059.

- a. **Consideration of Costs.** As stated in the Instruction to Bidders, it was the responsibility of the Contractor in preparing its bid to evaluate and include in the bid any costs for complying with the Permits.
- b. **Other Applicable Laws.** Contractor shall also comply with the lawful requirements of any applicable municipality, the District, drainage district, and other local agencies regarding discharges of storm water to separate storm drain system(s) or other water courses under their jurisdiction, including applicable requirements in municipal storm water management programs. This requirement applies to all projects, including those projects that impact less than one acre or disturb less than one acre.

## **GENERAL CONDITIONS**

- c. **Run-on Drainage.** Storm, surface, nuisance or other waters may be encountered at various times during the course of construction. By submitting its bid, Contractor acknowledged that it investigated the risk arising from such waters, prepared its bid accordingly, and assumed any and all liabilities arising therefrom.
- d. **Liability for Non-Compliance.** Failure to comply with the Permit or any applicable municipal permit is a violation of law and may be subject to penalties, fines, or additional regulatory requirements. In addition to the other indemnities included herein, Contractor hereby agrees to indemnify and hold harmless District, its officers, directors, agents and employees from and against any and all fines, penalties, claims or other regulatory requirements imposed as a result of noncompliance with the Permit or the applicable municipal permit, unless such noncompliance is the result of District's sole established negligence, willful misconduct or active negligence..

## **ARTICLE 23. CLEANING UP**

- a. Contractor at all times shall keep premises free from debris such as waste, rubbish, and excess materials and equipment. Contractor shall not store debris under, in, or about the premises. Upon completion of Work, Contractor shall clean the interior and exterior of the building or improvement including fixtures, equipment, walls, floors, ceilings, roofs, window sills and ledges, horizontal projections, and any areas where debris has collected so surfaces are free from foreign material or discoloration. Contractor shall clean and polish all glass, plumbing fixtures, and finish hardware and similar finish surfaces and equipment and contractor shall also remove temporary fencing, barricades, planking and construction toilet and similar temporary facilities from site. Contractor shall also clean all buildings, asphalt and concrete areas to the degree necessary to remove oil, grease, fuel, or other stains caused by Contractor operations or equipment.
- b. Contractor shall fully clean up the site at the completion of The Work. If the Contractor fails to immediately clean up at the completion of The Work, the District may do so and the cost of such clean up shall be charged back to the Contractor.

## **ARTICLE 24. LAYOUT AND FIELD ENGINEERING**

All field engineering required for laying out The Work and establishing grades for earthwork operations shall be furnished by the Contractor at its expense. Layout shall be done by a registered civil engineer Approved by the Engineer. Any required "as-built" drawings of the Work shall be prepared by the registered civil engineer.

## **ARTICLE 25. EXCESSIVE NOISE**

- a. The Contractor shall use only such equipment on the work and in such state of repair so that the emission of sound therefrom is within the noise tolerance level of that equipment as established by CAL-OSHA.

## **GENERAL CONDITIONS**



- b. The Contractor shall comply with the most restrictive of the following: (1) local sound control and noise level rules, regulations and ordinances and (2) the requirements contained in these Contract Documents, including hours of operation requirements. No internal combustion engine shall be operated on the Project without a muffler of the type recommended by the manufacturer. Should any muffler or other control device sustain damage or be determined to be ineffective or defective, the Contractor shall promptly remove the equipment and shall not return said equipment to the job until the device is repaired or replaced. Said noise and vibration level requirements shall apply to all equipment on the job or related to the job, including but not limited to, trucks, transit mixers or transit equipment that may or may not be owned by the Contractor.

## **ARTICLE 26. TESTS AND INSPECTIONS**

- a. If the Contract Documents, the Engineer, or any instructions, laws, ordinances, or public authority require any part of The Work to be tested or Approved, Contractor shall provide the Engineer at least two (2) working day's notice of its readiness for observation or inspection. If inspection is by a public authority other than the District, Contractor shall promptly inform the District of the date fixed for such inspection. Required certificates of inspection (or similar) shall be secured by Contractor. Costs for District testing and District inspection shall be paid by the District. Costs of tests for Work found not to be in compliance shall be paid by the Contractor.
- b. If any Work is done or covered up without the required testing or approval, the Contractor shall uncover or deconstruct the Work, and the Work shall be redone after completion of the testing at the Contractor's cost in compliance with the Contract Documents.
- c. Where inspection and testing are to be conducted by an independent laboratory or agency, materials or samples of materials to be inspected or tested shall be selected by such laboratory or agency, or by the District, and not by Contractor. All tests or inspections of materials shall be made in accordance with the commonly recognized standards of national organizations.
- d. In advance of manufacture of materials to be supplied by Contractor which must be tested or inspected, Contractor shall notify the District so that the District may arrange for testing at the source of supply. Any materials which have not satisfactorily passed such testing and inspection shall not be incorporated into The Work.
- e. If the manufacture of materials to be inspected or tested will occur in a plant or location outside the geographic limits of District, the Contractor shall pay for any excessive or unusual costs associated with such testing or inspection, including but not limited to excessive travel time, standby time and required lodging.
- f. Reexamination of Work may be ordered by the District. If so ordered, Work must be uncovered or deconstructed by Contractor. If Work is found to be in accordance with the Contract Documents, the District shall pay the costs of reexamination and reconstruction. If

## **GENERAL CONDITIONS**

such work is found not to be in accordance with the Contract Documents, Contractor shall pay all costs.

## **ARTICLE 27. PROTECTION OF WORK AND PROPERTY**

- a. The Contractor shall be responsible for all damages to persons or property that occur as a result of The Work. Contractor shall be responsible for the proper care and protection of all materials delivered and Work performed until completion and final Acceptance by the District. All Work shall be solely at the Contractor's risk. Contractor shall adequately protect adjacent property from settlement or loss of lateral support as necessary. Contractor shall comply with all applicable safety laws and building codes to prevent accidents or injury to persons on, about, or adjacent to the Project site where Work is being performed. Contractor shall erect and properly maintain at all times, as required by field conditions and progress of work, all necessary safeguards, signs, barriers, lights, and watchmen for protection of workers and the public, and shall post danger signs warning against hazards created in the course of construction.
- b. In an emergency affecting safety of life or of work or of adjoining property, Contractor, without special instruction or authorization from the Engineer, is hereby permitted to act to prevent such threatened loss or injury; and Contractor shall so act, without appeal, if so authorized or instructed by the Engineer or the District. Any compensation claimed by Contractor on account of emergency work shall be determined by and agreed upon by the District and the Contractor.
- c. Contractor shall provide such heat, covering, and enclosures as are necessary to protect all Work, materials, equipment, appliances, and tools against damage by weather conditions.
- d. Contractor shall take adequate precautions to protect existing sidewalks, curbs, pavements, utilities, and other adjoining property and structures, and to avoid damage thereto, and Contractor shall repair any damage thereto caused by The Work operations. Contractor shall:
  - 1) Enclose the working area with a substantial barricade, and arrange work to cause minimum amount of inconvenience and danger to the public.
  - 2) Provide substantial barricades around any shrubs or trees indicated to be preserved.
  - 3) Deliver materials to the Project site over a route designated by the Engineer.
  - 4) Provide any and all dust control required and follow the Applicable air quality regulations as appropriate. If the Contractor does not comply, the District shall have the immediate authority to provide dust control and deduct the cost from payments to the Contractor.
  - 5) Confine Contractor's apparatus, the storage of materials, and the operations of its workers to limits required by law, ordinances, permits, or directions of the Engineer. Contractor shall not unreasonably encumber the Project site with its materials.

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- 6) Take care to prevent disturbing or covering any survey markers, monuments, or other devices marking property boundaries or corners. If such markers are disturbed by accident, they shall be replaced by an approved civil engineer or land surveyor, at no cost to the District.
- 7) Ensure that existing facilities, fences and other structures are all adequately protected and that, upon completion of all Work, all facilities that may have been damaged are restored to a condition acceptable to the District.
- 8) Preserve and protect from injury all buildings, pole lines and all direction, warning and mileage signs that have been placed within the right-of-way.
- 9) At the completion of work each day, leave the Project site in a clean, safe condition.
- 10) Comply with any stage construction and traffic handling plans. Access to residences and businesses shall be maintained at all times.

These precautionary measures will apply continuously and not be limited to normal working hours. Full compensation for the Work involved in the preservation of life, safety and property as above specified shall be considered as included in the prices paid for the various contract items of Work, and no additional allowance will be made therefor.

- e. Should damage to persons or property occur as a result of The Work, Contractor shall be responsible for proper investigation, documentation, including video or photography, to adequately memorialize and make a record of what transpired. The District shall be entitled to inspect and copy any such documentation, video, or photographs.

## **ARTICLE 28. CONTRACTORS MEANS AND METHODS**

Contractor is solely responsible for the means and methods utilized to Perform The Work. In no case shall the Contractor's means and methods deviate from commonly used industry standards.

## **ARTICLE 29. AUTHORIZED REPRESENTATIVES**

The District shall designate representatives, who shall have the right to be present at the Project site at all times. The District may designate an inspector who shall have the right to observe all of the Contractor's Work. The inspector is not authorized to make changes in the Contract Documents. The inspector shall not be responsible for the Contractor's failure to carry out The Work in accordance with the Contract Documents. Contractor shall provide safe and proper facilities for such access.

## **ARTICLE 30. HOURS OF WORK**

- a. Eight (8) hours of work shall constitute a legal day's work. The Contractor and each subcontractor shall forfeit, as penalty to the District, twenty-five dollars (\$25) for each worker employed in the execution of Work by the Contractor or any subcontractor for each day during which such worker is required or permitted to work more than eight (8) hours in any one day and forty (40) hours in any week in violation of the provisions of the Labor

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Code, and in particular, Section 1810 to Section 1815, except as provided in Labor Code Section 1815.

- b. Work shall be accomplished on a regularly scheduled eight (8) hour per day work shift basis, Monday through Friday, between the hours of 7:00 a.m. and 5:00 p.m.
- c. It shall be unlawful for any person to operate, permit, use, or cause to operate any of the following at the Project site, other than between the hours of 7:00 a.m. to 5:00 p.m., Monday through Friday, with no Work allowed on District-observed holidays, unless otherwise Approved by the Engineer:
  - 1) Powered Vehicles
  - 2) Construction Equipment
  - 3) Loading and Unloading Vehicles
  - 4) Domestic Power Tool.

#### **ARTICLE 31. PAYROLL RECORDS**

- a. Pursuant to Labor Code Section 1776, the Contractor and each subcontractor shall maintain weekly certified payroll records showing the name, address, social security number, work classification, straight time and overtime hours paid each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker or other employee employed in connection with the work. Contractor shall certify under penalty of perjury that records maintained and submitted by Contractor are true and accurate. Contractor shall also require subcontractor(s) to certify weekly payroll records under penalty of perjury.
- b. The payroll records described herein shall be certified and submitted by the Contractor at a time designated by the District. The Contractor shall also provide the following:
  - 1) A certified copy of the employee's payroll records shall be made available for inspection or furnished to such employee or his or her authorized representative on request.
  - 2) A certified copy of all payroll records described herein shall be made available for inspection or furnished upon request of the Department of Industrial Relations ("DIR").
- c. The certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement ("DLSE") of the DIR or shall contain the same information as the forms provided by the DLSE.
- d. Any copy of records made available for inspection and furnished upon request to the public shall be marked or obliterated in such a manner as to prevent disclosure of an individual's

#### **GENERAL CONDITIONS**

name, address, and social security number. The name and address of the Contractor or any subcontractor shall not be marked or obliterated.

- e. In the event of noncompliance with the requirements of this Section, the Contractor shall have ten (10) days in which to comply subsequent to receipt of written notice specifying any item or actions necessary to ensure compliance with this section. Should noncompliance still be evident after such ten (10) day period, the Contractor shall, as a penalty to the District, forfeit Twenty-five Dollars (\$25.00) for each day, or portion thereof, for each worker until strict compliance is effectuated. Upon the request of the DIR, such penalties shall be withheld from contract payments.

## **ARTICLE 32. PREVAILING RATES OF WAGES**

- a. The Contractor is aware of the requirements of Labor Code Sections 1720 et seq. and 1770 et seq., as well as California Code of Regulations, Title 8, Section 16000 et seq. ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on certain "public works" and "maintenance" projects. Since this Project involves an applicable "public works" or "maintenance" project, as defined by the Prevailing Wage Laws, and since the total compensation is \$1,000 or more, Contractor agrees to fully comply with such Prevailing Wage Laws. The Contractor shall obtain a copy of the prevailing rates of per diem wages at the commencement of this Agreement from the website of the Division of Labor Statistics and Research of the Department of Industrial Relations located at [www.dir.ca.gov/dlsr/](http://www.dir.ca.gov/dlsr/). In the alternative, the Contractor may view a copy of the prevailing rates of per diem wages at the District. Contractor shall make copies of the prevailing rates of per diem wages for each craft, classification or type of worker needed to perform work on the Project available to interested parties upon request, and shall post copies at the Contractor's principal place of business and at the Project site. Contractor shall defend, indemnify and hold the District, its elected officials, officers, employees and agents free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or allege failure to comply with the Prevailing Wage Laws.
- b. The Contractor and each subcontractor shall forfeit as a penalty to the District not more than fifty dollars (\$50) for each calendar day, or portion thereof, for each worker paid less than the stipulated prevailing wage rate for any work done by him, or by any subcontract under him, in violation of the provisions of the Labor Code. The difference between such stipulated prevailing wage rate and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the stipulated prevailing wage rate shall be paid to each worker by the Contractor.
- c. Contractor shall post, at appropriate conspicuous points on the Project site, a schedule showing all determined general prevailing wage rates and all authorized deductions, if any, from unpaid wages actually earned.

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### **ARTICLE 33. EMPLOYMENT OF APPRENTICES**

The Contractor's attention is directed to the provisions of Sections 1777.5, 1777.6, and 1777.7 of the Labor Code concerning employment of apprentices by the Contractor or any subcontractor. The Contractor shall obtain a certificate of apprenticeship before employing any apprentice pursuant to Section 1777.5, 1777.6, and 1777.7 of the Labor Code. Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, the Administrator of Apprenticeships, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

### **ARTICLE 34. NONDISCRIMINATION/EQUAL EMPLOYMENT OPPORTUNITY/EMPLOYMENT ELIGIBILITY**

Pursuant to Labor Code Section 1735 and other applicable provisions of law, the Contractor and its subcontractors shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, age, political affiliation, marital status, or handicap on this Project. The Contractor will take affirmative action to insure that employees are treated during employment or training without regard to their race, color, religion, sex, national origin, age, political affiliation, marital status, or handicap.

Employment Eligibility; Contractor. By executing this Contract, Contractor verifies that it fully complies with all requirements and restrictions of state and federal law respecting the employment of undocumented aliens, including, but not limited to, the Immigration Reform and Control Act of 1986, as may be amended from time to time. Such requirements and restrictions include, but are not limited to, examination and retention of documentation confirming the identity and immigration status of each employee of the Contractor. Contractor also verifies that it has not committed a violation of any such law within the five (5) years immediately preceding the date of execution of this Contract, and shall not violate any such law at any time during the term of the Contract. Contractor shall avoid any violation of any such law during the term of this Contract by participating in an electronic verification of work authorization program operated by the United States Department of Homeland Security, by participating in an equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, or by some other legally acceptable method. Contractor shall maintain records of each such verification, and shall make them available to the District or its representatives for inspection and copy at any time during normal business hours. The District shall not be responsible for any costs or expenses related to Contractor's compliance with the requirements provided for in Section 3.16 or any of its sub-sections.

Employment Eligibility; Subcontractors, Sub-subcontractors and Consultants. To the same extent and under the same conditions as Contractor, Contractor shall require all of its subcontractors, sub-subcontractors and consultants performing any work relating to the Project or this Contract to make the same verifications and comply with all requirements and restrictions provided for in Section 3.16.1.

Employment Eligibility; Failure to Comply. Each person executing this Contract on behalf of Contractor verifies that they are a duly authorized officer of Contractor, and understands that any of

### **GENERAL CONDITIONS**

the following shall be grounds for the District to terminate the Contract for cause: (1) failure of Contractor or its subcontractors, sub-subcontractors or consultants to meet any of the requirements provided for in Sections 3.16.1 or 3.16.2; (2) any misrepresentation or material omission concerning compliance with such requirements (including in those verifications provided to the Contractor under Section 3.16.2); or (3) failure to immediately remove from the Project any person found not to be in compliance with such requirements.

#### **ARTICLE 35. LABOR/EMPLOYMENT SAFETY**

The Contractor shall maintain emergency first aid treatment for his employees which complies with the Federal Occupational Safety and Health Act of 1970 (29 U.S.C. § 651 et seq.), and California Code of Regulations, Title 8, Industrial Relations Division 1, Department of Industrial Relations, Chapter 4.

#### **ARTICLE 36. WORKERS' COMPENSATION INSURANCE**

The Contractor shall Provide, during the life of this Contract, workers' compensation insurance for all of the employees engaged in Work under this Contract, on or at the Project site, and, in case any of sublet Work, the Contractor shall require the subcontractor similarly to provide workers' compensation insurance for all the latter's employees as prescribed by State law. Any class of employee or employees not covered by a subcontractor's insurance shall be covered by the Contractor's insurance. In case any class of employees engaged in work under this Contract, on or at the Project site, is not protected under the Workers' Compensation Statutes, the Contractor shall provide or shall cause a subcontractor to provide, adequate insurance coverage for the protection of such employees not otherwise protected. The Contractor is required to secure payment of compensation to his employees in accordance with the provisions of Section 3700 of the Labor Code. The Contractor shall file with the District certificates of his insurance protecting workers. Company or companies providing insurance coverage shall be acceptable to the District, if in the form and coverage as set forth in the Contract Documents.

#### **ARTICLE 37. EMPLOYER'S LIABILITY INSURANCE**

Contractor shall provide during the life of this Contract, Employer's Liability Insurance, including Occupational Disease, in the amount of, at least, one million dollars (\$1,000,000.00) per person per accident. Contractor shall provide District with a certificate of Employer's Liability Insurance. Such insurance shall comply with the provisions of the Contract Documents. The policy shall be endorsed, if applicable, to provide a Borrowed Servant/Alternate Employer Endorsement and contain a Waiver of Subrogation in favor of the District.

#### **ARTICLE 38. COMMERCIAL GENERAL LIABILITY INSURANCE**

- a. Contractor shall procure and maintain during the life of this Contract and for such other period as may be required herein, at its sole expense, occurrence version Commercial General Liability insurance coverage, including but not limited to, premises liability, contractual liability, products/completed operations if applicable, personal and advertising injury – which may arise from or out of Contractor's operations, use, and management of

### **GENERAL CONDITIONS**

the Project site, or the performance of its obligations hereunder. Policy limits shall not be less than \$1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.

- b. Such policy shall comply with all the requirements of this Article. The limits set forth herein shall apply separately to each insured against whom claims are made or suits are brought, except with respect to the limits of liability. Further the limits set forth herein shall not be construed to relieve the Contractor from liability in excess of such coverage, nor shall it limit Contractor's indemnification obligations to the District, and shall not preclude the District from taking such other actions available to the District under other provisions of the Contract Documents or law.
- c. Contractor shall make certain that any and all subcontractors hired by Contractor are insured in accordance with this Contract. If any subcontractor's coverage does not comply with the foregoing provisions, Contractor shall indemnify and hold the District harmless from any damage, loss, cost, or expense, including attorneys' fees, incurred by the District as a result thereof.
- d. All general liability policies provided pursuant to the provisions of this Article shall comply with the provisions of the Contract Documents.
- e. All general liability policies shall be written to apply to all bodily injury, including death, property damage, personal injury, owned and non-owned equipment, blanket contractual liability, completed operations liability, explosion, collapse, under-ground excavation, removal of lateral support, and other covered loss, however occasioned, occurring during the policy term, and shall specifically insure the performance by Contractor of that part of the indemnification contained in these General Conditions, relating to liability for injury to or death of persons and damage to property. If the coverage contains one or more aggregate limits, a minimum of 50% of any such aggregate limit must remain available at all times; if over 50% of any aggregate limit has been paid or reserved, the District may require additional coverage to be purchased by Contractor to restore the required limits. Contractor may combine primary, umbrella, and as broad as possible excess liability coverage to achieve the total limits indicated above. Any umbrella or excess liability policy shall include the additional insured endorsement described in the Contract Documents.
- f. Such insurance shall comply with the provisions of Article 42 below.

#### **ARTICLE 39. AUTOMOBILE LIABILITY INSURANCE**

Contractor shall take out and maintain at all times during the term of this occurrence version Contract Automobile Liability Insurance in the amount of, at least, one million dollars (\$1,000,000). Such insurance shall provide coverage for bodily injury and property damage including coverage for non-owned and hired vehicles, in a form and with insurance companies acceptable to the District. Such insurance shall comply with the provisions of Article 42 below.

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## **ARTICLE 40. FORM AND PROOF OF CARRIAGE OF INSURANCE**

- a. Any insurance carrier providing insurance coverage required by the Contract Documents shall be admitted to and authorized to do business in the State of California unless waived, in writing, by the District Risk Manager. Carrier(s) shall have an A.M. Best rating of not less than an A:VIII. Insurance deductibles or self-insured retentions must be declared by the Contractor, and such deductibles and retentions shall have the prior written consent from the District. At the election of the District the Contractor shall either 1) reduce or eliminate such deductibles or self-insured retentions, or 2) procure a bond which guarantees payment of losses and related investigations, claims administration, and defense costs and expenses.
- b. Contractor shall cause its insurance carrier(s) to furnish the District with either 1) a properly executed original Certificate(s) of Insurance and certified original copies of Endorsements effecting coverage as required herein, or 2) if requested to do so in writing by the District Risk Manager, provide original Certified copies of policies including all Endorsements and all attachments thereto, showing such insurance is in full force and effect. The District, its Director's and officers, employees, agents or representatives are named as Additional Insureds and Provide a Waiver of Subrogation in favor of those parties. Further, said Certificate(s) and policies of insurance shall contain the covenant of the insurance carrier(s) that shall provide no less than thirty (30) days written notice be given to the District prior to any material modification or cancellation of such insurance. In the event of a material modification or cancellation of coverage, the District may terminate or Stop Work pursuant to the Contract Documents, unless the District receives, prior to such effective date, another properly executed original Certificate of Insurance and original copies of endorsements or certified original policies, including all endorsements and attachments thereto evidencing coverages set forth herein and the insurance required herein is in full force and effect. Contractor shall not take possession, or use the Project site, or commence operations under this Agreement until the District has been furnished original Certificate(s) of Insurance and certified original copies of Endorsements or policies of insurance including all Endorsements and any and all other attachments as required in this Section. The original Endorsements for each policy and the Certificate of Insurance shall be signed by an individual authorized by the insurance carrier to do so on its behalf.
- c. It is understood and agreed to by the parties hereto and the insurance company(s), that the Certificate(s) of Insurance and policies shall so covenant and shall be construed as primary, and the District's insurance and/or deductibles and/or self-insured retentions or self-insured programs shall not be construed as contributory.
- d. The District reserves the right to adjust the monetary limits of insurance coverage's during the term of this Contract including any extension thereof-if in the District's reasonable judgment, the amount or type of insurance carried by the Contractor becomes inadequate.
- e. Contractor shall pass down the insurance obligations contained herein to all tiers of sub-contractors working under this Contract.

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## ARTICLE 41. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

- a. **Time for Completion/Liquidated Damages.** Work shall be commenced within ten (10) days of the date stated in the District's Notice to Proceed and shall be completed by Contractor in the time specified in the Contract Documents. The District is under no obligation to consider early completion of the Project; and the Contract completion date shall not be amended by the District's receipt or acceptance of the Contractor's proposed earlier completion date. Furthermore, Contractor shall not, under any circumstances, receive additional compensation from the District (including but not limited to indirect, general, administrative or other forms of overhead costs) for the period between the time of earlier completion proposed by the Contractor and the Contract completion date. If The Work is not completed as stated in the Contract Documents, it is understood that the District will suffer damage. In accordance with Government Code section 53069.85, being impractical and infeasible to determine the amount of actual damage, it is agreed that Contractor shall pay to the District as fixed and liquidated damages, and not as a penalty, the sum stipulated in the Contract for each day of delay until The Work is fully completed. Contractor and its surety shall be liable for any liquidated damages. Any money due or to become due the Contractor may be retained to cover liquidated damages.
- b. **Inclement Weather.** Contractor shall abide the Engineer's determination of what constitutes inclement weather. Time extensions for inclement weather shall only be granted when the Work stopped during inclement weather is on the critical path of the Project schedule.
- c. **Extension of Time.** Contractor shall not be charged liquidated damages because of any delays in completion of The Work due to unforeseeable causes beyond the control and without the fault or negligence of Contractor (or its subcontractors or suppliers). Contractor shall within five (5) Days of identifying any such delay notify the District in writing of causes of delay. The District shall ascertain the facts and extent of delay and grant extension of time for completing The Work when, in its judgment, the facts justify such an extension. Time extensions to the Project shall be requested by the Contractor as they occur and without delay. No delay claims shall be permitted unless the event or occurrence delays the completion of the Project beyond the Contract completion date.
- d. **No Damages for Reasonable Delay.** The District's liability to Contractor for delays for which the District is responsible shall be limited to only an extension of time unless such delays were unreasonable under the circumstances. In no case shall the District be liable for any costs which are borne by the Contractor in the regular course of business, including, but not limited to, home office overhead and other ongoing costs. Damages caused by unreasonable District delay, including delays caused by items that are the responsibility of the District pursuant to Government Code section 4215, shall be based on actual costs only, no proportions or formulas shall be used to calculate any delay damages.

## ARTICLE 42. COST BREAKDOWN AND PERIODIC ESTIMATES

Contractor shall furnish on forms Approved by the District:

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- a. Within ten (10) Days of award of the Contract a detailed estimate giving a complete breakdown of the Contract price;
- b. A monthly itemized estimate of Work done for the purpose of making progress payments. In order for the District to consider and evaluate each progress payment application, the Contractor shall submit a detailed measurement of Work performed and a progress estimate of the value thereof before the tenth (10th) Day of the following month.
- c. Contractor shall submit, with each of its payment requests, an adjusted list of actual quantities, verified by the Engineer, for unit price items listed, if any, in the Bid Form.
- d. Following the District's Acceptance of the Work, the Contractor shall submit to the District a written statement of the final quantities of unit price items for inclusion in the final payment request.
- e. The District shall have the right to adjust any estimate of quantity and to subsequently correct any error made in any estimate for payment.

Contractor shall certify under penalty of perjury, that all cost breakdowns and periodic estimates accurately reflect the Work on the Project.

#### **ARTICLE 43. MOBILIZATION**

- a. When a bid item is included in the Bid Form for mobilization, the costs of Work in advance of construction operations and not directly attributable to any specific bid item will be included in the progress estimate ("Initial Mobilization"). When no bid item is provided for "Initial Mobilization," payment for such costs will be deemed to be included in the other items of The Work.
- b. Payment for Initial Mobilization based on the lump sum provided in the Bid Form, which shall constitute full compensation for all such Work. No payment for Initial Mobilization will be made until all of the listed items have been completed to the satisfaction of the Engineer. The scope of the Work included under Initial Mobilization shall include, but shall not be limited to, the following principal items:
  1. Obtaining and paying for all bonds, insurance, and permits.
  2. Moving on to the Project site of all Contractor's plant and equipment required for first month's operations.
  3. Installing temporary construction power, wiring, and lighting facilities.
  4. Establishing fire protection system.
  5. Developing and installing a construction water supply.

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6. Providing and maintaining the field office trailers for the Contractor, complete with all specified furnishings and utility services including telephones, telephone appurtenances, computer and printer, and copying machine.
7. Providing on-site communication facilities including telephones, radio pagers, and fax machines.
8. Providing on-site sanitary facilities and potable water facilities as specified per Cal-OSHA and these Contract Documents.
9. Furnishing, installing, and maintaining all storage buildings or sheds required for temporary storage of products, equipment, or materials that have not yet been installed in the Work. All such storage shall meet manufacturer's specified storage requirements, and the specific provisions of the specifications, including temperature and humidity control, if recommended by the manufacturer, and for all security.
10. Arranging for and erection of Contractor's work and storage yard.
11. Posting all OSHA required notices and establishment of safety programs per Cal-OSHA.
12. Full-time presence of Contractor's superintendent at the job site as required herein.
13. Submittal of Construction Schedule as required by the Contract Documents.

#### **ARTICLE 44. PAYMENTS**

- a. The District shall make monthly progress payments following receipt of undisputed and properly submitted payment requests. Contractor shall be paid a sum equal to ninety-five percent (95%) of the value of Work performed up to the last day of the previous month, less the aggregate of previous payments.
- b. The Contractor shall, after the full completion of The Work, submit a final payment application. All prior progress estimates shall be subject to correction in the final estimate and payment.
- c. Unless otherwise required by law, the final payment of five percent (5%) of the value of the Work, if unencumbered, shall be paid no later than sixty (60) Days after the date of recordation of the Notice of Completion.
- d. Acceptance by Contractor of the final payment shall constitute a waiver of all claims against the District arising from this Contract.
- e. Payments to the Contractor shall not be construed to be an acceptance of any defective work or improper materials, or to relieve the Contractor of its obligations under the Contract Documents.

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- f. The Contractor shall submit with each payment request the Contractor's conditional waiver of lien for the entire amount covered by such payment request, as well as a valid unconditional waiver of lien from the Contractor and all subcontractors and materialmen for all work and materials included in any prior invoices. Waivers of lien shall be in the forms prescribed by California Civil Code Section 3262. Prior to final payment by the District, the Contractor shall submit a final waiver of lien for the Contractor's work, together with releases of lien from any subcontractor or materialmen.

#### **ARTICLE 45. PAYMENTS WITHHELD AND BACKCHARGES**

In addition to amounts which the District may retain under other provisions of the Contract Documents the District may withhold payments due to Contractor as may be necessary to cover:

- a. Stop Notice Claims.
- b. Defective work not remedied.
- c. Failure of Contractor to make proper payments to its subcontractors or suppliers.
- d. Completion of the Contract if there exists a reasonable doubt that the work can be completed for balance then unpaid.
- e. Damage to another contractor or third party.
- f. Amounts which may be due the District for claims against Contractor.
- g. Failure of Contractor to keep the record ("as-built") drawings up to date.
- h. Failure to provide updates on the construction schedule.
- i. Site clean up.
- j. Failure of the Contractor to comply with requirements of the Contract Documents.
- k. Liquidated damages.
- l. Legally permitted penalties.

Upon completion of the Contract, the District will reduce the final Contract amount to reflect costs charged to the Contractor, back charges or payments withheld pursuant to the Contract Documents.

#### **ARTICLE 46. CHANGES AND EXTRA WORK**

##### **a. Change Order Work.**

- 1) The District, without invalidating the Contract, may order changes in the Work consisting of additions, deletions or other revisions, the Contract amount and Contract time being adjusted accordingly. All such changes in the Work shall be

#### **GENERAL CONDITIONS**

authorized by Change Order, and shall be performed under the applicable conditions of the Contract Documents. A Change Order signed by the Contractor indicates the Contractor's agreement therewith, including any adjustment in the Contract amount or the Contract time, and the full and final settlement of all costs (direct, indirect and overhead) related to the Work authorized by the Change Order.

- 2) All claims for additional compensation to the Contractor shall be presented in writing before the expense is incurred and will be adjusted as provided herein. No work shall be allowed to lag pending such adjustment, but shall be promptly executed as directed, even if a dispute arises. No claim will be considered after the work in question has been done unless a written contract change order has been issued or a timely written notice of claim has been made by Contractor. Contractor shall not be entitled to claim or bring suit for damages, whether for loss of profits or otherwise, on account of any decrease or omission of any item or portion of Work to be done. Whenever any change is made as provided for herein, such change shall be considered and treated as though originally included in the Contract, and shall be subject to all terms, conditions and provisions of the original Contract.
- 3) Owner Initiated Change. The Contractor must submit a complete cost proposal, including any change in the Contract time, within seven (7) Days after receipt of a scope of a proposed change order, unless the District requests that proposals be submitted in less than seven (7) Days.
- 4) Contractor Initiated Change. The Contractor must give written notice of a proposed change order required for compliance with the Contract Documents within seven (7) Days of discovery of the facts giving rise to the proposed change order.
- 5) Whenever possible, any changes to the Contract amount shall be in a lump sum mutually agreed to by the Contractor and the District.
- 6) Price quotations from the Contractor shall be accompanied by sufficiently detailed supporting documentation to permit verification by the District.
- 7) If the Contractor fails to submit the cost proposal within the seven (7) Day period (or as requested), the District has the right to order the Contractor in writing to commence the work immediately on a force account basis and/or issue a lump sum change to the contract price in accordance with the District's estimate of cost. If the change is issued based on the District estimate, the Contractor will waive its right to dispute the action unless within fifteen (15) Days following completion of the added/deleted work, the Contractor presents written proof that the District's estimate was in error.
- 8) Estimates for lump sum quotations and accounting for cost-plus-percentage work shall be limited to direct expenditures necessitated specifically by the subject extra work, and shall be segregated as follows:

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- (a) Labor. The costs of labor will be the actual cost for wages prevailing locally for each craft or type of worker at the time the extra work is done, plus employer payments of payroll taxes and insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from Federal, State or local laws, as well as assessment or benefits required by lawful collective bargaining agreements. The use of a labor classification which would increase the extra work cost will not be permitted unless the contractor establishes the necessity for such additional costs. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental.
- (b) Materials. The cost of materials reported shall be at invoice or lowest current price at which such materials are locally available in the quantities involved, plus sales tax, freight and delivery. Materials cost shall be based upon supplier or manufacturer's invoice. If invoices or other satisfactory evidence of cost are not furnished within fifteen (15) Days of delivery, then the Engineer shall determine the materials cost, at its sole discretion.
- (c) Tool and Equipment Use. No payment will be made for the use of small tools, tools which have a replacement value of \$1,000 or less. Regardless of ownership, the rates to be used in determining equipment use costs shall not exceed listed rates prevailing locally at equipment rental agencies, or distributors, at the time the work is performed.
- (d) Overhead, Profit and Other Charges. The mark-up for overhead (including supervision) and profit on work added to the Contract shall be according to the following:
  - i. "Net Cost" is defined as consisting of costs of labor, materials and tools and equipment only excluding overhead and profit. The costs of applicable insurance and bond premium will be reimbursed to the Contractor and subcontractors at cost only, without mark-up.
  - ii. For Work performed by the Contractor's forces the added cost for overhead and profit shall not exceed fifteen (15%) percent of the Net Cost of the Work.
  - iii. For Work performed by a subcontractor, the added cost for overhead and profit shall not exceed fifteen (15%) percent of the Net Cost of the Work to which the Contractor may add five (5%) percent of the subcontractor's Net Cost.
  - iv. For Work performed by a sub-subcontractor the added cost for overhead and profit shall not exceed fifteen (15 %) percent of the Net Cost for Work to which the subcontractor and general contractor may

## **GENERAL CONDITIONS**

each add an additional five (5 %) percent of the Net Cost of the lower tier subcontractor.

- iv. No additional mark up will be allowed for lower tier subcontractors, and in no case shall the added cost for overhead and profit payable by District exceed twenty-five (25%) percent of the Net Cost as defined herein.
- 9) For added or deducted Work by subcontractors, the Contractor shall furnish to the District the subcontractor's signed detailed estimate of the cost of labor, material and equipment, including the subcontractor markup for overhead and profit. The same requirement shall apply to sub-subcontractors.
- 10) For added or deducted work furnished by a vendor or supplier, the Contractor shall furnish to the District a detailed estimate or quotation of the cost to the Contractor, signed by such vendor or supplier.
- 11) Any change in The Work involving both additions and deletions shall indicate a net total cost, including subcontracts and materials. Allowance for overhead and profit, as specified herein, shall be applied if the net total cost is an extra; overhead and profit allowances shall not be applied if the net total cost is a credit. The estimated cost of deductions shall be based on labor and material prices on the date the Contract was executed.
- 12) Contractor shall not reserve a right to assert impact costs, extended job site costs, extended overhead, constructive acceleration and/or actual acceleration beyond what is stated in the change order for work. No claims shall be allowed for impact, extended overhead costs, constructive acceleration and/or actual acceleration due to a multiplicity of changes and/or clarifications. The Contractor may not change or modify the District's change order form in an attempt to reserve additional rights.
- 13) If the District disagrees with the proposal submitted by Contractor, it will notify the Contractor and the District will provide its opinion of the appropriate price and/or time extension. If the Contractor agrees with the District, a change order will be issued by the District. If no agreement can be reached, the District shall have the right to issue a unilateral change order setting forth its determination of the reasonable additions or savings in costs and time attributable to the extra or deleted work. Such determination shall become final and binding if the Contractor fails to submit a claim in writing to the District within fifteen (15) Days of the issuance of the unilateral change order, disputing the terms of the unilateral change order.
- 14) No dispute, disagreement or failure of the parties to reach agreement on the terms of the change order shall relieve the Contractor from the obligation to proceed with performance of the work, including extra work, promptly and expeditiously.

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- 15) Any alterations, extensions of time, extra work or any other changes may be made without securing consent of the Contractor's surety or sureties.

#### **ARTICLE 47. OCCUPANCY**

The District reserves the right to occupy or utilize any portion of The Work at any time before completion, and such occupancy or use shall not constitute Acceptance of any part of Work covered by this Contract. This use shall not relieve the Contractor of its responsibilities under the Contract.

#### **ARTICLE 48. INDEMNIFICATION**

Contractor shall defend (with counsel of District's choosing), indemnify and hold the District, its officials, officers, agents, employees, and representatives free and harmless from any and all claims, demands, causes of action, costs, expenses, liabilities, losses, damages or injuries, in law or equity, regardless of whether the allegations are false, fraudulent, or groundless, to property or persons, including wrongful death, to the extent arising out of or incident to any acts, omissions or willful misconduct of Contractor, its officials, officers, employees, agents, consultants and contractors arising out of or in connection with the performance of the Work or this Contract, including claims made by subcontractors for nonpayment, including without limitation the payment of all consequential damages and attorneys fees and other related costs and expenses. Contractor shall defend, at Contractor's own cost, expense and risk, with counsel of District's choosing, any and all such aforesaid suits, actions or other legal proceedings of every kind that may be brought or instituted against District, its officials, officers, agents, employees and representatives. To the extent of its liability, Contractor shall pay and satisfy any judgment, award or decree that may be rendered against District, its officials, officers, employees, agents, employees and representatives, in any such suit, action or other legal proceeding. Contractor shall reimburse District, its officials, officers, agents, employees and representatives for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided. The only limitations on this provision shall be those imposed by Civil Code Section 2782.

#### **ARTICLE 49. RECORD ("AS BUILT") DRAWINGS**

- a. Contractor shall prepare and maintain a complete set of record drawings (herein referred to as "as-builts") and shall require each trade to prepare its own as-builts. The as-builts must show the entire site for each major trade, including but not limited to water, sewer, electrical, data, telephone, cable, fire alarm, gas and plumbing. Contractor shall mark the as-builts to show the actual installation where the installation varies from the Work as originally shown. Contractor shall mark whichever drawings are most capable of showing conditions fully and where shop drawings are used, Contractor must record a cross-reference at the corresponding location on the contract drawings. Contractor shall give particular attention to concealed elements that would be difficult to measure and record at a later date. Contractor shall use colors to distinguish variations in separate categories of The Work.
- b. Contractor shall note related change order numbers where applicable. Contractor shall organize as-builts into manageable sets, bound with durable paper cover sheets and shall print suitable title, dates and other identification on the cover of each set. Contractor to also

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provide an electronic version of the as-builts. The suitability of the as-builts will be determined by the Engineer.

## **ARTICLE 50. RESOLUTION OF CLAIMS**

This section shall govern any claim by the Contractor for: (1) an extension of time, including relief from damages or penalties for delay; (2) payment by District of money or damages arising from work done by, or on behalf of, the Contractor, where the underlying contract does not expressly provide for payment or payment to which the Contractor is not otherwise entitled; or (3) the payment of an amount disputed by District.

Contractor may submit to District a claim for any of the three above-referenced matters. Contractor shall provide District with reasonable documentation necessary to support its claim. Contractor shall submit its claim by registered mail or certified mail, return receipt requested.

District, within forty-five (45) days of its receipt of the claim, unless such time is extended as referenced in this section, shall conduct a reasonable review of the claim and provide Contractor with a written statement identifying what portion of the claim District disputes and what portion District does not dispute.

The forty-five (45) day period referenced herein may be extended by mutual agreement of District and Contractor or, if the District's Board of Directors approval is necessary to provide the Contractor with such a written statement, and the Board does not meet within the 45-day period, District shall have three (3) days following the Board's next duly noticed public meeting to provide the Contractor with the written statement.

Payment on any undisputed portion of the claim shall occur within sixty (60) days of District issuing the written statement.

If District does not respond within the required time period, the claim shall be deemed rejected in its entirety.

If Contractor disputes District's written statement as to of any portion of the claim, or if District fails to respond within the specified time period, Contractor may demand in writing an informal conference to meet and confer for settlement of the dispute. Upon receipt of such demand by registered mail or certified mail, return receipt requested, District shall schedule a meet and confer conference within thirty (30) days, to settle the dispute. Within ten (10) business days of the conclusion of the meet and confer conference, District shall provide Contractor with a written statement identifying the portion and amount of the claim that remains in dispute, if any. If District does not respond within the required time period, the entire claim shall be deemed to remain in dispute. District shall pay any portion of the claim that is undisputed after the conference within sixty (60) days of District issuing the written statement.

Any portion of the claim that remains disputed, as identified by the Contractor in writing, shall be submitted to nonbinding mediation. The Parties shall mutually agree on a mediator within

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ten (10) business days of the Contractor identifying the disputed portion of the claim in writing. If the Parties cannot agree upon a mediator, each Party shall select a mediator, and those mediators shall then select a qualified neutral third party to mediate. Each Party shall bear the fees and costs charged by its respective mediator, and the parties shall share all other fees and costs associated with the mediation equally. The parties may mutually agree, in writing, to waive mediation. If mediation is unsuccessful, civil litigation may be commenced, subject to all applicable laws and provisions of this Contract, including any obligation to arbitrate disputes. Unless otherwise agreed to by the Parties in writing, this mediation shall excuse any further obligation to mediate under Public Contract Code Section 20104.4. As used herein, “mediation” means any nonbinding process in which an independent third party assists the Parties in dispute resolution through negotiation or issuance of an evaluation.

If a subcontractor lacks legal standing to assert a claim against District, the subcontractor may request that the Contractor present District with a claim on behalf of the subcontractor or a lower tier subcontractor. The subcontractor shall furnish reasonable documentation to support the claim. Within forty-five (45) days of receipt of the request, Contractor shall provide subcontractor with a written statement confirming that the Contractor presented the claim to District, or providing the reasons that the Contractor did not.

Upon receipt of a claim, the Parties may also mutually agree, in writing, to waive the provisions of this section and, instead, proceed directly to commencement of a civil action or binding arbitration.

- a. Any payment not paid within the time period required by this Section shall bear interest at seven percent (7%) per annum.

## **ARTICLE 51. DISTRICT’S RIGHT TO TERMINATE CONTRACT**

- a. **Termination for Cause:** The District may, without prejudice to any other right or remedy, serve written notice upon Contractor of its intention to terminate this Contract if the Contractor: (i) refuses or fails to prosecute The Work or any part thereof with such diligence as will ensure its completion within the time required; (ii) fails to complete The Work within the required time; (iii) should file a bankruptcy petition or be adjudged a bankrupt; (iv) should make a general assignment for the benefit of its creditors; (v) should have a receiver appointed; (vi) should persistently or repeatedly refuse or fail to supply enough properly skilled workers or proper materials to complete the work; (vii) should fail to make prompt payment to subcontractors or for material or labor; (viii) persistently disregard laws, ordinances, other requirements or instructions of the District; or (ix) should violate any of the provisions of the Contract Documents.

The notice of intent to terminate shall contain the reasons for such intention to terminate. Unless within ten (10) Days after the service of such notice, such condition shall cease or satisfactory arrangements (acceptable to the District) for the required correction are made, this Contract shall be terminated. In such case, Contractor shall not be entitled to receive any further payment until the Project has been finished. The District may take over and complete The Work by any method it may deem appropriate. Contractor and its surety shall

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be liable to the District for any excess costs or other damages incurred by the District to complete the Project. If the District takes over The Work, the District may, without liability for so doing, take possession of and utilize in completing The Work such materials, appliances, plant, and other property belonging to the Contractor as may be on the Project site.

- b. **Termination For Convenience:** The District may terminate performance of The Work in whole or, in part, if the District determines that a termination is in the District's interest.

The Contractor shall terminate all or any part of The Work upon delivery to the Contractor of a Notice of Termination specifying that the termination is for the convenience of the District, the extent of termination, and the effective date of such termination.

After receipt of Notice of Termination, and except as directed by the District, the Contractor shall, regardless of any delay in determining or adjusting any amounts due under this Termination for Convenience clause, immediately proceed with the following obligations:

- 1) Stop Work as specified in the Notice.
- 2) Complete any Work specified in the Notice of Termination in a least cost/shortest time manner while still maintaining the quality called for under the Contract Documents.
- 3) Leave the property upon which the Contractor was working and upon which the facility (or facilities) forming the basis of the Contract Documents is situated in a safe and sanitary manner such that it does not pose any threat to the public health or safety.
- 4) Terminate all subcontracts to the extent that they relate to the portions of The Work terminated.
- 5) Place no further subcontracts or orders, except as necessary to complete the remaining portion of The Work.
- 6) Submit to the District, within ten (10) Days from the effective date of the Notice of Termination, all of the documentation called for by the Contract Documents to substantiate all costs incurred by the Contractor for labor, materials and equipment through the Effective Date of the Notice of Termination. Any documentation substantiating costs incurred by the Contractor solely as a result of the District's exercise of its right to terminate this Contract pursuant to this clause, which costs the Contractor is authorized under the Contract Documents to incur, shall: (i) be submitted to and received by the District no later than thirty (30) Days after the Effective Date of the Notice of Termination; (ii) describe the costs incurred with particularity; and (iii) be conspicuously identified as "Termination Costs Occasioned by the District's Termination for Convenience."

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- 7) These provisions are in addition to and not in limitation of any other rights or remedies available to the District.
- c. Notwithstanding any other provision of this Article, when immediate action is necessary to protect life and safety or to reduce significant exposure or liability, the District may immediately order Contractor to cease Work on the Project until such safety or liability issues are addressed to the satisfaction of the District or the Contract is terminated.

## **ARTICLE 52. WARRANTY AND GUARANTEE**

- a. Contractor warrants that all materials and equipment furnished under this Contract shall be new unless otherwise specified in the Contract Documents; and that all Work conforms to the Contract Document requirements and is free of any defect whether performed by the Contractor or any subcontractor or supplier.
- b. Unless otherwise stated, all warranty periods shall begin upon the filing of the Notice of Completion. Unless otherwise stated, the warranty period shall be for one year.
- c. The Contractor shall remedy at its expense any damage to District-owned or controlled real or personal property.
- d. Contractor shall furnish the District with all warranty and guarantee documents prior to final Acceptance of the Project by the District.
- e. The District shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage. The Contractor shall within ten (10) Days after being notified commence and perform with due diligence all necessary Work. If the Contractor fails to promptly remedy any defect, or damage; the county shall have the right to replace, repair, or otherwise remedy the defect, or damage at the Contractor's expense.
- f. In the event of any emergency constituting an immediate hazard to health, safety, property, or licensees, when caused by Work of the Contractor not in accordance with the Contract requirements, the District may undertake at Contractor's expense, and without prior notice, all Work necessary to correct such condition.
- g. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for Work performed and Materials furnished under this Contract, the Contractor shall:
  - 1) Obtain for District all warranties that would be given in normal commercial practice;
  - 2) Require all warranties to be executed, in writing, for the benefit of the District; and
  - 3) Enforce all warranties for the benefit of the District, unless otherwise directed in writing by the District.

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This Article shall not limit the District's rights under this Contract or with respect to latent defects, gross mistakes, or fraud. The District specifically reserves all rights related to defective work, including but not limited to the defect claims pursuant to California Code of Civil Procedure Section 337.15.

#### **ARTICLE 53. DOCUMENT RETENTION & EXAMINATION**

- a. In accordance with Government Code Section 8546.7, records of both the District and the Contractor shall be subject to examination and audit by the State Auditor General for a period of three (3) years after final payment.
- b. Contractor shall make available to the District any of the Contractor's other documents related to the Project immediately upon request of the District.
- c. In addition to the State Auditor rights above, the District shall have the right to examine and audit all books, estimates, records, contracts, documents, bid documents, subcontracts, and other data of the Contractor (including computations and projections) related to negotiating, pricing, or performing the modification in order to evaluate the accuracy and completeness of the cost or pricing data at no additional cost to the District, for a period of four (4) years after final payment.

#### **ARTICLE 54. SOILS INVESTIGATIONS**

When a soils investigation report for the Project site is available, any information obtained from such report as to subsurface soil condition, or to elevations of existing grades or elevations of underlying rock, is approximate only and is not guaranteed. Contractor acknowledges that any soils investigation report (including any borings) was prepared for purposes of design only and Contractor is required to examine the site before submitting its bid and must make whatever tests it deems appropriate to determine the underground condition of the soil.

#### **ARTICLE 55. SEPARATE CONTRACTS**

- a. The District reserves the right to let other contracts in connection with this Work or on the Project site. Contractor shall permit other contractors reasonable access and storage of their materials and execution of their work and shall properly connect and coordinate its Work with theirs.
- b. To ensure proper execution of its subsequent Work, Contractor shall immediately inspect work already in place and shall at once report to the Engineer any problems with the work in place or discrepancies with the Contract Documents.
- c. Contractor shall ascertain to its own satisfaction the scope of the Project and nature of any other contracts that have been or may be awarded by the District in prosecution of the Project to the end that Contractor may perform this Contract in the light of such other contracts, if any. Nothing herein contained shall be interpreted as granting to Contractor exclusive occupancy at site of the Project. Contractor shall not cause any unnecessary hindrance or

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delay to any other contractor working on the Project. If simultaneous execution of any contract for the Project is likely to cause interference with performance of some other contract or contracts, the Engineer shall decide which Contractor shall cease Work temporarily and which contractor shall continue or whether work can be coordinated so that contractors may proceed simultaneously. The District shall not be responsible for any damages suffered or for extra costs incurred by Contractor resulting directly or indirectly from award, performance, or attempted performance of any other contract or contracts on the Project site.

#### **ARTICLE 56. NOTICE AND SERVICE THEREOF**

All notices shall be in writing and either served by personal delivery or mailed to the other party as designated in the Bid Forms. Written notice to the Contractor shall be addressed to Contractor's principal place of business unless Contractor designates another address in writing for service of notice. Notice to District shall be addressed to the District as designated in the Notice Inviting Bids unless District designates another address in writing for service of notice. Notice shall be effective upon receipt or five (5) Days after being sent by first class mail, whichever is earlier. Notice given by facsimile shall not be effective unless acknowledged in writing by the receiving party.

#### **ARTICLE 57. NOTICE OF THIRD PARTY CLAIMS**

Pursuant to Public Contract Code Section 9201, the District shall provide Contractor with timely notification of the receipt of any third-party claim relating to the Contract.

#### **ARTICLE 58. STATE LICENSE BOARD NOTICE.**

Contractors are required by law to be licensed and regulated by the Contractors' State License Board which has jurisdiction to investigate complaints against contractors if a complaint regarding a patent act or omission is filed within four (4) years of the date of the alleged violation. A complaint regarding a latent act or omission pertaining to structural defects must be filed within ten (10) years of the date of the alleged violation. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board, P.O. Box 26000, Sacramento, California 95826.

#### **ARTICLE 59. INTEGRATION**

- a. Oral Modifications Ineffective. No oral order, objection, direction, claim or notice by any party or person shall affect or modify any of the terms or obligations contained in the Contract Documents.
- b. Contract Documents Represent Entire Contract. The Contract Documents represent the entire agreement of the District and Contractor.\
- c. The failure of either Party to insist upon strict performance of any of the terms, conditions or covenants in this Agreement shall not be deemed a waiver of any right or remedy for a subsequent breach or default of the terms, conditions or covenants herein contained, unless such waiver is in writing.

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## **ARTICLE 60. CHANGE IN NAME AND NATURE OF CONTRACTOR'S LEGAL ENTITY**

Should a change be contemplated in the name or nature of the Contractor's legal entity, the Contractor shall first notify the District in order that proper steps may be taken to have the change reflected on the Contract.

## **ARTICLE 61. ASSIGNMENT OF ANTITRUST ACTIONS**

Pursuant to Section 7103.5 of the Public Contract Code, in entering into a public works contract or subcontract to supply goods, services, or materials pursuant to a public works contract, Contractor or subcontractor offers and agrees to assign to the District all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (chapter 2 (commencing with Section 16700) of part 2 of division 7 of the Business and Professions Code), arising from the purchase of goods, services, or materials pursuant to this Contract or any subcontract. This assignment shall be made and become effective at the time the District makes final payment to the Contractor, without further acknowledgment by the parties.

## **ARTICLE 62. PROHIBITED INTERESTS**

No District official or representative who is authorized in such capacity and on behalf of the District to negotiate, supervise, make, accept, or approve, or to take part in negotiating, supervising, making, accepting or approving any engineering, inspection, construction or material supply contract or any subcontract in connection with construction of the project, shall be or become directly or indirectly interested financially in the Contract.

## **ARTICLE 63. LAWS AND REGULATIONS**

- a. Contractor shall give all notices and comply with all federal, state and local laws, ordinances, rules and regulations bearing on conduct of work as indicated and specified by their terms. References to specific laws, rules or regulations in this Contract are for reference purposes only, and shall not limit or affect the applicability of provisions not specifically mentioned. If Contractor observes that drawings and specifications are at variance therewith, he shall promptly notify the Engineer in writing and any necessary changes shall be adjusted as provided for in this Contract for changes in work. If Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Engineer, he shall bear all costs arising therefrom.
- b. Contractor shall be responsible for familiarity with the Americans with Disabilities Act ("ADA") (42 U.S.C. § 12101 et seq.). The Work will be performed in compliance with ADA laws, rules and regulations. Contractor shall comply with the Historic Building Code, including, but not limited to, as it relates to the ADA, whenever applicable.
- c. Contractor acknowledges and understands that, pursuant to Public Contract Code Section 20676, sellers of "mined material" must be on an approved list of sellers published pursuant

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to Public Resources Code Section 2717(b) in order to supply mined material for this Contract.

#### **ARTICLE 64. PATENT FEES OR ROYALTIES.**

The Contractor shall include in its bid amount the patent fees or royalties on any patented article or process furnished or used in the Work. Contractor shall assume all liability and responsibility arising from the use of any patented, or allegedly patented, materials, equipment, devices or processes used in or incorporated with The Work, and shall defend, indemnify and hold harmless the District, its officials, officers, agents, employees and representatives from and against any and all liabilities, demands, claims, damages, losses, costs and expenses, of whatsoever kind or nature, arising from such use.

#### **ARTICLE 65. OWNERSHIP OF DRAWING**

All Contract Documents furnished by the District are District property. They are not to be used by Contractor or any subcontractor on other work nor shall Contractor claim any right to such documents. With exception of one complete set of Contract Documents, all documents shall be returned to the District on request at completion of The Work.

#### **ARTICLE 66. NOTICE OF TAXABLE POSSESSORY INTEREST**

In accordance with Revenue and Taxation Code Section 107.6, the Contract Documents may create a possessory interest subject to personal property taxation for which Contractor will be responsible.

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**"ARTICLE 67 SHALL BE ADDED TO THE GENERAL CONDITIONS TO READ AS FOLLOWS:**

### **ARTICLE 67. VALUE ENGINEERING CHANGE PROPOSALS (VECP)**

Value Engineering - Modifications to the project which are proposed by the Contractor and which provide the product or services equal to that called for in the project specifications, but at lower cost than the cost of those products or services designated in the specifications.

- a. Applicability - The provisions of this section shall apply only to Value Engineering Change Proposals (VECPs) resulting in net cost savings of Twenty Thousand dollars (\$20,000) or greater.
- b. Future Changes - The Contractor is entitled to share in the net cost savings of the VECP to the full extent provided for in this section and in the change order implementing the VECP. However, the net cost savings shall not continue to subsequent contract change orders nor other modifications of the contract which may change the service provided or increase the quantity of any item related to the VECP.
- c. VECP Submittal - The Contractor must submit all VECPs to the Engineer after receipt of the Notice To Proceed and prior to surpassing forty percent (40%) of the contract time allowed in Section 01010-3.0, Time Allowed For Completion. The number of copies of the VECP submitted shall be in accordance with that designated for submittals in Section 01300, SUBMITTALS.

The Contractor shall include the following information for each VECP, in a form acceptable to the Engineer:

- 1) Description of the differences between the existing design and the proposed design.
- 2) Description of the advantages and disadvantages of the existing design and the proposed design.
- 3) If the function of an item is altered, the justification for altering that function.
- 4) The effect of the proposed modifications on the performance of the system or facility.

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- 5) Any test data regarding the proposed modification.
  - 6) A listing and analysis of all design criteria and specifications that must be changed if the VECP is accepted.
  - 7) A separate detailed estimate of the impact on the project costs, together with a copy of the Contractor's approved schedule of values or costs.
  - 8) A description and estimate of costs the District may incur to implement the VECP, including, but not limited to, design changes, inspection, testing, and evaluation costs.
  - 9) A prediction of any effects the VECP may have on life-cycle costs.
  - 10) The effect of the VECP on design and construction schedules.
  - 11) All preliminary engineering data necessary to support approval of the VECP.
- d. Acceptance of VECP by District - The District shall have sole discretion to determine whether or not to accept a VECP. The District's decision shall be final.
- A VECP will be rejected if it causes an increase to the contract amount.
- Within thirty (30) days after receipt of a VECP by the Engineer, the Contractor shall be notified in writing that the VECP is acceptable, rejected, or additional time is required for the Engineer's response.
- If determined acceptable, the Engineer will initiate a contract change order to implement the VECP. A VECP which is acceptable shall be incorporated into the project only through a contract change order.
- e. Contractor's Right to Withdraw VECP - The Contractor has the right to withdraw part or all of any VECP at any time prior to written acceptance by the District. Such withdrawal shall be made in writing. Each VECP submitted by the Contractor shall remain valid for a period of thirty (30) days from the date received, unless extended by the Engineer. If the Contractor desires to withdraw the VECP prior to its acceptance or rejection, the Contractor shall be liable for the costs incurred by the District in reviewing the VECP.
- f. Change Order Content For Accepted VECP - The contract change order for an accepted VECP shall offer to the Contractor fifty percent (50%) of the net cost savings, as determined by the Engineer. The change order shall detail the cost savings of each

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contract item that is part of the final accepted VECP. The net cost savings shall be accomplished through progress payments for the various items of work listed in the contract change order.

- g. Identical VECP - A VECP identical to a VECP submitted under any other contract, by the Contractor, or any other contractor, may also be submitted under this contract, provided that the VECP originated with such contractor and not with the District, Design Consultant, or Engineer.
- h. Restrictions - The Contractor may restrict the District's right to use any VECP data by marking it with the following statement:

“This data, furnished pursuant to the Value Engineering Change Proposal section of this contract, shall not be duplicated, used or disclosed, in whole or in part, for any purpose except to evaluate the VECP, unless the VECP is accepted by the District. This restriction does not limit the City's right to use information contained in this data if it is or has been obtained, or is otherwise available from the Contractor or from other sources, without limitations. When this VECP is accepted by the District, the District shall have the right to duplicate, use and disclose any data in any manner and for any purpose whatsoever, and have others do so whether under this or any other contract.”

## **SPECIAL CONDITIONS**

## **TECHNICAL SPECIFICATIONS**

THE FOLLOWING IMPROVEMENT PLANS AND SPECIFICATIONS ARE  
INCORPORATED HEREIN BY REFERENCE AS IF SET FORTH IN THEIR ENTIRETY:

### **BACKGROUND AND GENERAL SCOPE OF WORK**

BACKGROUND AND GENERAL SCOPE OF WORK

### **PLC REPLACEMENT DESIGN DRAWINGS**

IMPROVEMENT PLANS

### **TECHNICAL SPECIFICATIONS**

PLC REPLACEMENT SPECIFICATIONS

## **TECHNICAL SPECIFICATIONS**

74



## **Railroad Water Treatment Plant PLC Replacement Project**

### **Background and General Scope of Work**

June 9<sup>th</sup>, 2025

#### **Background**

The Florin Resource Conservation District (FRCD) is a resource conservation district whose primary function is to operate the Elk Grove Water District (EGWD/District). The EGWD serves groundwater to its customers in Service Area 1. The groundwater is produced at seven (7) well sites owned and operated by EGWD. Of the seven (7) wells, three (3) are shallow wells completed to depths of approximately 500 feet. The remaining four (4) are deep wells completed to depths of approximately 1,000 feet. The names of the shallow wells are Well 8, Well 9 and Well 13. The names of the deep wells are Well 1D, Well 4D, Well 11D, and Well 14D. All raw water from the deep wells are piped to the Railroad Water Treatment Plant (RRWTP) for treatment. All well and treatment plant functions and operations are controlled through a supervisory control and data acquisition (SCADA) system with primary controls and logic housed in the Main PLC (PLC 1) and the Filter Panel PLC (PLC 2) on-site at the RRWTP.

The shallow wells pump directly into the distribution system. Water from the shallow wells is disinfected at the well sites with sodium hypochlorite before entering the water distribution system. Water from the deep wells is piped to EGWD's RRWTP for manganese and iron removal. Water from the deep wells is disinfected with sodium hypochlorite at the RRWTP and then stored in two (2) 2-million-gallon storage tanks.

All remote wells (except Well 14D located on site at the RRWTP) communicate via radio to PLC 1 and PLC 2. Each well site is controlled by their own PLC. Each well site can be remotely operated through the SCADA system.

PLC 1 was installed in 2004 when the RRWTP was constructed and put into operation. PLC 2 was installed shortly after in 2005. Both PLCs are Schneider Electric SCADAPack 32 with Modbus protocols. PLC 1 primarily controls groundwater well operations and chemical dosing while PLC 2 primarily controls filter vessel operation yet both PLCs communicate with and are dependent on each other for operation of the RRWTP.

The District will furnish record drawings and PLC registers of the existing PLCs to the successful contractor.

#### **General Scope of Work**

PLC 1 and PLC 2 reached the end of their useful life in 2020. Additionally, Schneider Electric has ended sales of SCADAPack 32 PLCs in June of 2023 and will end technical support of the units by 2028. This project's general scope of work is to replace both PLCs with an equivalent Allen-Bradley unit and to consolidate and simplify the control system.

The goal of this project is to consolidate the operations of PLC 1 and PLC 2 into a single PLC that utilize a remote input/output (RIO) The design drawings detail the replacement of PLC 1 with an Allen-Bradley ControlLogix PLC (Master PLC). PLC 2 (Filter Panel PLC) will be replaced with an Ethernet Input/Output (EIO) rack. The new Master PLC shall be programmed to monitor and control both locations through ethernet communication.

This project also includes the fabrication/installation of new control panels and auxiliary controls equipment at both locations as needed to facilitate the operation of a new Allen-Bradley PLC control system.

**Installation/construction shall start early 2026 and has a hard completion date of no later than March 1<sup>st</sup>, 2026. See attached drawings and technical specifications for more specific information.**

ELK GROVE WATER DISTRICT  
RAILROAD AND STORAGE TANK  
WATER TREATMENT PLANT  
PLC UPGRADE PROJECT



					 <p>405 30th STREET SACRAMENTO, CA 95816 TEL# (916) 448-3776 FAX# (916) 448-3778 email: jspautomation@sbcglobal.net</p>	WATER TREATMENT PLANT PLC CONTROL PANEL COVER SHEET		ELK GROVE WATER DISTRICT RAILROAD WTP AND STORAGE TANK PLC UPGRADE PROJECT									
REV	DATE	BY	DESCRIPTION					DATE	DESIGN BY	DRAWN BY	CHK'D BY	SHEET #	DRAWING #				
								03/01/24	JSP	QSP		1 OF 43					
















WIRE AND TERMINAL BLOCK COLOR CODE SCHEDULE					
FUNCTION	TAG REFERENCE	WIRE COLOR	TERMINAL COLOR CODE	TERMINAL DESIGNATOR	MINIMUM WIRE SIZE
24 VDC STATUS	STATUS	BLUE	BLUE	XX	#16
24 VDC POSITIVE	+ 24	BLUE	BLUE	+24	#16
24 VDC NEGATIVE	-24	GREY	GREY	-24	#16
120 VDC/VAC CONTROL	CONTROL	RED	RED	XX	#16
120 VAC HOT	120 VAC	BLACK	BLACK	LX	#14
120 VAC NEUTRAL	120 NEUTRAL	WHITE	WHITE	NX	#14
GROUND	GROUND	GREEN	GREEN/YELLOW		#14
GROUND ISOLATED	GROUND	GREEN	GREEN		#14
SIGNAL ANALOG/RTD		CLR/BLK	BEIGE	XX	#18




LEGEND:  
XX - TERMINAL BLOCK NUMBER 0 - 999, REFERENCE DRAWINGS FOR ADDITIONAL DETAIL  
LX - 120 VAC DESIGNATOR FOR POWER SOURCE L1 - L99, REFERENCE DRAWINGS FOR ADDITIONAL DETAIL  
LX - 120 VAC DESIGNATOR FOR POWER SOURCE N1 - N99, REFERENCE DRAWINGS FOR ADDITIONAL DETAIL

-  OPERATOR INTERFACE PANEL
-  PLC/RTU INTERFACE
-  INSTRUMENT/COMPONENT
-  FIELD MOUNTED DEVICE
-  FRONT PANEL MOUNTED DEVICE
-  REAR PANEL MOUNTED DEVICE

INSTRUMENT IDENTIFICATION LETTERS					
	FIRST LETTER		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	INPUT, READOUT MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USERS CHOICE	USERS CHOICE	USERS CHOICE
C	CONDUCTIVITY			CONTROL	
D	USERS CHOICE	DIFFERENTIAL			DISABLED
E	VOLTAGE				ENABLED/EMERG./ENERGIZED
F	FLOW RATE	RATIO (FRACTION)			FORWARD
G	GRAPHICAL		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	SETPOINT
L	LEVEL		LIGHT		LOW
M	MOTOR	MOMENTARY			MIDDLE, MOTION, INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	OPERATOR		ORIFICE, RESTRICTION		OPEN, OPENED
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE		TOTALIZER	
R	RADIATION		RECORD		REVERSE,RESET
S	SPEED, FREQUENCY	SAFETY		SWITCH	STOP, START
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, VELOCITY			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	COMMUNICATIONS	X AXIS	UNCLASSIFIED	TRANSMIT/RECEIVE	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

 PLC DIGITAL INPUT STATUS LEGEND	 PLC DIGITAL ALARM STATUS LEGEND	 PLC DIGITAL OUTPUT CONTROL LEGEND
YIA ACKNOWLEDGE/RESET YIB BYPASS ACTIVE YIC CLOSED YID DISABLED YIE ENERGIZED YIF FORWARD YIG GAS WARNING YIH HAND MODE YIJ POWER ON YIK STATION CONTROL YIL REMOTE LOCKOUT STOP YIM RUNNING, MOTION YIN NORMAL MODE YIO OPENED, OPERATIONAL YIP CONTROL PERMISSIVE YIQ QUANTITY COMPLETE YIR REVERSE YIS REMOTE START YIT REMOTE TRIP YIU MODE SELECTION YIV AT VELOCITY, SPEED YIW FILL COMPLETE YIX TRANSMIT YIY EVENT TRIGGER YIZ POSITIONED	YAA COMMON ALARM YAB EMERGENCY BYPASS YAC CLOSED YAD SYSTEM DISABLED YAE EMERGENCY MODE YAF EQUIPMENT FAULT YAG GAS ALARM YAH ALARM HORN YAJ COMMON POWER ALARM YAK STATION CONTROL ALARM YAL EMERGENCY LOCKOUT YAM NOT RUNNING ALARM YAN NOT READY ALARM YAO OPERATIONAL ALARM YAP PERMISSIVE ALARM YAQ QUANTITY NOT-COMPLETE YAR ALARM RESET YAS ALARM SIREN YAT REMOTE TRIP YAU EMERGENCY MODE ALARM YAV SPEED ALARM YAW FILL ALARM YAX COMMUNICATION ALARM YAY ALARM EVENT YAZ POSITION ALARM	YCA COMMON ALARM YCB ENABLE BYPASS YCC CLOSE COMMAND YCD CONTROL DISABLE YCE CONTROL ENABLE YCF CONTROL FORWARD YCG SYSTEM GO COMMAND YCH REMOTE HAND CONTROL YCJ POWER SHUTDOWN YCK STATION LOCK-OUT YCL EQUIPMENT STOP YCM MOTION CONTROL YCN SYSTEM NORMAL MODE YCO OPERATOR CONTROL YCP PERMISSIVE CONTROL YCQ START BATCH YCR START REVERSE YCS EQUIPMENT START YCT REMOTE TRIP YCU EMERGENCY ALARM YCV SPEED SELECT YCW FILL MODE YCX COMMUNICATION ALARM YCY ALARM EVENT YCZ POSITION SELECT

MISCELLANEOUS INSTRUMENTATION ABBREVIATIONS	
AI —	ANALOG INPUT
AO —	ANALOG OUTPUT
CL2 —	CHLORINE (ANALYZER MODIFIER)
CO —	CARBON MONOXIDE (ANALYZER MODIFIER)
CO2 —	CARBON DIOXIDE (ANALYZER MODIFIER)
COMB —	COMBUSTIBLES (ANALYZER MODIFIER)
COND —	CONDUCTIVITY (ANALYZER MODIFIER)
DEN —	DENSITY (ANALYZER MODIFIER)
DI —	DIGITAL INPUT
DO —	DIGITAL OUTPUT
DO —	DISSOLVED OXYGEN (ANALYZER MODIFIER)
E/P —	VOLTAGE TO PNEUMATIC
H2S —	HYDROGEN SULFIDE (ANALYZER MODIFIER)
HCL —	HYDROGEN CHLORIDE (ANALYZER MODIFIER)
I/O —	INPUT/OUTPUT
I/P —	CURRENT TO PNEUMATIC
NOX —	NITROGEN OXIDE (ANALYZER MODIFIER)
OIT —	OPERATOR INTERFACE
O2 —	OXYGEN (ANALYZER MODIFIER)
P&ID —	PROCESS AND INSTRUMENTATION DIAGRAM
SS —	SUSPENDED SOLIDS (ANALYZER MODIFIER)
TURB —	TURBIDITY (ANALYZER MODIFIER)
WAN —	WIDE AREA NETWORK
LAN —	LOCAL AREA NETWORK
PLC —	PROGRAMMABLE LOGIC CONTROLLER
SLC —	SMALL LOGIC CONTROLLER
WAN —	WIDE AREA NETWORK

HAND CONTROL STATION NOTATIONS	
 XXXX	 XXXX
 XXXX	
ACK	ACKNOWLEDGE
ESTOP	EMERGENCY STOP
FAIL	FAILURE
FDR	FORWARD-OFF-REVERSE
FR	FORWARD-REVERSE
FS	FAST-SLOW
HA	HAND-AUTO
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
LL	LEAD-LAG
LLS	LEAD-LAG-STANDBY
LOR	LOCAL-OFF-REMOTE
LR	LOCAL-REMOTE
LS	LEAD-STANDBY
LDS	LOCK-OFF STOP
MA	MANUAL-AUTO
OAC	OPEN-AUTO-CLOSE
OC	OPEN-CLOSE
OSC	OPEN-STOP-CLOSE
RJ	RUN-JOG
RJR	RUN-JOG-REVERSE
SIL	SILENCE
SS	START-STOP
RESET	RESET
PB	PUSHBUTTON
MDT	MOTOR OVERTEMPERATURE



3 POSITION SELECTOR SWITCH, MAINTAINED CONTACTS, UNLESS OTHERWISE NOTED, 2 POSITION SIMILAR

NORMALLY OPEN PUSH-BUTTON, MOMENTARY CONTACT UNLESS OTHERWISE NOTED

NORMALLY CLOSED PUSH-BUTTON, MOMENTARY CONTACT UNLESS OTHERWISE NOTED

NORMALLY OPEN CONTACT (N.O.)

NORMALLY CLOSED CONTACT (N.C.)

NORMALLY OPEN TIME DELAY RELAY CONTACT, WITH TIME DELAY ON CLOSING AFTER COIL IS ENERGIZED

NORMALLY CLOSED TIME DELAY RELAY CONTACT, WITH TIME DELAY ON OPENING AFTER COIL IS ENERGIZED

NORMALLY OPEN TIME DELAY RELAY CONTACT, WITH TIME DELAY ON OPENING AFTER COIL IS DE-ENERGIZED

NORMALLY CLOSED TIME DELAY RELAY CONTACT, WITH TIME DELAY ON CLOSING AFTER COIL IS DE-ENERGIZED

NORMALLY OPEN TEMPERATURE SWITCH, CLOSE ON RISING TEMPERATURE

NORMALLY CLOSED TEMPERATURE SWITCH, OPEN ON RISING TEMPERATURE

NORMALLY OPEN FLOW SWITCH, CLOSE ON INCREASING FLOW

NORMALLY CLOSED FLOW SWITCH, OPEN ON INCREASING FLOW

NORMALLY OPEN PRESSURE SWITCH, CLOSE ON INCREASING PRESSURE

NORMALLY CLOSED PRESSURE SWITCH, OPEN ON INCREASING PRESSURE

NORMALLY OPEN PRESSURE SWITCH, CLOSE ON INCREASING LEVEL

NORMALLY CLOSED PRESSURE SWITCH, OPEN ON INCREASING LEVEL

NORMALLY OPEN PRESSURE SWITCH, CLOSE ON END POSITION

NORMALLY CLOSED PRESSURE SWITCH, OPEN ON END POSITION

NORMALLY OPEN VIBRATION SWITCH, CLOSE ON INCREASING VIBRATION

NORMALLY CLOSED VIBRATION SWITCH, OPEN ON INCREASING VIBRATION

NORMALLY OPEN SPEED SWITCH, CLOSE ON INCREASING SPEED

NORMALLY CLOSED SPEED SWITCH, OPEN ON INCREASING SPEED

NORMALLY OPEN EMERGENCY CABLE SWITCH, CLOSE ON INCREASING TENSION

NORMALLY CLOSED EMERGENCY CABLE SWITCH, OPEN ON INCREASING TENSION

NORMALLY OPEN EMERGENCY CABLE SWITCH, CLOSE ON INCREASING TENSION

NORMALLY CLOSED EMERGENCY CABLE SWITCH, OPEN ON INCREASING TENSION

NORMALLY OPEN EMERGENCY CABLE SWITCH, CLOSE ON INCREASING TENSION

NORMALLY CLOSED EMERGENCY CABLE SWITCH, OPEN ON INCREASING TENSION

NORMALLY OPEN EMERGENCY CABLE SWITCH, CLOSE ON INCREASING TENSION

NORMALLY CLOSED EMERGENCY CABLE SWITCH, OPEN ON INCREASING TENSION

NORMALLY OPEN EMERGENCY CABLE SWITCH, CLOSE ON INCREASING TENSION

NORMALLY CLOSED EMERGENCY CABLE SWITCH, OPEN ON INCREASING TENSION

NORMALLY OPEN EMERGENCY CABLE SWITCH, CLOSE ON INCREASING TENSION

NORMALLY CLOSED EMERGENCY CABLE SWITCH, OPEN ON INCREASING TENSION

NORMALLY OPEN EMERGENCY CABLE SWITCH, CLOSE ON INCREASING TENSION

NORMALLY CLOSED EMERGENCY CABLE SWITCH, OPEN ON INCREASING TENSION

NORMALLY OPEN EMERGENCY CABLE SWITCH, CLOSE ON INCREASING TENSION

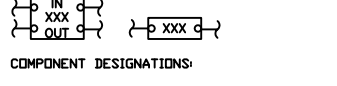
NORMALLY CLOSED EMERGENCY CABLE SWITCH, OPEN ON INCREASING TENSION

NORMALLY OPEN EMERGENCY CABLE SWITCH, CLOSE ON INCREASING TENSION

NORMALLY CLOSED EMERGENCY CABLE SWITCH, OPEN ON INCREASING TENSION

NORMALLY OPEN EMERGENCY CABLE SWITCH, CLOSE ON INCREASING TENSION

NORMALLY CLOSED EMERGENCY CABLE SWITCH, OPEN ON INCREASING TENSION



COMPONENT DESIGNATIONS:

CPU - CENTRAL PROCESSING UNIT

EMI - FILTER EMI

ES - ETHERNET SWITCH

FDS - FIBER OPTIC SWITCH

I/I - CURRENT TO CURRENT ISOLATOR

HMI - HUMAN MACHINE INTERFACE

LA - LIGHTNING ARRESTOR

LCD - LCD DISPLAY

LED - LED DISPLAY

MDN - MONITOR

MPU - MOTOR PROTECTION UNIT

RFI - RADIO FREQUENCY INTERFERENCE

RX - RADIO TRANSMITTER

RTU - REMOTE TELEMETRY UNIT

SS - SURGE SUPPRESSOR

PLC - PROGRAMMABLE LOGIC CONTROLLER

PM - POWER MONITOR

PS - POWER SUPPLY

UPS - UNINTERRUPTIBLE POWER SUPPLY

NORMALLY OPEN CONTACT (N.O.)

NORMALLY CLOSED CONTACT (N.C.)

NORMALLY OPEN TIME DELAY RELAY CONTACT, WITH TIME DELAY ON CLOSING AFTER COIL IS ENERGIZED

NORMALLY CLOSED TIME DELAY RELAY CONTACT, WITH TIME DELAY ON OPENING AFTER COIL IS ENERGIZED

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NORMALLY CLOSED TEMPERATURE SWITCH, OPEN ON RISING TEMPERATURE

NORMALLY OPEN FLOW SWITCH, CLOSE ON INCREASING FLOW

NORMALLY CLOSED FLOW SWITCH, OPEN ON INCREASING FLOW

NORMALLY OPEN PRESSURE SWITCH, CLOSE ON INCREASING PRESSURE

NORMALLY CLOSED PRESSURE SWITCH, OPEN ON INCREASING PRESSURE

NORMALLY OPEN PRESSURE SWITCH, CLOSE ON INCREASING LEVEL

NORMALLY CLOSED PRESSURE SWITCH, OPEN ON INCREASING LEVEL

NORMALLY OPEN PRESSURE SWITCH, CLOSE ON END POSITION

NORMALLY CLOSED PRESSURE SWITCH, OPEN ON END POSITION

NORMALLY OPEN VIBRATION SWITCH, CLOSE ON INCREASING VIBRATION

NORMALLY CLOSED VIBRATION SWITCH, OPEN ON INCREASING VIBRATION

NORMALLY OPEN SPEED SWITCH, CLOSE ON INCREASING SPEED

NORMALLY CLOSED SPEED SWITCH, OPEN ON INCREASING SPEED

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NORMALLY CLOSED EMERGENCY CABLE SWITCH, OPEN ON INCREASING TENSION

NORMALLY OPEN EMERGENCY CABLE SWITCH, CLOSE ON INCREASING TENSION

NORMALLY CLOSED EMERGENCY CABLE SWITCH, OPEN ON INCREASING TENSION

CIRCUIT WIRING

FIELD WIRING CONNECTION

CIRCUIT CONTINUATION

GROUND

LIGHTNING ARRESTOR

ELECTRICAL CONNECTION (JUMPER, BUS, TB)

NO ELECTRICAL CONNECTION

NO ELECTRICAL CONNECTION

LOW VOLTAGE CIRCUIT BREAKER (CB), RATINGS AND NO. OF POLES AS SHOWN. WHEN SPECIFIC TYPE IS REQUIRED, X INDICATES TYPE.

CONTROL POWER TRANSFORMER (CPT)

VOLTAGE TRANSFORMER (VT OR PT)

CURRENT TRANSFORMER (CT)

INDICATING LIGHT, X INDICATES LENS COLOR

PUSH TO TEST INDICATING LIGHT, X INDICATES LENS COLOR

LENS COLORS:

R - RED  
G - GREEN  
B - BLUE

Y - YELLOW  
W - WHITE  
A - AMBER

SOLENOID VALVE

FUSE (F), SIZE AND TYPE AS INDICATED

FUSE (F) WINDICATOR, SIZE AND TYPE AS INDICATED

FUSEPLUG (FP)

FUSED CUTOUT/SWITCH (FS)

FUSEBLOCK (FB), FUSE TERMINAL (FT)

NON-FUSED SWITCH, CURRENT RATING AND NUMBER OF POLES AS NOTED

THERMAL OVERLOAD ELEMENT

CONTROL RELAY DESIGNATIONS

RELAY TYPE DESIGNATOR

CR - CONTROL RELAY

DP - DEFINITE PURPOSE RELAY

TR - TIMING RELAY

TDE - TIME DELAY ENERGIZE

TDD - TIME DELAY DENERGIZE

TC - TIME CLOCK

LC - LIGHTING CONTACTOR

M - MOTOR CONTACTOR

ICR - INDUSTRIAL CONTROL RELAY (20A)

PFR - POWER FAIL RELAY

ISR - INTRINSICALLY SAFE RELAY

SR - SAFETY RELAY

PR - PROBE RELAY

SSR - SOLID STATE RELAY

CONTROL WIRING SYMBOLS AND DESIGNATIONS

SOLENOID VALVE

FUSE (F), SIZE AND TYPE AS INDICATED

FUSE (F) WINDICATOR, SIZE AND TYPE AS INDICATED

FUSEPLUG (FP)

FUSED CUTOUT/SWITCH (FS)

FUSEBLOCK (FB), FUSE TERMINAL (FT)

NON-FUSED SWITCH, CURRENT RATING AND NUMBER OF POLES AS NOTED

THERMAL OVERLOAD ELEMENT

INDICATING LIGHT, X INDICATES LENS COLOR

PUSH TO TEST INDICATING LIGHT, X INDICATES LENS COLOR

LENS COLORS:

R - RED  
G - GREEN  
B - BLUE

Y - YELLOW  
W - WHITE  
A - AMBER

SOLENOID VALVE

FUSE (F), SIZE AND TYPE AS INDICATED

REV	DATE	BY	DESCRIPTION



**JSP**  
AUTOMATION  
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FAX # (916) 448-3778  
email: jspautomation@scglobal.net

## WATER TREATMENT PLANT INSTRUMENTATION AND CONTROL LEGEND

ELK GROVE WATER DISTRICT RAILROAD WTP AND STORAGE TANK PLC UPGRADE PROJECT					
DATE	DESIGN BY	DRAWN BY	CHK'D BY	SHEET #	DRAWING #
03/01/24	JSP	QSP		4 OF 43	I-0C

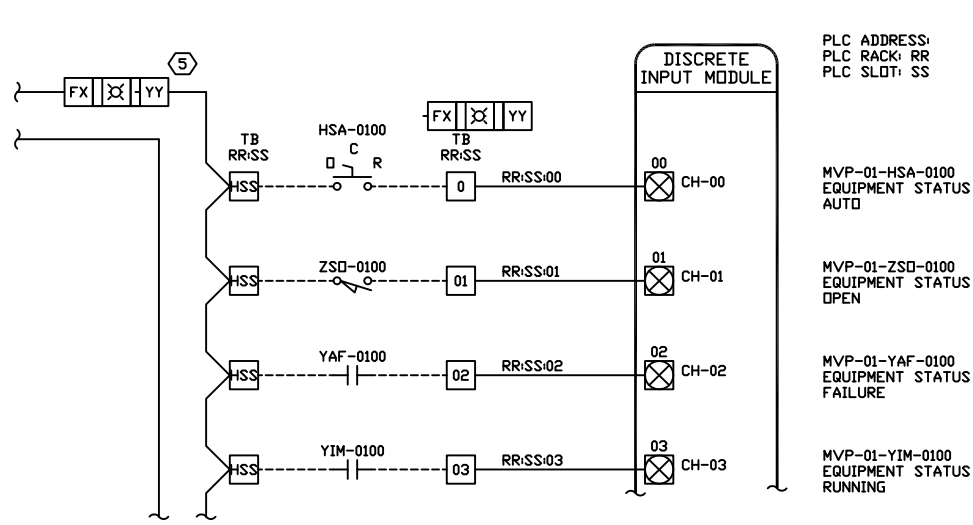
BILL OF MATERIAL GENERAL NOTES:

1. BILL OF MATERIAL IS NOT A COMPREHENSIVE OR ALL ENCOMPASSING MATERIALS LIST. A DETAILED BILL OF MATERIAL SHALL BE SUBMITTED BASED ON CSS MANUFACTURING REQUIREMENTS AND LAYOUT. ALL MATERIALS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 13340 AND 13350.
2. BILL OF MATERIAL PART AND MODEL NUMBERS SHALL BE CONFIRMED BY THE CONTROL SYSTEM SUPPLIER AND ADJUSTED BASED ON LATEST VERSION AND MANUFACTURER DETAILED PART NUMBERS. REFERENCE SPECIFICATION SECTION 13340 AND 13350
3. BILL OF MATERIAL DOES NOT INCLUDE BASIC INSTALLATION MATERIALS SUCH AS DIN RAIL, NUTS, BOLTS, WIRE, WIREWAYS AND OTHER GENERAL ASSEMBLY COMPONENTS REQUIRED TO FABRICATE AN COMPLETE PANEL.
4. QUANTITY COLUMN ITEMS (XX\*) AND (AR) IS NOT A CONFIRMED QUANTITY. QUANTITY SHALL BE PROVIDE AS REQUIRED BASED ON CONTROL PANEL MANUFACTURING REQUIREMENTS.
5. QUANTITY COLUMN ITEM (AR) IS AS-REQUIRED FOR COMPLETE ASSEMBLY.

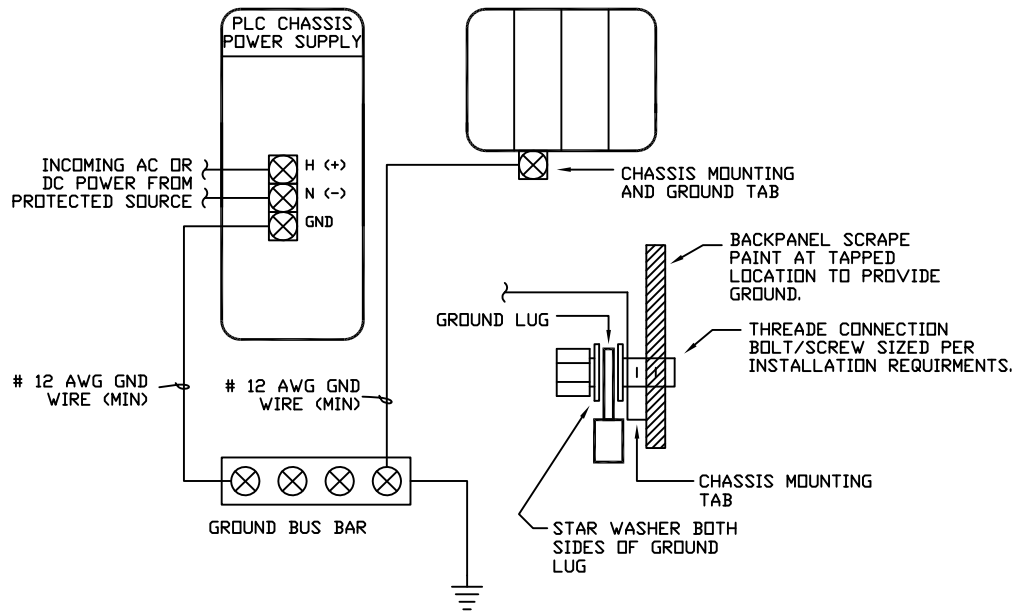
ITEM	TAG	QTY	DESCRIPTION	MANUFACTURER	SERIES #	PART #
1	GFCI	2	Receptacle, 15 A, Ground Fault Interrupter, DIN Rail Mount	Weidmuller		6720005422
2	PS-X	2	Power Supply, Switching , 24 VDC, 10 Amp, 120 VAC, 240 Watt	Weidmuller	PRO ECO	1469490000
3	DM	1	Diode Module,	Weidmuller	PRO DM	2486080000
4	SS	1	Surge Suppressor, 15 Amp, 120 VAC	MTL		MA15/D/1/SI
5	AC-PFR	1	Relay, Control, 120 VAC w/indicator	IDEC	RH	RH2B-UL-120
6	RB	1	Relay, Base, DPDT, Blade, DIN Rail	IDEC	SH	SH2B
7	PTR	1	Relay, Contactor 120 vac, 20 Amp, 4 Pole, 2NO/2NC, DIN	ABB	Series B Mini	B6-22-00-84
8	MCBX	2	Circuit Breaker, 20 Amp, 1 Pole, 120 VAC, DIN	Eaton	FAZ	FAZ-D10/1-NA-SP
9	CBX	0	Circuit Breaker, 20 Amp, 1 Pole, 120 VAC, DIN	CBI Electric	QL SERIES	QL-1(13)-DM-KM-20A
10	CBX	3	Circuit Breaker, 15 Amp, 1 Pole, 120 VAC, DIN	CBI Electric	QL SERIES	QL-1(13)-DM-KM-15A
11	CBX	0	Circuit Breaker, 10 Amp, 1 Pole, 120 VAC, DIN	CBI Electric	QL SERIES	QL-1(13)-DM-KM-15A
12	CBX	3	Circuit Breaker, 05 Amp, 1 Pole, 120 VAC, DIN	CBI Electric	QL SERIES	QL-1(13)-DM-KM-05A
13	CBX	0	Circuit Breaker, 04 Amp, 1 Pole, 120 VAC, DIN	CBI Electric	QL SERIES	QL-1(13)-DM-KM-01A
14	CBX	0	Circuit Breaker, 02 Amp, 1 Pole, 120 VAC, DIN	CBI Electric	QL SERIES	QL-1(13)-DM-KM-05A
15	CBX	3	Circuit Breaker, 01 Amp, 1 Pole, 120 VAC, DIN	CBI Electric	QL SERIES	QL-1(13)-DM-KM-02A
16	CBX	0	Circuit Breaker, 005 Amp, 1 Pole, 120 VAC, DIN	CBI Electric	QL SERIES	QL-1(13)-DM-KM-005A
17	CB-BB	1	Bus Bar, QL Circuit Breaker with insulated cover, 10 Point	CBI Electric		
18	CB-EC	1	End Cap, Busbar	CBI Electric		
19	TB-BLU	100*	Terminal Block, 2.5 mm, Blue, WDU 2.5	Weidmuller		1020080000
20	TB-BGE	50*	Terminal Block, 2.5 mm, Beige, WDU 2.5	Weidmuller		1020000000
21	TB-ORG	20*	Terminal Block, 2.5 mm, Orange, WDU 2.5	Weidmuller		1020060000
22	TB-RED	20*	Terminal Block, 2.5 mm, Red, WDU 2.5	Weidmuller		1020040000
23	TB-GRY	100*	Terminal Block, 2.5 mm, Grey, WDU 2.5	Weidmuller		1037720000
24	TB-GND	24*	Terminal Block, 2.5 mm, yellow/green, WDU 2.5	Weidmuller		1010000000
25	TB-DIS	40*	Terminal Block, Disconnect, 2.5 mm, WTR 2.5	Weidmuller		1855610000
26	TS	200*	Test Socket, Terminal Block, 2.5 mm, STB	Weidmuller		0215700000
27	PJ	2	Pluggable Cross Connection, 10 point, 2.5mm for WDU-2.5	Weidmuller		1527690000
28	SJ	2	Screwable Cross Connection, 10 point, 2.5mm for WDU-2.5	Weidmuller		1054460000
29	TB-BLK	20*	Terminal Block, 4.0 mm, Black, WDU 4.0	Weidmuller		1020110000
30	TB-WHT	20*	Terminal Block, 4.0 mm, White, WDU 4.0	Weidmuller		1036700000
31	TB-BGE	0	Terminal Block, 4.0 mm, Beige, WDU 4.0	Weidmuller		1020100000
32	TB-GND	50*	Terminal Block, 2.5 mm, yellow/green, WDU 4.0	Weidmuller		1010100000
33	PJ	2	Pluggable Cross Connection, 10 point, 4.0mm for WDU-4.0	Weidmuller		1758260000
34	SJ	2	Screwable Cross Connection, 10 point, 4.0mm for WDU-4.0	Weidmuller		1052060000
35	EP	20*	End Plate	Weidmuller		1050000000
36	EB	20*	End Bracket	Weidmuller		1061200000
37	FB	30*	Fused Terminal Block, 6.0 mm, 10-30 VDC/AC, with LED	Weidmuller		1011300000
38	F	AR	Fuse	Lttlefuse		
39	VWV31	AR	Wireway, Plastic, Narrow Finger, 1"Wx3"H, with Cover, Gray	Panduit		
40	VWV32	AR	Wireway, Plastic, Narrow Finger, 2"Wx3"H, with Cover, Gray	Panduit		
41	VWV33	AR	Wireway, Plastic, Narrow Finger, 3"Wx3"H, with Cover, Gray	Panduit		
42	VWV34	AR	Wireway, Plastic, Narrow Finger, 4"Wx3"H, with Cover, Gray	Panduit		
43	DIN	AR	DIN RAIL, Slotted, 35 mm, Galvanized Steel, Zinc Plated			
44	GB	6	Busbar Copper, 10 Point Screw Connection	ILSCO		D167-10
45	BP	1	Backpanel, 76"Hx28"W Steel, White Panel	Custom		
46	SP	2	Sidepanel, 76"Hx22"W Steel, White Panel	Custom		
47	FER	AR	Crimp Ferrules #16, 100 PACK	Weidmuller		
48	FER	AR	Crimp Ferrules #14, 100 PACK	Weidmuller		
49	FER	AR	Crimp Ferrules #18, 100 PACK	Weidmuller		
50	CPU	1	PLC, CPU, 40 MB, Ethernet Port	Allen Bradley	ControlLogix	1756-L84E
51	ENET	4	PLC, Network Module, 2 Port, Ring	Allen Bradley	ControlLogix	1756-EN2TR
52	RCK-10	1	PLC, Chassis, 10 Slot	Allen Bradley	ControlLogix	1756-A10
53	RCK-7	2	PLC, Chassis, 7 Slot	Allen Bradley	ControlLogix	1756-A7
54	PS	2	PLC, Power Supply, 120 VAC, 50 Watt	Allen Bradley	ControlLogix	1756-PA50
55	PS	1	PLC, Power Supply, 120 VAC, 75 Watt	Allen Bradley	ControlLogix	1756-PA75
56	DI	3	PLC, Digital Input Module, 32 Channel, 120 vac	Allen Bradley	ControlLogix	1756-IB32
57	DO	2	PLC, Digital Output Module, 16 Channel, Relay	Allen Bradley	ControlLogix	1756-OW16
58	AI	3	PLC, Analog Input Module, 16 Channel, 4-20mA	Allen Bradley	ControlLogix	1756-IF16
59	AO	1	PLC, Analog Output Module, 6 Channel, 4-20mA	Allen Bradley	ControlLogix	1756-OF6C
60	RTB-36	9	Removable Terminal Connector, I/O Module , 36 PIN Screw Type	Allen Bradley	ControlLogix	1756-TBCH
61	RTB-24	2	Termina Connector, I/O Module , 20 PIN Screw Type	Allen Bradley	ControlLogix	5069-RTB18
62	ENET	1	Ethernet Switch, 6 port, 2 SFP	Allen Bradley	Stratix 5700	1783-BMS065GA
63	UPS	1	Unninterutable Power Supply, 1000 VA, 120 VAC	Allen Bradley		1609-B1000N
64	MB-TCP	1	PLC, Network Module, Modbus TCP	Allen Bradley	Pro-Soft	MV156E-MNETC
65	CP	AR	Empty Slot insertion cover	Allen Bradley		
66	I/I	6	Converter, current-current isolater, 4-20 mA	Action Instruments	Ultra-Slim Pak	
67	CR-PXX	32	Relay, PLC Interface, 24VDC w/diode and indicator, DPDT	IDEC	RV8H	RV8H-2L-D24
68	JPR	2	Jumper, Relay Base, 32 Comb, Blue		RV8H	SV9Z-J232W
69	JPR	2	Jumper, Relay Base, 32 Comb, Grey		RV8H	SV9Z-J232S
SPARE PARTS						
51	CPU	1	PLC, CPU, 40 MB, Ethernet Port	Allen Bradley	ControlLogix	1756-L84E
52	ENET	1	PLC, Network Module, 2 Port, Ring	Allen Bradley	ControlLogix	1756-EN2TR
53	RCK-10	1	PLC, Chassis, 10 Slot	Allen Bradley	ControlLogix	1756-A10
54	RCK-7	1	PLC, Chassis, 7 Slot	Allen Bradley	ControlLogix	1756-A7
55	PS	1	PLC, Power Supply, 120 VAC, 60 Watt	Allen Bradley	ControlLogix	1756-PA50
56	PS	1	PLC, Power Supply, 120 VAC, 60 Watt	Allen Bradley	ControlLogix	1756-PA75
57	DI	1	PLC, Digital Input Module, 32 Channel, 120 vac	Allen Bradley	ControlLogix	1756-IB32
58	DO	1	PLC, Digital Output Module, 16 Channel, Relay	Allen Bradley	ControlLogix	1756-OW16
59	AI	1	PLC, Analog Input Module, 16 Channel, 4-20mA	Allen Bradley	ControlLogix	1756-IF16
510	AO	1	PLC, Analog Output Module, 6 Channel, 4-20mA	Allen Bradley	ControlLogix	1756-OF6C
511	RTB-36	2	Removable Terminal Connector, I/O Module , 36 PIN Screw Type	Allen Bradley	ControlLogix	1756-TBCH
512	RTB-24	1	Termina Connector, I/O Module , 20 PIN Screw Type	Allen Bradley	ControlLogix	5069-RTB18
513	ENET	1	Ethernet Switch, 6 port, 2 SFP	Allen Bradley	Stratix 5700	1783-BMS065GA
515	PS-X	1	Power Supply, Switching , 24 VDC, 10 Amp, 120 VAC, 240 Watt	Weidmuller	PRO ECO	1469490000
516	CR-PXX	32	Relay, PLC Interface, 24	IDEC	RV8H	RV8H-2L-D24
517	F	10	Fuses, (2) Five Pack of Each Type	LttleFuse		

BILL OF MATERIAL

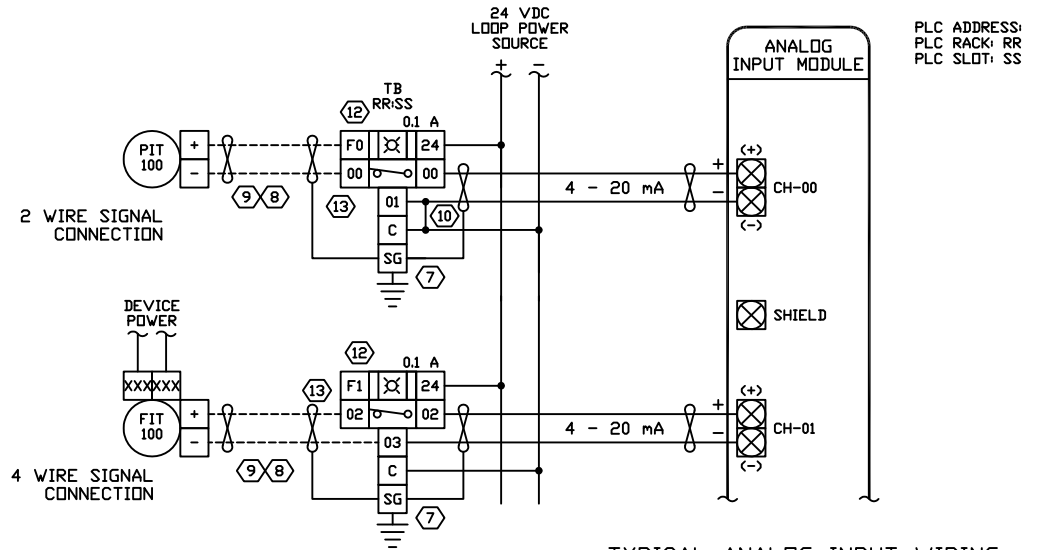
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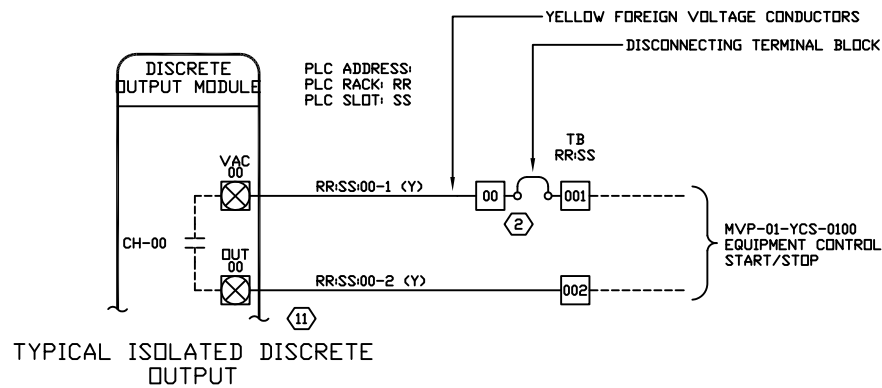
TYPICAL DISCRETE INPUT WIRING



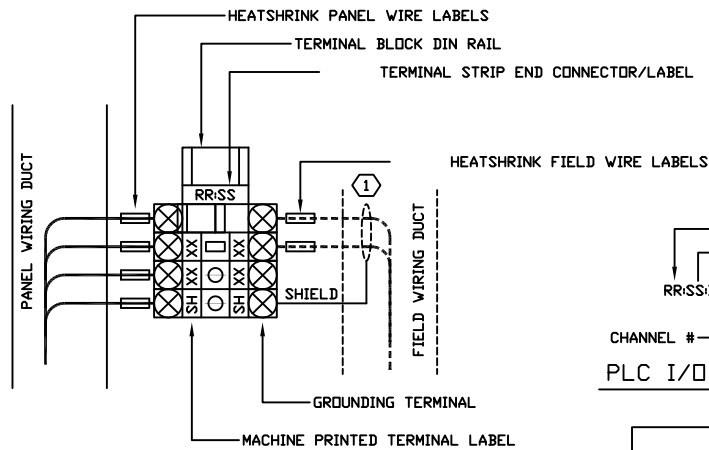
TYPICAL PLC EQUIPMENT GROUNDING



TYPICAL ANALOG INPUT WIRING



TYPICAL ISOLATED DISCRETE  
OUTPUT



TYPICAL FIELD WIRE TERMINATION

SG SIGNAL GROUND TERMINAL BLOCK  
YELLOW/GREEN. SHIELD CONNECTION  
POINT.

RACK #  
SLOT #  
RR:SS:XX-Y  
CHANNEL #  
TERMINAL #  
PLC I/O WIRE LEGEND

CIRCUIT #  
TERMINAL #  
AD-XX-YY-S  
COMPONENT OR LOOP #  
ISA TAG. REF.  
PANEL WIRE LEGEND

#### NOTES:

- PROVIDE FIELD WIRING SIDE FOR ALL TERMINAL BLOCKS AND STRIPS. NO INTERNAL PANEL WIRING SHALL BE PROVIDED ON THE FIELD SIDE OF TERMINATION BLOCKS.
- PROVIDE DISCONNECTING PLUG TERMINAL BLOCK ON FOREIGN VOLTAGE SOURCE CONDUCTOR FOR ALL DISCRETE OUTPUTS CONTROLLING EQUIPMENT EXTERNAL TO THE CONTROL PANEL COMPARTMENT.
- PROVIDE FUSED DISCONNECT W/BLOWN FUSE INDICATOR FOR ALL DISCRETE OUTPUTS CONTROLLING EQUIPMENT EXTERNAL TO THE CONTROL PANEL COMPARTMENT.
- PROVIDE INTERPOSING RELAY ON ALL EQUIPMENT THAT EXCEEDS PLC CONTINUOUS AND INRUSH CURRENT LIMITS. PROVIDE INTERPOSING RELAY ON ALL MOTOR CONTACTORS SIZE 2 AND GREATER.
- SIZE ALL FUSES PER NEC REQUIREMENTS OR MANUFACTURER'S RECOMMENDED SIZE TO PROTECT EQUIPMENT OPERATION AND MAINTAIN WARRANTY.
- FOR NON-SOURCING ANALOG OUTPUT MODULES PROVIDE LOOP POWER SOURCE/SINK WIRING AS REQUIRED BY ANALOG OUTPUT MODULE AND CONTROLLED EQUIPMENT.
- PROVIDE SIGNAL GROUND TERMINATION BLOCKS (YELLOW/GREEN) GROUND SHIELD AT SINGLE POINT ONLY IN LOOP.
- PROVIDE SIGNAL ISOLATION AND CONVERSION COMPONENTS AS REQUIRED TO MAINTAIN LOOP INTEGRITY AND INTERFACE WITH EQUIPMENT PROVIDED.
- CUT, COIL AND FOLDBACK SHIELD CONDUCTOR AND FOIL. PROVIDE HEATSHRINK TUBING AT NON-TERMINATED SHIELD CONDUCTOR POINTS.
- PROVIDE REMOVABLE JUMPER TO SOURCE COMMON ON ALL ANALOG INPUT CIRCUITS TO ALLOW FOR INTERFACING WITH FOUR WIRE CIRCUITS.
- FOR TRIAC OUTPUT MODULES PROVIDE RESISTORS AND SNUBBERS AS RECOMMENDED BY THE MANUFACTURER AND TO INTERFACE WITH EXTERNAL EQUIPMENT.
- PROVIDE FUSED TERMINAL BLOCK WITH REMOVABLE FUSEHOLDER AND BLOWN FUSE INDICATOR.
- PROVIDE ANALOG SIGNAL DISCONNECTING TERMINAL BLOCK AT POSITIVE INPUT TO PLC AND INSTRUMENT CIRCUITS.

TYPICAL NON-ISOLATED DISCRETE  
OUTPUT

TYPICAL ANALOG OUTPUT WIRING

REV	DATE	BY	DESCRIPTION
1			



**JSP**  
AUTOMATION  
405 20th STREET  
SACRAMENTO, CA 95816  
TEL# (916) 448-3776  
FAX# (916) 448-3778  
email: jspautomation@sbcglobal.net

WATER TREATMENT PLANT  
PLC CONTROL PANEL  
PLC TYPICAL WIRING DIAGRAM

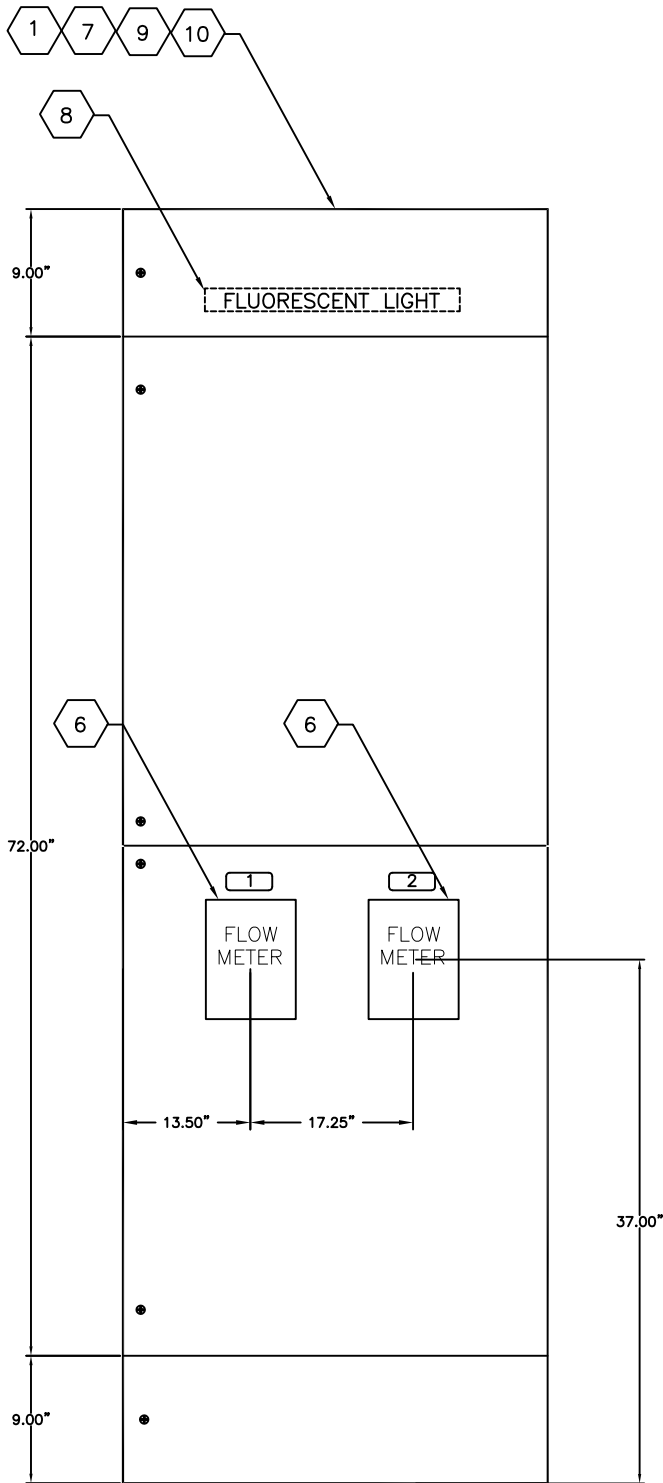
ELK GROVE WATER DISTRICT  
RAILROAD WTP AND STORAGE TANK  
PLC UPGRADE PROJECT

DATE	DESIGN BY	DRAWN BY	CHK'D BY	SHEET #	DRAWING #
03/01/24	JSP	QSP		6 OF 43	I-1

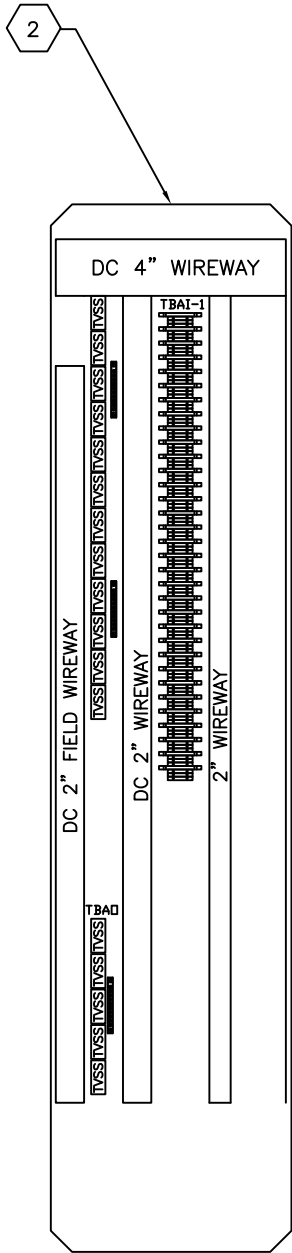
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NOTES:

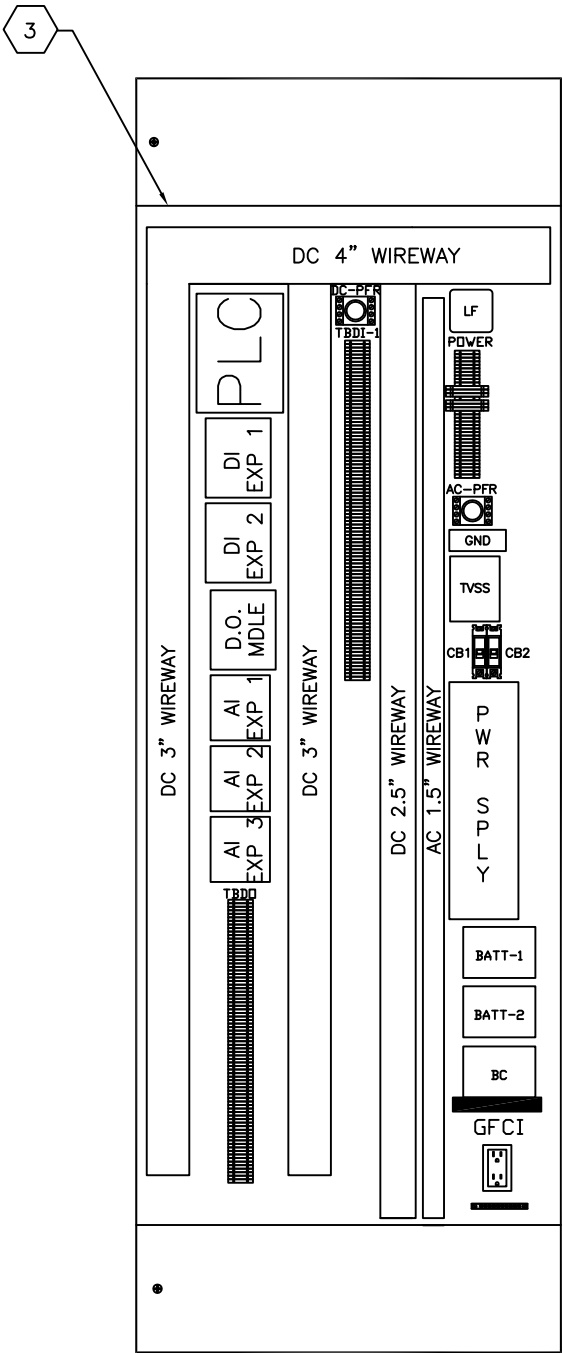
1. PRIOR TO EQUIPMENT REMOVAL THE CSS SHALL FIELD VERIFY ALL FIELD TERMINATION LOCATIONS AND CONFIRM ROUTING OF CONDUCTORS. NEW TERMINAL LOCATIONS SHALL MATCH EXISTING TERMINATION LOCATIONS. NO SPLICES ARE ALLOWED. CONFIRM ALL PANEL MEASUREMENTS AND CONNECTION POINTS.
2. EXISTING WTP PLC CONTROL PANEL. REMOVE SIDE PANELS, IDENTIFY AND LABEL ALL FIELD CONDUCTORS.
3. EXISTING WTP PLC CONTROL PANEL. REMOVE REAR PANEL, IDENTIFY AND LABEL ALL FIELD CONDUCTORS.
4. EXISTING COMMUNICATIONS EQUIPMENT. REMOVE EXISTING RADIO, LIGHTNING ARRESTOR (LA) AND PATCH PANEL (PP) TERMINATION ENCLOSURES AND RELOCATE TO NEW PANELS AFTER ON SITE COMMUNICATIONS VERIFICATION TEST IS COMPLETE.
5. EXISTING ETHERNET SWITCH FIELD VERIFY AND LABEL ALL ETHERNET CONNECTIONS PRIOR TO REMOVAL.
6. EXISTING FLOWMETERS. FURNISH AND INSTALL NEW CONDUCTORS FROM FLOWMETERS TO BACK PANEL LOCATIONS.
7. RECONNECT PANEL DOOR SWITCH, AND VENTILATION CIRCUITS AS REQUIRED.
8. REPLACE EXISTING LIGHT WITH NEW LIGHT AND SWITCH.
9. COORDINATE SHUTDOWN AND SWITCHOVER SCHEDULE WITH THE OWNER. NEW EQUIPMENT SHALL BE VERIFIED AND FUNCTIONAL ON SITE PRIOR TO REPLACEMENT. REFERENCE SECTION 13320.
10. COORDINATE REMOVAL/DELIVERY OF EXISTING EQUIPMENT WITH OWNER.



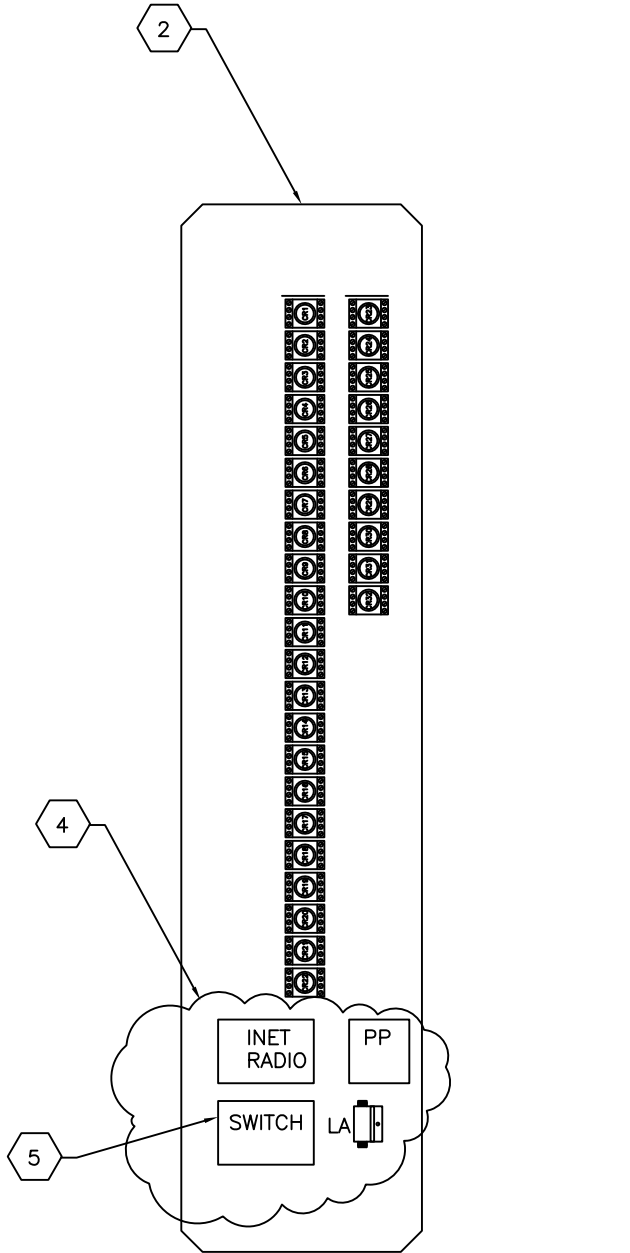
FRONT ELEVATION



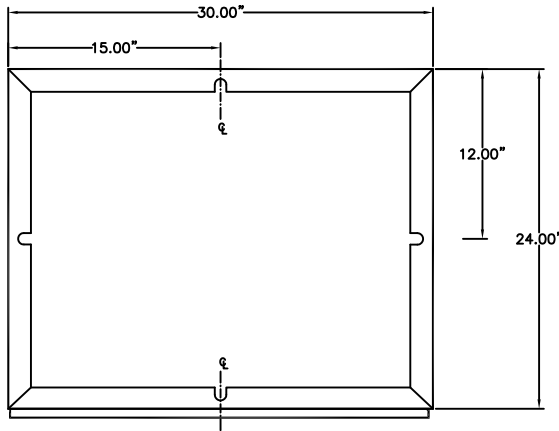
INNER LEFT SIDE LAYOUT



BACKPAN LAYOUT  
(SHOWN WITH OUTER DOOR REMOVED)



INNER RIGHT SIDE LAYOUT



BASE PLAN

REV	DATE	BY	DESCRIPTION
1			



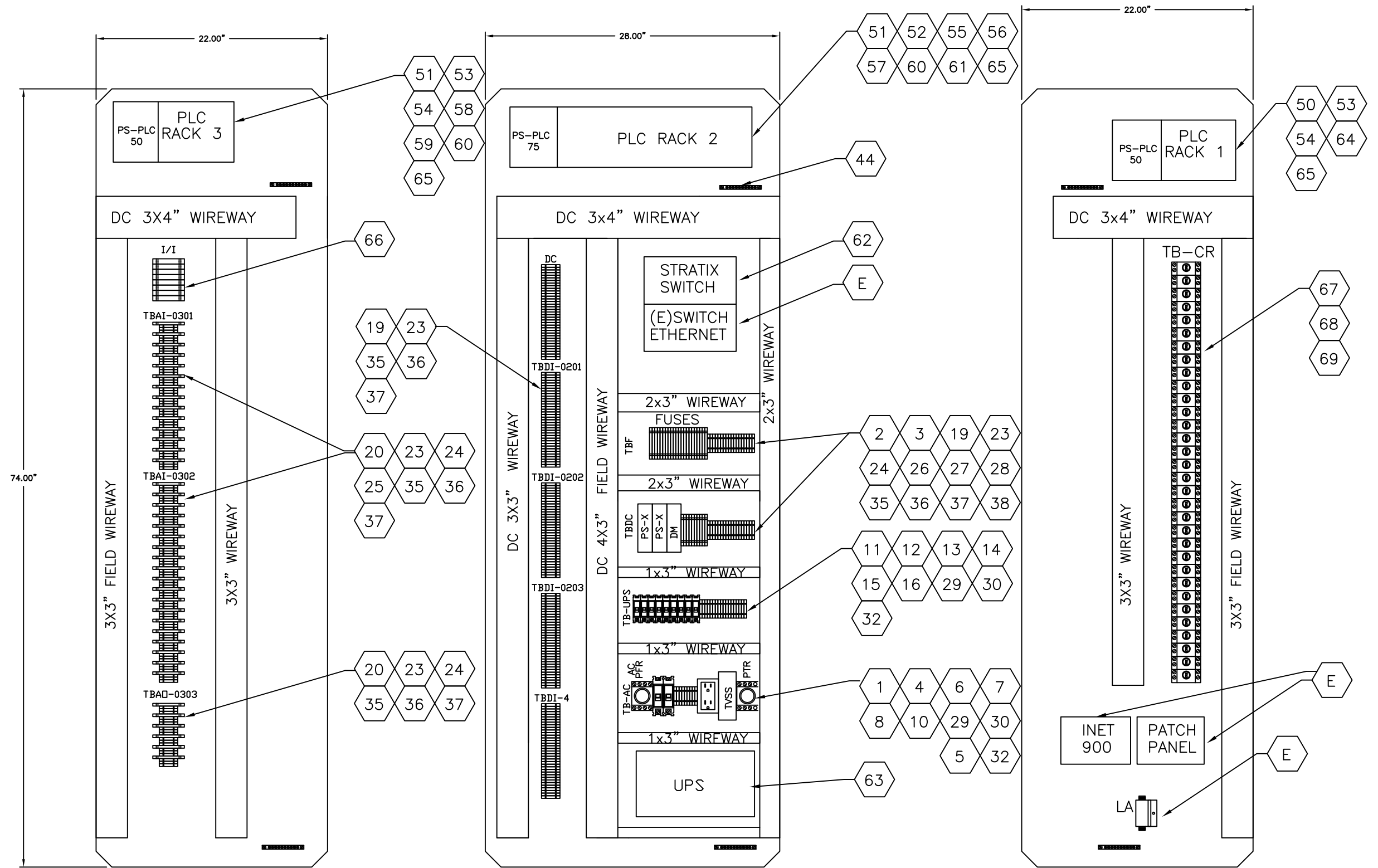
**JSP**  
AUTOMATION  
405 20th STREET  
SACRAMENTO, CA 95816  
TEL # (916) 448-3776  
FAX # (916) 448-3778  
email:jspautomation@sbcglobal.net

WATER TREATMENT PLANT  
PLC CONTROL PANEL  
EXISTING ELEVATION DEMOLITION

ELK GROVE WATER DISTRICT  
RAILROAD WTP AND STORAGE TANK  
PLC UPGRADE PROJECT

DATE	DESIGN BY	DRAWN BY	CHK'D BY	SHEET #	DRAWING #
03/01/24	JSP	QSP		7 OF 43	1-2

(X) BILL OF MATERIAL TIMES  
(E) EXISTING ITEM RELOCATED



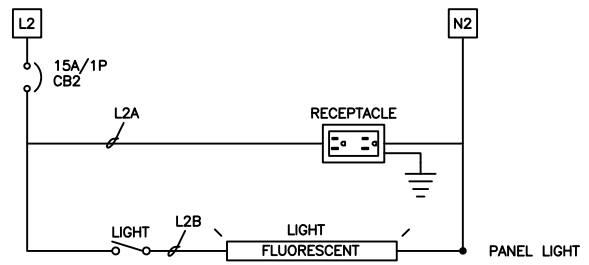
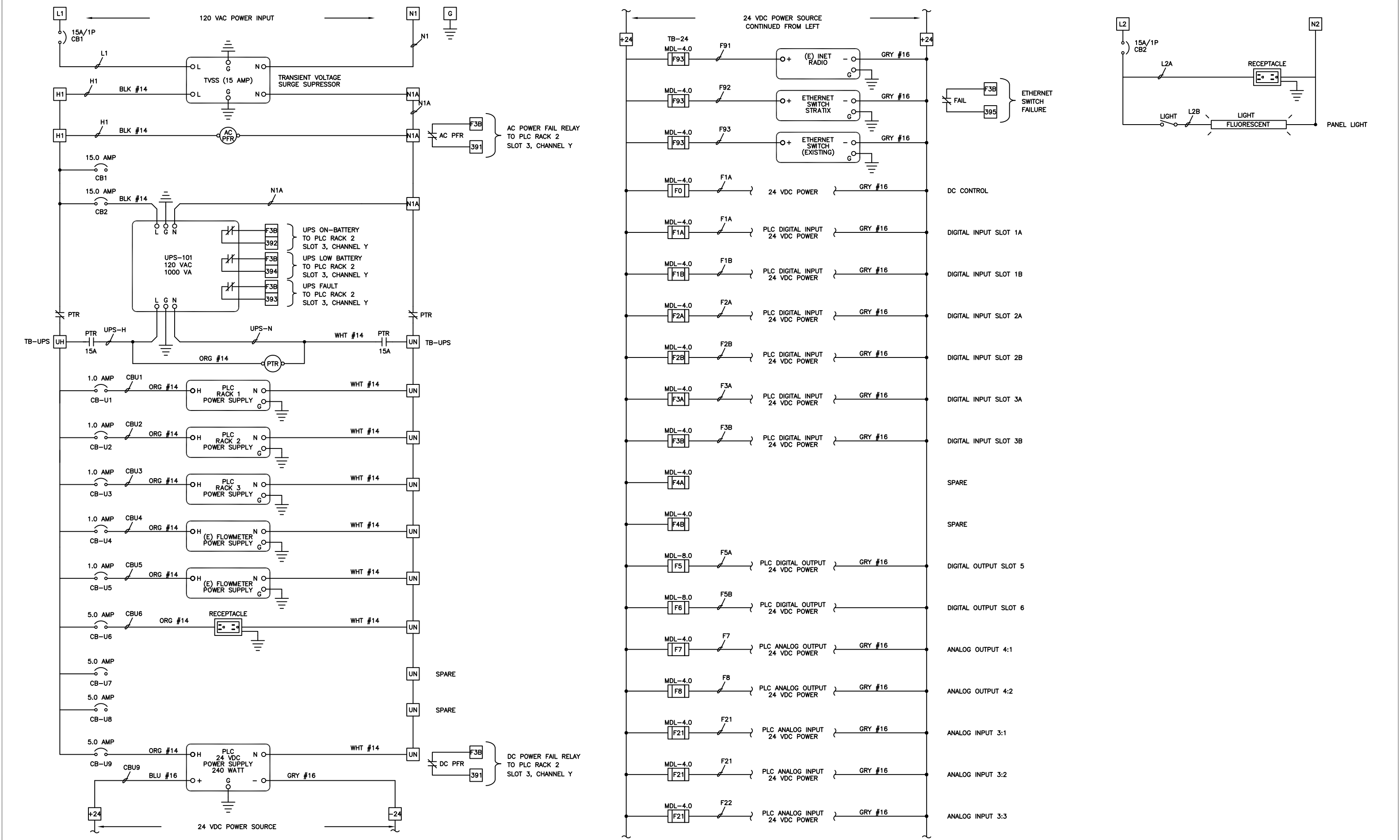
INNER LEFT SIDE LAYOUT

BACKPAN LAYOUT

INNER RIGHT SIDE LAYOUT

NEW CONTROL INTERIOR PANEL LAYOUT ELEVATION

REV					<b>JSP</b> AUTOMATION 405 20th STREET SACRAMENTO, CA 95816 TEL # (916) 448-3776 FAX # (916) 448-3778 email: jspautomation@scglobal.net	WATER TREATMENT PLANT PLC CONTROL PANEL ELEVATION	ELK GROVE WATER DISTRICT RAILROAD WTP AND STORAGE TANK PLC UPGRADE PROJECT					
	DATE	BY	DESCRIPTION				DATE	DESIGN BY	DRAWN BY	CHK'D BY	SHEET #	DRAWING #
	03/01/24	JSP					03/01/24	JSP	QSP		8 OF 43	1-3

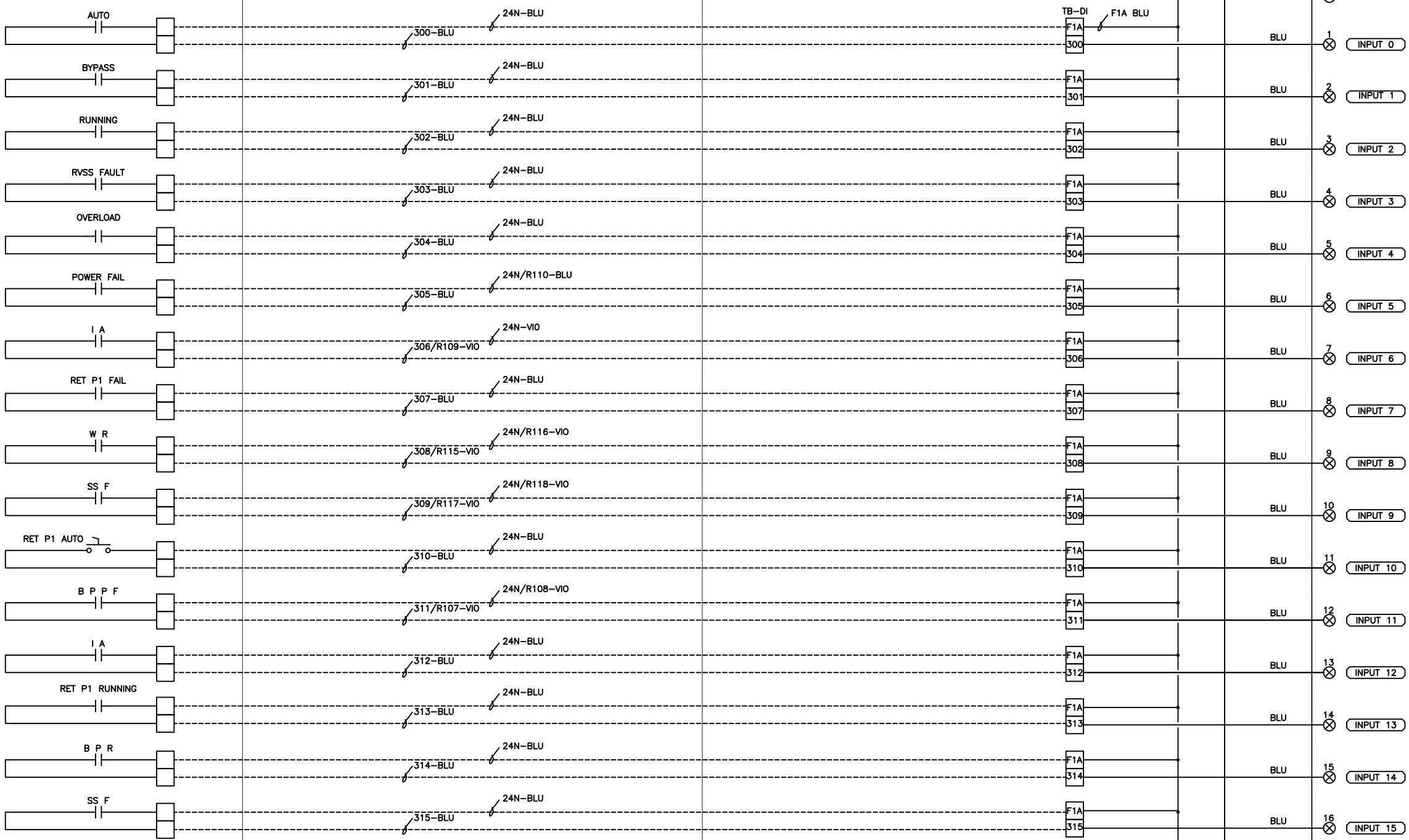


1 EXISTING MOTOR CONTROL CENTER

2 EXISTING FIELD WIRING

CONTROL LOGIX PROGRAMMABLE LOGIC CONTROLLER  
TREATMENT PLANT PLC PANEL

- NOTES:
- EXISTING MOTOR CONTROL CENTER. THE CSS SHALL FIELD VERIFY ALL SOURCE CONNECTIONS PRIOR TO TERMINATION AT THE CONTROL PANEL.
  - EXISTING FIELD WIRING. THE CSS SHALL FIELD VERIFY ALL EXISTING FIELD WIRE TERMINATIONS AND MODIFY/UPDATE DRAWINGS AS REQUIRED PRIOR TO SYSTEM REMOVAL AND SWITCHOVER.



REV	DATE	BY	DESCRIPTION
1			
2			
3			
4			



**JSP**  
AUTOMATION  
405 30th STREET  
SACRAMENTO, CA 95816  
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FAX# (916) 448-3778  
email: jspautomation@sbcglobal.net

WATER TREATMENT PLANT  
PLC CONTROL PANEL  
DIGITAL INPUT WIRING DIAGRAM

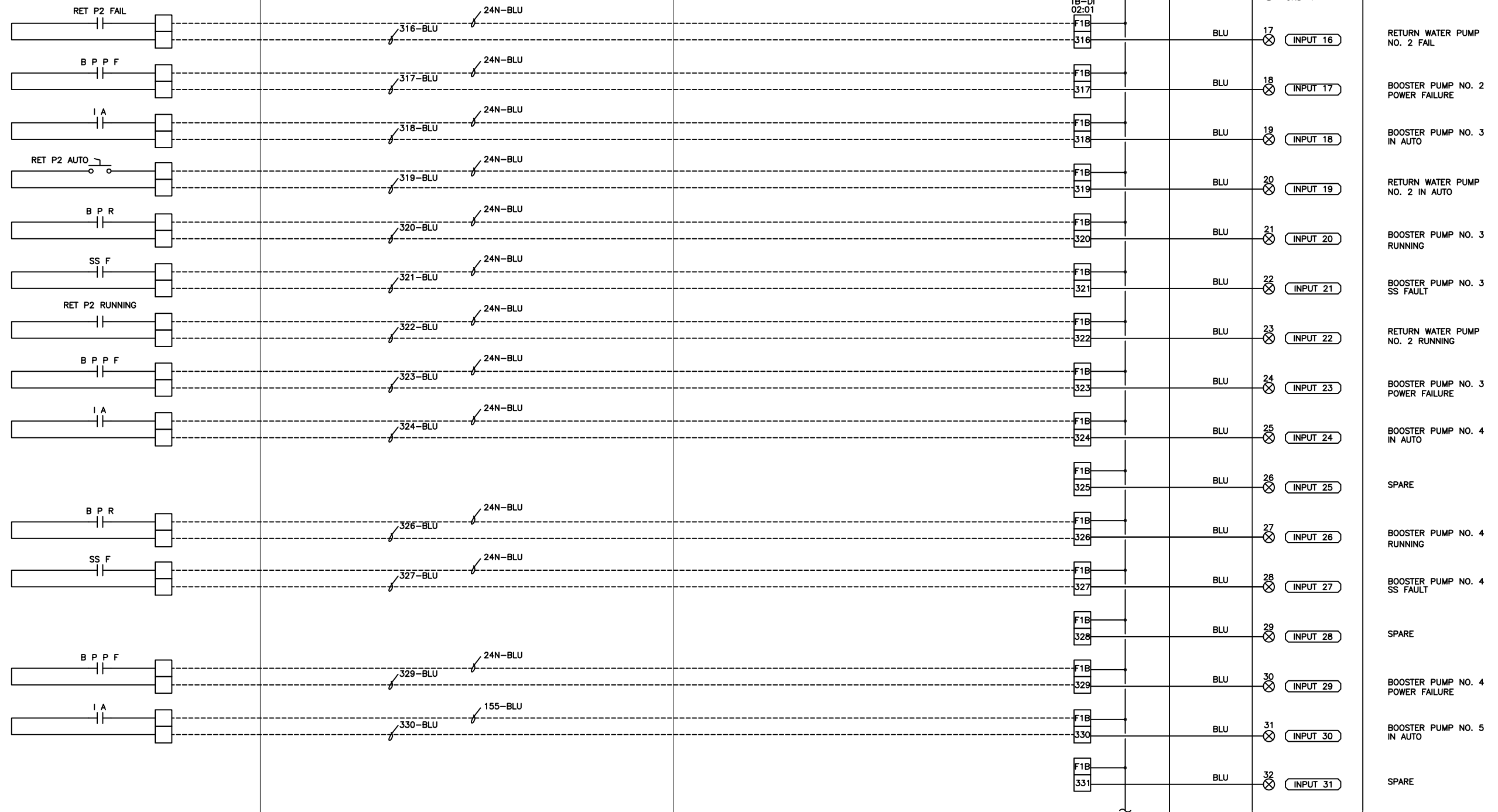
ELK GROVE WATER DISTRICT  
RAILROAD WTP AND STORAGE TANK  
PLC UPGRADE PROJECT

DATE	DESIGN BY	DRAWN BY	CHK'D BY	SHEET #	DRAWING #
03/01/24	JSP	QSP		10 OF 43	I-5



CONTROL LOGIX PROGRAMMABLE LOGIC CONTROLLER  
TREATMENT PLANT PLC PANEL

1. EXISTING MOTOR CONTROL CENTER. THE CSS SHALL FIELD VERIFY ALL SOURCE CONNECTIONS PRIOR TO TERMINATION AT THE CONTROL PANEL.
2. EXISTING FIELD WIRING. THE CSS SHALL FIELD VERIFY ALL EXISTING FIELD WIRE TERMINATIONS AND MODIFY/UPDATE DRAWINGS AS REQUIRED PRIOR TO SYSTEM REMOVAL AND SWITCHOVER.



1 EXISTING MOTOR CONTROL CENTER

2 EXISTING FIELD WIRING

CONTROL LOGIX PROGRAMMABLE LOGIC CONTROLLER  
TREATMENT PLANT PLC PANEL

X NOTES:

- EXISTING MOTOR CONTROL CENTER. THE CSS SHALL FIELD VERIFY ALL SOURCE CONNECTIONS PRIOR TO TERMINATION AT THE CONTROL PANEL.
- EXISTING FIELD WIRING. THE CSS SHALL FIELD VERIFY ALL EXISTING FIELD WIRE TERMINATIONS AND MODIFY/UPDATE DRAWINGS AS REQUIRED PRIOR TO SYSTEM REMOVAL AND SWITCHOVER.



REV	DATE	BY	DESCRIPTION



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WATER TREATMENT PLANT  
PLC CONTROL PANEL  
DIGITAL INPUT WIRING DIAGRAM

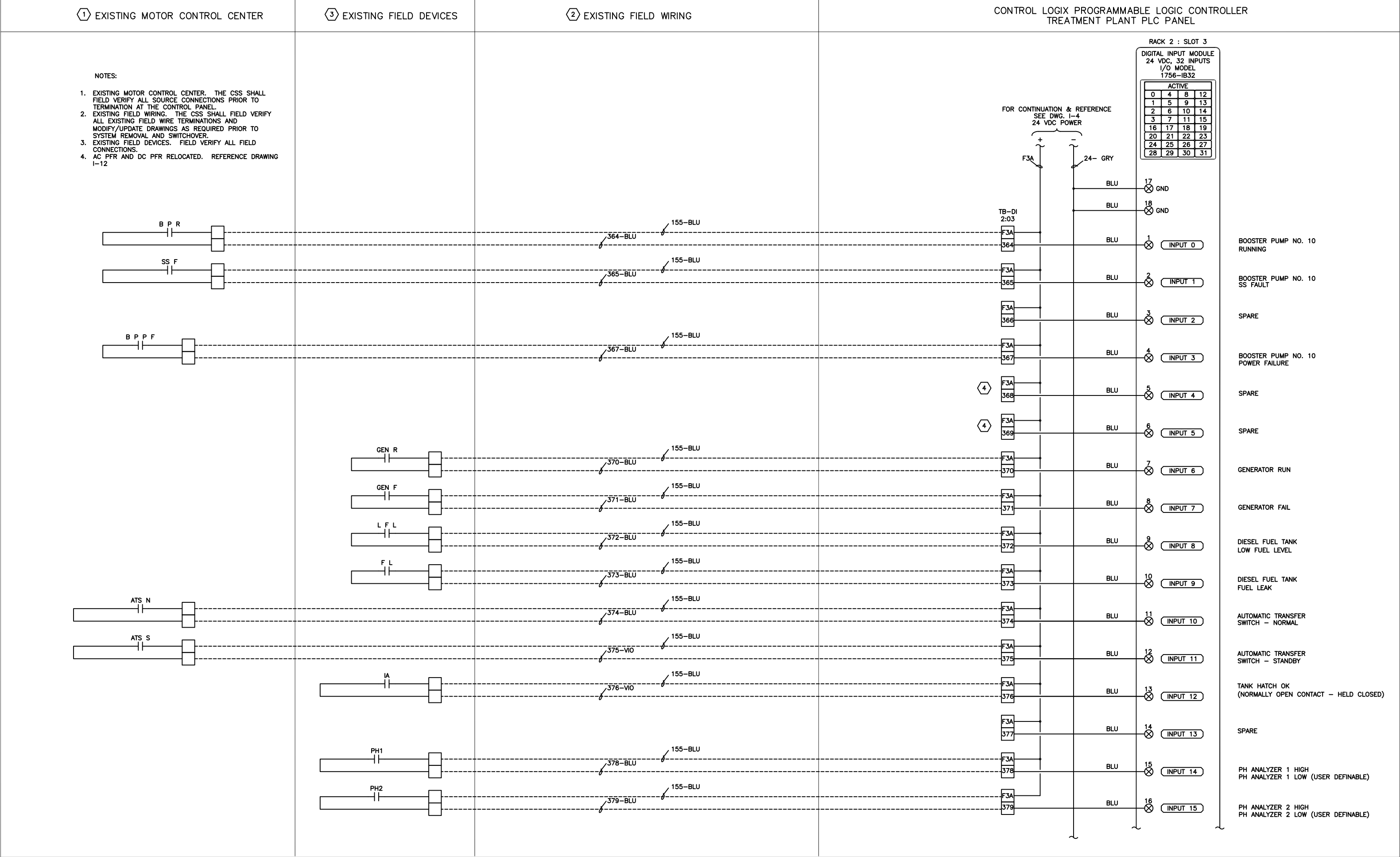
ELK GROVE WATER DISTRICT  
RAILROAD WTP AND STORAGE TANK  
PLC UPGRADE PROJECT

DATE	DESIGN BY	DRAWN BY	CHK'D BY	SHEET #	DRAWING #
03/01/24	JSP	QSP		12 OF 43	I-7

CONTROL LOGIX PROGRAMMABLE LOGIC CONTROLLER  
TREATMENT PLANT PLC PANEL

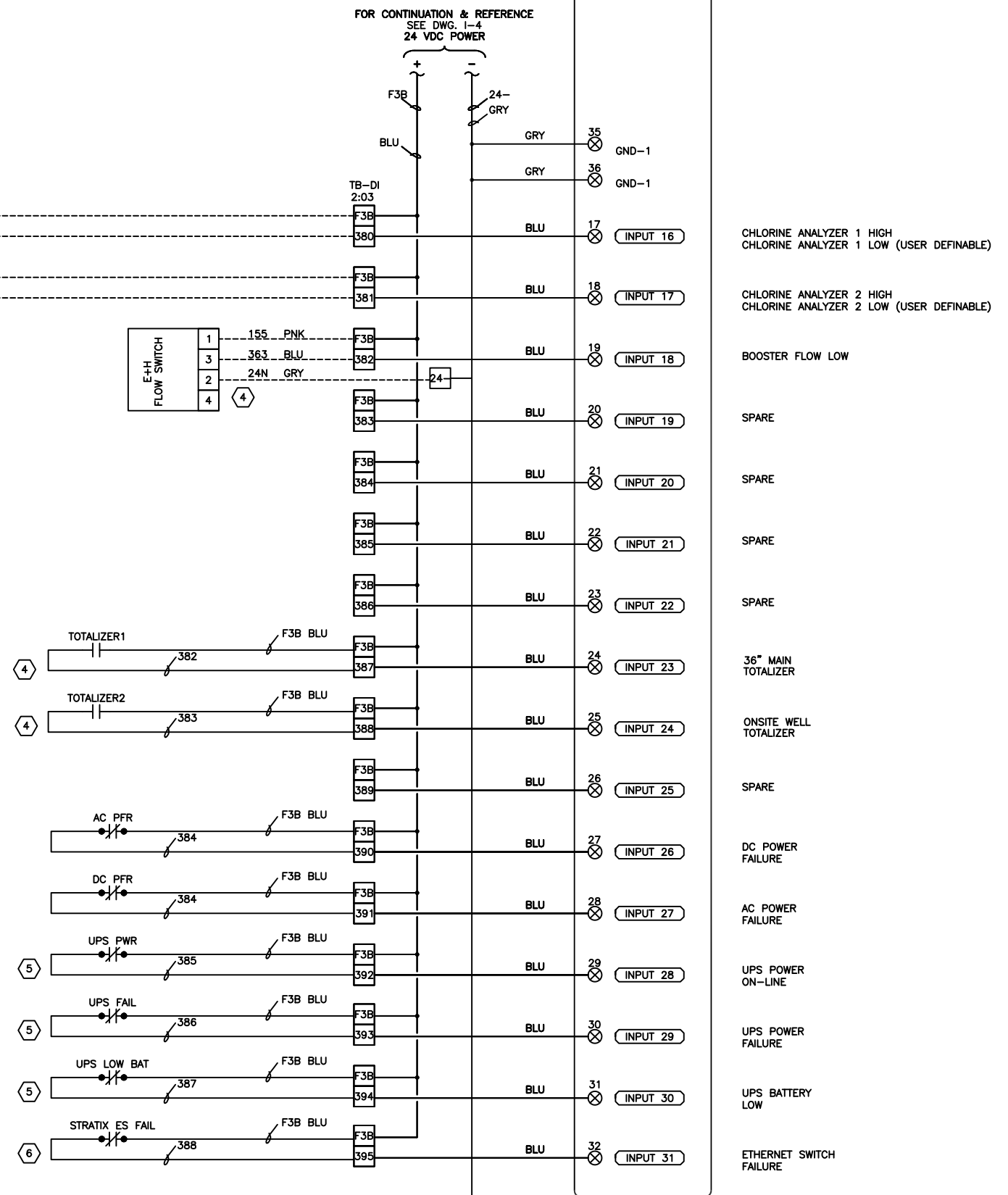
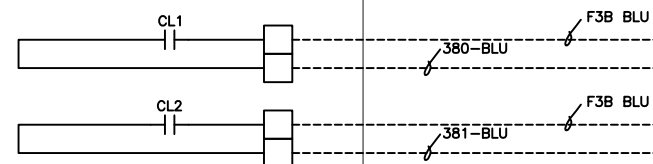
1. EXISTING MOTOR CONTROL CENTER. THE CSS SHALL FIELD VERIFY ALL SOURCE CONNECTIONS PRIOR TO TERMINATION AT THE CONTROL PANEL.
2. EXISTING FIELD WIRING. THE CSS SHALL FIELD VERIFY ALL EXISTING FIELD WIRE TERMINATIONS AND MODIFY/UPDATE DRAWINGS AS REQUIRED PRIOR TO SYSTEM REMOVAL AND SWITCHOVER.
3. UNVERIFIED I/O TERMINATION. FIELD INVESTIGATE AND MODIFY/UPDATE DRAWING AS REQUIRED.
4. FLOW SWITCH CONNECTION REWIRE FLOW SWITCH AND RELABEL WIRES.





CONTROL LOGIX PROGRAMMABLE LOGIC CONTROLLER  
TREATMENT PLANT PLC PANEL

1. EXISTING MOTOR CONTROL CENTER. THE CSS SHALL FIELD VERIFY ALL SOURCE CONNECTIONS PRIOR TO TERMINATION AT THE CONTROL PANEL.
2. EXISTING FIELD WIRING. THE CSS SHALL FIELD VERIFY ALL EXISTING FIELD WIRE TERMINATIONS AND MODIFY/UPDATE DRAWINGS AS REQUIRED PRIOR TO SYSTEM REMOVAL AND SWITCHOVER.
3. EXISTING FIELD DEVICES. FIELD VERIFY ALL FIELD CONNECTIONS.
4. EXISTING PANEL MOUNTED FLOWMETER. REWIRE, TERMINATE AND RELABEL CONDUCTORS AND CONFIRM UTILIZER OPERATION.
5. UPS STATUS. CONFIRM CONTACT ARRANGEMENT AND PROVIDE INTERPOSING RELAYS AS REQUIRED.
6. NEW I/O POINT ADDED FOR ALARM MONITORING.



REV	DATE	BY	DESCRIPTION



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# WATER TREATMENT PLANT PLC CONTROL PANEL DIGITAL INPUT WIRING DIAGRAM

ELK GROVE WATER DISTRICT  
RAILROAD WTP AND STORAGE TANK  
PLC UPGRADE PROJECT

DATE	DESIGN BY	DRAWN BY	CHK'D BY	SHEET #	DRAWING #
03/01/24	JSP	QSP		15 OF 43	I-10

EXISTING FIELD WIRING

DEAD-FRONT

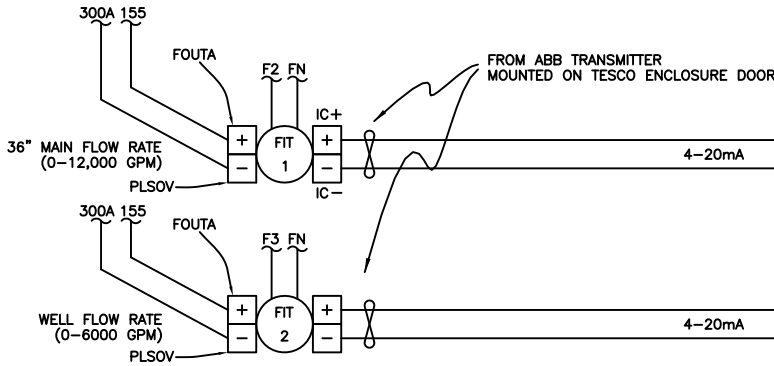
CONTROL LOGIX PROGRAMMABLE LOGIC CONTROLLER  
TREATMENT PLANT PLC PANEL



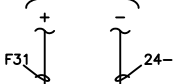
NOTES:

1. FURNISH SOURCE POWER FUSEBLOCK FOR ALL ANALOG INPUT CHANNELS TYPICAL FOR ALL ANALOG INPUTS.
2. FURNISH DISCONNECTING TERMINAL BLOCK ON ALL ANALOG INPUT (+) CONNECTIONS TYPICAL FOR ALL ANALOG INPUTS.
3. TERMINATE SHIELD AT DEDICATED ANALOG GROUNDING TERMINAL TYPICAL FOR ALL ANALOG INPUTS.
4. ANALOG INPUT WIRING TO BE #18 TSP TYPICAL FOR ALL ANALOG INPUTS.

SEE DWG. 27941-3



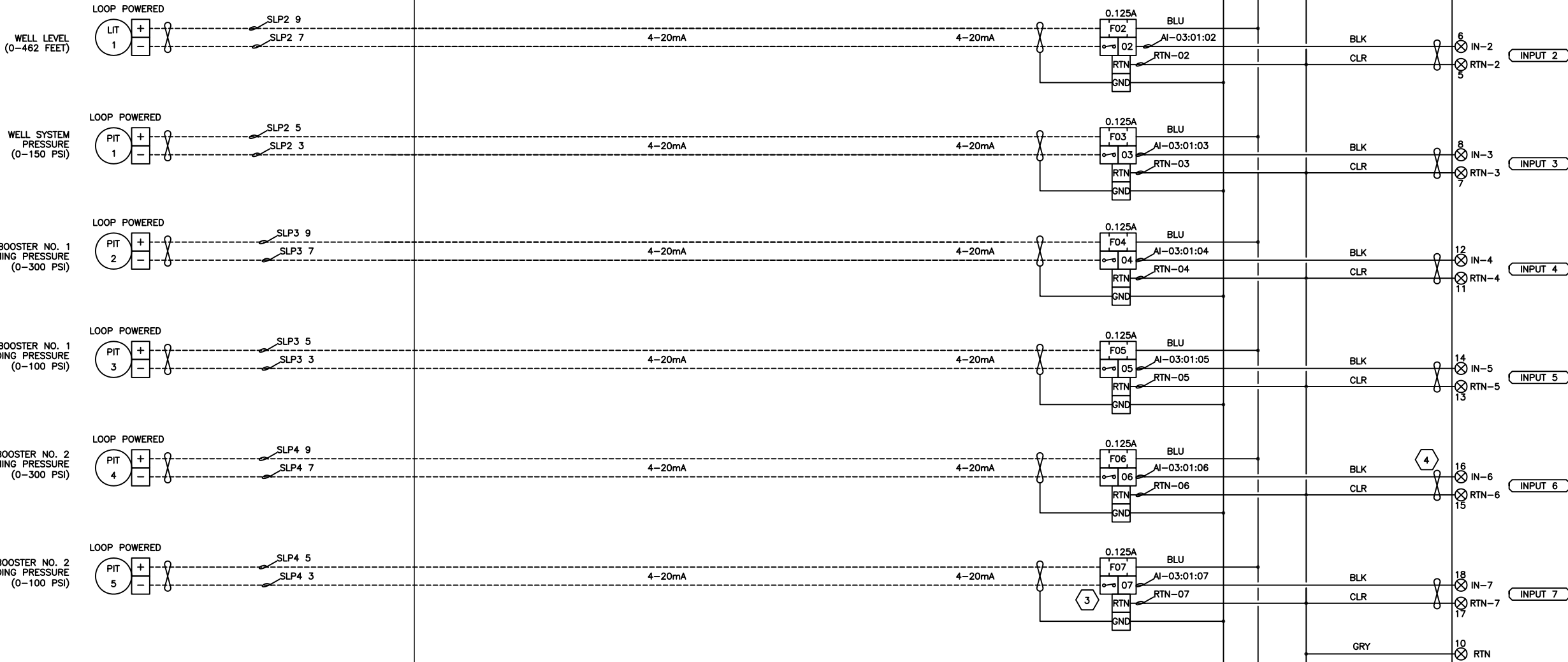
FOR CONTINUATION & REFERENCE  
SEE DWG. 1-4  
24 VDC POWER



RACK 3 : SLOT 1

ANALOG INPUT MODULE  
24 VDC, 32 INPUTS  
I/O MODEL  
1756-IF16

ACTIVE			
0	4	8	12
1	5	9	13
2	6	10	14
3	7	11	15
16	17	18	19
20	21	22	23
24	25	26	27
28	29	30	31



REV	DATE	BY	DESCRIPTION
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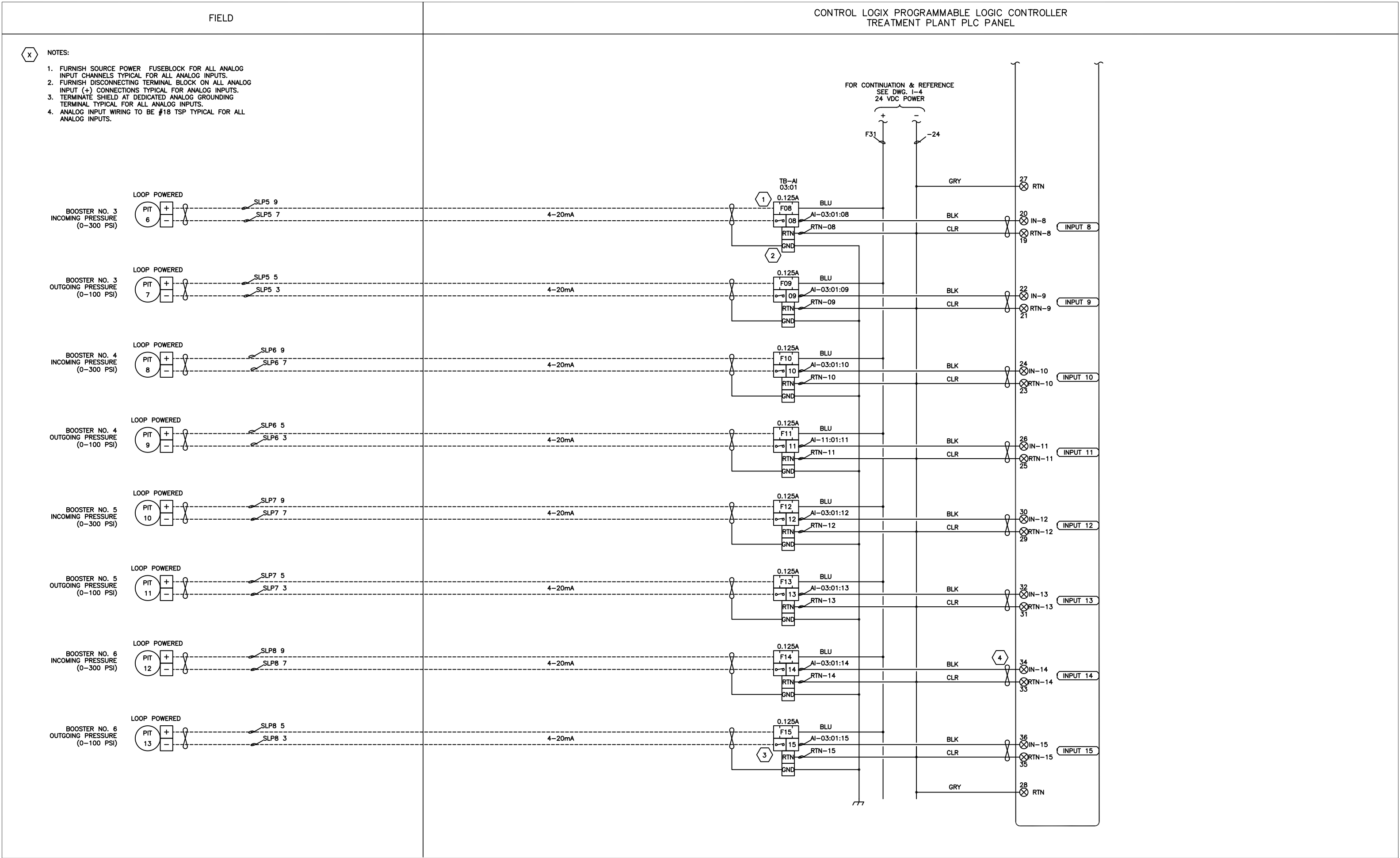


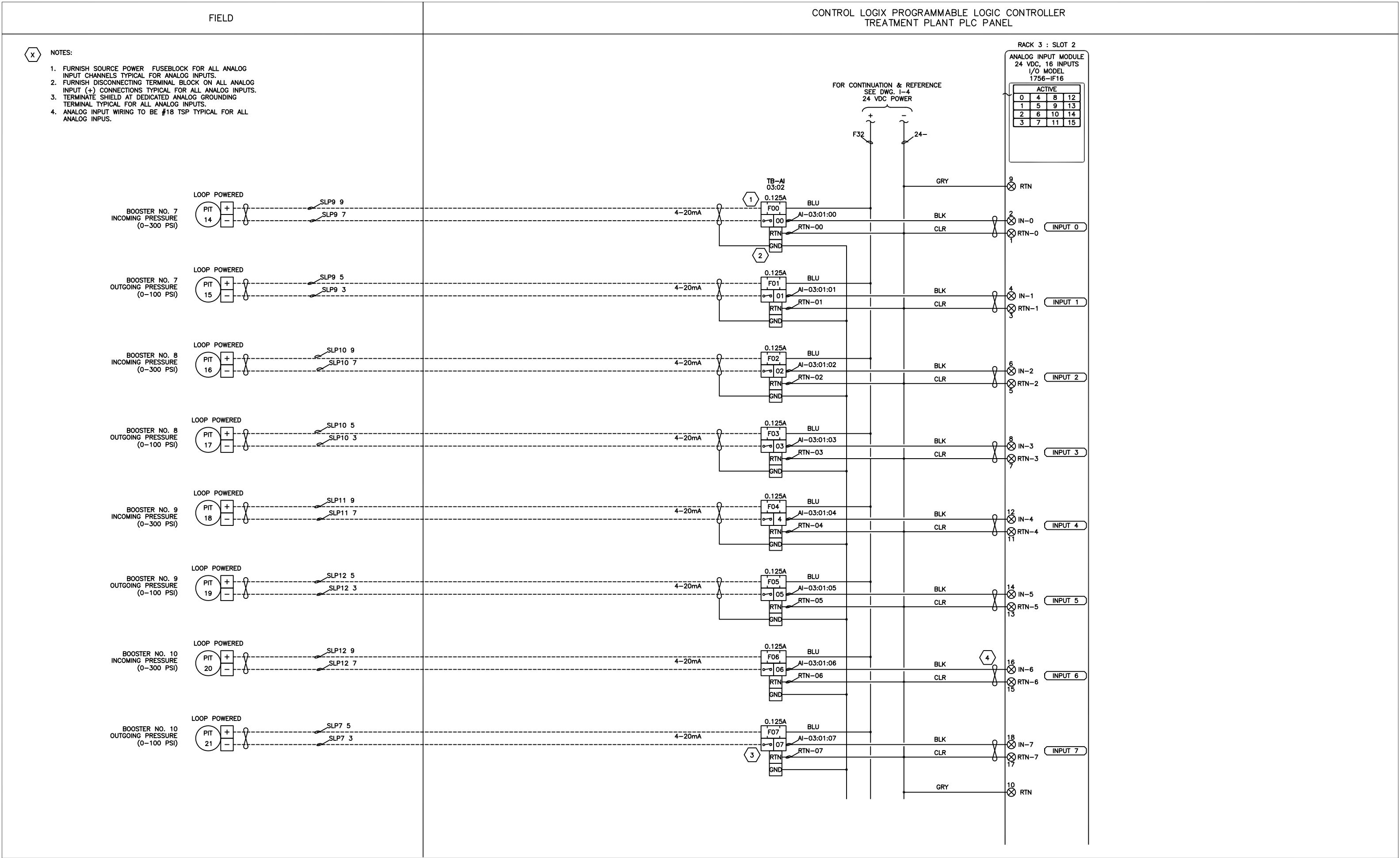
**JSP**  
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FAX # (916) 448-3778  
email: jspautomation@sbglobal.net

WATER TREATMENT PLANT  
PLC CONTROL PANEL  
ANALOG INPUT WIRING DIAGRAM

ELK GROVE WATER DISTRICT  
RAILROAD WTP AND STORAGE TANK  
PLC UPGRADE PROJECT

DATE	DESIGN BY	DRAWN BY	CHK'D BY	SHEET #	DRAWING #
03/01/24	JSP	QSP		16 OF 43	I-11

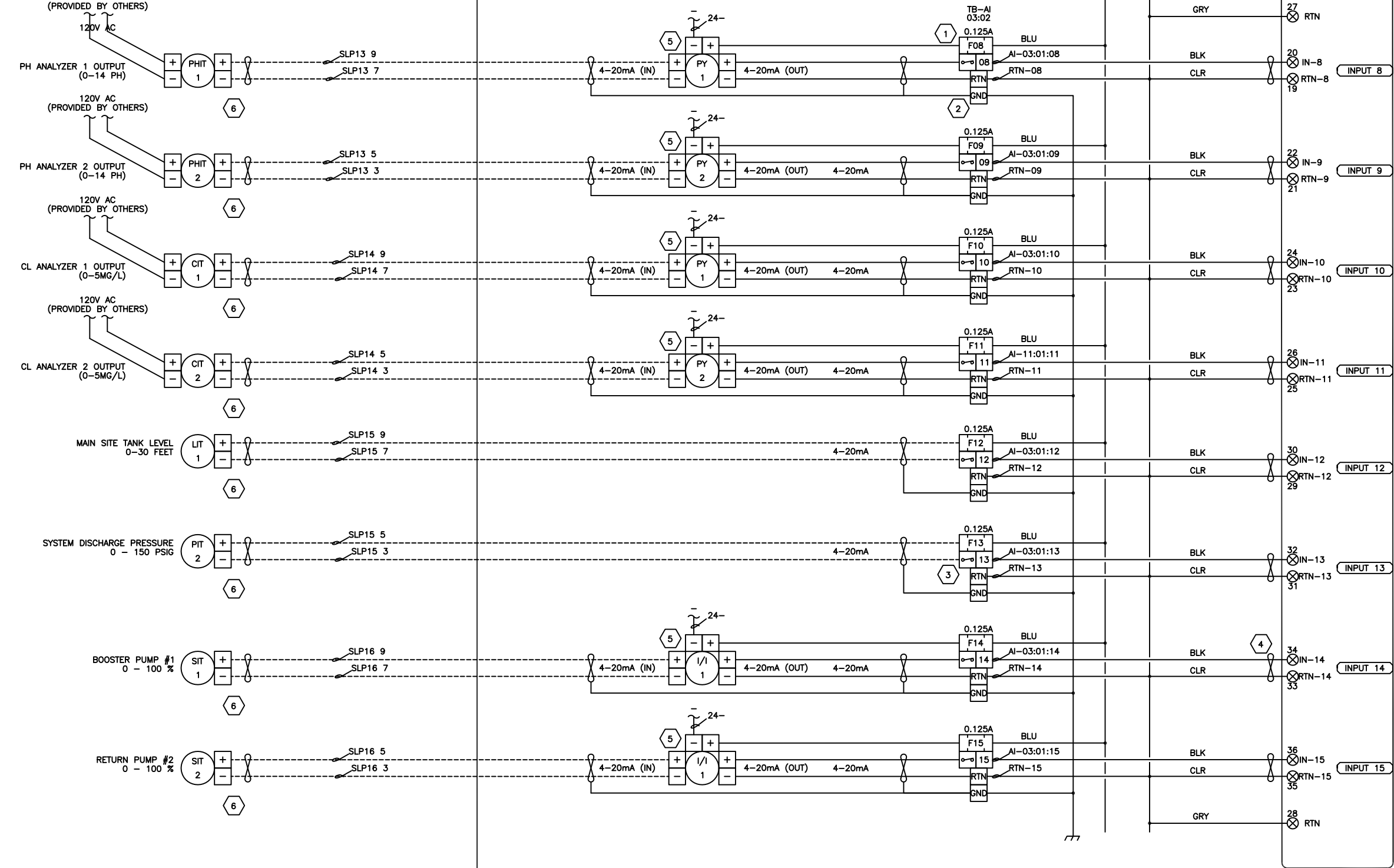






- NOTES:
- 1. FURNISH SOURCE POWER FUSEBLOCK FOR ALL ANALOG INPUT CHANNELS TYPICAL FOR ALL ANALOG INPUTS.
  - 2. FURNISH DISCONNECTING TERMINAL BLOCK ON ALL ANALOG INPUT (+) CONNECTIONS TYPICAL FOR ALL ANALOG INPUTS.
  - 3. TERMINATE SHIELD AT DEDICATED ANALOG GROUNDING TERMINAL TYPICAL FOR ALL ANALOG INPUTS.
  - 4. ANALOG INPUT WIRING TO BE #18 TSP TYPICAL FOR ALL ANALOG INPUTS.
  - 5. PROVIDE LOOP ISOLATOR. CONFIRM SIGNAL OUTPUT AND ISOLATE/CONVERT AS REQUIRED.
  - 6. IN ADDITION TO PROCESS CONTROL LOGIC SECTION 13370 APPENDIX A.

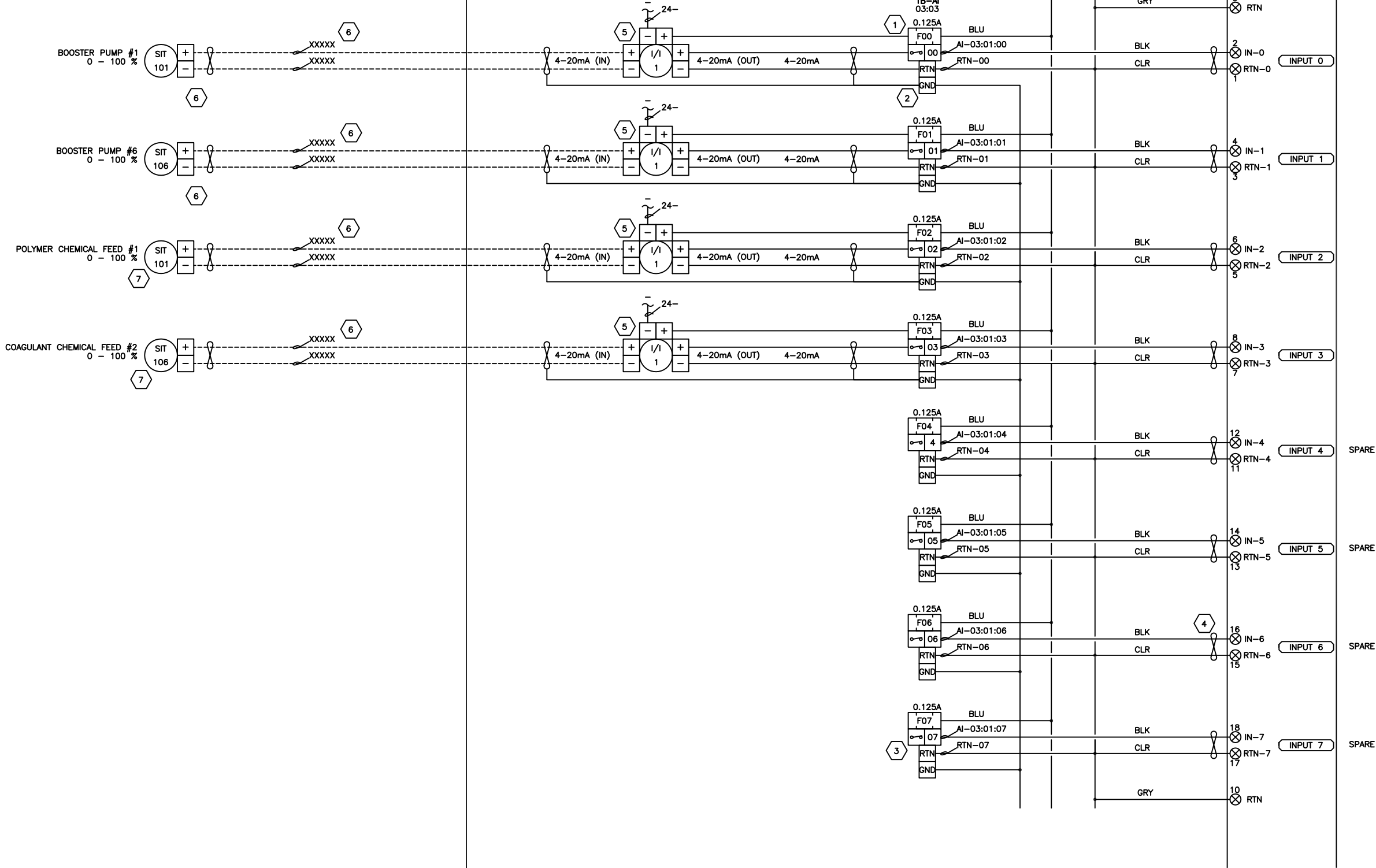
FOR CONTINUATION & REFERENCE  
SEE DWG. I-4  
24 VDC POWER



X

NOTES:

1. FURNISH SOURCE POWER FUSEBLOCK FOR ALL ANALOG INPUT CHANNELS TYPICAL FOR ALL ANALOG INPUTS.
2. FURNISH DISCONNECTING TERMINAL BLOCK ON ALL ANALOG INPUT (+) CONNECTIONS TYPICAL FOR ALL ANALOG INPUTS.
3. TERMINATE SHIELD AT DEDICATED ANALOG GROUNDING TERMINAL TYPICAL FOR ALL ANALOG INPUTS.
4. ANALOG INPUT WIRING TO BE #18 TSP TYPICAL FOR ALL ANALOG INPUTS.
5. SIGNAL LOOP ISOLATORS. FURNISH AND INSTALL AS REQUIRED
6. UNCONFIRMED FIELD WIRE CONNECTION. FIELD VERIFY AND UPDATE DRAWING AS REQUIRED.
7. UNCONFIRMED SIGNAL INPUT. FIELD VERIFY AND MODIFY DRAWING AS REQUIRED. ASSUME ANALOG IN MODULE FUNCTIONALITY FOR PROGRAM DEVELOPMENT.



RACK 3 : SLOT 3

ANALOG INPUT MODULE  
24 VDC, 16 INPUTS  
I/O MODEL  
1756-IF16

ACTIVE			
0	4	8	12
1	5	9	13
2	6	10	14
3	7	11	15

FOR CONTINUATION & REFERENCE  
SEE DWG. 1-4  
24 VDC POWER

F33

24-

GRY

BLK

CLR

BLK

CLR

BLK

CLR

BLK

CLR

BLK

CLR

BLK

CLR

BLK

CLR

BLK

CLR

GRY

SPARE

SPARE

SPARE

SPARE

REV	DATE	BY	DESCRIPTION
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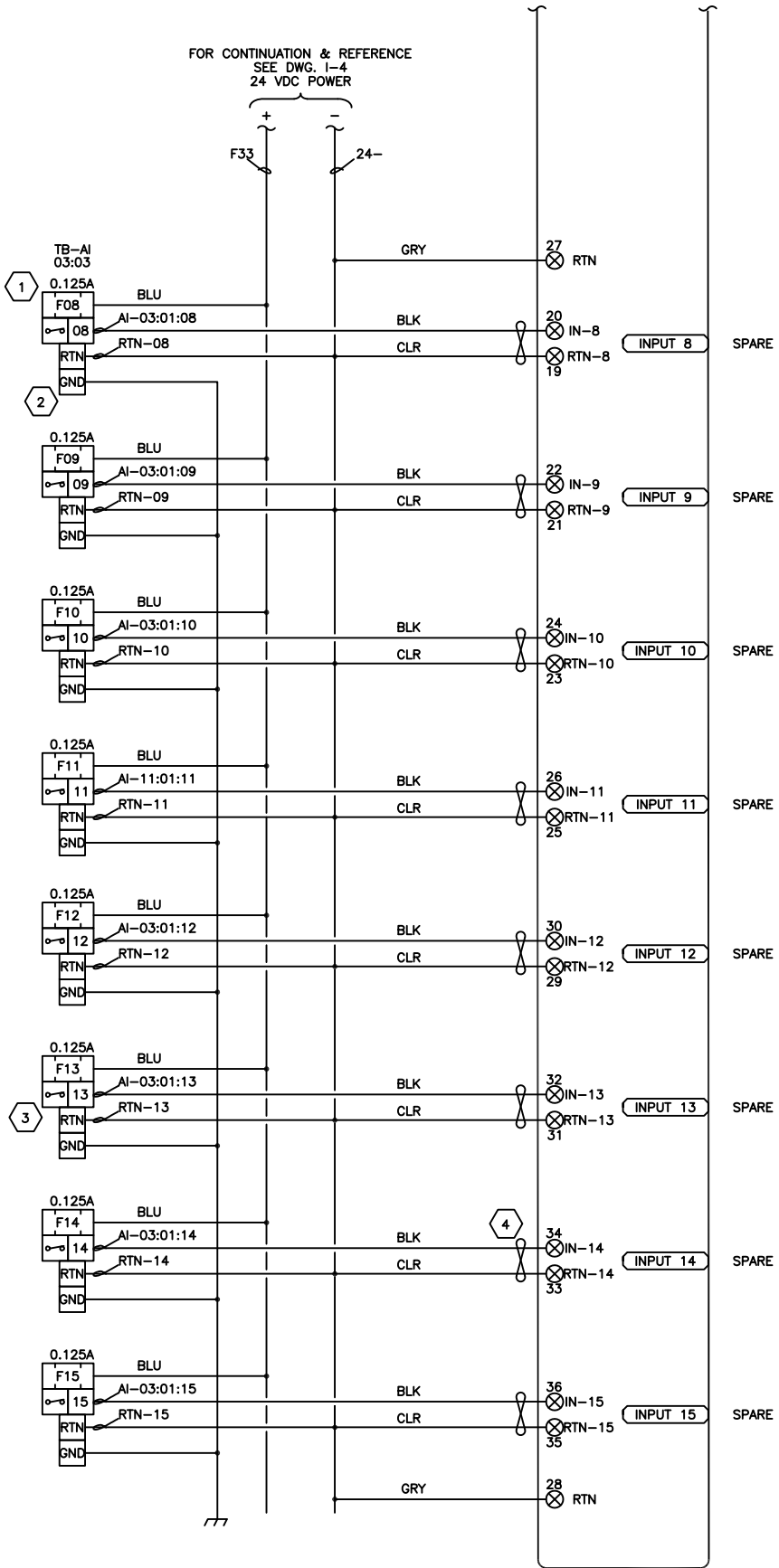
**JSP**  
AUTOMATION  
405 30th STREET  
SACRAMENTO, CA 95816  
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FAX# (916) 448-3778  
email: jspautomation@sbglobal.net

WATER TREATMENT PLANT  
PLC CONTROL PANEL  
ANALOG INPUT WIRING DIAGRAM

ELK GROVE WATER DISTRICT  
RAILROAD WTP AND STORAGE TANK  
PLC UPGRADE PROJECT

DATE	DESIGN BY	DRAWN BY	CHK'D BY	SHEET #	DRAWING #
03/01/24	JSP	QSP		20 OF 43	I-15

- NOTES:
1. FURNISH SOURCE POWER FUSEBLOCK FOR ALL ANALOG INPUT CHANNELS TYPICAL FOR ALL ANALOG INPUTS.
  2. FURNISH DISCONNECTING TERMINAL BLOCK ON ALL ANALOG INPUT (+) CONNECTIONS TYPICAL FOR ALL ANALOG INPUTS.
  3. TERMINATE SHIELD AT DEDICATED ANALOG GROUNDING TERMINAL TYPICAL FOR ALL ANALOG INPUTS.
  4. ANALOG INPUT WIRING TO BE #18 TSP TYPICAL FOR ALL ANALOG INPUTS.



- RACK 3 : SLOT 4

**ANALOG OUTPUT MODULE**  
 24 VDC, 16 INPUTS  
 I/O MODEL  
 1756-OF6CI

ACTIVE	
0	4
1	5
2	6

OUTPUT 0      OUT-0 ⊗  
                   RTN-0 ⊗

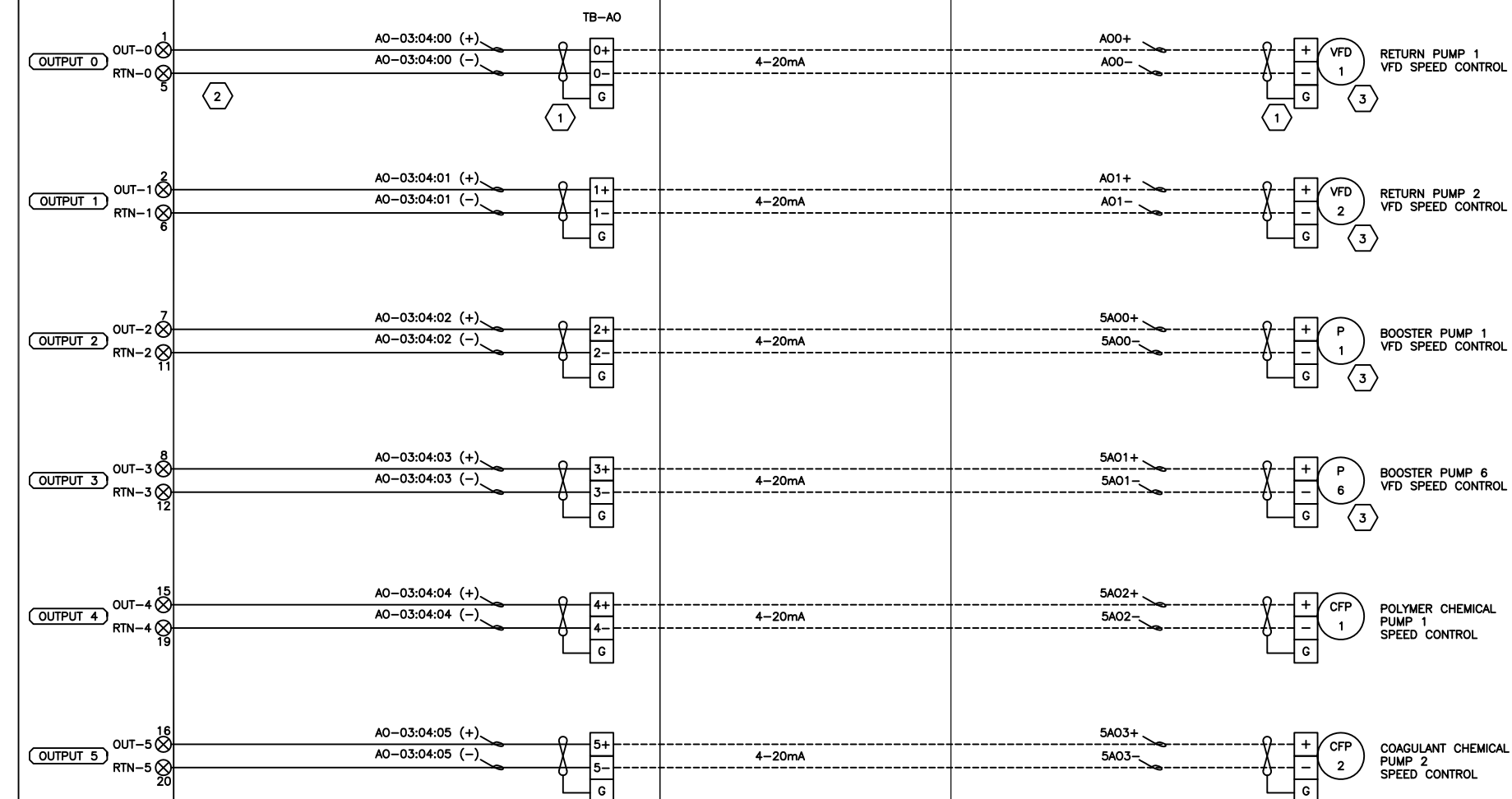
OUTPUT 1      OUT-1 ⊗  
                   RTN-1 ⊗

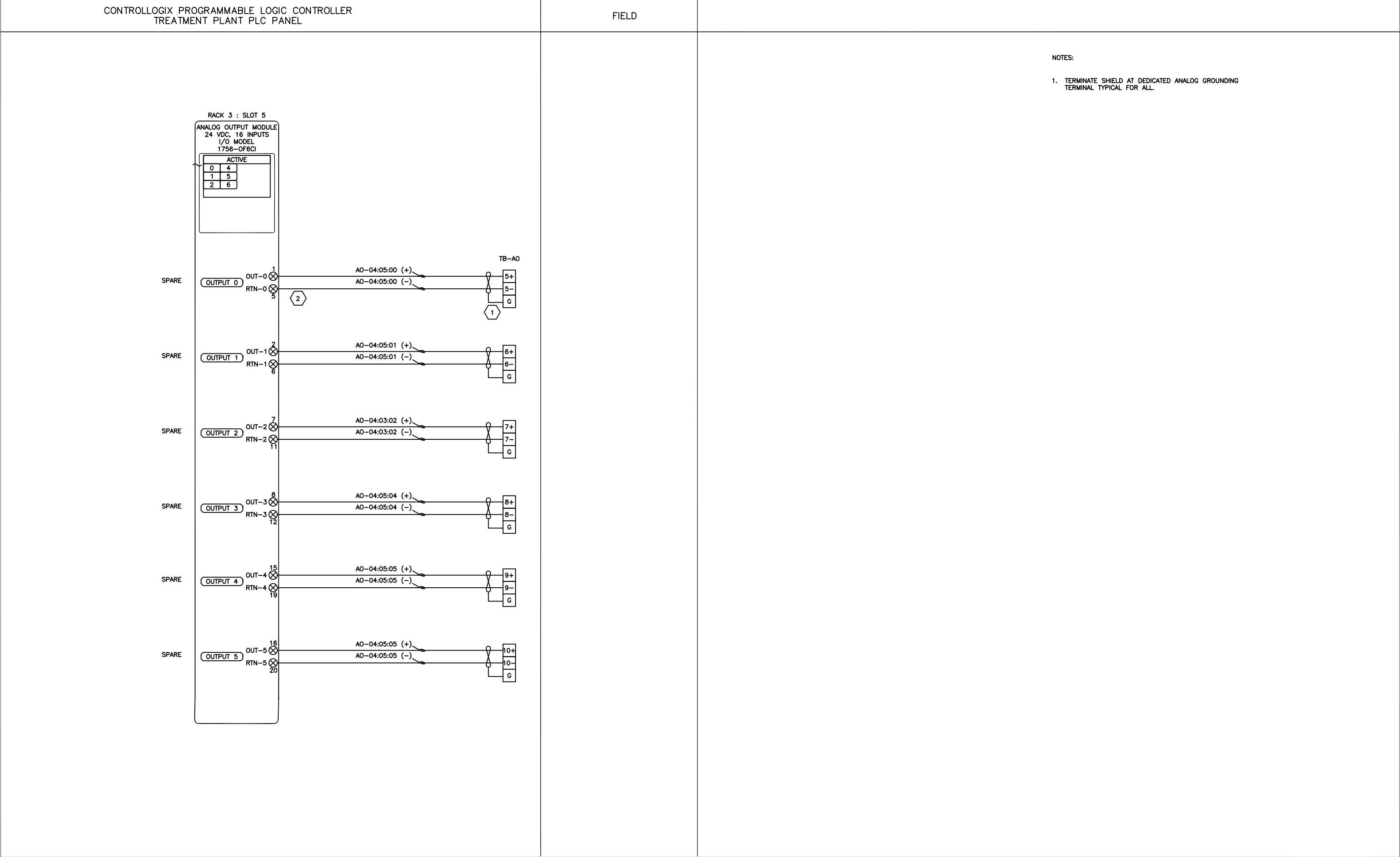
OUTPUT 2      OUT-2 ⊗  
                   RTN-2 ⊗

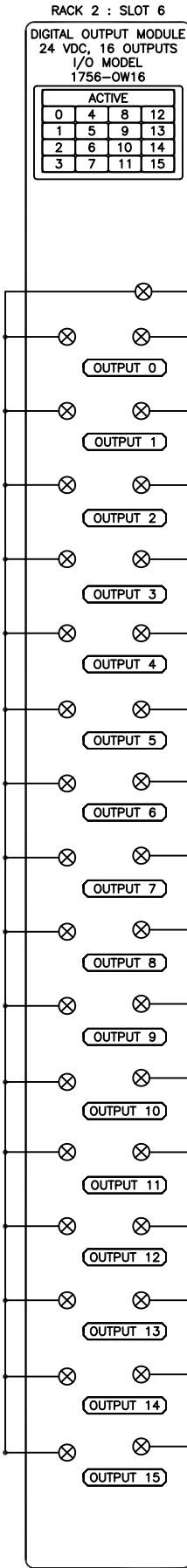
OUTPUT 3      OUT-3 ⊗  
                   RTN-3 ⊗

OUTPUT 4      OUT-4 ⊗  
                   RTN-4 ⊗

OUTPUT 5      OUT-5 ⊗  
                   RTN-5 ⊗







FOR CONTINUATION & REFERENCE  
SEE DWG. 1-4  
24 VDC POWER

F5 24N  
BLU GRY

ONSITE WELL

ONSITE WELL

BOOSTER PUMP NO. 1

BOOSTER PUMP NO. 1

BOOSTER PUMP NO. 2

BOOSTER PUMP NO. 2

BOOSTER PUMP NO. 3

BOOSTER PUMP NO. 3

BOOSTER PUMP NO. 4

BOOSTER PUMP NO. 4

BOOSTER PUMP NO. 5

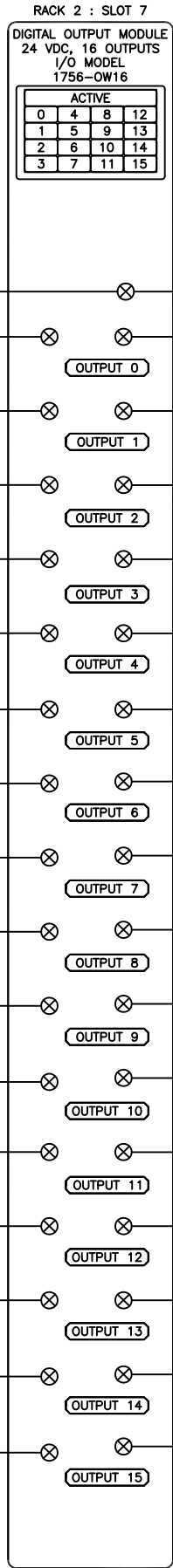
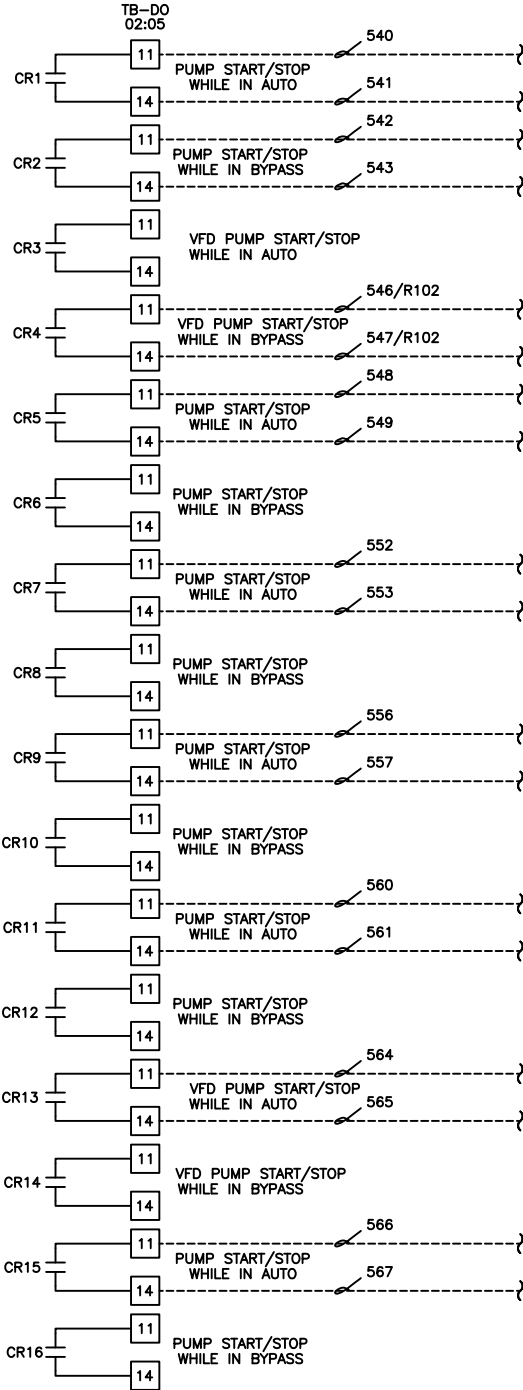
BOOSTER PUMP NO. 5

BOOSTER PUMP NO. 6

BOOSTER PUMP NO. 6

BOOSTER PUMP NO. 7

BOOSTER PUMP NO. 7



FOR CONTINUATION & REFERENCE  
SEE DWG. 1-4  
24 VDC POWER

F6 24-  
BLU GRY

BOOSTER PUMP NO. 8

BOOSTER PUMP NO. 8

BOOSTER PUMP NO. 9

BOOSTER PUMP NO. 9

BOOSTER PUMP NO. 10

BOOSTER PUMP NO. 10

RETURN WATER PUMP NO. 1

RETURN WATER PUMP NO. 2

SPARE

SPARE

SPARE

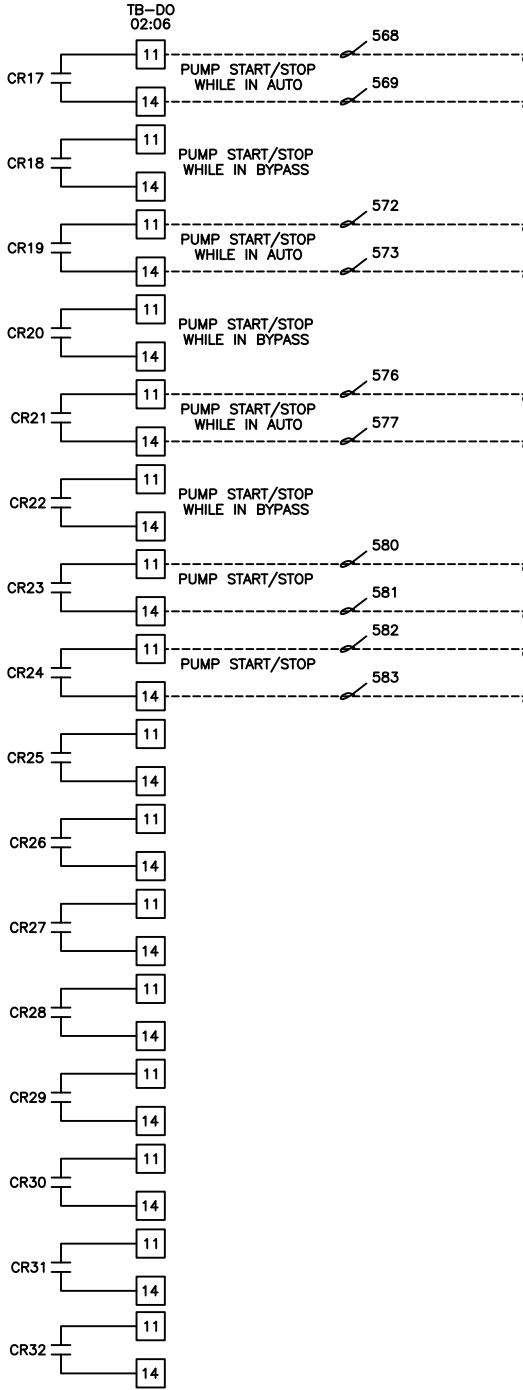
SPARE

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SPARE



REV	DATE	BY	DESCRIPTION
1			



WATER TREATMENT PLANT  
PLC CONTROL PANEL  
DIGITAL OUTPUT WIRING DIAGRAM

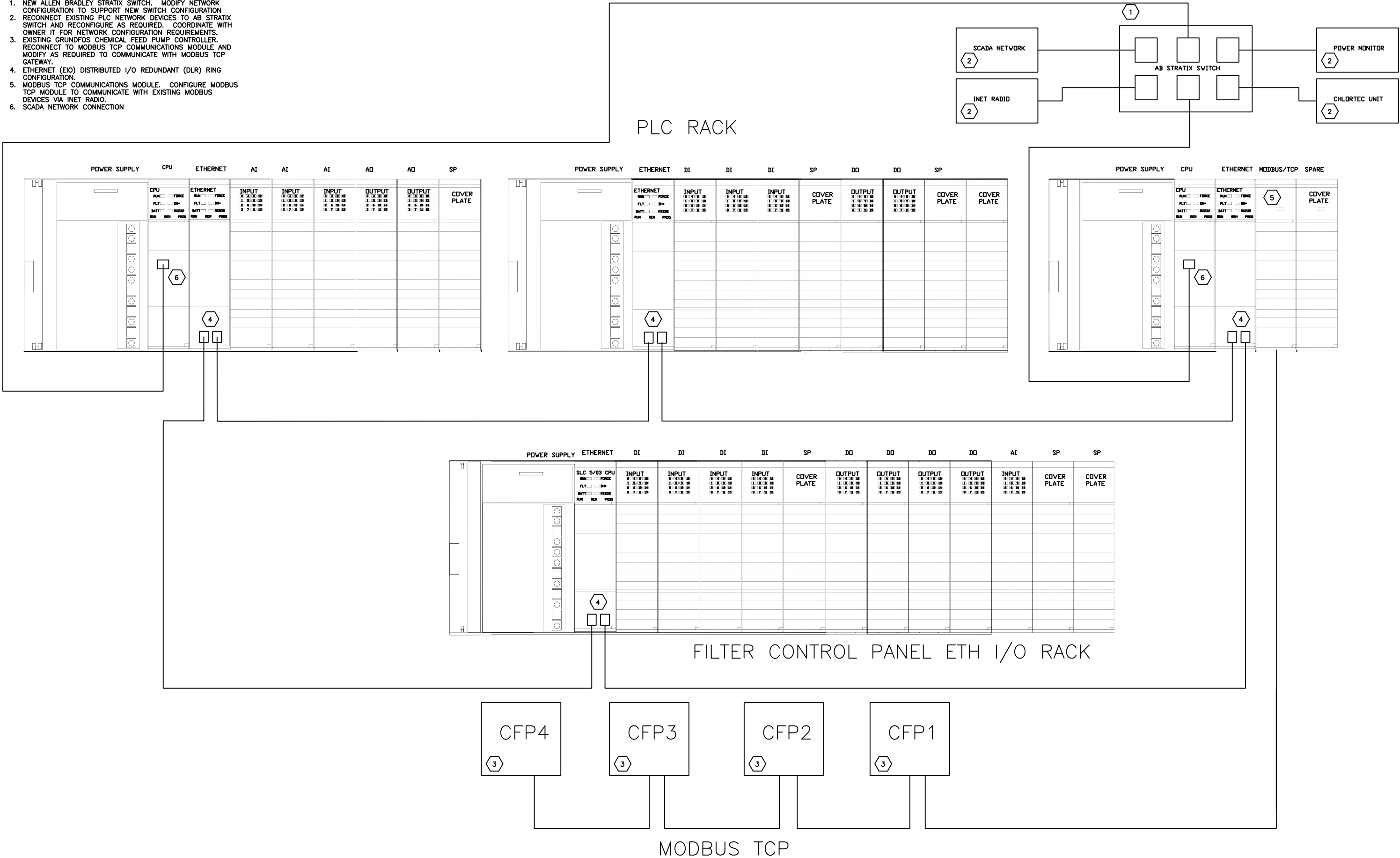
ELK GROVE WATER DISTRICT  
RAILROAD WTP AND STORAGE TANK  
PLC UPGRADE PROJECT

DATE	DESIGN BY	DRAWN BY	CHK'D BY	SHEET #	DRAWING #
03/01/24	JSP	QSP		24 OF 43	I-19



NOTES:

1. NEW ALLEN BRADLEY STRATIX SWITCH. MODIFY NETWORK CONFIGURATION TO SUPPORT NEW SWITCH CONFIGURATION
2. RECONNECT EXISTING PLC NETWORK DEVICES TO AB STRATIX SWITCH AND RECONFIGURE AS REQUIRED. COORDINATE WITH OWNER IT FOR NETWORK CONFIGURATION REQUIREMENTS.
3. EXISTING GRUNDFOS CHEMICAL FEED PUMP CONTROLLER. RECONNECT TO MODBUS TCP COMMUNICATIONS MODULE AND MODIFY AS REQUIRED TO COMMUNICATE WITH MODBUS TCP GATEWAY.
4. ETHERNET (EIO) DISTRIBUTED I/O REDUNDANT (DLR) RING CONFIGURATION.
5. MODBUS TCP COMMUNICATIONS MODULE. CONFIGURE MODBUS TCP MODULE TO COMMUNICATE WITH EXISTING MODBUS DEVICES VIA INET RADIO.
6. SCADA NETWORK CONNECTION



1	03-13-04	DB	AS BUILT
REV	DATE	BY	DESCRIPTION

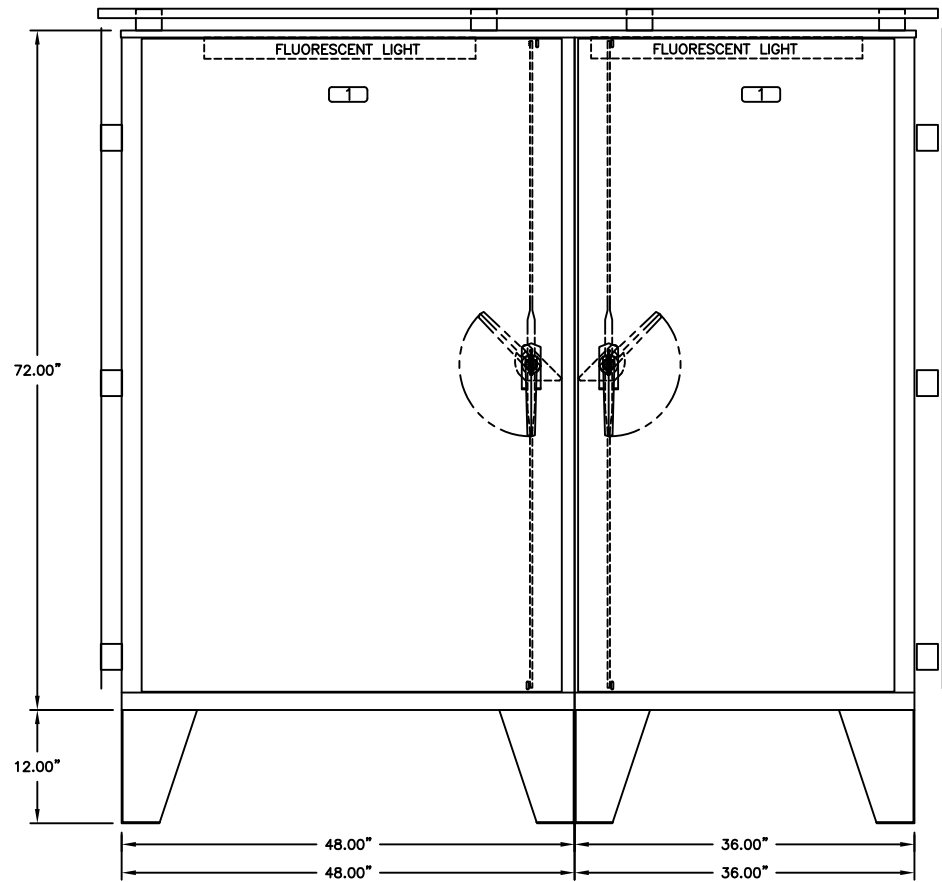


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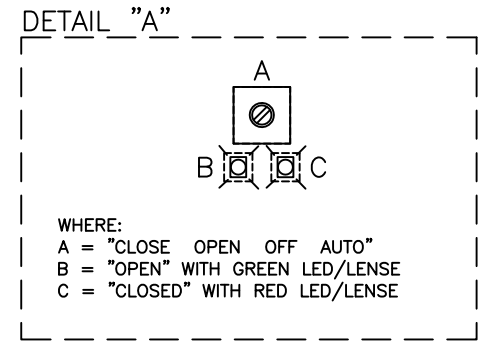
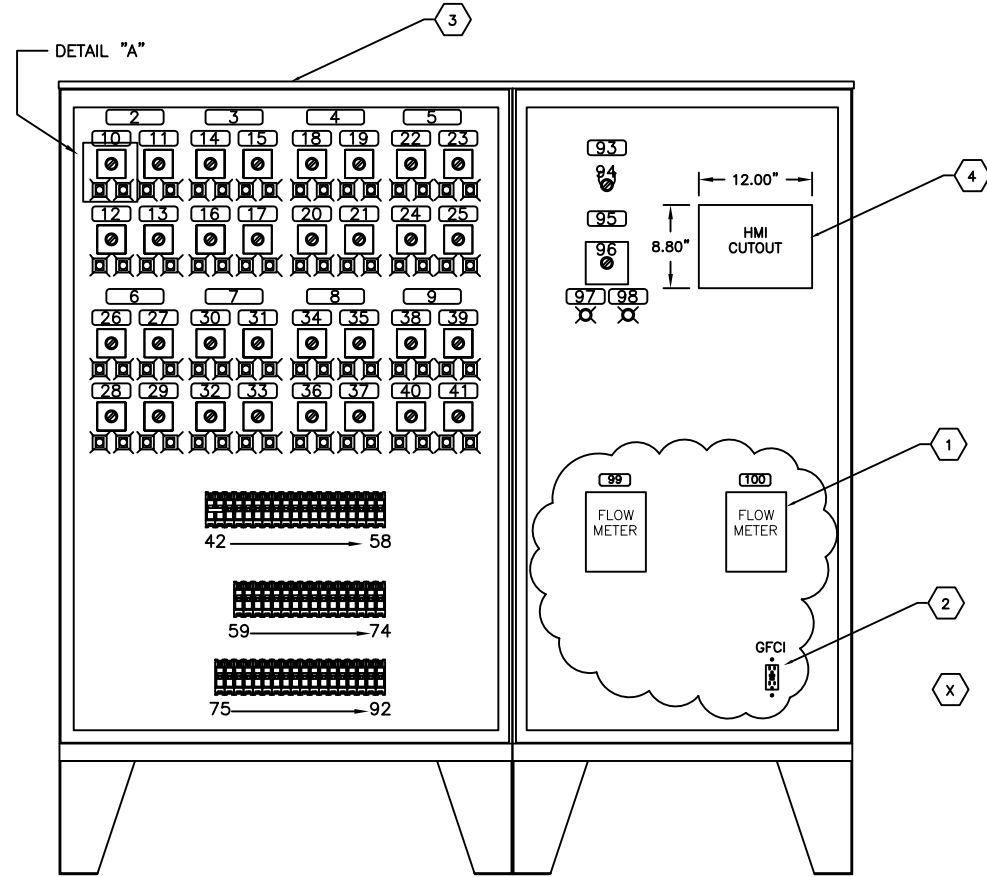
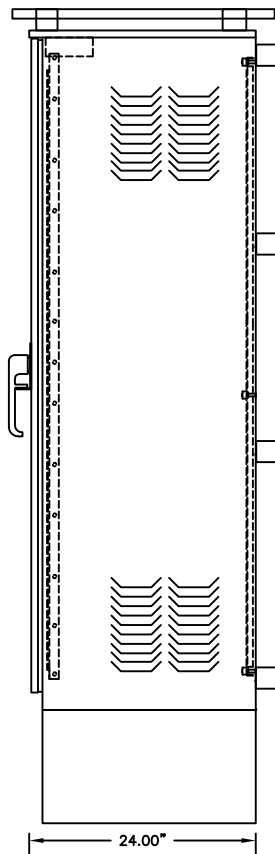
WATER TREATMENT PLANT  
PLC CONTROL PANEL  
PLC LAYOUT DIAGRAM

ELK GROVE WATER DISTRICT  
RAILROAD PROJECT PHASE I  
ELECTRICAL DISTRIBUTION AND CONTROL

DATE	DESIGN BY	DRAWN BY	CHK'D BY	SHEET #	DRAWING #
12/20/23	JSP	QSP		25 OF 43	I-17

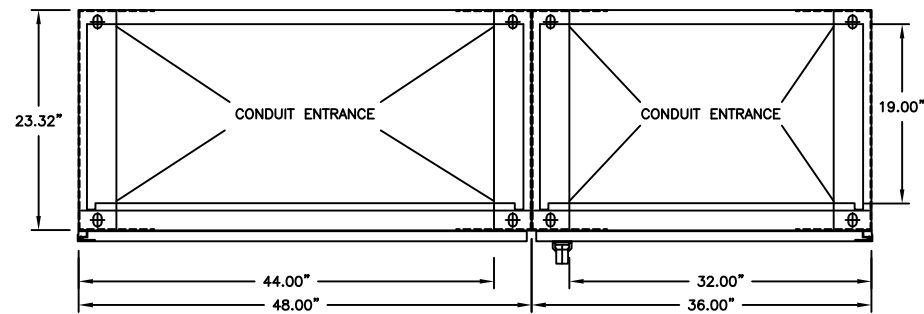


SIDE VIEW  
(SHOWN WITH SMALL SIDE SUNSCREENS REMOVED)



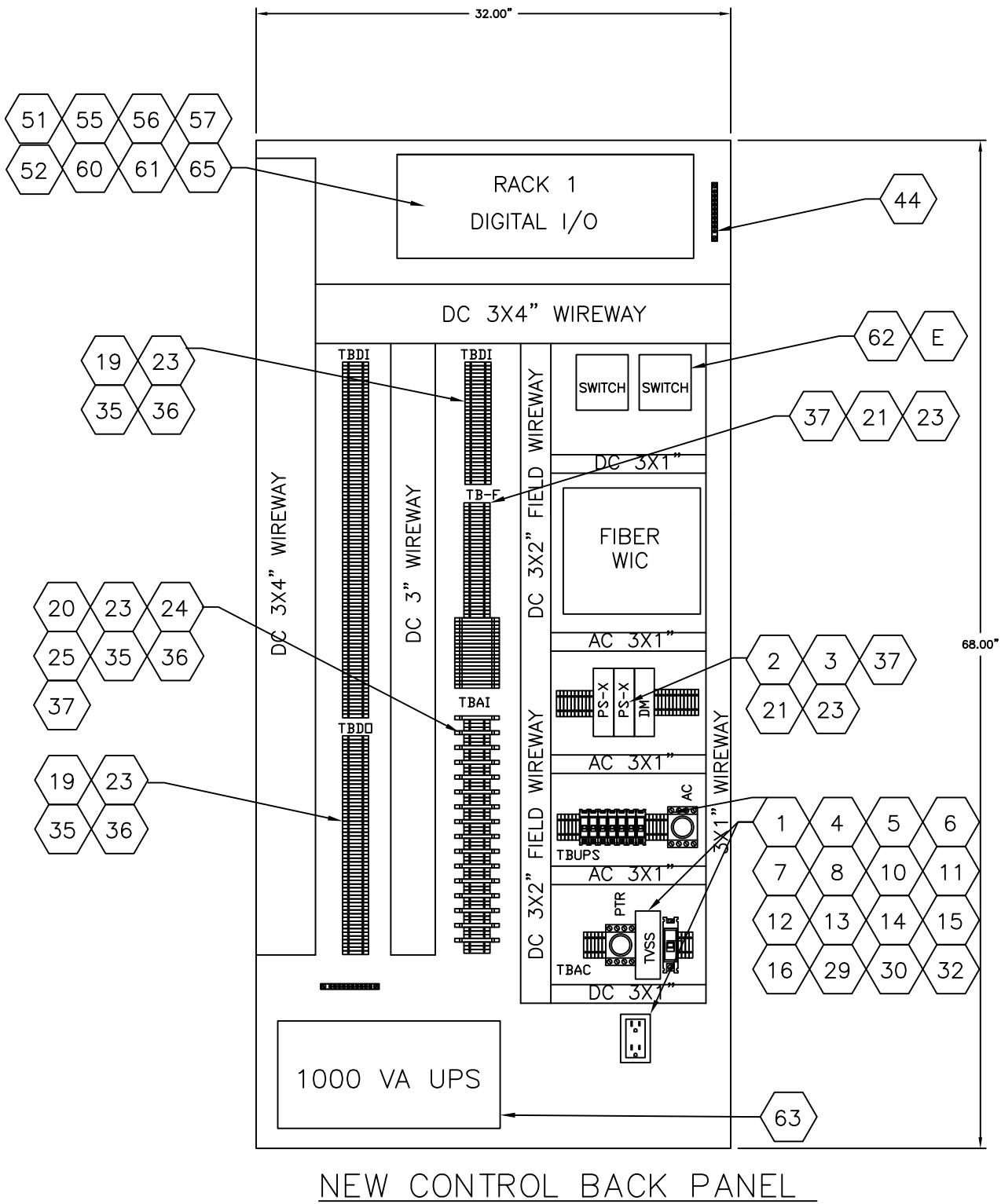
NOTES:

1. EXISTING FLOW METER TO REMAIN IN PLACE. REWIRE EXSITING FLOWMETERS TO NEW PLC CONTROL SYSTEM.
2. EXISTING GFI TO REMAIN IN RELOCATE AND REWIRE AS REQUIRED FOR ADDITIONAL PANEL SPACE.
3. EXISTING POWER DISTRIBUTION AND CONTROL RELAY PANEL. MODIFY AS REQUIRED TO INTERFACE WITH NEW PLC CONTROL SYSTEM. REWIRE RELAY CIRCUITS TO SEGREGATE POWER DISTRIBUTION.
4. REMOVE EXISTING HMI AND PROVIDE PANEL CUT-OUT COVER PLATE.





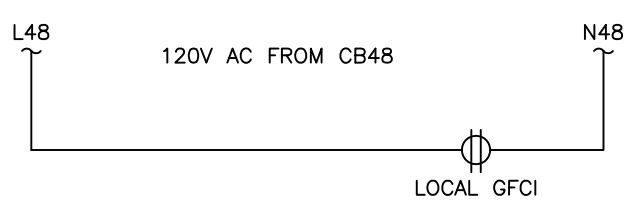
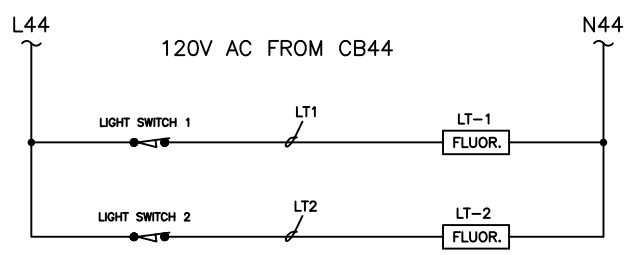
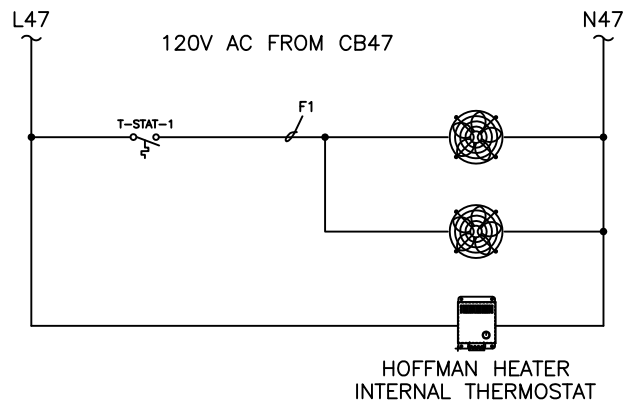
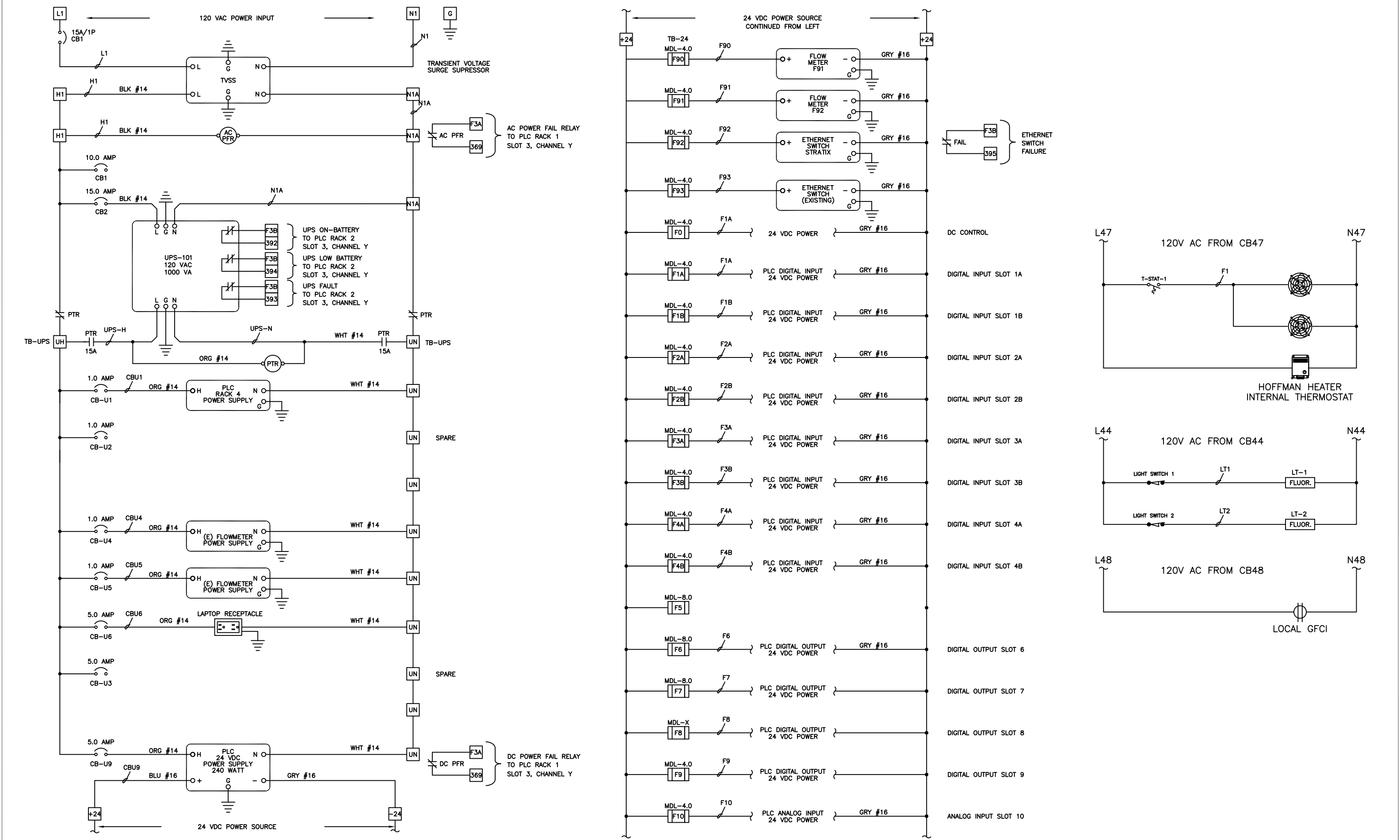


BILL OF MATERIAL GENERAL NOTES:

1. BILL OF MATERIAL IS NOT A COMPREHENSIVE OR ALL ENCOMPASSING MATERIALS LIST. A DETAILED BILL OF MATERIAL SHALL BE SUBMITTED BASED ON CSS MANUFACTURING REQUIREMENTS AND LAYOUT. ALL MATERIALS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 13340 AND 13350.
2. BILL OF MATERIAL PART AND MODEL NUMBERS SHALL BE CONFIRMED BY THE CONTROL SYSTEM SUPPLIER AND ADJUSTED BASED ON LATEST VERSION AND MANUFACTURER DETAILED PART NUMBERS. REFERENCE SPECIFICATION SECTION 13340 AND 13350
3. BILL OF MATERIAL DOES NOT INCLUDE BASIC INSTALLATION MATERIALS SUCH AS DIN RAIL, NUTS, BOLTS, WIRE, WIREWAYS AND OTHER GENERAL ASSEMBLY COMPONENTS REQUIRED TO FABRICATE AN COMPLETE PANEL.
4. QUANTITY XX\* AND AR IS NOT A CONFIRMED QUANTITY. QUANTITY SHALL BE PROVIDE AS REQUIRED BASED ON CONTROL PANEL MANUFACTURING REQUIREMENTS.
5. QUANTITY AR IS AS-REQUIRED FOR COMPLETE ASSMBLY.

ITEM	TAG	QTY	DESCRIPTION	MANUFACTURER	SERIES #	PART #
1	GFCI	0	Receptacle, 15 A, Ground Fault Interrupter, DIN Rail Mount	Weidmuller		6720005422
2	PS-X	2	Power Supply, Switching , 24 VDC, 10 Amp, 120 VAC, 240 Watt	Weidmuller	PRO ECO	1469490000
3	DM	1	Diode Module,	Weidmuller	PRO DM	2486080000
4	SS	1	Surge Suppressor, 15 Amp, 120 VAC	MTL		MA15/D/1/SI
5	AC-PFR	1	Relay, Control, 120 VAC w/indicator	IDEC	RH	RH2B-UL-120
6	RB	1	Relay, Base, DPDT, Blade, DIN Rail	IDEC	SH	SH2B
7	PTR	1	Relay, Contactor 120 vac, 20 Amp, 4 Pole, 2NO/2NC, DIN	ABB	Series B Mini	B6-22-00-84
8	MCBX	1	Circuit Breaker, 15 Amp, 1 Pole, 120 VAC, DIN	Eaton	FAZ	FAZ-D15/1-NA-SP
9	CBX	0	Circuit Breaker, 20 Amp, 1 Pole, 120 VAC, DIN	CBI Electric	QL SERIES	QL-1(13)-DM-KM-20A
10	CBX	1	Circuit Breaker, 15 Amp, 1 Pole, 120 VAC, DIN	CBI Electric	QL SERIES	QL-1(13)-DM-KM-15A
11	CBX	1	Circuit Breaker, 10 Amp, 1 Pole, 120 VAC, DIN	CBI Electric	QL SERIES	QL-1(13)-DM-KM-10A
12	CBX	4	Circuit Breaker, 05 Amp, 1 Pole, 120 VAC, DIN	CBI Electric	QL SERIES	QL-1(13)-DM-KM-05A
13	CBX	0	Circuit Breaker, 04 Amp, 1 Pole, 120 VAC, DIN	CBI Electric	QL SERIES	QL-1(13)-DM-KM-04A
14	CBX	0	Circuit Breaker, 02 Amp, 1 Pole, 120 VAC, DIN	CBI Electric	QL SERIES	QL-1(13)-DM-KM-02A
15	CBX	5	Circuit Breaker, 01 Amp, 1 Pole, 120 VAC, DIN	CBI Electric	QL SERIES	QL-1(13)-DM-KM-01A
16	CBX	0	Circuit Breaker, 005 Amp, 1 Pole, 120 VAC, DIN	CBI Electric	QL SERIES	QL-1(13)-DM-KM-005A
17	CB-BB	1	Bus Bar, QL Circuit Breaker with insulated cover, 10 Point	CBI Electric		
18	CB-EC	1	End Cap, Busbar	CBI Electric		
19	TB-BLU	200	Terminal Block, 2.5 mm, Blue, WDU 2.5	Weidmuller		1020080000
20	TB-BGE	50*	Terminal Block, 2.5 mm, Beige, WDU 2.5	Weidmuller		1020000000
21	TB-ORG	20*	Terminal Block, 2.5 mm, Orange, WDU 2.5	Weidmuller		1020060000
22	TB-RED	20*	Terminal Block, 2.5 mm, Red, WDU 2.5	Weidmuller		1020040000
23	TB-GRY	100*	Terminal Block, 2.5 mm, Grey, WDU 2.5	Weidmuller		1037720000
24	TB-GND	24*	Terminal Block, 2.5 mm, yellow/green, WDU 2.5	Weidmuller		1010000000
25	TB-DIS	20*	Terminal Block, Disconnect, 2.5 mm, WTR 2.5	Weidmuller		1855610000
26	TS	200*	Test Socket, Terminal Block, 2.5 mm, STB	Weidmuller		0215700000
27	PJ	2	Pluggable Cross Connection, 10 point, 2.5mm for WDU-2.5	Weidmuller		1527690000
28	SJ	2	Screwable Cross Connection, 10 point, 2.5mm for WDU-2.5	Weidmuller		1054460000
29	TB-BLK	20*	Terminal Block, 4.0 mm, Black, WDU 4.0	Weidmuller		1020110000
30	TB-WHT	20*	Terminal Block, 4.0 mm, White, WDU 4.0	Weidmuller		1036700000
31	TB-BGE	0	Terminal Block, 4.0 mm, Beige, WDU 4.0	Weidmuller		1020100000
32	TB-GND	50*	Terminal Block, 2.5 mm, yellow/green, WDU 4.0	Weidmuller		1010100000
33	PJ	2	Pluggable Cross Connection, 10 point, 4.0mm for WDU-4.0	Weidmuller		1758260000
34	SJ	2	Screwable Cross Connection, 10 point, 2.5mm for WDU-2.5	Weidmuller		1052060000
35	EP	20*	End Plate	Weidmuller		1050000000
36	EB	20*	End Bracket	Weidmuller		1061200000
37	FB	30*	Fused Terminal Block, 6.0 mm, 10-30 VDC/AC, with LED	Weidmuller		1011300000
38	F	AR	Fuse	Littlefuse		
39	WW31	AR	Wireway, Plastic, Narrow Finger, 1"Wx3"H, with Cover, Gray	Panduit		
40	WW32	AR	Wireway, Plastic, Narrow Finger, 2"Wx3"H, with Cover, Gray	Panduit		
41	WW33	AR	Wireway, Plastic, Narrow Finger, 3"Wx3"H, with Cover, Gray	Panduit		
42	WW34	AR	Wireway, Plastic, Narrow Finger, 4"Wx3"H, with Cover, Gray	Panduit		
43	DIN	AR	DIN RAIL, Slotted, 35 mm, Galvanized Steel, Zinc Plated			
44	GB	6	Busbar Copper, 10 Point Screw Connection	ILSCO		D167-10
45	BP	1	Backpanel, 76"Hx28"W Steel, White Panel	Custom		
46	SP	0	Sidepanel, 76"Hx28"W Steel, White Panel	Custom		
47	FER	AR	Crimp Ferrules #16, 100 PACK	Weidmuller		
48	FER	AR	Crimp Ferrules #14, 100 PACK	Weidmuller		
49	FER	AR	Crimp Ferrules #18, 100 PACK	Weidmuller		
50	CPU	0	PLC, CPU, 40 MB, Ethernet Port	Allen Bradley	ControlLogix	1756-L84E
51	ENET	1	PLC, Network Module, 2 Port, Ring	Allen Bradley	ControlLogix	1756-EN2TR
52	RCK-10	1	PLC, Chassis, 13 Slot	Allen Bradley	ControlLogix	1756-A13
53	RCK-7	0	PLC, Chassis, 7 Slot	Allen Bradley	ControlLogix	1756-A7
54	PS	0	PLC, Power Supply, 120 VAC, 50 Watt	Allen Bradley	ControlLogix	1756-PA50
55	PS	1	PLC, Power Supply, 120 VAC, 75 Watt	Allen Bradley	ControlLogix	1756-PA75
56	DI	4	PLC, Digital Input Module, 32 Channel, 120 vac	Allen Bradley	ControlLogix	1756-IB32
57	DO	4	PLC, Digital Output Module, 16 Channel, Relay	Allen Bradley	ControlLogix	1756-OW16
58	AI	1	PLC, Analog Input Module, 16 Channel, 4-20mA	Allen Bradley	ControlLogix	1756-IF16
59	AO	0	PLC, Analog Output Module, 6 Channel, 4-20mA	Allen Bradley	ControlLogix	1756-OF6C
60	RTB-36	6	Removable Terminal Connector, I/O Module , 36 PIN Screw Type	Allen Bradley	ControlLogix	1756-TBCH
61	RTB-24	0	Termina Connector, I/O Module , 20 PIN Screw Type	Allen Bradley	ControlLogix	5069-RTB18
62	ENET	1	Ethernet Switch, 6 port, 2 SFP	Allen Bradley	Stratix 5700	1783-BMS06SGA
63	UPS	1	Uninterruptible Power Supply, 1000VA, 120 VAC	Allen Bradley		1609-B1000N
64	MB-TCP	0	PLC, Network Module, Modbus TCP	Allen Bradley	Pro-Soft	MVI56E-MNETC



2

EXISTING VALVE ARRAY

1

RELAY PANEL

CONTROL SECTION

CONTROL LOGIX PROGRAMMABLE LOGIC CONTROLLER  
FILTER CONTROL EIO PANEL

NOTES:

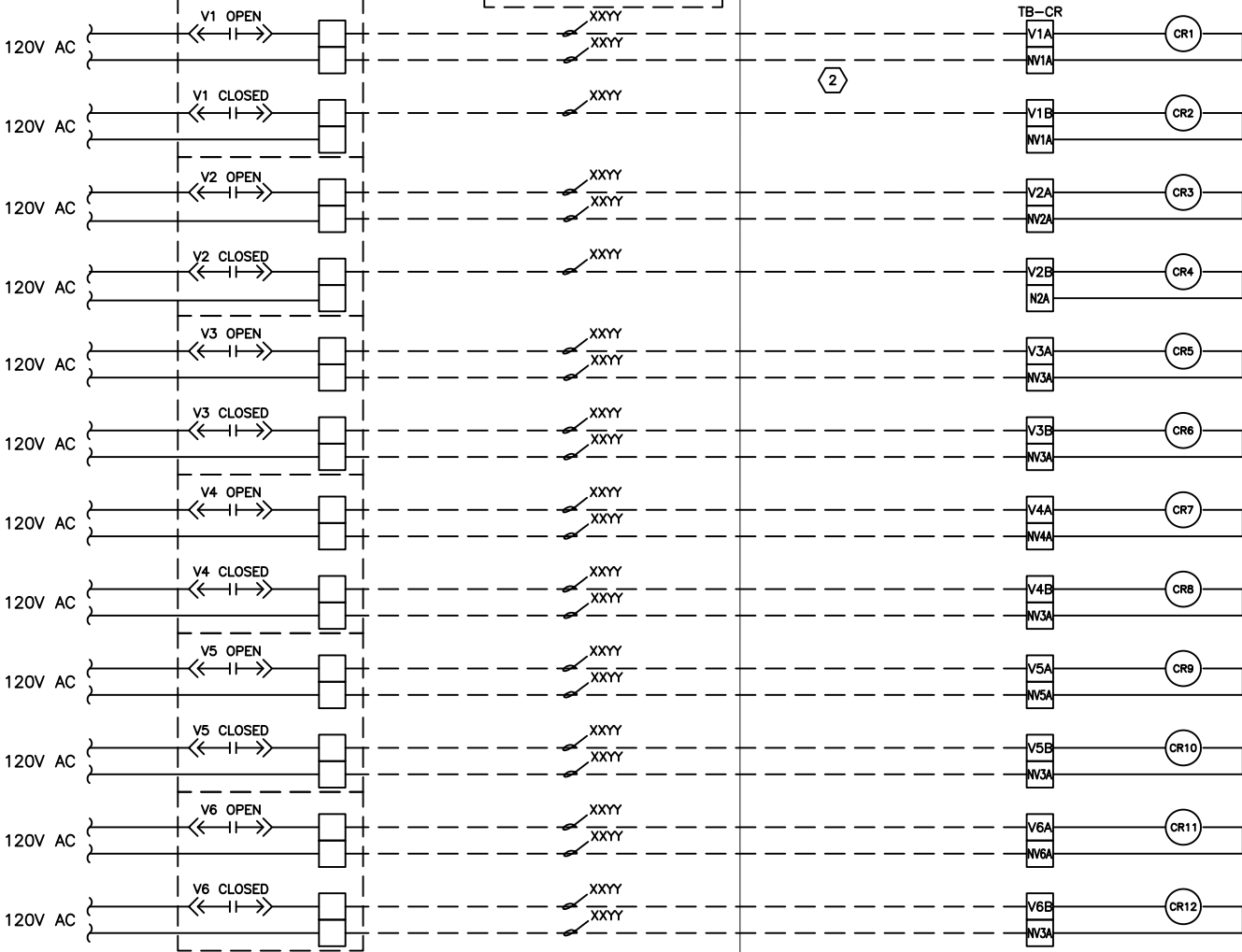
- EXISTING FILTER CONTROL PANEL. THE CSS SHALL FIELD VERIFY ALL SOURCE CONNECTIONS PRIOR TO TERMINATION AT THE CONTROL PANEL.
- EXISTING FIELD WIRING. THE CSS SHALL FIELD VERIFY ALL EXISTING FIELD/PANEL WIRE TERMINATIONS AND MODIFY/UPDATE DRAWINGS AS REQUIRED PRIOR TO SYSTEM REMOVAL AND SWITCHOVER TYPICAL FOR ALL.
- RELAY CONTROL CIRCUITS WIRED TO FUSE IN GROUPS OF 8 TYPICAL FOR ALL.

THESE METERS ARE LOCATED  
IN A SEPARATE ENCLOSURE  
LOCATED IN THE FIELD

BW FLOW METER AT TANK

BW 3" FLOW METER AT TANK

EXISTING VALVES

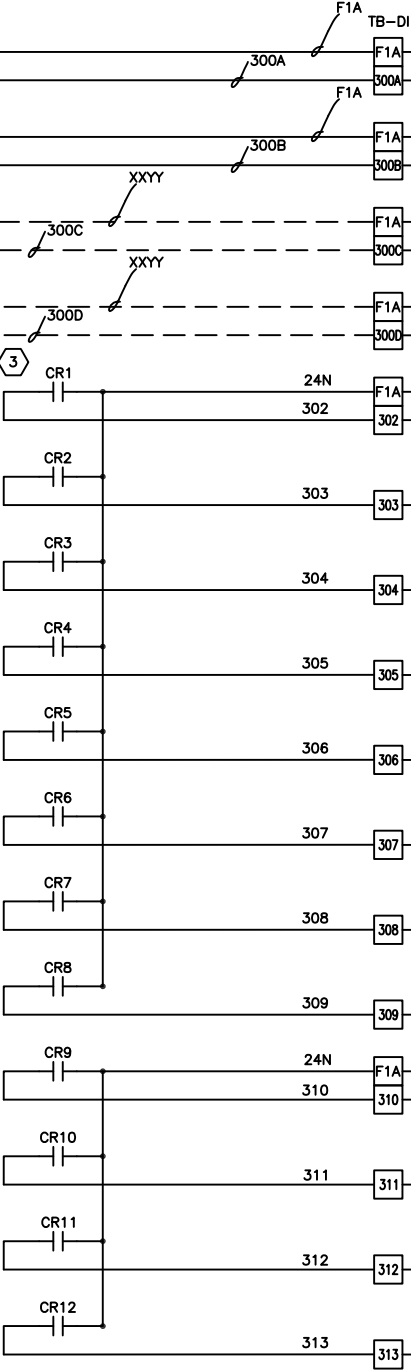
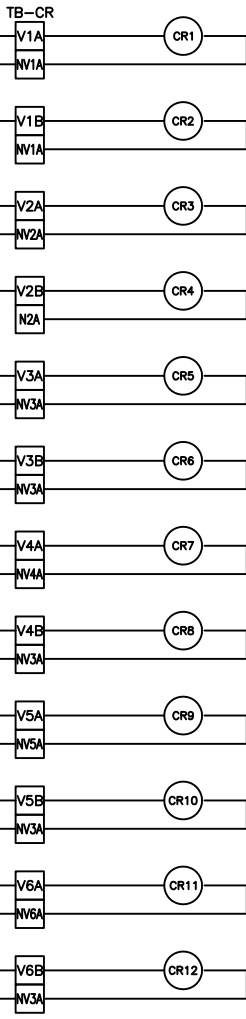


BLEND LINE 12" FLOW METER

BW 18" FLOW METER

BW FLOW METER AT TANK

BW 3" FLOW METER AT TANK



FOR CONTINUATION & REFERENCE  
SEE DWG. I-103  
24 VDC POWER

F1A  
24- GRY

RACK 4 : SLOT 1

DIGITAL INPUT MODULE

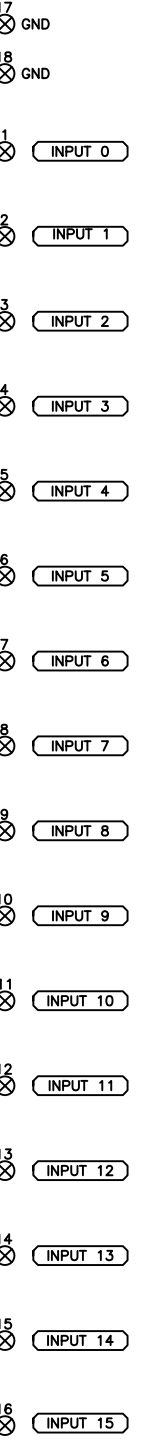
24 VDC, 32 INPUTS

I/O MODEL

1756-IB16

ACTIVE

0	4	8	12
1	5	9	13
2	6	10	14
3	7	11	15
16	17	18	19
20	21	22	23
24	25	26	27
28	29	30	31



- BLEND LINE 12" FLOW METER  
TOTALIZER
- BW 18" FLOW METER  
TOTALIZER
- BW FLOW METER AT TANK  
TOTALIZER
- BW 3" FLOW METER AT TANK  
TOTALIZER (LIMITED TO 500Hz)
- VALVE 1  
OPEN
- VALVE 1  
CLOSED
- VALVE 2  
OPEN
- VALVE 2  
CLOSED
- VALVE 3  
OPEN
- VALVE 3  
CLOSED
- VALVE 4  
OPEN
- VALVE 4  
CLOSED
- VALVE 5  
OPEN
- VALVE 5  
CLOSED
- VALVE 6  
OPEN
- VALVE 6  
CLOSED

REV	DATE	BY	DESCRIPTION
1			

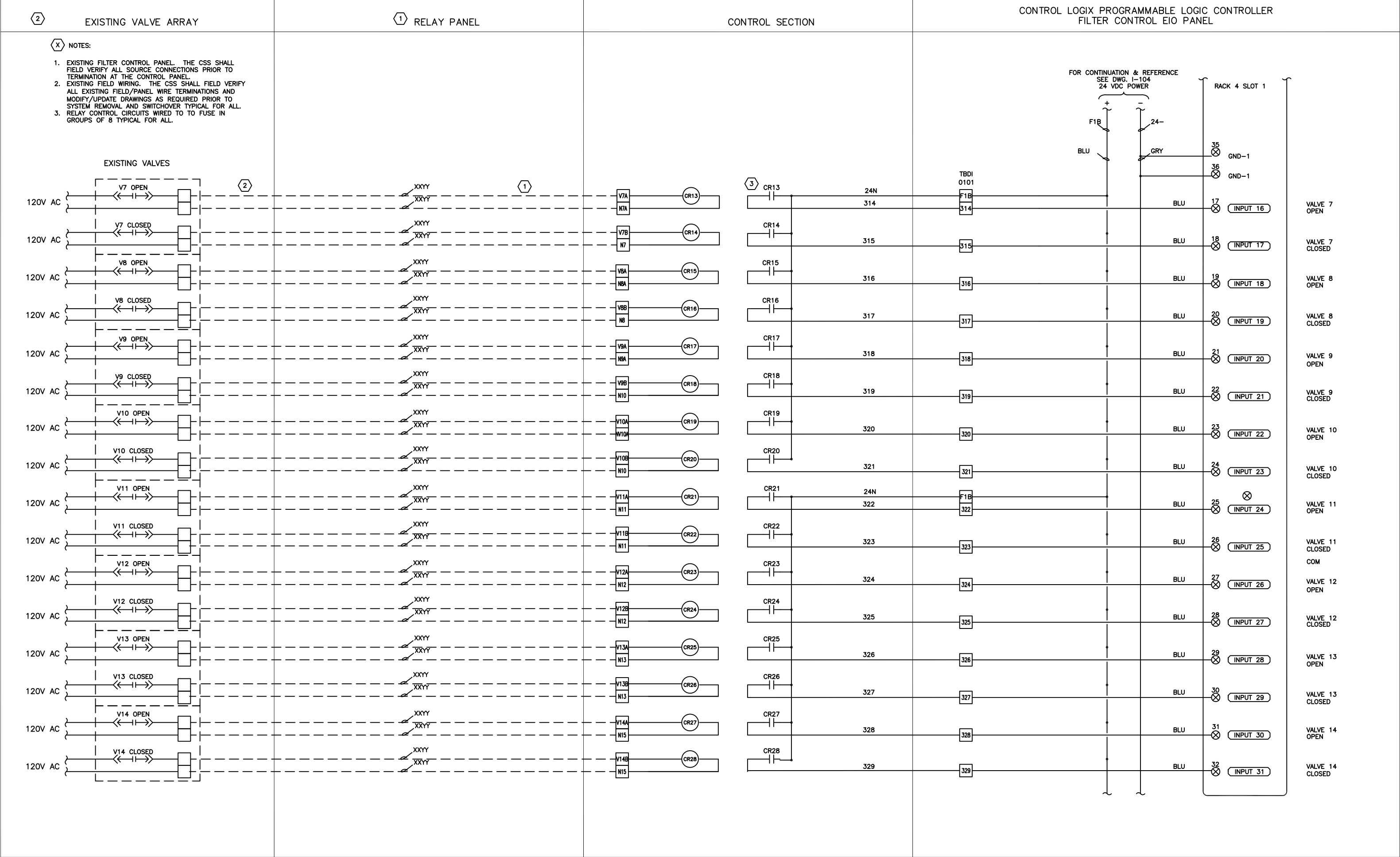


**JSP**  
AUTOMATION  
405 30th STREET  
SACRAMENTO, CA 95816  
TEL# (916) 448-3776  
FAX# (916) 448-3778  
email:jspautomation@sbcglobal.net

WATER TREATMENT PLANT  
FILTER EIO CONTROL PANEL  
DIGITAL INPUT WIRING DIAGRAM

ELK GROVE WATER DISTRICT  
RAILROAD WTP AND STORAGE TANK  
PLC UPGRADE PROJECT

DATE	DESIGN BY	DRAWN BY	CHK'D BY	SHEET #	DRAWING #
03/01/24	JSP	QSP		30 OF 43	I-105



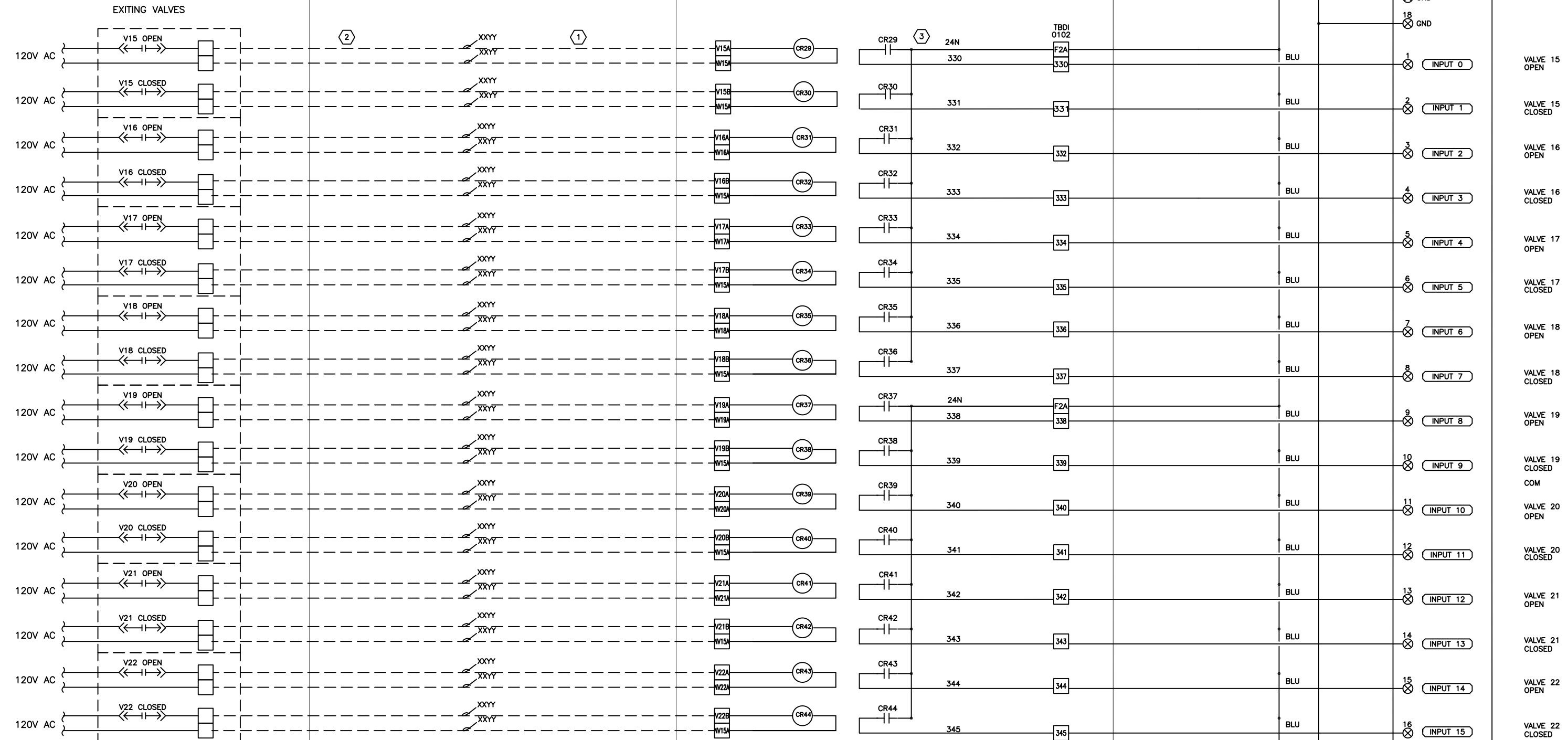
EXISTING VALVE ARRAY

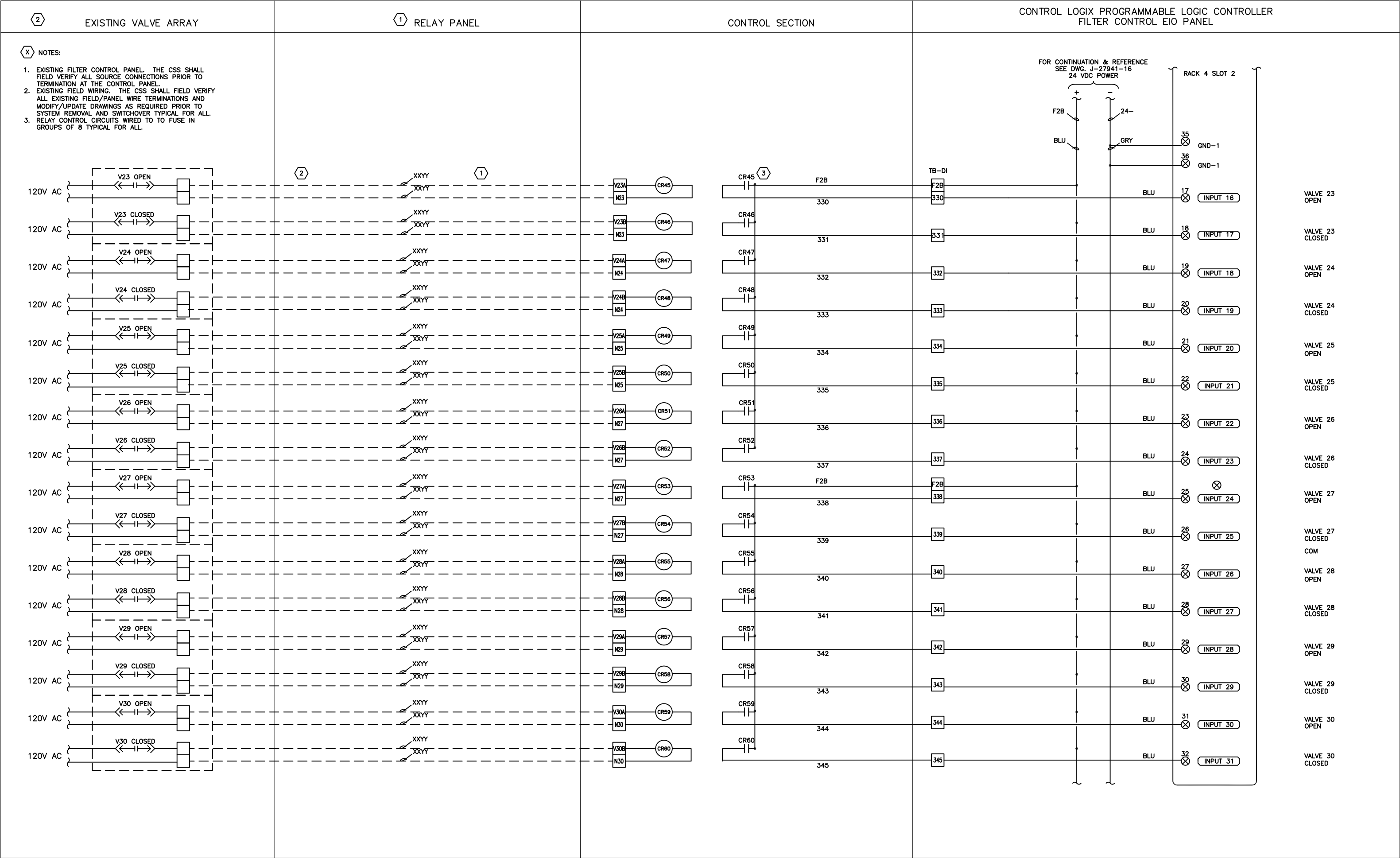
## RELAY PANEL

## CONTROL SECTION

CONTROL LOGIX PROGRAMMABLE LOGIC CONTROLLER  
 FILTER CONTROL EIO PANEL

1. EXISTING FILTER CONTROL PANEL. THE CSS SHALL FIELD VERIFY ALL SOURCE CONNECTIONS PRIOR TO TERMINATION AT THE CONTROL PANEL TYPICAL FOR ALL.
2. EXISTING FIELD WIRING. THE CSS SHALL FIELD VERIFY ALL EXISTING FIELD/PANEL WIRE TERMINATIONS AND MODIFY/UPDATE DRAWINGS AS REQUIRED PRIOR TO SYSTEM REMOVAL AND SWITCHOVER TYPICAL FOR ALL.
3. RELAY CONTROL CIRCUITS WIRED TO TO FUSE IN GROUPS OF 8 TYPICAL FOR ALL.

[illegible]



2 EXISTING VALVE ARRAY

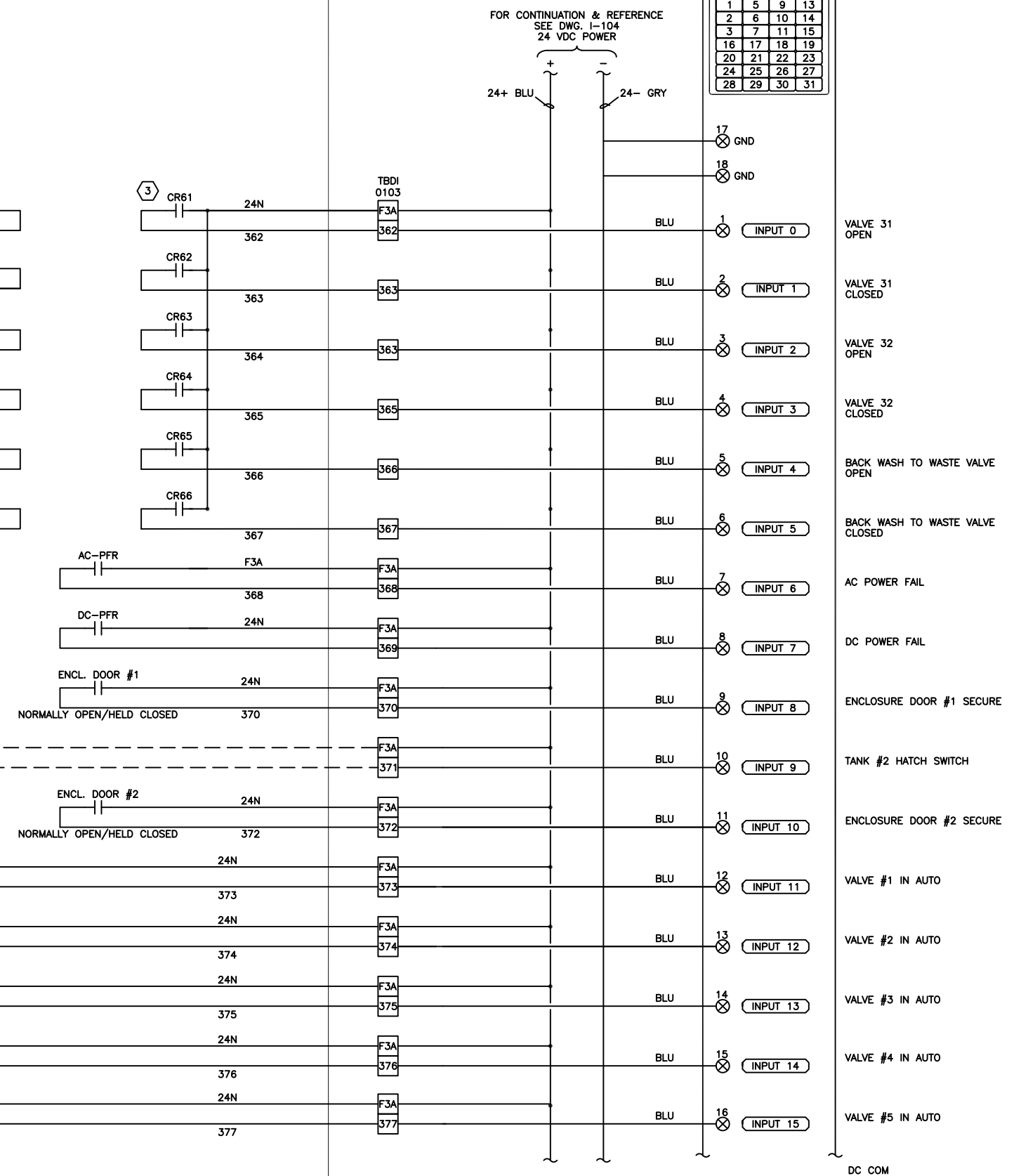
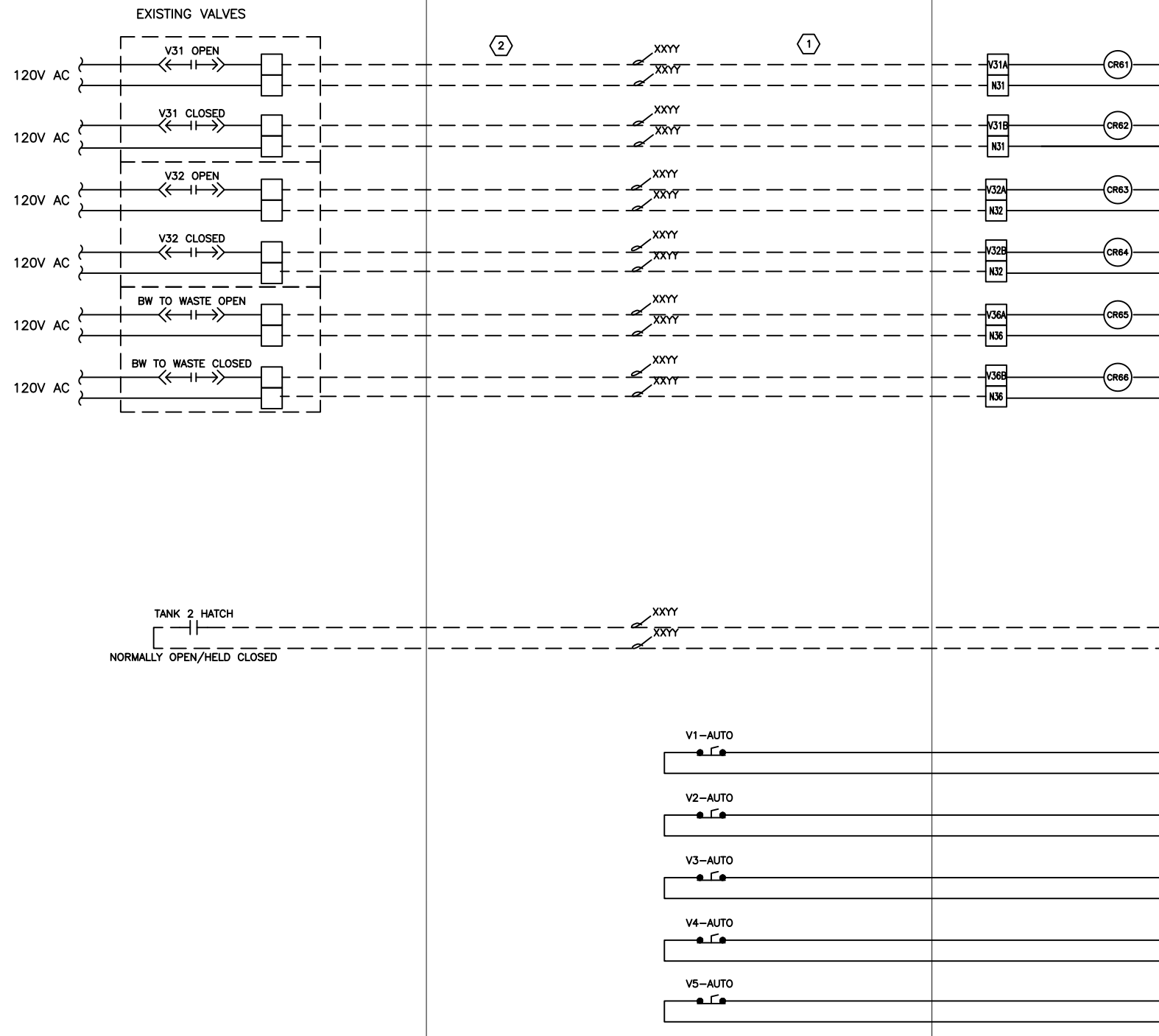
## 1 RELAY PANEL

## CONTROL SECTION

CONTROL LOGIX PROGRAMMABLE LOGIC CONTROLLER  
FILTER CONTROL EIO PANEL

**X** NOTES:

1. EXISTING FILTER CONTROL PANEL. THE CSS SHALL FIELD VERIFY ALL SOURCE CONNECTIONS PRIOR TO TERMINATION AT THE CONTROL PANEL.
2. EXISTING FIELD WIRING. THE CSS SHALL FIELD VERIFY ALL EXISTING FIELD/PANEL WIRE TERMINATIONS AND MODIFY/UPDATE DRAWINGS AS REQUIRED PRIOR TO SYSTEM REMOVAL AND SWITCHOVER TYPICAL FOR ALL.
3. RELAY CONTROL CIRCUITS WIRED TO TO FUSE IN GROUPS OF 8 TYPICAL FOR ALL.



**JSP**  
AUTOMATION

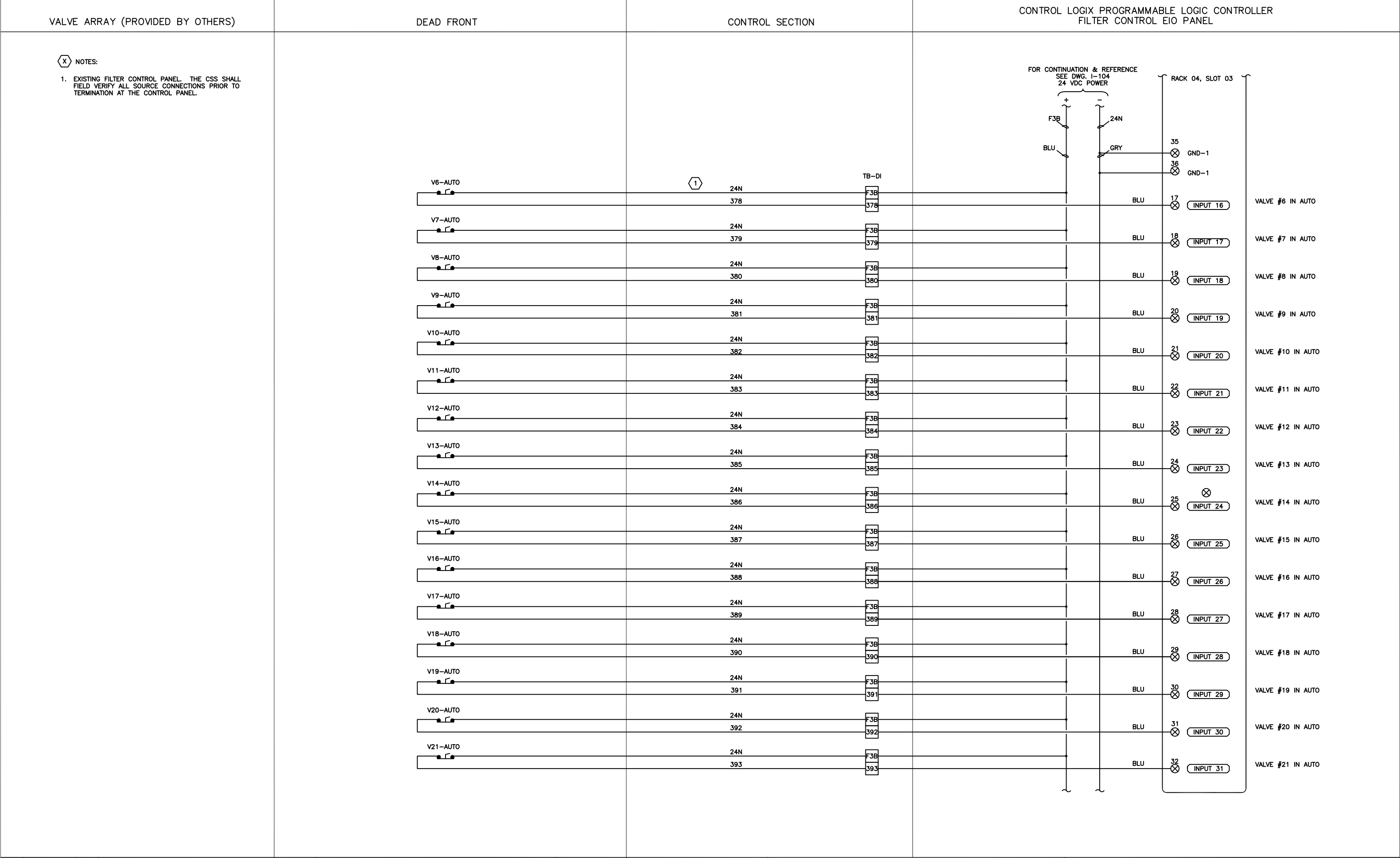
405 30th STREET  
SACRAMENTO, CA 95816  
TEL# (916) 448-3776  
FAX# (916) 448-3778  
email: [jspautomation@sbcglobal.net](mailto:jspautomation@sbcglobal.net)

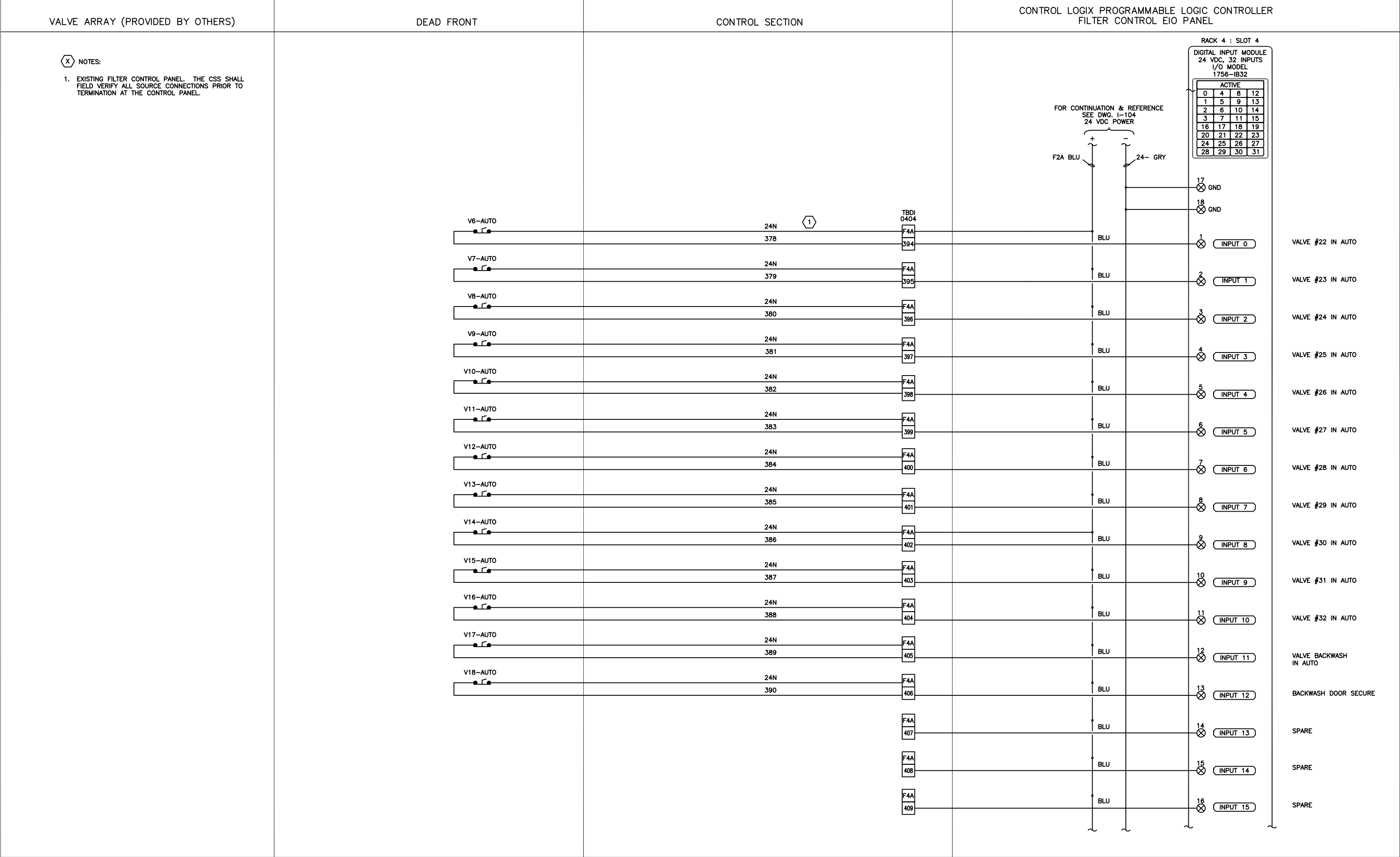
# WATER TREATMENT PLANT FILTER EIO CONTROL PANEL DIGITAL INPUT WIRING DIAGRAM

ELK GROVE WATER DISTRICT  
RAILROAD WTP AND STORAGE TANK  
PLC UPGRADE PROJECT

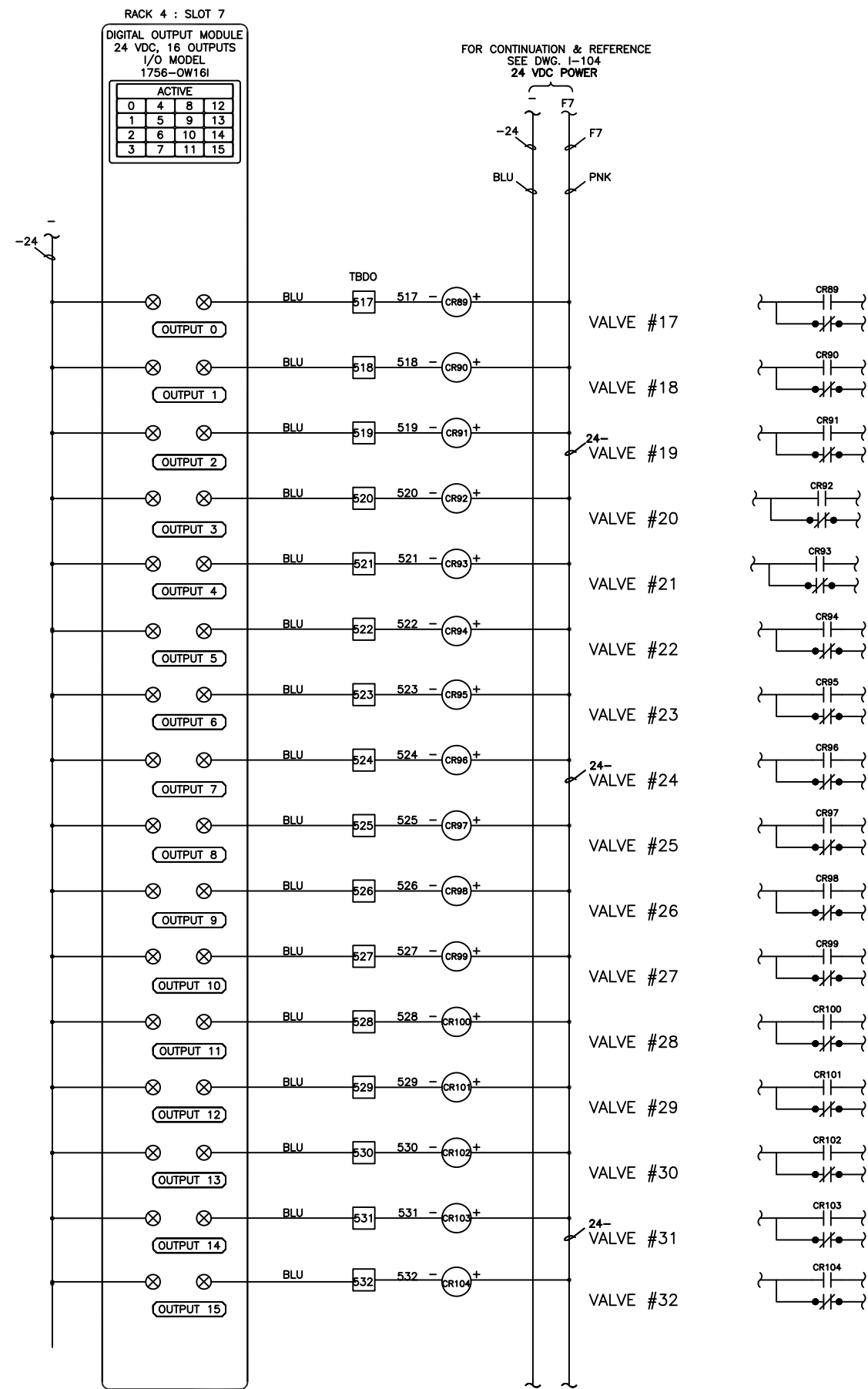
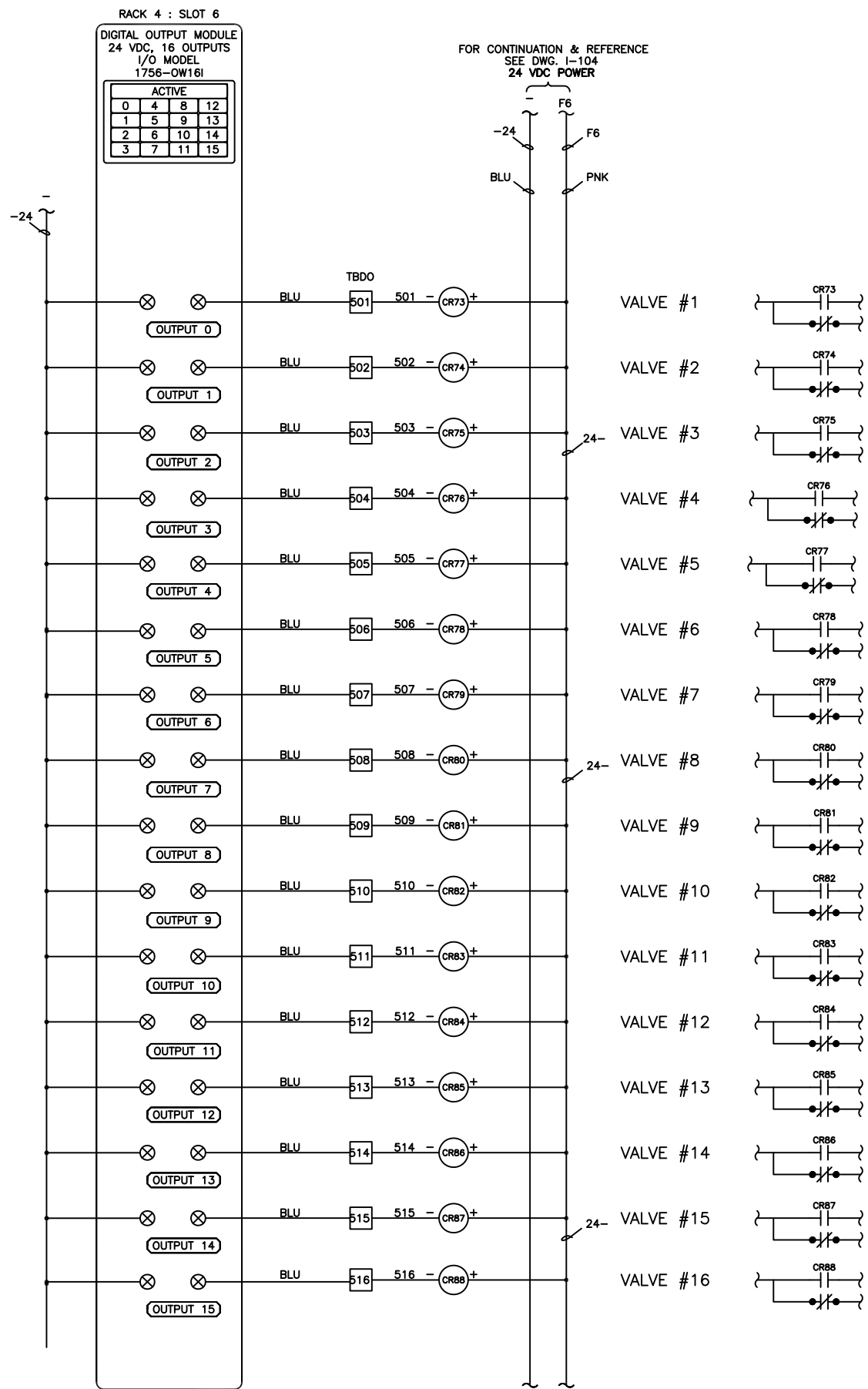
DATE	DESIGN BY	DRAWN BY	CHK'D BY	SHEET #	DRAWING #
03/01/24	JSP	QSP		34 OF 43	I-109











06	REV	DATE	BY	DESCRIPTION



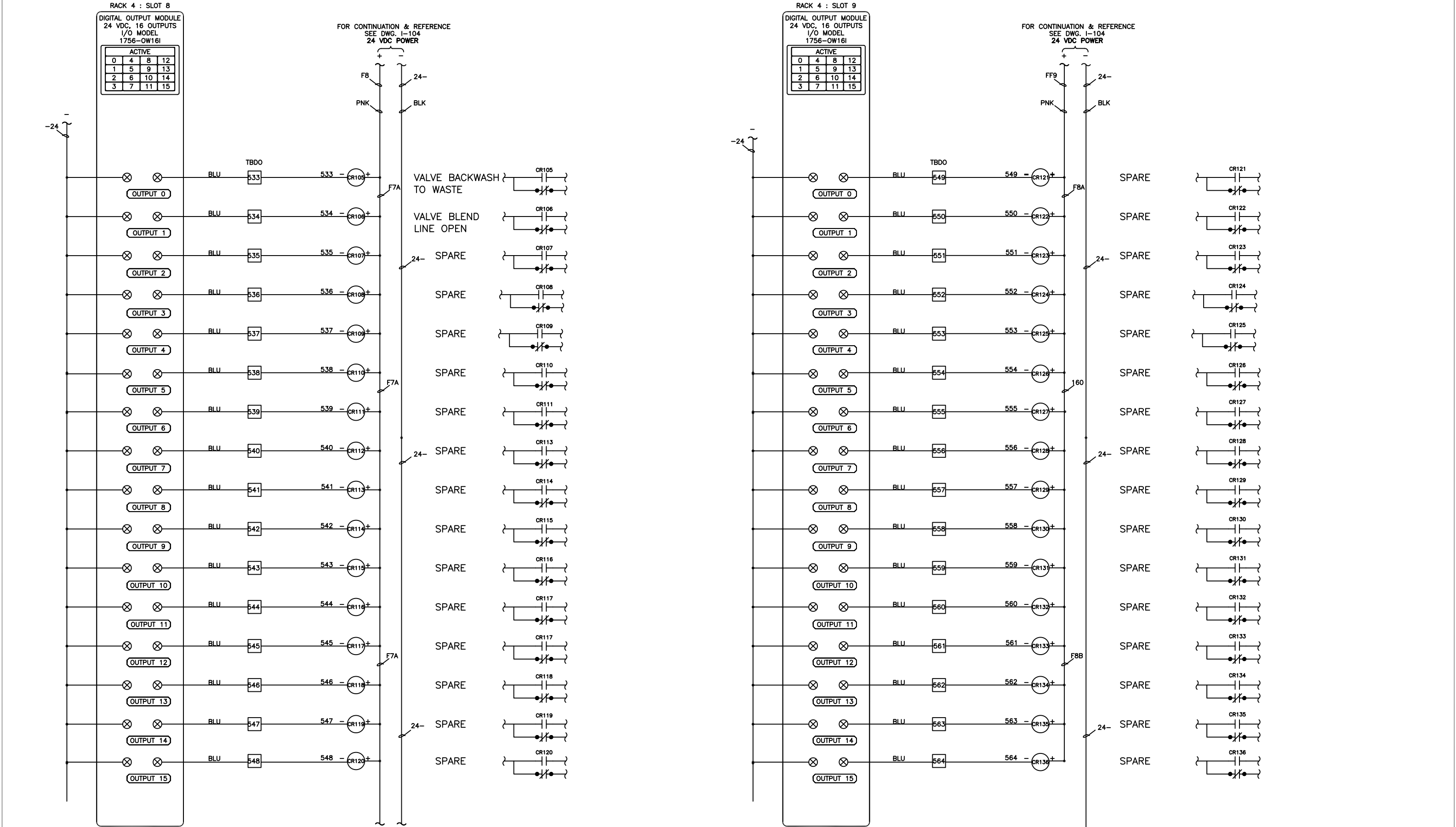
**JSP**  
AUTOMATION  
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FAX # (916) 448-3778  
email: jspautomation@scglobal.net

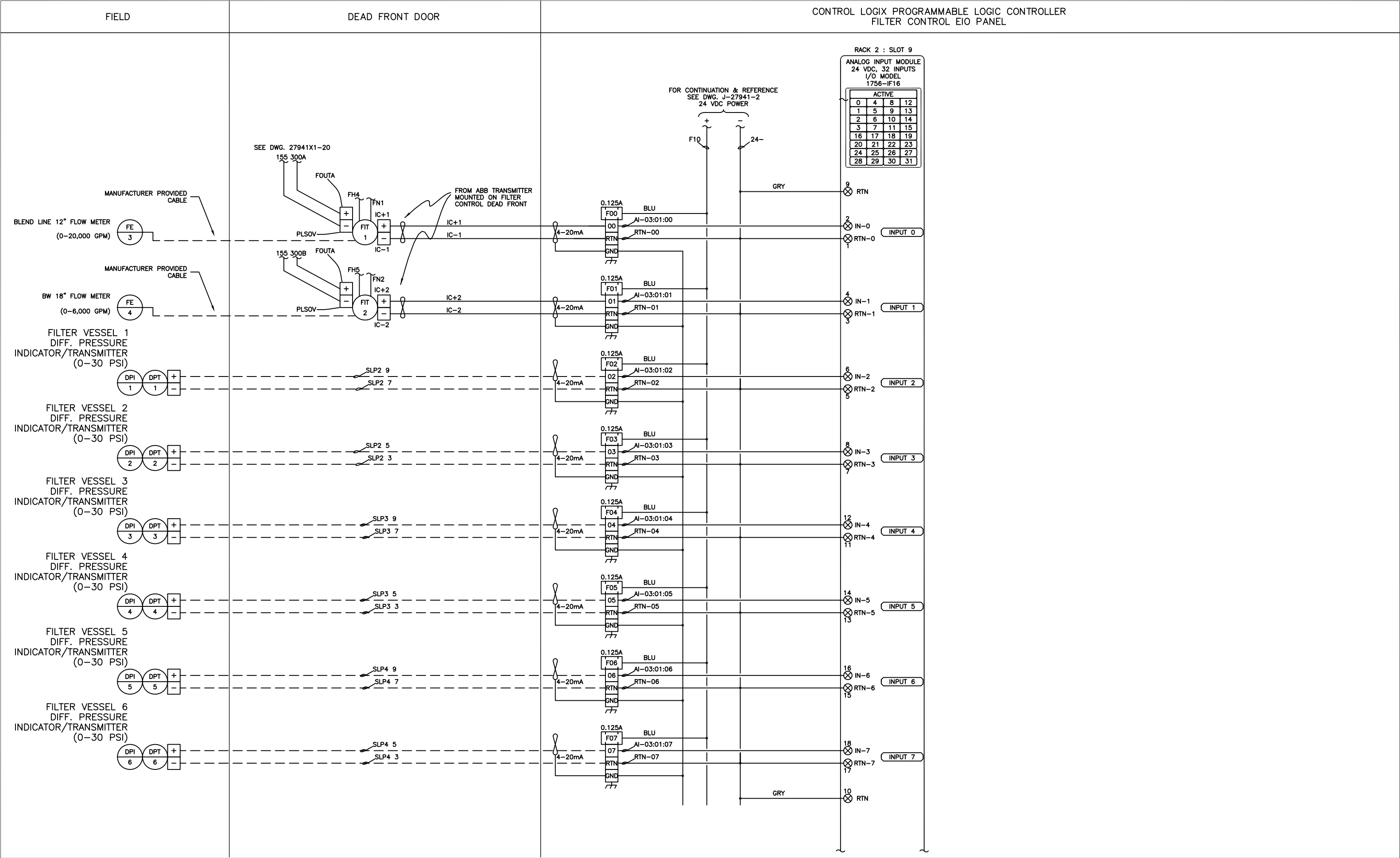
WATER TREATMENT PLANT  
FILTER EIO CONTROL PANEL  
DIGITAL OUTPUT WIRING DIAGRAM

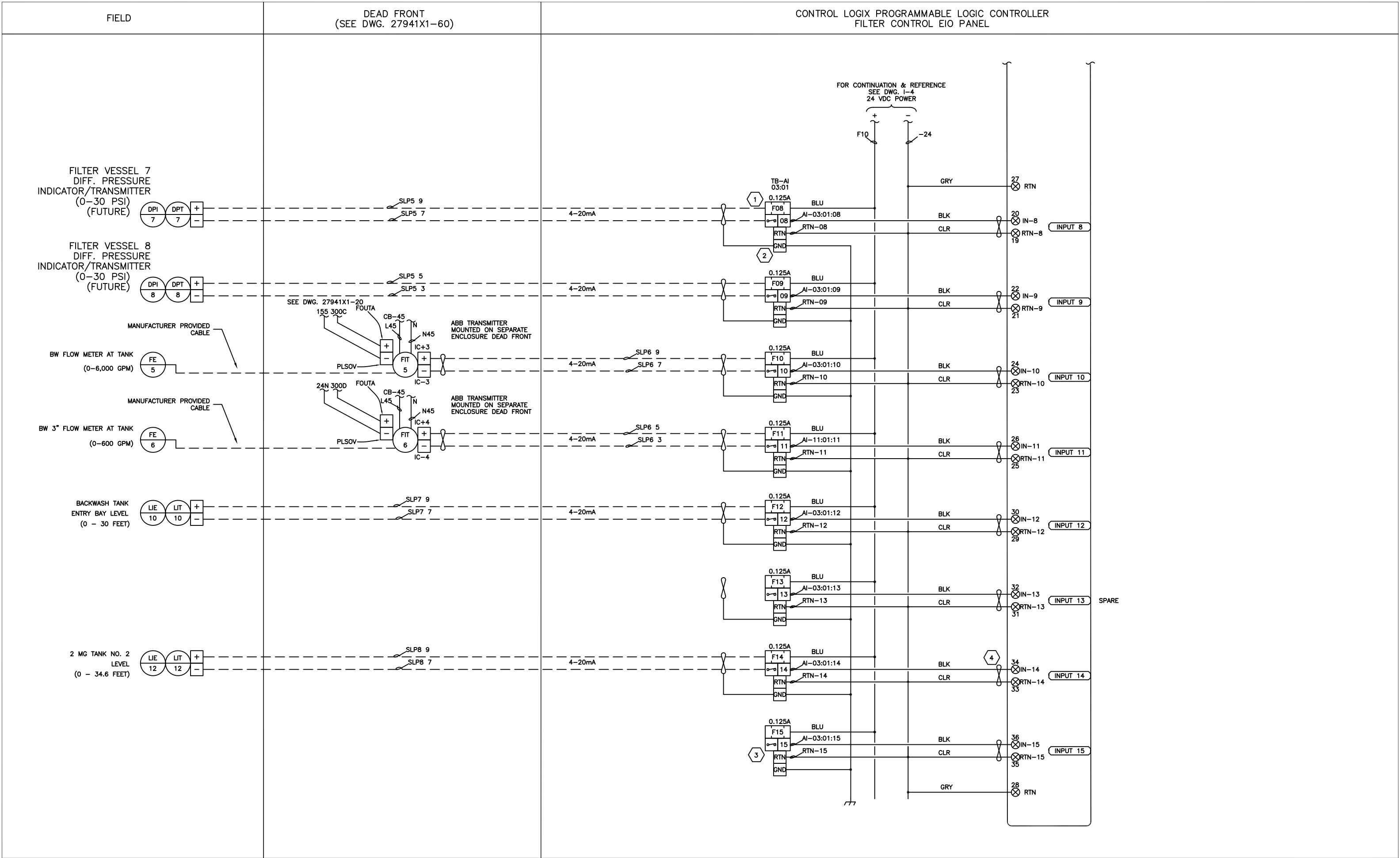
ELK GROVE WATER DISTRICT  
RAILROAD WTP AND STORAGE TANK  
PLC UPGRADE PROJECT

DATE	DESIGN BY	DRAWN BY	CHK'D BY	SHEET #	DRAWING #
03/01/24	JSP	QSP		38 OF 43	I-113

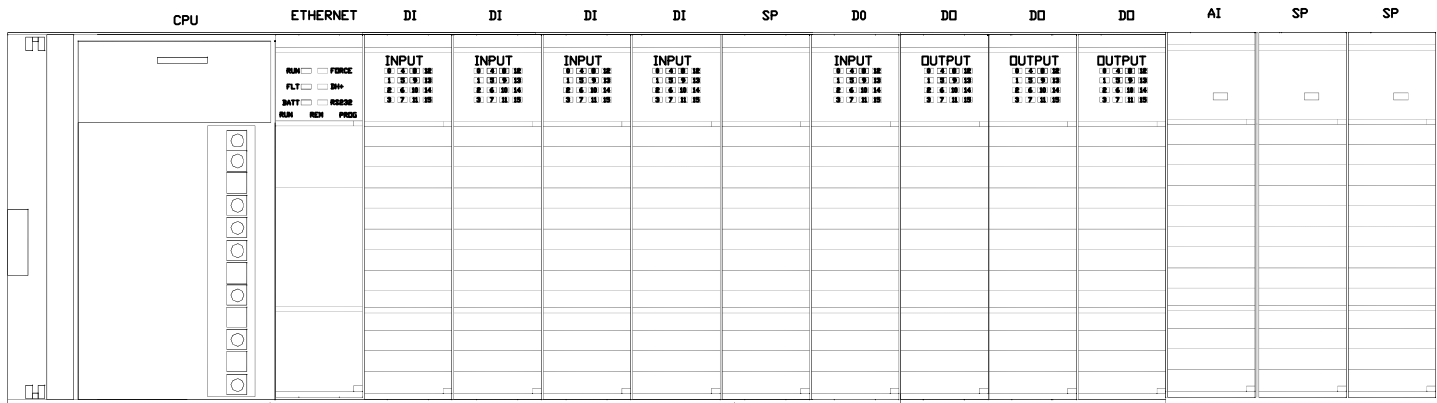
CONTROL LOGIX PROGRAMMABLE LOGIC CONTROLLER  
FILTER CONTROL EIO PANEL





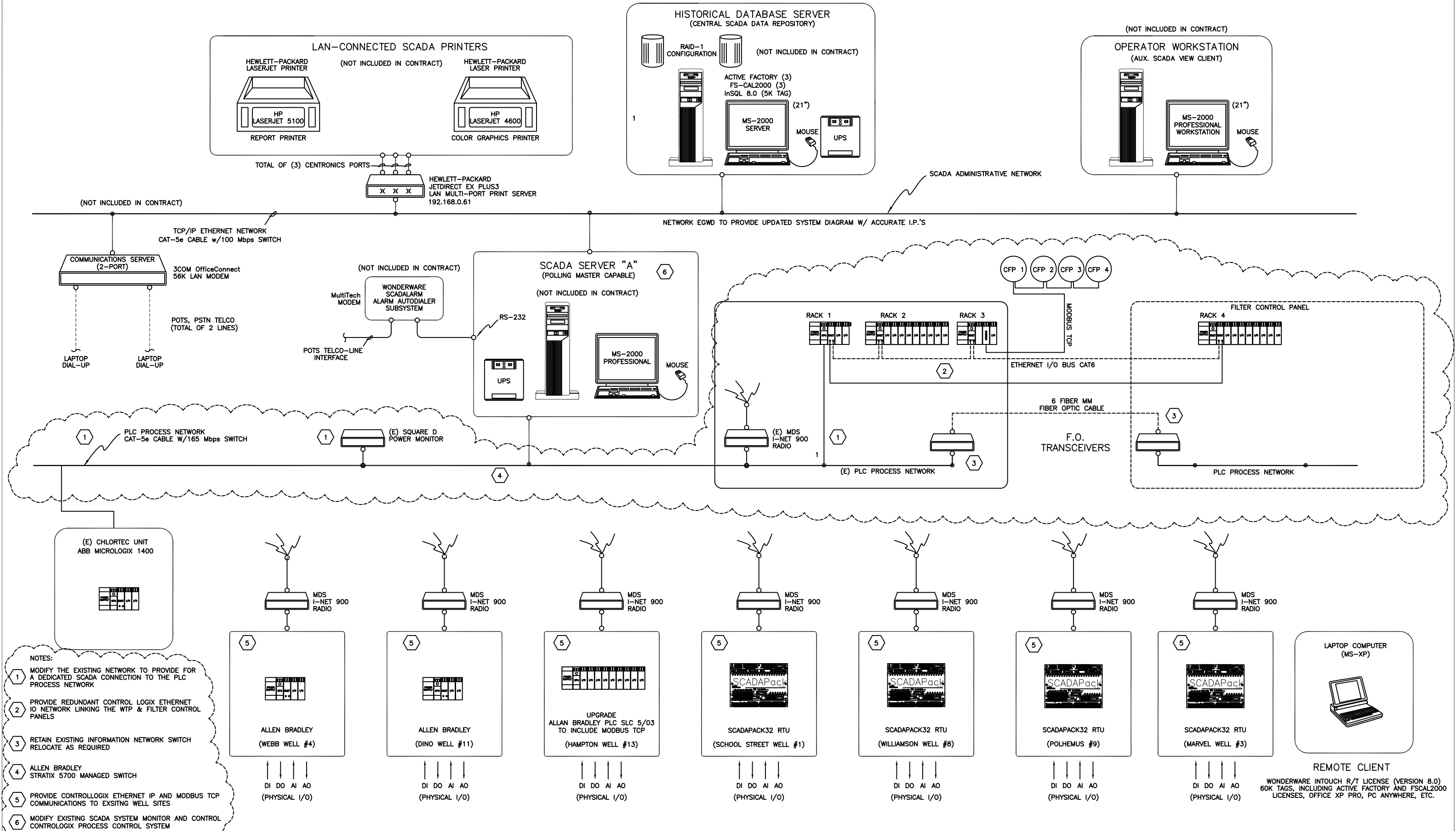


FILTER CONTROL PANEL DIGITAL EIO





ELK GROVE WATER DISTRICT SCADA SYSTEM



SECTION 13300  
INSTRUMENTATION AND CONTROL GENERAL

PART 1 -- GENERAL

1.01 SCOPE OF WORK REQUIREMENTS

- A. The Work of this Section includes the general specification and requirements for the instrumentation and control systems under this and other applicable specifications.
- B. The general scope of work shall include, but is not necessarily limited to the following:
  - 1. Furnish and install replacement interior PLC control panels:
    - a. Existing Water Treatment Plant Control Panel
    - b. Existing Filter Control Panel
  - 2. Replace the existing SCADAPAK Controllers with new Allen Bradley ControlLogix PLC Control Systems.
  - 3. Provide PLC Programming to program and incorporate the existing programming logic to new Allen Bradley ControlLogix application program. Modify and update programming to incorporate new programming logic and remove existing legacy programming logic.
  - 4. Provide SCADA configuration to support new communication infrastructure and Allen Bradley Communications protocol. Modify graphics as specified to provide for additional monitoring and control.
  - 5. Provide Control System Quality Control to include:
    - a. Existing Process Logic and Control system Verification
    - b. Site Investigation and field I/O Confirmation to update and as-built existing connections.
    - c. Factory Testing
    - d. Pre-Commissioning Testing
    - e. Commissioning
    - f. Training
    - g. Final Acceptance Testing
- C. Instrumentation and Control Systems specified in Division 13 shall be furnished, manufactured, wired, and tested as a complete system by a qualified Control Systems Supplier (CSS). The CSS shall provide all equipment, materials, instrumentation, and assemblies complete. The CSS shall provide, but not necessarily be limited to, field as-builts, installation coordination, factory testing, PLC/SCADA programming, test programs, configuration, pre-commissioning, system commissioning, testing and final acceptance.

- D. The CSS shall be responsible for the detailed design, procurement, installation coordination, testing, commissioning, training, and documentation of instrumentation and control systems provided under this CONTRACT. The CSS shall be responsible for coordination and interfacing with the Owner to provide a coordinated communications interface with the Plant SCADA Control Systems and the Owners existing SCADA system. The CSS shall provide all hardware, application software, configuration, installation, factory testing, commissioning, and training.
- E. The CSS shall note that the equipment loop, logic, system, PLC, and elementary diagrams are not necessarily manufacturer, model, or part # specific and are based on non-certified, owner, existing system supplier and vendor information to indicate a general scope of supply. The Specifications address functional requirements, features and operation that may require additional options or components from the CSS to provide for a complete and functional system.
- F. The CSS shall coordinate all requirements with the equipment manufacturers at bid time to provide for a complete and operable system and shall include all costs in its bid to add additional instruments, wiring, programmable controller inputs/outputs, controls, drawing revisions etc., into the design based on Equipment Manufacturer's requirements and final certified prints to meet the specifications. Such changes to instrumentation and control work to meet the Specification requirements shall be incorporated into the "SCOPE OF WORK" at no additional cost to the Owner.
- G. Per specified submittal requirements the CSS shall be responsible for the generation of panel wiring diagrams, equipment interconnection diagrams, network diagrams and loop drawings which depict the interconnection between existing instruments, control panels, field panels, electrical equipment, control equipment, motorized equipment, packaged systems, and Motor Control Centers (MCC).
- H. The wiring diagrams and PLC Input/Output Lists are complimentary and supplemental to each other, what is indicated in one may not necessarily be indicated in the other documents. The wiring diagrams and Input/Output list comprise the requirements for PLC input and output wiring. The CSS shall generate a complete I/O list.
- I. The CSS shall generate a complete analog and digital loop drawing for each measuring and/or control loop. The loop drawing shall include information as specified in the submittal requirements for loop drawing preparation.
- J. All control system field tests including factory tests, loop tests, site commissioning, operational readiness testing, plant startup, and final acceptance shall be the responsibility of the CSS.
- K. The CSS shall perform field engineering as required for mounting and supporting all field mounted components. The CSS shall develop any additional schematic and interconnection diagrams required to interface with existing systems, PLC, and instrumentation equipment, which may be required for a complete and operable instrumentation and control system.
- L. The CSS shall design, procure, configure for testing, factory test, install, commission, and support a PLC hardware system that shall integrate all process controls required to provide for a complete and operational system. The PLC system shall be designed in accordance with the manufacturer's requirements for SCADA and PLC system communications. The CSS shall coordinate the final I/O arrangement and configurations at the time of submittal with the Owner.

- M. The CSS shall field verify all new and existing control systems, instrumentation, and logic systems prior to implementing the specified systems. The operation of switches and interlocking logic shall be confirmed to operate in either the Normally Open or Normally Closed states. The CSS shall provide interposing relays and wiring modifications necessary to meet the operational requirements specified and to properly interface with existing system and equipment supplied as a part of the mechanical systems.

#### 1.02 EXISTING SYSTEMS

- A. Contract drawings are based on the best and most recent information available. These documents are not certified. The CSS shall confirm and validate all existing wiring.
- B. The CSS shall be responsible for coordinating, validating, modifying, interconnecting, and commissioning all existing equipment referenced in the Contract Documents.
- C. Interconnection diagrams shall be prepare and shall include wire terminal numbers at both ends.

#### 1.03 QUALIFICATIONS

- A. Reference Bid Documents for additional information on qualification requirements.
- B. The instrumentation, control and communications system shall be furnished by a Control System Supplier (CSS) supplier who shall assume responsibility for the satisfactory performance of the system. Qualifications shall be submitted with the Bid to include:
  - 1. Provide references (including contact name and telephone number) for at least three (3) projects where the following tasks were performed by personnel directly employed by your firm as a system supplier; system engineering and documentation including panel assembly, schematics, and wiring diagrams; software configuration and documentation; field testing, calibration, and start-up; and operating instructions and maintenance training.
  - 2. The Project Engineer for the CSS shall be an Electrical Engineer Registered in the State of California. The Project Engineer shall attend all project meetings and be an active participant in project development and implementation. Submit Project Engineer Resume at the time of Bid.
  - 3. Document that the company is actively in the business of furnishing integrated instrumentation, telemetry, PLC control systems, and electrical equipment for the environmental, water and wastewater industries.
  - 4. Have a qualified service facility with permanent employees located within 100 miles of the job site. Facility to include all tools, spare parts, and test equipment to repair, calibrate, test and start-up the equipment to be provided on this contract.
  - 5. The Control System Supplier shall have a UL authorized manufacturing facility.

#### 1.04 RELATED SECTIONS

- A. Contract Documents are a single integrated document, and as such all Divisions and Sections apply.
- B. The Work of the following Sections applies to the Work of this Section. Other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of this Work with respect to interfacing electrical and control systems packaged under any associated mechanical and civil specification sections.
- C. Related Divisions/Sections shall include but not be limited to the following:
  - 1. Section 13320 – System Quality Control
  - 2. Section 13340 – Control Panels
  - 3. Section 13350 – Programmable Control Systems
  - 4. Section 13370 – Applications Programming
  - 5. Appendix A – Existing Program Logic and I/O Descriptions

#### 1.05 CODES

- A. Work of this Section shall comply with the current editions of the following codes:
  - 1. Uniform Fire Code
  - 2. National Electrical Code

#### 1.06 SPECIFICATIONS AND STANDARDS

- A. Except as otherwise indicated, the current editions of the following apply to the Work of this Section:
  - 1. ISA-RP60.6 Nameplates, Labels, and Tags for Control Centers
  - 2. ISA-RP12.6 Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations
  - 3. ISA-5.1 Instrument Symbols and Identification
  - 4. ISA-5.4 Instrument Loop Diagrams
  - 5. ISA-5.5.-1985 Graphic Symbols for Process Displays
  - 6. ISA-51.1-1979 (R1993) Process Instrumentation Terminology
  - 7. ISA – 62382 Automation Systems in the Process Industry – Factory Acceptance Test, Site Acceptance Test and Site Integration Test
  - 8. ISA – 62382 Automation Systems in the Process Industry – Electrical and Instrumentation Loop Check

## 1.07 SUBMITTALS

- A. Submittals shall be supplied in accordance with the Owners general conditions and as supplemented or modified by this and other related specification sections.
- B. Drawings shall be prepared in AutoCad and Submitted as PDF files for review. Minimum drawing size shall be 11x17 Format.
- C. Control panel submittals
  - 1. Submit the following:
    - a. Complete Submittal to Include:
      - (1) Marked Specification Sections to indicated compliance
      - (2) Table of Contents
      - (3) Bill of Material
      - (4) Scaled Elevation Drawings
      - (5) PLC Wiring and I/O Connection Diagrams
      - (6) Communications Diagrams
      - (7) Calculations
      - (8) Technical Data Sheets
      - (9) Factory Test Forms and Procedures
  - 2. Control panel submittals shall be grouped by location, area, and process. Bill of Materials and fabrication drawings shall be individually grouped by Facility, Area, and control panel.
  - 3. A separate technical brochure, data sheet or bulletin shall be included for each instrument, component and equipment item, system, and other element. The data shall be indexed by systems or loops. If, within a single system or loop, a single item is employed more than once, one brochure may cover all identical uses of that item in the system. Each brochure shall include a list of tag numbers to which it applies. System groups shall be separated by labeled tags.
  - 4. Wiring diagrams for power, communications and control circuits shall be submitted in two stages.
    - a. Stage 1 – Panel wiring diagrams shall show complete details on the circuit interrelationships of all devices within and outside each Control Panel. Wiring diagrams shall include:
      - (1) Power Wiring Diagrams
      - (2) Control Diagrams
      - (3) PLC Wiring Diagrams as follows:
        - (a) Digital Inputs
        - (b) Digital Outputs

- (c) Analog Inputs – (Loop Diagram Format)
  - (d) Analog Outputs – (Loop Diagram Format)
  - (e) Communications Wiring and Network Diagrams
- b. Stage 2 – Point to Point Interconnection Diagrams showing connectivity between the Control Panel and Field Devices in a point to point format indicating at a minimum:
  - (1) New Conduit Installation
  - (2) Wire Color
  - (3) Wire Label
  - (4) Wire Termination Labels at both ends.
  - (5) Point Connection Identifier and Description at Both Ends.
- 5. Component layout drawings to scale, showing numbered terminals on components together with the unique number of the wire to be connected to each terminal. Piping and wiring diagrams shall show terminal assignments from all primary measurement devices, such as flow meters, and to all final control devices, such as pumps, valves, chemical feeders, and local control panels.
- 6. Assembly and construction drawings for each control panel, local indicating panel, hand control stations and for other special enclosed assemblies for field installation. These drawings shall include dimensions, identification of all components, surface preparation and finish data, and nameplates. These drawings also shall include enough other details, including photographs, to define exactly the style and overall appearance of the assembly; a finish treatment sample shall be included.
- 7. Installation, mounting, and anchoring details for all field instruments and components and assemblies to be field-mounted, including conduit connection or entry details.
- 8. Complete control panel layouts, all drawn to a 1-1/2 inch=1 foot scale showing:
  - a. Physical arrangements which define and quantify the physical groupings of, PLC components, annunciators, handstations, recorders, indicators, pilot lights and all other instrumentation devices associated with control panel sections, auxiliary panels, subpanels, and racks.
  - b. All cutout locations fully dimensioned.
  - c. All outside panel dimensions shall be shown.
  - d. Locations of back-of-panel stiffeners.
  - e. Backpanel equipment layout and terminal point locations for all panel and back-of-panel piping and wiring connections. Terminations shall be coded with identifiers for wiring and piping connections for all electric, hydraulic, and pneumatic terminations.

9. Bill of Material

- a. A complete and detailed bill of material (BOM) list shall be submitted for each component, device or assembly as well as cabinet assemblies and subassemblies. Bills of material shall include all items within an enclosure. An incomplete submittal shall be rejected, and no further evaluation performed until a complete and detailed bill of material is submitted.
- b. The BOM shall be prepared specific to each panel, with a separate listing for each panel, subsection, and assembly.

10. Calculations

- a. Panel Power: Provide power load calculations and determine the maximum power required. Power requirements shall state required watts, voltages, currents, and phases. Power supplies shall be supplied to provide for a minimum of 150 percent at maximum load.
- b. Panel Heat Load Calculations: Provide panel heat load calculations and determine heat dissipation, and operating temperature. Heat dissipation shall be at maximum load and shall be stated in BTU per hour or watts. Operating temperature shall be calculated at the specified ambient temperatures or at 40 degrees C if no other ambient temperature is specified. If ventilation fans are used, provide audible sound level for the fans.
- c. Panel wireway fill calculations. Panel wireway fill shall not exceed 60 percent fill.

D. FIELD INSTRUMENTATION

1. Instrumentation Summary/Schedule and Bill of Material
2. Technical brochures, bulletins and data sheets containing:
  - a. Fully completed ISA-20 data sheets or Similar with the required Data
  - b. Technical Specification Data Sheets
  - c. Component functional descriptions
  - d. Locations or assembly at which component is to be installed
  - e. Materials of a component's parts which will be in contact with process fluids or gases
3. Instrumentation Loop Diagrams per ISA-5.4
4. Hazardous Location (Intrinsically Safe) Control Diagrams
5. Field Installation and Mounting Drawings. Detailed installation drawing shall be submitted for all field sensor installations.



E. PLC CONFIGURATION

1. Reference PLC Hardware and Software Requirements Per Section 13350 and 13370
2. A PLC I/O database (Excel Spreadsheet) shall be submitted and reviewed prior to the generation of the final PLC wiring diagrams. The PLC I/O database shall be coordinated with the Owner.
3. Review and revise existing control strategy based on field investigations. Submit updated control strategy and I/O revisions for review and discussion in the specified workshop(s).

F. SCADA CONFIGURATION

1. Submit Wonderware System Platform SCADA System Graphic Screens for review.

G. FACTORY OPERATIONAL TEST

1. The CSS shall submit comprehensive factory testing procedures, forms and reports complete. Testing submittals shall address all the factory testing requirements.
2. Reference Section 13320 for additional requirements.

H. SYSTEM START-UP AND COMMISSIONING

1. The CSS shall submit comprehensive testing procedures, forms and reports complete. Testing submittals shall address the testing and commissioning requirements for instrumentation and control and those referenced in Divisions 16 where applicable.
2. Start-up test forms shall be submitted as follows:
  - a. Installation Verification Forms
  - b. Discrete I/O Point Testing Forms
  - c. Analog I/O Point Testing Forms
  - d. Analog Loop Testing Forms
  - e. Instrument Calibration Forms
  - f. Equipment Operational and Configuration Forms
  - g. Process control and operational testing
  - h. Communication Test
3. Reference Section 13320 for additional requirements.

#### 1.08 PROJECT MEETINGS

- A. The CSS shall attend all required meetings associated with the procurement, fabrication, and commissioning of the control systems. At a minimum, the CSS shall attend:
  - 1. Pre-submittal Conference
  - 2. Submittal Review Meetings (Until Submittals are Approved)
  - 3. Control Strategy Workshop
  - 4. SCADA System Configuration Workshop
  - 5. SCADA Virtual Demonstration Workshop
  - 6. Two Coordination Meetings in addition to those specified.
  - 7. Pre-Commissioning Start-up Meeting
  - 8. Weekly start-up and commissioning meetings during the commissioning phase.

#### 1.09 PROJECT COORDINATION

- A. The CSS shall assign a project engineer that shall be responsible for, but not necessarily limited to the following:
  - 1. Coordinating communications interface requirements between the Equipment Suppliers and the Plant PLC and SCADA.
  - 2. Updating and maintaining an excel spreadsheet I/O list for all systems.
  - 3. Coordinating hardwired interlocks and signal interface requirements.
  - 4. Attend all Meeting and Workshops
  - 5. Start-up and testing requirements with the Owner.

#### 1.10 INTERCONNECTION WIRING DIAGRAMS

- A. The CSS shall prepare all interconnection diagrams for the entire project. Include all vendors' equipment, existing systems, and electrical panels as a point to point connection diagram showing all wiring with field wire labels.

#### 1.11 OPERATIONS MANUAL

- A. Information included in the Owner's MANUAL shall comply with the requirements of the Specifications with the following exceptions:
  - 1. Two copies of the Owner's Manual shall be submitted after acceptance of all submittals under Paragraph 1.5. One set will be returned to the CSS with comments.
  - 2. Final copies (6) of the Owner's Manual, after revision, shall be submitted to the ENGINEER 15 days prior to startup.
  - 3. The following shall be included in the Owner's Manual:

- a. Installation, connection, operating, troubleshooting, maintenance, and overhaul instructions from the manufacturer.
- b. Exploded or details views of all instruments, assemblies, and accessory components.
- c. Parts lists and ordering instructions.
- d. Wiring diagrams.
- e. A list of spare parts for 1 year operation recommended by the manufacturers of all analog equipment.

**B. AS-BUILT DRAWINGS**

- 1. As-built drawings shall be prepared in accordance with Section 16010 with the following exceptions and changes:
  - a. The CSS shall keep current an approved set of complete analog and digital loop diagrams and schematic diagrams which shall include all field and panel wiring, all piping and tubing runs, all routing, all mounting details, all point-to-point diagrams with cable, wire, tube, and termination numbers.
  - b. One set of original drawings and two copies of each as-built drawing under this Section shall be submitted to the ENGINEER after completion of field checkout but before placing the systems in service for the Owner's use.
  - c. Drawings shall also be submitted in electronic format as both an Autocad and PDF file.
  - d. The operations manual shall be provided in PDF format with a user interactive table of contents (TOC) that navigates from the TOC to the selected document.

**1.12 SERVICES OF MANUFACTURER**

- A. Calibration, Testing and Startup: The CSS shall provide the services of a technical service representative of the manufacturer who shall visit the site and perform the following on all flow meters, DO Analyzers and Chemical System Analyzers.
  - 1. Installation Inspection
  - 2. Instrument check-out and calibration
  - 3. Instrument programming and configuration
  - 4. Startup and field testing for proper operation.
  - 5. Performing field adjustments to ensure that installation and operation comply with the Specifications.

- B. Trainin8 and Instruction of Owner's Personnel: The manufacturer's technical service representative shall instruct the Owner's personnel on:
  - 1. Equipment Operation
  - 2. Maintenance
  - 3. System Diagnostics
  - 4. Calibration
  - 5. Provide two eight (8) hour training sessions.

#### 1.13 SPECIAL GUARANTEE

- A. The CONTRACTOR shall guarantee the Work of this section for one year following substantial completion of the Work. In making any warranty repairs, the CONTRACTOR shall utilize technical service personnel designated by the manufacturer of the failed device. Repairs shall be completed within 5 days after written notification by the Owner.

#### 1.14 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Delivery of Materials: Products delivered to the site for incorporation into the Work of this Section shall be delivered in original, unbroken packages, containers, or bundles bearing the name of the manufacturer.
- B. Storage: Products shall be carefully stored in a manner that will prevent damage and in an area that is protected from the elements.  
Installed Equipment: Equipment installed in place for periods exceeding 24 hours prior to the field wiring and commissioning of electrical and electronic equipment shall be protected from dust and exposure to the elements.
- C. Shipment: Panels shall be crated for shipment using a heavy framework and skids. Panel sections shall be cushioned to protect the finish of the instruments and panel during shipment. Instruments, which are shipped with the panel, shall have suitable shipping stops and cushioning material installed to protect instrument parts from mechanical shock damage during shipment. Each panel crate shall be provided with removable lifting lugs to facilitate handling.

#### 1.15 ENVIRONMENTAL CONDITIONS

- A. General: All instrumentation and control system components and associated wiring shall be suitable for use in an environment where there may be high energy AC fields, DC control pulses, and varying ground potentials between transducers and system components. The system design shall be adequate to provide proper protection against interferences from all such possible situations.
- B. Field Situated Equipment: The system design shall be adequate to provide proper protection in the environment typically associated with these facilities. As a minimum, the instrumentation and control systems shall be designed and constructed for satisfactory operation and low maintenance requirements under the following environmental conditions:
  - 1. Temperature Range: 0 through 60 degrees C (32 - 144 degrees F)

2. Thermal Shock: 0.55 degrees C per minute (1.0 degrees F per minute)
  3. Relative Humidity: 20 - 95 percent (non-condensing)
- C. Control Room Situated Equipment: Control rooms shall be air conditioned to achieve the environmental noted in item B herein. (No positive control of relative humidity is provided.) In the event of a failure of the air conditioning system, all components of the instrumentation and control system shall be rated to operate in an environment where the ambient temperature is 15 through 35 degrees C (59 through 95 degrees F) and the relative humidity is 20 to 95 percent (non-condensing).
- D. Noise Tolerance: The instrumentation and control system components shall not exceed a db level of 55 when monitored 3-feet away from the devices. If upon testing it is found that this limit is exceeded at the option of the ENGINEER and at no additional cost to the Owner, devices shall be replaced in order to achieve a maximum level of 55 db or sound absorption materials shall be added.

#### 1.16 FIELD CABLE AND CONDUCTOR NUMBERING

- A. All cables and conductors shall be provided with a unique cable identifier.
- B. The first characters shall denote the facility or area number.
- C. The second group of characters identifies the field device being served by a ISA or equipment tag reference.
- D. The third section is the loop or equipment number.
- E. The fourth section uses one of the four suffixes in the table below. Where multiple circuits of the same type are routed to the same endpoint, the suffix will be P1, P2, as required.
- F. At each device or termination point, the circuit identification number is appended with the individual wire number. For Direct Current (DC) circuits only, wire polarity is shown in parentheses as (+) or (-). Spaces are not allowed, and letters are not case-sensitive, and written in upper case.

SUFFIX	CIRCUIT TYPE	EXAMPLE
(S)	Analog (4-20 mA)	FIT2101-S1(+)
(C)	120 volt AC control	LSH2101-C1
(D)	24v dc digital status or control	YIM2101-D1
(P)	Power (480 v, 5 kv, 15 kv, etc.)	50F11FA-P1
(L)	Power (120 v, 208 v, 240 v)	RW2101-L1
(T)	Communications	20MCP01-T1

## 1.17 GENERAL INSTRUMENTATION AND CONTROL REQUIREMENTS

- A. All meters, all instruments, and all other components shall be of the most recent field-proven models marketed by their manufacturers at the time of submittal of the shop drawings unless otherwise indicated.
- B. Outdoor instrumentation shall be suitable for operation in the ambient conditions at the equipment installation locations. Heating, cooling, and dehumidifying devices shall be incorporated with the outdoor instrumentation in order to maintain it within its rated environmental operating ranges.
- C. The CONTRACTOR shall provide all power wiring for these devices.
- D. Outdoor enclosures suitable for the environment shall be provided at the specified locations. Sunshields shall be provided for all outdoor equipment with operator displays.
- E. All instrumentation in hazardous areas shall be intrinsically safe or be approved for use in the particular hazardous classification in which it is to be installed.
- F. Mercury switches and components containing liquid mercury shall not be used.
- G. Analog measurements and control signals shall be electrical and shall vary in direct linear proportion to the measured variable, except as indicated. Electrical signals outside control board(s) shall be 4-20mA DC except as noted.
- H. The accuracy of each instrumentation system or loop shall be expressed as a probable maximum error; this shall be the square-root of the sum of the squares of certified "accuracies" of the designated components in each system, expressed as a percentage of the actual span or value of the measured variable. Each individual instrument shall have a minimum accuracy of  $\pm 0.5$  percent of full scale and a minimum repeatability of  $\pm 0.25$  percent of full scale unless otherwise indicated. Instruments that do not conform to or improve upon these criteria are not acceptable.
- I. Each instrument and control loop shall be individually fused.

## 1.18 INSTRUMENTATION AND CONTROL PANELS

### A. GENERAL

- 1. Control panels shall be provided as specified in Section 13340.
- 2. Equipment Framework and Supports:
  - a. The rear of each control panel section or Instrument wall panel shall have a steel framework for supporting conduit, tubing, wireways, switches, air piping and all instrument accessory items such as relay or terminal enclosures, transducers, pressure switches, valves, and air relays. The main framework shall be constructed of standard structural shapes. Special shapes such as "Unistrut" may be used for secondary supports. Framework must not interfere with instrument connections or access needed for maintenance or adjustments.

- b. Equipment framework shall be 316 Stainless Steel in Corrosive Area listed in the Area Classification drawings or schedules. Chemical system equipment framework in chlorine areas shall be Fiberglass, PVC Coated or composite materials conducive to the chemical systems
- c. Preparation: The front and rear face of the panel, both sides and the edges of all flanges, and the periphery of all openings shall be prepared as follows:
  - (1) All high spots, burrs, and rough spots shall be ground smooth.
  - (2) The surfaces shall be sanded or sandblasted to a smooth, clean bright finish.
  - (3) All traces of oil shall be removed with a solvent.
  - (4) All welds, grinds and filed surfaces shall be appropriately treated to prevent corrosion.
- d. Finishing:
  - (1) A 3-mils dry coat of Amercoat 185 or equal primer shall be applied over the entire panel surface immediately after solvent cleaning.
  - (2) Wet sand, dry, and then quick glaze spot putty on the front of the panel only. Dry, then wet sand again and dry.
  - (3) Apply a second 3-mils dry coat of alkyd enamel primer to the front of the panel.
  - (4) Wet sand to smooth clear finish, then dry.
  - (5) At least two 3-mil dry coats of air-dry, satin finish, alkyd enamel shall be applied over the entire surface. Color to be as selected by Owner.
  - (6) The CONTRACTOR shall furnish two 1-pint containers of the enamel to the Owner.

#### 1.19 INSTRUMENT MOUNTING

- A. The CONTRACTOR shall provide field cut-outs, installation mounting racks, bracing, shelving, and stanchions, and shall mount all instrument and control items indicated, including any instruments indicated to be furnished by the Owner, other manufacturers, and packaged system suppliers.
- B. Installation details are not manufacturer specific and provide for general installation requirements. Details shall be modified per the actual field equipment, site requirements and methods to meet instrument tolerances and seismic restraint.
- C. The CONTRACTOR shall also mount, behind existing panels or panels supplied by others, other instrument accessory items as indicated or necessary for interfacing with equipment.

## 1.20 CONTROL WIRING AND TERMINATION

1. Controls panels shall be wired and fabricated in accordance with section 13340.
2. Field modifications of panels or electrical equipment shall adhere to the requirements of Section 13340.
3. The Contractor shall provide all field wiring, conduit, wireways, and switches required to make instruments and other panel electrical devices operational.
4. Conduit, wireways, junction boxes and fittings shall be installed for all instrument power, signal, and control wire. Provide in accordance with Division 16.
5. Each terminal connection shall have a plastic plate with a terminal and/or instrument tag number.
6. All wiring shall be identified with machine stamped tubular heat shrink wire markers.
7. Unless otherwise specified, wiring methods and materials for all panels shall be in accordance with the NEC requirements.
8. Wire for 115-volt control circuits shall be No. 14 AWG stranded with Type THWN/THHN insulation. All terminals for external wiring connections shall be suitable for No. 10 AWG wire.
9. Flexible seal tight (SLT) conduit shall be utilized only for short transitions (36 ") from instrument or equipment.
10. Soldered or pressure crimped wire splicing in conduits, wireways, ducts, and pullboxes shall not be acceptable.
11. For case grounding, panels shall be provided with a 1/4-inch by 1-inch copper ground buss completed with solderless connector for one No. 4 AWG bare stranded copper cable. The CONTRACTOR shall connect the copper cable to a system ground loop.

### B. INSTRUMENT TUBING

1. Instrument tubing shall be installed level and parallel with, or at right angles to panel interiors. Vertical runs shall be straight and plumb and installed with adequate strain relief to prevent damage.
2. All tubing installations shall allow clear and unobstructed access to equipment, controls, and instruments. Tubing installations shall allow easy removal of components or equipment. Components on tubing runs shall not be supported by the tubing, but shall be separately supported by rear panel mounting plates or adapters.
3. All installations of tubing shall be measured prior to panel fabrication. Any significant discrepancies between drawings and field conditions shall be reported to the ENGINEER. The Owner will not be responsible for any costs to the CONTRACTOR for rework because of CSS failure to take measurements prior to fabrication.



### C. INSTRUMENT REQUIREMENTS

1. Instruments located on a single panel section that serve one process unit may be connected to a common branch power circuit. The number of branch circuits shall be such that no circuit load exceeds 10 amps. Different panel sections and instruments serving different process units shall not use common branch circuits. A 15-amp, two-pole circuit breaker shall be provided in each branch circuit.
2. When instruments not equipped with integral fuses, the CONTRACTOR shall furnish and install fuses as required for the protection of individual instruments and equipment against fault currents. Fuses shall be mounted on the back of the panel, in a fuseholder, with each fuse identified by a service name tag.
3. Each potentiometer type instrument, electronic transducer, controller, or analyzer shall have an individual disconnect switch. Disconnect switches shall have metal or plastic tags listing the associated instrument tag numbers. Individual plug and cord set power supply connections may be used without switches when indicated.

### D. FIELD SIGNAL WIRING

1. DC Signal cable shall be constructed of No. 16 AWG copper signal wires with THWN insulation.
2. AC and DC Control conductors shall be 14 AWG minimum routed in conduit or troughs. Control conductors shall be THWN insulation.
3. Wire color code for instrument signal wiring shall be:
  - a. 120 VAC Hot – Black
  - b. 120 VAC Neutral – White
  - c. 120 VAC UPS Hot - Orange
  - d. DC Positive - White (+)
  - e. DC Signal Ground Negative - Black (-)
  - f. Equipment Ground – Green
  - g. Energized by voltage found external to panel – Yellow
  - h. 24 VDC Power - Pink
  - i. DC Control Circuit – Dark Blue
  - j. AC Control – Violet
  - k. DC Common – Grey
  - l. Intrinsically Safe – Light Blue

4. Multi-conductor cables where indicated shall consist of No. 18 AWG copper signal wires twisted in pairs, with 600 volt fault insulation. A copper drain wire shall be provided for the bundle with a wrap of aluminum polyester shield. The overall bundle jacket shall be PVC. Multi-conductor cables, wireways and conduit shall provide for 20 percent allocation of spare, unused signal wires in addition to the indicated requirements.
5. Remote I/O (RIO), Ethernet I/O (EIO), Distributed I/O (DIO) and Ethernet cabling shall be provided, installed, and terminated in accordance with the manufacturers cabling and termination procedures. The CSS shall furnish and install all necessary cable taps, termination devices and connectors required to provide for a complete communications interface. Field taps or terminators required to meet distance and interconnection requirements shall be furnished and installed by the CSS.

E. INDICATION

1. Color Conventions: Lens covers/LED's for indicating lights on all panels will be colored as follows:
  - a. Red-ON when;
    - (1) Motor not running (STOPPED)
    - (2) Valve CLOSED (not opened)
    - (3) Device not energized.
    - (4) Circuit breaker OPENED
  - b. Green-ON when;
    - (1) Motor running in forward direction (fast speed for multi-speed motors).
    - (2) Valve OPEN (not fully closed)
    - (3) Device energized.
    - (4) Circuit breaker CLOSED
  - c. White-ON when;
    - (1) Power available
    - (2) System in AUTOMATIC mode.
    - (3) Monitoring taking place.
  - d. Amber-ON when;
    - (1) Malfunction trip.
    - (2) Equipment locked out.
    - (3) Alarm condition

## 1.21 NAMEPLATES

- A. Nameplates shall be provided for instruments, function titles for each group of instruments, and other components mounted on the front panel(s) as indicated. A nameplate shall be provided for each signal transducer, signal converter, signal isolator, and electronic trip mounted inside the panel(s). Nameplates shall be descriptive to define the function and system of such element. These nameplates shall be of the same material as those on the front of the panel(s). Screws shall be used for attaching nameplates. Nameplates shall be fabricated from black face white-center laminated engraving plastic. Painted surfaces shall be prepared to allow permanent bonding of adhesives. Colors, lettering, styles, abbreviations, and sizes shall be in conformance with ISA\_RP60.6 with an intended viewing distance of 3 feet to 6 feet.
- B. Equipment Interior Nameplates - Nameplate material shall be clear plastic with black machine printed lettering as produced by a KROY or similar machine; except caution, warning, and danger nameplates shall have red lettering. The size of the nameplate tape shall be no smaller than 1/2" in height with 3/8" lettering unless otherwise approved by the ENGINEER. Securely fasten nameplates in place on a clean surface using the adhesion of the tape. Add additional clear glue to hold the nameplate securely in place when necessary. For each device with a specific identity (relay, module, power supply, fuse, terminal block, etc.) mounted in the interior of a piece of equipment provide a nameplate with the inscription as shown in the CONTRACT DOCUMENTS. Where no inscription is indicated in the CONTRACT DOCUMENTS, furnish nameplates with an appropriate inscription providing the name and number of device used on the submittal drawings. Stamp the nameplates with the inscriptions as approved by the ENGINEER in the submittal.

## PART 2 -- PRODUCTS

### 2.01 GENERAL

- A. Equipment and materials shall be products of reputable, experienced manufacturers. Similar items in the project shall be the products of the same manufacturer. All equipment shall be of industrial grade, a standard of construction, shall be of sturdy design and manufacture, and shall be capable of long, reliable, trouble-free service.
- B. The field equipment panels shall be fabricated to house, controllers, instrumentation, and communications equipment specified elsewhere and as indicated on the Contract Drawings. Control panels shall be fabricated and wired in accordance with Section 13340 and applicable Specification sections.
- C. Instrumentation and control equipment shall be UL listed.

### 2.02 FIELD INSTRUMENTATION

- A. Provide Instrumentation in accordance with Section 13330, Instrumentation.

### 2.03 COMPONENTS GENERAL

- A. Field Terminal Blocks: Terminal blocks shall be molded plastic with barriers and box lug terminals, and shall be rated 30 amperes at 600 volts. White marking strips, fastened securely to the molded sections, shall be provided and wire numbers or circuit identifications shall be marked thereon with permanent marking fluid.
- B. Indicators: Indicators shall be provided at the locations specified and shall be rated for the voltage required. Indicators shall be full-voltage Push-To-Test LED.

### 2.04 GENERAL INSTRUMENTATION COMPONENTS

- A. General instrumentation components shall be provided as specified in Section 13330 Instrumentation and 13340 Control Panels.
- B. Signal Isolators, Converters, and Power Supplies: Signal isolators shall be provided in each measurement and control loop, wherever required, to match adjacent component impedances, provide signal amplification, or where feedback paths may be generated or to maintain loop integrity when the removal of a component of a loop is required. Signal converters shall be provided where required to resolve any signal incompatibilities. Signal power supplies shall be provided to supply sufficient power to each loop component.
- C. Power supply and conversion modules shall be supplied as required to provide the required equipment operational voltage and current. Power supplies shall be sized to provide 150 percent of the maximum current requirements.
- D. General Purpose Relays: General purpose relays in the Control Panels shall be plug-in type with contacts rated [10] amperes at 120 volts ac; quantity and type of contacts shall be as indicated. Each relay shall be enclosed in a clear plastic heat and shock resistant dust cover with LED status indicator. Sockets for relays shall have screw type terminals.

- E. Industrial Control Relays: Industrial control relays shall be 20 Amp rated with four-pole convertible contacts. The coil voltage shall be as required to interface with the required control logic. The ICR shall be capable of providing eight contacts with the addition of a four-pole module mounted to the deck assembly.
- F. Time Delay Relays: Time delay relays shall be electronic on-delay or off-delay type with contacts rated 10 amperes at 120 volts AC. Units shall include adjustable dials with graduated scales covering the indicated time range. Timers shall be provided with status and timing LED indication.
- G. Slave Relays: Slave relays shall be provided when the number or type of contacts indicated exceeds the contact capacity of the indicated relays and timers.
- H. Circuit Breakers: Circuit breakers shall be single pole, 120 volt, 15 ampere (minimum) rating or as required to protect wiring and equipment. Circuit breakers shall be mounted inside the panels as shown.
- I. Intrinsically Safe Relays and Barriers: Intrinsically safe relays and barriers shall be installed at equipment locations and utilized where required to meet the defined area classifications.
- J. Moisture Relays and Thermal Protection Relays. Moisture and thermal protection relays furnished or required by equipment manufacturers shall be coordinated by the CSS and installed in accordance with the manufacturer's requirements.

## PART 3 -- EXECUTION

### 3.01 GENERAL

- A. The CSS shall employ installers who are skilled and experienced in the installation and connection of all PLC control systems.
- B. The CSS shall install all control components according to manufacturer's installation instructions and provide the following:
  - 1. Prepare any additional schematic and interconnection diagrams required for installation.
  - 2. Assemble and interconnect instrument and control components disconnected for shipping purposes.
  - 3. Remove all temporary supports, bracing, and padding inserted in instrument control panels and other equipment to prevent damage during shipping, storage, or installation
- C. Monitoring and control system configurations are diagrammatic only. Locations of equipment are approximate unless dimensioned on the DRAWINGS. The Contractor shall determine exact locations and routing of wiring and cables, which shall be governed by existing field wire termination points.
- D. The CSS shall coordinate and provide for installation by the CONTRACTOR all necessary process connectors, fittings and adapters required to connect the instrument to the process piping or process stream.

### 3.02 FIELD SIGNAL AND CONTROL CIRCUIT WIRING

- A. Were field wiring of equipment and components is necessary, the installations shall be in accordance with Section 13340 for equipment installation. The CSS shall verify all field wiring terminations to the PLC.
- B. All field wires shall be routed in dedicated field plastic wireways.
- C. Wiring from components on a swing-out panel to other components on fixed panels shall be tied into bundles with nylon wire ties, and shall be secured to panels at both sides of the "hinge loop" so that conductors are not strained at the terminals.
- D. Wiring to control devices on the front panels shall be tied together at short intervals with nylon wire ties and secured to the inside face of the panel using adhesive mounts.
- E. Wiring to rear terminals on panel-mount instruments shall be in plastic wireways secured to horizontal brackets above or below the instruments in about the same plane as the rear of the instruments.
- F. Each signal, control, alarm, and indicating circuit conductor connected to a given electrical point shall be designated by a single unique number which shall be shown on all shop drawings. These numbers shall be marked on all conductors at every terminal using white numbered wire markers which shall be permanently marked heat-shrink plastic.

### 3.03 INSTRUMENT AND CONTROL CABLE TESTS

- A. General: The following tests shall be performed on each instrumentation and control system cable. All tests shall be end-to-end tests of installed cables with the ends supported in free air, not adjacent to any grounded object. All test data shall be recorded on test forms-. Complete records of all tests shall be made and delivered to the Owner. The Owner's Representative who witnessed the testing shall sign each form.
- B. Continuity tests shall be performed by measuring wire/shield loop resistance of each signal cable as the wires, taken one at a time, are shorted to the channel shield. No loop resistance measurement shall vary by more than plus or minus 2 ohms from the calculated average loop resistance value.

### 3.04 FACTORY TESTING

- A. All systems shall be factory tested prior to shipment to the job site.
- B. Reference Section 13320 for Factory Operational Readiness Testing requirements.

### 3.05 RETROFIT AND EXISTING PANEL INSTALLATION

- A. Installation and Connection:
  - 1. The CSS shall install new control system back and side panels where indicated. The CSS shall relabel, reconnect, and terminate all existing conductors as required.
  - 2. All wire and all cable shall be connected from terminal to terminal without splices, arranged in a neat manner and securely supported in cable groups. All wiring shall be protected from sharp edges and corners.
  - 3. After all installation and connections have been completed, a technical field representative of the CSS shall check the Work for polarity of electric power and signal connections and shall certify in writing to the Owner that each loop and system meets requirements.
  - 4. At least 30 days before installation testing begins, the CSS shall submit to the Owner a detailed description, in duplicate, of the installation tests to be conducted to demonstrate correct installation of the instrumentation and control system and the anticipated dates the testing will occur.

### 3.06 SYSTEM COMMISSIONING

- A. All systems shall be inspected, tested, configured, calibrated, pre-commissioned and commissioned by the CSS.
- B. Control system testing for PLC and SCADA system operation shall be a joint effort between the CSS and Owner to facilitate the start-up and commissioning effort.
- C. The CSS shall coordinate all testing and commissioning efforts with the Owner.
- D. Reference Section 13320 for System Commissioning requirements.

### 3.07 TECHNICAL SERVICES

- A. In addition to the services required for start-up, commissioning, testing, and other services described in these and other specifications necessary for a complete and operational system, the CSS shall provide additional field technical and configuration services to be utilized at the direction of the Owner. The services to be performed shall include but not be limited to the following:
  - 1. Field Technical Services
    - a. The CSS shall provide for an additional 120 hours of field technical services to include:
      - (1) Instrument verification and calibration of equipment not shown, or existing or added during the course of construction by the Owner and Control System Suppliers.
      - (2) Modification of control systems to interface desired options or additional interlocks with packaged system suppliers and motor control centers not indicated or required for operation of the system.
      - (3) Include new I/O points (not referenced) as required for proper operation and alarm notification.
      - (4) Additional technical services to be directed by the Owner.
  - 2. Commissioning Technical Services
    - a. Reference Section 13320
  - 3. PLC Technical Services
    - a. Reference Section 13350.
- B. Written tasks will be initiated by the Owner to identify the work to be performed as a part of the field technical services. The hours shall be directed by the Owner and tracked on a time basis. The time deducted shall be the actual field time provided to accomplish the required task.

### 3.08 OPERATIONS AND MAINTENANCE MANUALS:

- A. The CSS shall furnish to the Owner 6 complete (Electronic PDF and Hard Bound) sets of operation and maintenance manuals. The manuals shall include date, information drawings, etc., for the system, subsystem, and all components, and shall include names, addresses and telephone numbers of equipment suppliers, representatives, and repair facilities.
- B. This shall include a complete description of the recommended operating procedures, maintenance procedures, and spare/replacement parts list for equipment items with catalog data, diagrams, and drawings or cuts describing the equipment. Each set shall include full size assembly and wiring diagrams; drawings showing "as-built" conditions shall be furnished to the Owner.



### 3.09 TRAINING

- A. Instruction: The CSS shall train the Owner's maintenance personnel in the maintenance, calibration and repair of all instruments provided under this contract.
- B. Reference Section 13320 for additional training submittal requirements.
- C. The training shall be performed by qualified representatives of the instrument manufacturers and shall be specific to each instrument model provided. Instructors shall have at least 2 years of training experience.
- D. Each training class shall be a minimum of [4] hours in duration and shall cover Operational Theory, Maintenance, Trouble Shooting/Repair, and Calibration of the instrument.
  - 1. Provide 16 Hours of Training
- E. Within 10 days after the completion of each lesson the CSS shall present to the Owner the following:
  - 1. A list of all Owner personnel that attended the lesson.

### 3.10 OPERATIONAL READINESS TEST (ORT)

- A. The CSS shall perform a 5 day operational readiness test.
- B. All equipment is to be placed into operation and monitored and exercised by the CSS for 5 days without failure or malfunction.
- C. The Owner may also be allowed to run tests in conjunction with the CSS to ensure proper operation during the ORT testing period.

### 3.11 FINAL ACCEPTANCE TEST (FAT)

- A. After startup and commissioning has been completed, the System shall undergo a 30-day Final acceptance test (FAT).
- B. The FAT shall not commence until all training is complete and the operations and maintenance manuals approved as-noted
- C. The System must run continuously for 30 consecutive days. During this period, all System functions shall be exercised by the Owner. Any System interruption and accompanying component, subsystem, or program failure shall be logged for cause of failure, as well as time of occurrence and duration of each failure.
- D. When the cause of a failure has been corrected, a new 30-day acceptance test shall be started. Each time the CSS technician is required to respond to a System malfunction, he must complete a report that shall include details concerning the nature of the complaint or malfunction and the resulting repair action required and taken.

- END OF SECTION -

## SECTION 13320

### SYSTEM TESTING, COMMISSIONING AND QUALITY CONTROL

#### PART 1 -- GENERAL

##### 1.01 SCOPE OF WORK REQUIREMENTS

- A. The Control System Supplier (CSS) shall provide the following:
  - 1. Site inspection for field wire verification and as-built documentation
  - 2. Prepare and submit for approval, factory test forms and procedures
  - 3. Conduct the Factory Acceptance Test
  - 4. Conduct a site Pre-Commissioning Test
  - 5. Install Control Panels and Conduct Switchover
  - 6. System Commissioning
  - 7. Operational Readiness Testing
  - 8. Training
  - 9. Final Acceptance Testing
- B. Factory, functional and operational testing shall be a collaborative effort between the CSS and the Owner to verify all system operations related to the SCADA and PLC control systems.
- C. The CSS shall assign a project engineer to the commissioning process for the coordination of and scheduling. The CSS project engineer shall be the single point of contact for all start-up and commissioning efforts related to the instrumentation and control systems. The Project Engineer shall attend all Onsite commissioning meetings.

##### 1.02 SITE INSPECTION

- A. The CSS shall field verify the drawings and confirm all field wire connections and labels. The CSS shall submit drawings marked up with wire revisions to include end to end terminations.
- B. The CSS shall submit wire label list and connection diagram showing the existing wire label and its new termination block reference within the control panel.
- C. Drawing measurements within the existing control panels are nominal. The CSS shall take all measurements necessary to confirm panel dimensions, bolt patterns, filed termination locations and available space to the fabrication of replacement panels.

### 1.03 COORDINATION

- A. The CSS shall coordinate all testing with the Owner and Owners representative to verify operation between all systems.
- B. Meetings:
  - 1. Pre-Commission Meeting
  - 2. Commissioning Meeting
  - 3. Control Switch Over Meeting

### 1.04 RELATED WORK IN OTHER SECTIONS

- A. CONTRACT DOCUMENTS are a single integrated document, and as such all Divisions and Sections apply. It is the responsibility of the CSS to review all sections to insure a complete and coordinated project.
- B. Reference Division 13, for additional testing and commissioning requirements.

### 1.05 SUBMITTALS

- A. The CSS shall prepare both factory and field testing and quality control submittals specific for the project. The CSS shall submit the following:
  - 1. Loop Commissioning Forms
  - 2. PLC I/O point testing forms
  - 3. Analog Input Calibration Forms
  - 4. Automatic Control Testing Procedures
  - 5. Test Reports
  - 6. Checklists and Sign-Off Sheets
- B. Factory Operational Readiness Test Procedure
  - 1. The CSS shall submit comprehensive testing procedures, forms and reports complete. Testing submittals shall address all the factory testing requirements.
  - 2. Factory test forms shall be submitted as follows:
    - a. Manufacturing and Assembly Verification Forms
    - b. Point I/O Testing Forms
    - c. Analog Loop Testing Forms
    - d. Communications Testing Forms
    - e. Process Control Test Forms
  - 3. Reference Section 13300 for additional requirements.

C. Pre Commissioning Test Plan

1. The CSS shall develop and submit to the Owner for approval a Pre-Commissioning test plan to address SCADA communications and control verification with test screens that will operate in parallel with the existing system prior to system removal and conversion.

D. Commissioning Test Plan

1. The CSS shall develop and submit to the Owner for approval a Commissioning Test plan which describes detailed test procedures, checklists, blank forms, and data to be recorded, test equipment to be used and calculated tolerance limits.
2. Testing plan shall be broken out per the various test sequences to address:
  - a. Digital Point Testing
  - b. Analog Loop Testing
  - c. Instrument Loop Tests
  - d. Instrument and Equipment Calibration Forms
  - e. PLC I/O Point Test Forms
  - f. Functional equipment testing
  - g. Communications System Testing
  - h. Operational Readiness Testing
  - i. Operational Testing

E. Commissioning Schedule

1. A system commissioning schedule shall be provided. The schedule shall indicate the testing of each system, subsystem and component including the control systems of the packaged system suppliers.

F. Reference Section 13300 for additional submittal requirements.

G. Reference Section 13350 for PLC and software testing requirements.

## PART 2 -- TEST EQUIPMENT

### 2.01 GENERAL

- A. Test equipment shall be provided to allow the operators to fully diagnose and test plant functions including instrumentation, PLC's, electrical systems, and equipment configurations.

### 2.02 PROCESS TEST EQUIPMENT (N/A)

### 2.03 COMMUNICATIONS TEST EQUIPMENT (N/A)

### 2.04 DIAGNOSTIC EQUIPMENT (N/A)

## PART 3 -- EXECUTION

### 3.01 FACTORY OPERATIONAL READINESS TEST

#### A. General:

1. It shall be the responsibility of the CSS to furnish all facilities, necessary testing devices and sufficient manpower to perform the tests required by the Owner to determine conformance to the requirements of the CONTRACT DOCUMENTS.
2. The CSS facility shall be located within 100 miles of the project.
3. The CSS shall coordinate the delivery of all packaged control systems to their facility for testing. The CSS shall, receive, open, assemble, set-up, and test in accordance with the project requirements.
4. The CSS shall coordinate the delivery of all control systems from the CSS facility to the job site for installation.

#### B. Factory Inspection:

1. Instrumentation and control panels shall be inspected for compliance with specified requirements at the factory prior comprehensive system factory testing and before shipment to the CSS and from the CSS facility to the job site. The CSS shall notify the Owner six weeks in advance of the testing date. The Owner and Owner's representative will visit the factory to make the inspection.
2. A preliminary factory test shall be provided by the CSS. The CSS shall perform the following inspection and tests prior to arrival of the ENGINEER:
  - a. All alarm and interlock circuits rung out to determine their operability.
  - b. Electrical circuits checked for continuity and where applicable, operability.
  - c. Basic panel operation
  - d. Nameplates checked for correct spelling and correct size of letters.
  - e. Other tests deemed necessary by the Owner that are required to place the panel in an operating condition.

#### C. Factory Testing:

1. The CSS shall set-up, configure and interconnect all PLC panels and computer equipment in an environmentally controlled area with sufficient space and access for PLC and SCADA system testing by the Owner.
2. The CSS shall furnish and install all temporary interconnection cables and terminations for loop testing, PLC and SCADA communications and analog signal tests.
3. The CSS shall provide the services of a qualified PLC technician during the factory test. The PLC technician shall setup, configure and test each PLC system to verify equipment operation prior to the FORT. The technician shall

be experienced in the programming, configuration and testing of PLC systems employing the communications protocols utilized.

4. Tests shall be conducted to exercise all process variables and confirm setpoint trip points, process permissive, process interlocks, alarming, and control functions. The CSS shall provide the necessary personnel to operate, simulate, test, and confirm all SCADA and PLC associated functions pertaining to graphical displays, setpoint interaction, PLC control strategies, alarm monitoring and manual control of the equipment.
5. The CSS shall prepare a FORT test procedure in the form of I/O checklists, calibration sheets for analog I/O tests that exercise all normal, emergency, and alternative control modes. I/O checklist shall reference each I/O by type, tag, and description with a checkbox to verify PLC operation, Communication, SCADA Display, Alarm Function and Command function with a comment field for testing notes.
6. The CSS shall prepare process control test forms for each control strategy subdivided into individual process loops and modes of operation contained within the process control strategy. The test procedure shall be provided on a step-by-step basis addressing each process on a loop-by-loop and function-by-function basis.

D. Factory Test Phasing

1. The Factory test shall be provided in two phases:
  - a. Phase 1 - System Point Testing
    - (1) Communications Integrity Testing
    - (2) System Input/Output Point Testing
    - (3) Analog Input, Range, Scale and Trip point testing
    - (4) Control Output Testing
  - b. Phase 2 - Process Control Testing
    - (1) System and Process Control Algorithms
    - (2) Graphic Display Interaction
    - (3) Alarm Management
    - (4) System Wide Monitoring and Control
2. The CSS shall provide dedicated personnel for Phase 1 and Phase 2 testing.

3.02 SYSTEM PRE-COMMISSIONING

A. General

1. Pre-commissioning testing shall be conducted prior to any system commissioning efforts to verify general equipment installation, instrument calibration and equipment configurations are per the specified requirements.
2. The CSS shall provide all necessary labor, tools, and equipment to field test, inspect, and adjust each instrument to its indicated performance requirement in accordance with manufacturer's specifications and instructions. Any

instrument which fails to meet any CONTRACT requirements, or any published manufacturer performance specification for functional and operational parameters, whether or not indicated in the CONTRACT DOCUMENTS, shall be recalibrated, repaired, or replaced, at the discretion of the ENGINEER at no additional cost to the OWNER.

3. The complete control systems for the plant shall be pre-tested (pre-commissioned) on-site prior to removal of the existing control panels. The panels shall be interconnected temporarily to confirm SCADA system operation and communications prior to removal of the existing panels. Switchover cannot occur until the SCADA interface has been successfully tested. The following shall be verified prior to switchover:
  - a. Communications with existing wells
  - b. Communications with existing chemical feed system
  - c. Communications with SCADA
4. System switchover will occur when the following conditions have been met:
  - a. Field wire termination diagrams approved
  - b. Test Procedures approved
  - c. Factory Test Favorably Completed
5. Prior to System Commissioning all cable testing shall be complete as follows:
  - a. Communications Cable Testing

**B. Equipment Installation Verification**

1. The CSS shall confirm all equipment is installed and terminated in conformance with the CONTRACT DRAWINGS, approved interconnection drawings and manufacturers recommended procedures.
2. The CSS shall verify:
  - a. Operational Voltages
  - b. Fuse Sizes
  - c. Equipment Terminations
  - d. Ventilation

**C. Basic Operational Testing**

1. All equipment shall undergo a basic individual equipment operational test to confirm the following:
  - a. Operator Switches are functional
  - b. Indicators are operating correctly
  - c. Equipment displays do not indicate failure

**D. Communications Cabling Test**

1. The CSS shall test all plant communications links utilizing communications test equipment and diagnostic software to verify that a viable communications link is established.

E. Instrument Signal Verification

1. All analog and discrete instrumentation and all control system equipment shall be field verified and tested after installation to verify that requirements are satisfied.
2. The CSS shall provide all necessary labor, tools, and equipment to calibrate and test each instrument in accordance with the manufacturer's instructions. Each instrument shall be calibrated at a minimum of three points using test equipment to simulate inputs and read outputs.
3. All test equipment and all instruments used to simulate inputs and read outputs shall be suitable for the purpose intended and shall have accuracy better than the required accuracy of the instrument being calibrated. Test equipment shall have accuracies traceable to the NIST as applicable. All analog instruments shall be calibrated and tested in place without removal.
4. Test data, applicable accuracy requirements, and all instrument manufacturer published performance specifications and all permissible tolerances at each point of calibration shall be entered on submitted test forms. These test forms shall verify compliance with all.
5. The Owner's field representative shall witness all instrument calibrations.
6. A calibration report shall be delivered to the ENGINEER for each instrument, certifying that the instrument has been calibrated in the presence of the Owners' designated representative and meets Contract and system requirements.

F. Field Point Testing

1. Field Wiring Point Testing: Prior to testing and commissioning with the Owner, all wiring shall be end-to-end point tested from the field device to the PLC input/output channel and verified to be connected in accordance with the approved interconnection wiring diagrams.
2. Digital Loop Test: The CSS shall be responsible for loop checking and testing all digital instrument, device and equipment status loops including digital loops associated with the packaged system supplier's equipment. The CSS shall coordinate all loop check functions with the PLC and SCADA system, final element, PLC logic and intermediate equipment to ensure that a single total loop check is conducted. The intent of the loop checks is to confirm and document each loop's component specification conformance up to and including all field-situated devices.
3. Analog Loop Tests: The CSS shall be responsible for loop checking and testing all instrumentation loops including instrument loops associated with the packaged system supplier's equipment. The CSS shall coordinate all loop check functions with the PLC and SCADA system, final element, PLC logic and intermediate equipment to ensure that a single total loop check is conducted. The intent of the loop checks is to confirm and document each



loop's component specification conformance up to and including all field-situated devices.

4. Programmable Controllers, SCADA, and electronic function modules shall be tested and exercised by the CSS with the Owner to demonstrate the correct operation, first individually and then collectively as functional analog networks.

#### G. Functional Loop Testing

1. Each hardwired analog control network shall be tested to verify proper performance within indicated accuracy tolerances. Accuracy tolerances for each analog network are defined as the root-mean-square summation of individual component accuracy tolerances. Individual component accuracy tolerances shall be as indicated by CONTRACT REQUIREMENTS, or by published manufacturer accuracy specifications, whenever CONTRACT accuracy tolerances are not indicated.
2. Each analog network shall be tested by applying simulated inputs to the first element(s). Simulated sensor inputs corresponding to 10 percent, 50 percent, and 90 percent of span shall be applied, and the resulting outputs read to verify compliance to network accuracy tolerance requirements. Continuously variable analog inputs shall be applied to verify the proper operation of discrete devices. Temporary settings shall be made on controllers, alarms, etc., during analog loop tests. All analog loop test data shall be recorded on test forms, which include calculated root-mean-square summation system accuracy tolerance requirements for each output.
3. When installation and loop tests have been successfully completed for all individual instruments and all separate analog control networks, a certified copy of all test forms signed by the Owner's representative as a witness, with test data entered, shall be submitted together with a clear and unequivocal statement that all instrumentation has been successfully calibrated, fully inspected, and fully tested.
4. Functional loop test will be tested end to end with the SCADA/PLC system utilizing a diagnostic test screen to verify range, scale and I/O channel from the instrument to the PLC.

### 3.03 SYSTEM COMMISSIONING

#### A. General

1. System commissioning shall be a joint effort between the CSS and Owner to facilitate the plant start-up.
2. The CSS shall provide qualified start-up and testing representatives on-site, assisting and participating in the testing full-time, for the duration of System Commissioning.
3. Provide additional staff as needed to operate equipment, provide safety, verify field signals, verify equipment operation, etc.

#### B. Functional Testing

1. All equipment shall be functionally tested to be ready for full operation operational as a part of the operational readiness test and prior to process testing.

2. General equipment items shall be functionally tested to be operational by the CSS.

C. Process Control Testing (PCT)

1. Process Control Testing shall proceed after all equipment has been functionally tested and commissioned per the operational readiness testing requirements including those systems provided by the Packaged System Suppliers and the CSS to be operational.
2. Process Testing: The CSS shall furnish their own personnel, electrical personnel, and any instrument manufacturer's representatives as required during the testing period to produce and maintain a fully operational system.
3. Process testing shall be conducted by the CSS in conjunction with the Owner to operate the system under various load and operational conditions. The operational testing shall include all normal modes of operation, alternate models of operations, demonstrate all back-up control systems, demonstrate all emergency power systems, and operate the system under various control scenarios. The CSS shall provide field personal to exercise all modes of operation and demonstrate the system to the owner.

3.04 OPERATIONAL READINESS TEST (ORT)

- A. The CSS shall be responsible for demonstrating the operability of all electrical controlled and monitored equipment provided under this and other related specifications. The ORT shall commence after acceptance of all wire, all calibrating and loop tests, and all inspections have been conducted. The ORT shall demonstrate proper operation of all sub-systems with process equipment operating over full operating ranges under actual operating conditions possible.
- B. Operational readiness testing activities shall include the use of water to establish service conditions that simulate, to the greatest extent possible, normal final control element operating conditions in terms of applied process loads, operating ranges, and environmental conditions. Final control elements, control panels, and ancillary equipment shall be tested under start-up and steady-state operating conditions to verify that proper and stable control is achieved using motor control center and local field mounted control circuits. All hardwired and software control circuit interlocks and alarms shall be operational.
- C. The control of final control elements and ancillary equipment shall be tested using both manual and automatic (where provided) control circuits. The stable steady-state operation of final control elements running under the control of field mounted automatic analog controllers or software based controllers shall be assured by adjusting the controllers, as required, to eliminate oscillatory final control element operation. The transient stability of final control elements operating under the control of field mounted, and software based automatic analog controllers shall be verified by applying control signal disturbances, monitoring the amplitude and decay rate of control parameter oscillations (if any), and making necessary controller adjustments, as required, to eliminate excessive oscillatory amplitudes and decay rates.
- D. All electronic control stations incorporating proportional, integral, or differential control circuits shall be optimally tuned, experimentally, by applying control signal

disturbances and adjusting the gain, reset or rate setting(s) as required to achieve a proper response. Tuning shall be based on the ¼ amplitude response method.

E. Equipment functional testing:

1. All individual equipment items shall be functionally tested in hand, local auto and auto to verify proper equipment configuration and operating status.
2. Functional tests shall include verification of hardwired interlocks with other equipment.

F. Measured final control element variable position/speed setpoint settings shall be compared to measured final control element position/speed values at 10 percent, 50 percent and 90 percent of span and the results checked against indicated accuracy tolerances. Accuracy tolerances are defined as the root-mean-square summation of individual component accuracy tolerances.

G. Individual component accuracy tolerances shall be as indicated in the CONTRACT DOCUMENTS or as specified by published manufacturer accuracy specifications whenever not indicated.

3.05 FINAL ACCEPTANCE AND OPERATINAL TESTING

- A. Upon completion of Operational Readiness Testing, the entire system shall undergo a 30 day Final Acceptance Test (FAT). The acceptance test shall be performed by the owner to exercise all systems.
- B. The FAT shall not commence until all Operations and Maintenance Manuals, As-Built Drawings and Field Interconnection Drawings have been submitted and approved; Owner's personnel have been fully trained; and all spare parts have been provided.

- END OF SECTION -

SECTION 13340  
CONTROL PANELS

PART 1 -- GENERAL

1.00 SCOPE OF WORK

- A. The Control System Supplier (CSS) shall manufacture and test the following control panels complete as an assembly and provide to the Owner, the following control panel(s):
  - 1. Water Treatment Plant Interior PLC Control Panels (Side and Rear Panels)
  - 2. Filter PLC Control Panel (Back Panel)

1.01 REQUIREMENTS

- A. The CSS shall furnish all necessary control panels complete, assembled, tested and ready for use including all necessary control components, wiring, interconnecting cables, all accessories, and all appurtenances as indicated herein or as required for proper operation of the system. All major components of the system shall be of the same manufacturer.
- B. Where indicated, control panels shall be provided with all required taps, fittings, conduit entries, control wiring and alarm interlocks. Dimensions shall be in accordance with the existing space limitations and manufacturer's requirements. Elevations and horizontal spacing shall be subject to the Owner's approval.
- C. Panels shall be fabricated, assembled, and wired by fully qualified workmen who are professionally trained, experienced, and supervised.
- D. All panel meters, all instruments, and all other components shall be of the most recent field-proven models marketed by their manufacturers at the time of submittal of the shop drawings unless otherwise indicated.
- E. All materials and components making up the control panel shall be new, of current manufacture, and shall not have been in prior service except as required during factory testing. All active electronic devices shall be solid-state.
- F. Panel mounted instruments shall have matching style and general appearance. Instruments performing similar functions shall be of the same type, model, or class, and shall be of one manufacturer.
- G. All materials shall be warranted for a period of (1) year from date of acceptance.

1.02 UNDERWRITERS LABORATORY (UL)

- A. The Control panels shall be fabricated in a UL authorized labeling facility and all control panels shall bear the UL 508 Label and UL 698A Label for panels containing intrinsically safe relays or barriers.
- B. CSS shall submit their UL File #'s as indicated

### 1.03 RELATED SECTIONS

- A. The SPECIFICATIONS and PLANS are a single integrated document, and as such all Divisions and Sections apply.
- B. The CSS shall provide hardware and software compatible with equipment, systems and services specified in Sections:
  - 1. Division 13

### 1.04 SUBMITTALS

- A. Control panel submittals
  - 1. Reference Section 13300 for additional submittal requirements.
  - 2. Control panel submittals shall be grouped by location, area, and process. Bill of Materials and fabrication drawings shall be individually grouped by Facility, Area, and control panel.
  - 3. Technical Material
    - a. A separate technical brochure or bulletin shall be included for all materials, each instrument, component, equipment item, system, and other element.
    - b. The brochures shall be indexed by systems or loops. If, within a single system or loop, a single item is employed more than once, one brochure may cover all identical uses of that item in the system.
    - c. Each brochure shall include a list of tag numbers to which it applies. System groups shall be separated by labeled tags.
    - d. Each brochure shall be highlighted and arrowed to signify all parts and options provided. Options not provided shall be crossed out.
  - 4. Drawings:
    - a. Schematic and wiring diagrams for control circuits shall be submitted. Initially, schematic control diagrams shall show complete details of circuit interrelationships for all devices within and outside each Control Panel.
    - b. The diagrams shall consist of component layout drawings to scale, showing numbered terminals on components together with the unique number of the wire to be connected to each terminal.
    - c. Piping and wiring diagrams shall show terminal assignments from all primary measurement devices, such as flow meters, and to all final control devices, such as pumps, valves, and local control panels. Wiring diagrams shall include MCC Panel, circuit, and breaker number for each power feed
    - d. Assembly and construction drawings for each alarm annunciator, local indicating panel, process control panel and for other special enclosed assemblies for field installation. These drawings shall include dimensions, identification of all components, surface preparation and finish data, and nameplates. These drawings also shall include enough

other details, including photographs, to define exactly the style and overall appearance of the assembly; a finish treatment sample shall be included.

- e. Installation, mounting, and anchoring details for all components and assemblies to be field-mounted, including conduit connection or entry details.
- f. Complete control panel layouts, all drawn to a 1-1/2 inch=1 foot scale showing:
  - (1) Physical arrangements which define and quantify the physical groupings of, space for COUNTY supplied PLC and communications components, annunciators, handstations, recorders, indicators, pilot lights and all other instrumentation devices associated with control panel sections, auxiliary panels, subpanels and racks.
  - (2) All cutout locations fully dimensioned.
  - (3) All outside panel dimensions shall be shown.
  - (4) Locations of back-of-panel stiffeners.
  - (5) Backpanel equipment layout and terminal point locations for all panel and back-of-panel piping and wiring connections. Terminations shall be coded with identifiers for wiring and piping connections for all electric, hydraulic, and pneumatic terminations.

5. Bill of Material

- a. A complete and detailed bill of material list shall be submitted for each field mounted device or assembly as well as cabinet assemblies and subassemblies. Bills of material shall include all items within an enclosure. An incomplete submittal shall be rejected, and no further evaluation performed until a complete and detailed bill of material is submitted.

6. Calculations

- a. Power requirements shall state required voltages, currents, and phases to determine the actual panel and UPS load requirements.
- b. Heating: Provide calculations as required, and determine heat dissipation, and operating temperature. Heat dissipation shall be at maximum and shall be stated in BTU per hour or watts. Operating temperature shall be calculated at specified ambient temperatures or at 40 degrees C if no other ambient temperature is specified. If ventilation fans are used, provide audible sound level for the fans.
- c. Panel wireway fill shall not exceed 60% of the wireway space. Provide calculations for wireway fill.

## 1.05 CONTROL PANEL ASSEMBLY

- A. Rear of panel mounted equipment shall be installed with due regard to commissioning adjustments, servicing requirements and cover removal. Components, terminal blocks, and equipment items shall be mounted at 9 inches and above from the base or bottom of the control panel.
- B. Control panel components shall be arranged on sub-panels and within the panel to optimize weight distribution, heat dissipation and component spacing for wiring and maintenance. Components and terminal strips shall be vertically and horizontally segregated with wire gutters utilizing a 2.0" minimum spacing between the component terminal connections.
- C. All fixed position components shall be mounted utilizing stainless steel screws, brackets, and fasteners such that no exterior panel extrusions occur.
- D. Backpan components shall be individually identified with a unique identifier per IEEE and ISA recommended practices. Backpanel components shall be identified with a phenolic nameplate riveted to the backpanel and legible with the door.
- E. Component DIN rails shall be provided for snap on mounting of terminal blocks, fuse blocks, relays, timers, and signal conditioners. DIN rail shall be zinc plated, yellow chromated steel. Twenty five percent additional rail space shall be provided to allow for system expansion.
- F. Front panel components shall be arranged by function and group with a 2" minimum spacing for panel-mounted devices. Operator switches and pilot lights shall utilize a 2.5" on center minimum spacing for wire connections. Where future provisions are necessary control operator switch and pilot light positions shall be pre-punched and plugged for easy modification and expansion. All front panel mounted components shall be provided with a neoprene gasket seal.
- G. To ensure proper grounding within the control panel a copper ground bus bar shall be provided. All grounding terminal blocks, equipment chassis and source grounds shall be connected to the ground bus bar to provide a common ground reference within the control panel.
- H. All panels shall be protected from internal corrosion by the use of corrosion-inhibiting vapor capsules and shall be manufactured by Northern Instruments Model Zerust VC, Hoffman Engineering Model A-HCI, or approved equal.
- I. Where indicated on the DRAWINGS; freestanding and wallmount panels shall be provided with louvers and/or forced ventilation as required to prevent temperature buildup due to operation of electrical devices mounted in or on the panel.
- J. Intake louvers shall be mounted on the lower side, rear, or front section of an unobstructed panel face. Louvers shall be provided with removable and washable filter grills mounted on the interior side of the louver. Forced-ventilation exhaust fans, where used, shall be provided at an opposing elevated location from the intake louvers. Unless otherwise indicated, fan motors shall operate on 120-volt, 60-Hz power. For control panels located in control rooms, the total audible sound level of the fans shall be less than 45 dB(A).
- K. Exterior mounted panels or pain in unconditioned areas shall be provided with a thermal switch for PLC monitoring of the panel interior temperature.

- L. Minimum wire bending space at terminals and minimum width of wiring gutters shall comply with the latest revision of the NEC.
- M. Future device and component mounting space shall be provided on the door, backpan, and subpanel where detailed on the PLANS. Where no detail is shown, provide a minimum of 15 percent usable future space.
- N. Equipment provided with status and diagnostic displays, LED's, programming pads, buttons or dials shall be mounted with the display and keypad facing the panel front. Shelving, brackets and associated mounting hardware shall be provided to mount the equipment in readily accessible and viewable location within the panel.
- O. Each cabinet interior shall be equipped with an LED panel lamp, 120-volt, one 20-ampere GFCI outlet minimum, and two spare single pole 120-volt, 20-ampere circuit breakers minimum for general power distribution.
- P. Provide dedicated 120 VAC control circuit breaker(S) for PLC control systems and controls. Control circuits shall not share miscellaneous power distribution such as lights, heaters, fans, and receptacles.
- Q. Provide two spare wired AC and DC fuseblocks for future use.
- R. Provide One spare wired 15 amp AC and DC single pole circuit breaker for future use.

#### 1.06 NAMEPLATES

- A. Nameplates for all front and rear panel-mounted and back-panel devices shall be laminated plastic, black on white, with engraving through the black surface to form 3/16-inch high white letters.
- B. Power Supplies, terminal strips relays and other devices mounted inside the control panels shall be identified with nameplates. All tags shall match device numbers shown on the drawings.

#### 1.07 CONTROL PANEL WIRING

- A. Control panel shall be wired per the latest revision of NEC, NEMA, IEEE and UL standard wiring guidelines for electrical systems.

##### B. WIRE MARKING

- 1. Each signal, control, alarm, and indicating circuit conductor connected to a given electrical point shall be designated by a single unique number which shall be shown on all shop drawings.
- 2. These numbers shall be marked on all conductors at every terminal using white numbered wire markers which shall be permanently marked heat shrink plastic.
- 3. Wire labels shall be white heat shrinkable, machine printed with permanent black ink.

##### C. WIRE ROUTING

- 1. All internal wiring shall be routed through plastic wire ways (panduit) and spiral wrapped when transitions to front panels or additional sections are required.



2. Wire routing shall be separated and grouped by function, voltage, and signal type to minimize noise and maximize maintainability.
3. A 60 percent plastic (panduit) wireway fill of that allowable by the NEC shall be maintained to allow for future expansion and panel modification. A minimum 1.5 inch clearance shall be maintained in front of each wireway cover to allow for easy access to panel wiring. All interfacing between the cabinets and the field shall be accomplished at a field connection terminal strip (TB). The terminal strip shall have a dedicated field wiring side, no internal panel wiring shall be connected to terminals on the "field side" of TB. Likewise, no field wiring shall be connected to terminals on the "panel side" of the TB.
4. Wiring run from components on a swing-out panel to other components on a fixed panel shall be made up in tied bundles. These shall be tied with nylon wire ties and shall be secured to panels at both sides of the "hinge loop" so that conductors are not strained at terminals.
  - a. Wiring run to control devices on the front panels shall be tied together at short intervals and secured to the inside face of the panel using Panduit adhesive mounts with Eastman No. 910 adhesive.
  - b. Wiring to rear terminals on panel-mount instruments shall be run in plastic wireways secured to horizontal brackets run above or below the instruments in about the same plane as the rear of the equipment.

#### D. WIRE TYPE

1. Control panel wire shall be MTW, UL Listed conductors provided to meet the following:
  - a. Conductor shall be bare, annealed tin coated copper
  - b. Voltage Rating 600 VAC
  - c. Underwriters Laboratories Standards UL-66, UL-83, UL-758, UL-1063, UL Style 1015, UL-1581, UL-2556; ASTM Stranding Class B3; B8; B787;
  - d. Flame Test VW-1; APWA Uniform Color Code; AWM Spec 1316, 1317, 1318, 1319, 1320, 1321; NFPA 70 (NEC®); NFPA 79 AWM 600V 105°C (75°C in oil);
  - e. Color-coded Polyvinyl Chloride (PVC), heat and moisture-resistant, flame retardant compound per UL-1063
2. Instrumentation signal cables shall be of the type used for process control with shielded pairs or triads with polyvinyl jacket and overall shield over the multiple pairs or triads. The instrumentation cable shall be rated 300 volts at 90°C or better. The size of the instrumentation cable shall be AWG No. 18 minimum, unless otherwise specified elsewhere. All instrumentation cables shall meet all the requirements of IPCEA S-61-402 and shall be UL listed.

E. WIRE SIZE

1. Wire shall be sized for all components in accordance with the latest revision of the NEC and UL fabrication requirements
2. The following minimum wire shall be:
  - a. General 120 VAC Distribution: #12 AWG
  - b. AC Control Circuits: #14 AWG
  - c. PLC Input/Input Output Wiring: #16 AWG
  - d. DC Control Circuits #16 AWG
  - e. Analog Signal #18 AWG

F. WIRE TERMINATION

1. No more than two conductors shall be terminated at a single termination point. A common terminal block shall be provided for every two common or neutral conductors contained within the panel.
2. When required precision (1%) 250-ohm resistors shall be installed at the panel wiring side terminal strip when each incoming 4-20 mA analog signal is converted to a voltage signal (1 to 5 volt d-c) as specified.

1.08 WIRE COLOR CODE

- |     |            |  |
|-----|------------|--|
| 1.  | Black      | 120 VAC power and Fuseblock                  |
| 2.  | White      | 120 VAC neutral                              |
| 3.  | Orange     | 120 VAC UPS Power                            |
| 4.  | Red        | 120 VAC control circuits                     |
| 5.  | Pink       | 24 VDC Power                                 |
| 6.  | Blue       | 24 VDC Control Circuits                      |
| 7.  | Blue/White | 12 VDC Power                                 |
| 8.  | Yellow     | Foreign Voltage, Interlock control circuits, |
| 9.  | Green      | Equipment ground                             |
| 10. | Grey       | DC Common                                    |

1.09 ENVIRONMENTAL

- A. The control shall be rated for continuous operation under ambient environmental conditions of 0°C to 60°C dry bulb and 5 to 95 percent relative humidity, noncondensing. Instrumentation and control elements shall be rated for continuous operation under the ambient environmental temperature, pressure, humidity, and vibration conditions specified or normally encountered for the installed location.
- B. The control panel shall be environmentally controlled with the use of closed loop air conditioning system and space heaters as required to maintain the environmental conditions specified.

1. Panel Internal Temperature 105 Degrees F
  2. Ambient Temperature 100 Degrees F
- C. The heating/cooling equipment shall be sized to maintain the temperature below a maximum of 110 degrees and above minimum of 34 degrees Fahrenheit within the control panel. Heating and cooling load calculations shall be submitted for review and approval.

## PART 2 -- PRODUCTS

### 2.01 GENERAL

- A. Equipment and materials shall be products of reputable, experienced manufacturers. Similar items in the project shall be the products of the same manufacturer. All equipment shall be of industrial grade, a standard of construction, shall be of sturdy design and manufacture, and shall be capable of long, reliable, trouble-free service.
- B. The control panels shall be fabricated to house PLC's, controllers, instrumentation, and communications equipment specified elsewhere and as indicated on the plans. Control panels shall be fabricated and wired in accordance with this and applicable specification sections.
- C. The manufacture of the control panels shall be UL recognized facility with current UL procedure files listed with UL. The final assembly shall carry a UL 508/698 listing. All equipment provided shall be UL Listed or recognized for the intended service and application.

### 2.02 PROGRAMMABLE CONTROL AND COMMUNICATIONS SYSTEMS

- A. Reference Section 13350 for additional requirements.

### 2.03 MAIN DISCONNECT

- A. The control panel shall be provided with a UL listed main disconnect sized to meet the load requirements. The main disconnect shall disconnect all incoming power and shall be mounted on the inner panel door or panel stand-off clearly identified as the panel main disconnect.

### 2.04 DISTRIBUTION CIRCUIT BREAKERS

- A. Control panel power and equipment disconnects shall be provided as indicated on the drawings.
- B. Circuit breakers shall be the energy limiting design and shall be UL rated for 120/240 VAC/80 VDC with a minimum interrupting rating of 10 KAIC.
- C. Circuit breakers shall be sized in accordance with NEC.
- D. Circuit breakers shall be DIN rail mounted.
- E. Circuit breakers shall be Allen Bradley 1492-CB, CBI QL Series, Eaton FAZ, or Approved Equal.

## 2.05 TERMINAL BLOCKS

- A. General: Terminal blocks, fuseblocks and disconnects shall be specially designed for safety, installation ease, and ruggedness. Features shall include the following:
1. Finger safe.
  2. Nickel-plated terminals and stainless steel screws
  3. High copper content copper-alloy
  4. Four-sided wire funnel guides for easy wire insertion
  5. Finger-safe housings to prevent accidental contact with live circuits
  6. DIN Rail mountable shall allow terminal blocks to be placed on the same channel as, relays, timers, disconnects, signal conditioners and other DIN Rail-mounted control devices
  7. Self-extinguishing, polyamide 6.6 housing material with UL 94-V2 flammability rating
  8. Backed out screws for fast wiring
- B. Terminal Blocks:
1. Terminal blocks shall be Din rail mounted, compression clamp style, UL rated for 30 amps at 600 volts. Terminal blocks shall be high-density type molded plastic with barriers and box lug terminals. Terminal marking shall be white marking strips, fastened securely to the molded sections and shall be provided with printed wire numbers. Terminal Block shall accept a minimum of 2 #12 THHN/TWHN conductors.
- C. Terminal Color Code
1. Terminal blocks shall be color coded for the voltage and signal type as follows:

a.	Foreign Voltage AC	–	YELLOW
b.	AC Control	–	RED
c.	24 VDC Power/Control	-	BLUE
d.	DC Common	-	GREY
e.	120 VAC (HOT)	-	BLACK
f.	120 VAC (NEUTRAL)	-	WHITE
g.	120 VAC UPS (HOT)	-	ORANGE
h.	Groundings Terminals		GREEN/YELLOW
i.	Isolated Ground		GREEN
j.	Analog Signal		BEIGE
- D. Power Distribution Fuse blocks (250 Volt and below) shall be Din rail mounted, compression clamp style, rated for 12 amps at 300 VAC. Fuse-blocks shall be provided to accept 1/4"x1 1/4" fuses. Fuseblocks shall be provided with a swing arm

fuseholder for easy removal of fuses. The fuseblock shall be provided with blown fuse indication.

- E. Control outputs and foreign control voltages present within the control panel shall be identified and supplied with disconnecting means. Foreign control voltages shall be supplied with pull-apart or knife edge compression clamp or disconnect plug component terminal blocks, rated for 20 amps at 600 volts. Disconnect terminals shall be Din rail mounted, compression clamp style, rated for 20 amps at 600 volts. Terminal blocks shall be high-density type molded plastic with barriers and box lug terminals.
- F. Ground termination blocks shall be provided for all signal grounding and shield connections. Ground terminals shall be Din rail mounted, compression clamp style, rated for 20 amps at 600 volts. Terminal blocks shall be high-density type molded plastic with barriers and box lug terminals. Ground terminals shall be color-coded green/yellow for grounding identification.
- G. DC Signal and control circuits shall be supplied with pull-apart disconnect fuse plug component terminal blocks, rated for 20 amps at 600 volts. Disconnect terminals shall be Din rail mounted, compression clamp style, rated for 20 amps at 600 volts. Fuseplug shall accept 5 x 20 mm fuses and shall be provided with blown fuse indication. Fuseblocks shall be high-density type molded plastic with barriers and box lug terminals
- H. Terminal and fuseblock manufacturer shall be Weidmuller, Sprecher and Shuh, Allen Bradley, Entelec, or Phoenix Contact.

## 2.06 CONTROL RELAYS

- A. Control relays shall be "ice cube" type general purpose relays utilizing 10 amp rated contacts at the specified control voltage. Relays shall be provided as DPDT or 3PDT to meet application requirements. Relay base configurations shall be DIN rail mount and selected such that AC and DC control relays are not interchangeable, thereby preventing accidental damage to relay coils as a result of incompatible voltages. Relays shall be provided with one spare NO/NC contact. Relays shall be provided with an operational status LED providing positive status of relay energization. Relays shall be IDEC, Allen Bradley or Approved Equal.
- B. Control timers shall be solid state adjustable timer circuits supplied as time delay on energize or time delay on de-energize as indicated on the DRAWINGS. Timer control voltages shall be as indicated on the drawings and shall be provided with DPDT, form C contacts (a normally open and normally closed contact). Timers shall be 10-ampere, 240-volt, pin or blade style, plug-in type with dust cover, LED "on" and applicable "timeout" indication, and sockets. Timers shall have an adjustable time range and time setting with indication of the full time range and of the time setting. Time delays shall be provided with LED status indicators for energization and timer function status. Solid-state timers shall be IDEC, Allen Bradley or Approved Equal.
- C. Industrial Control Relays (ICR) shall be provided as indicated on the plans and for loads that exceed the normal contact inrush and constant current capacity rating for "ice cube" type relays. Relays shall be provided with convertible cartridges for NO/NC configuration and shall be stackable to a maximum of eight contacts with the addition of a top mounted expansion module. Contacts shall be 20 amp rated

bifurcated spanner and nickel-silver plated. Industrial control relays shall be Allen Bradley 700, Type PK series or Approved Equal.

- D. Intrinsically Safe Relays (ISR) shall be provided as indicated on the PLANS and for all loads contained in designated hazardous locations. ISR components shall be provided and installed in accordance with UL and NEC requirements for component spacing and interconnection. Intrinsically safe relays shall be selected for the Class, Division and Group category application of the hazardous equipment location. Input resistance, inductance and capacitance shall be compatible with the switching device and meet the limits for application within the defined hazardous location. Control circuit interface for non-hazardous equipment side terminations shall be voltage/current compatible with the control equipment. Intrinsically Safe Relays shall be Sycom ISS, Turck, GEMS, SAFE-PAK, or Approved Equal.
- E. Moisture Sensing Relays (MSR) shall be provided for all submersible pump moisture sensing applications. the moisture sensing relay shall be provided with adjustable sensitivity and provide a 10 amp rated SPDT for equipment interlocking and alarming. Contact output shall be provided with a 30 second delay to activation. Relay shall be provided with LED to indicate control state. Moisture sensing relay shall be Warrick 2800, SSAC LLC4 Series or Approved Equal.

## 2.07 SIGNAL ISOLATORS AND CONVERTERS

- A. Signal Isolators, Converters, and Power Supplies: Signal isolators shall be provided in each measurement and control loop, wherever required, to match adjacent component impedances, provide signal amplification, or where feedback paths may be generated or to maintain loop integrity when the removal of a component of a loop is required. Signal converters shall be provided where required to resolve any signal incompatibilities. Signal power supplies shall be provided to supply sufficient power to each loop component.
- B. Components shall be DIN rail mount.
- C. Conversion modules shall be Action Instruments, Moore Industries CPT Series, or Approved Equal.

## 2.08 OPERATOR CONTROLS AND INDICATORS

- A. Operator controls and indicators (switches, pushbuttons, Potentiometers, pilot lights) shall be 30.5 mm, NEMA 4X rated.
  - 1. Pushbuttons, selector switches, and indicating lights shall be heavy-duty oil tight, manufactured to the requirements of NEMA ICS.
  - 2. Unless noted otherwise, pushbuttons shall be momentary contact and shall have the number and type of contacts as indicated or as required. One spare NO and NC contact shall be provided for each pushbutton.
  - 3. Unless noted otherwise, selector switches shall be maintained contact, shall have the number of positions indicated, and shall have the number and type of contacts as indicated or as required. One NO spare contact shall be provided for each switch.
  - 4. Indicating lights shall be full voltage LED with push-to-test.
  - 5. Emergency Stop pushbuttons shall be provided with a mushroom head and support push-pull operation.

6. Lighting control switches shall be provided with On-OFF-Timed functions with the timed push configured as a momentary return to center operation.
7. Pushbuttons, selector switches, Potentiometers and indicating lights shall be IDEC, Allen-Bradley Bulletin 800T; Westinghouse Industrial Type PB or Approved Equal.

## 2.09 EMI LINE FILTER AND SURGE SUPPRESSION

### A. EMI/RFI Filter

1. Control panels shall be provided with power line filters that are effective in the control of line to line as well as line to ground EMI/RFI interference. The standard line filters shall be rated for 28 dB at 1 MHz. Line filters shall be Corcom 16FC10,

### B. Power Surge Protection

1. Surge protection shall be provided at the power input of the control panel.
2. Surge protection shall be DIN rail mount.
3. Voltage as indicated on the PLANS.
4. The surge protectors shall be tested in accordance with the requirements of ANSI/IEEE C62.41 standards for Categories A, B, and C environments and shall be a UL 1449 listed component.
5. Surge protection components shall be as manufactured by Phoenix Contact SFP-TRAB, MTL Surge Technologies MA15, or Approved Equal.

### C. Telco/Data communications Line Surge Protection

1. Surge protection devices shall be supplied for the protection of all communications circuits from the effects of lightning induced currents, substation switching transients and internally generated transients resulting from inductive and/or capacitive load switching.
2. Communication line surge protection shall be UL-497 Listed. The surge protection device shall be sized for voltage, current and frequency requirements listed on the PLANS and shall provide independent conductor-ground surge protection. Surge protection shall be installed on the incoming communications for the control panel.
3. The protector module shall be failsafe and contain a three-electrode Maximum Duty gas tube, a failshort mechanism, and an air gap back-up device, which converts the gas tube protector to an air gap protector in the unlikely event that the gas tube vents.
4. The surge protection shall be TII or Approved Equal.

### D. Data Highway Communications (DH+, RIO)

1. Surge protection devices shall be supplied for the protection of all communications circuits from the effects of lightning induced currents, substation switching transients and internally generated transients resulting from inductive and/or capacitive load switching.

2. Communication line surge protection shall be UL-497B Listed. The surge protection device shall be sized for voltage, current and frequency requirements listed on the PLANS and shall provide independent conductor-ground surge protection. Surge protection shall be installed on the incoming RIO communications for the control panel.
3. Data highway surge suppressors shall be Leviton 3803-DP, or Approved Equal.

## 2.10 COMMUNICATIONS TERMINATIONS

### A. FIBER OPTIC EQUIPMENT

1. Fiber Break-Out Enclosure
  - a. Fiber Optic Break-Out and Patch Panels shall be provided at all fiber optic cabling locations indicated.
  - b. Fiber enclosures shall be provided with patch-panel (ST) and splice trays for fiber break-out and termination.
  - c. Patch panels shall be provided with a minimum of 12 ST fiber connections and end caps for all unused terminations.
  - d. Provide splice tray(s) for 12 fibers
  - e. Fiber panels shall be Corning Lanscape WCH-02P.
2. Fiber Patch Chord
  - a. Fiber patch cords shall be manufactured assemblies with end connectors supplied as a part of the cable supplied by the manufacturer.
  - b. Provide the following:
    - (1) Quantity Three (3) ST-LC Patch Cable 3 Feet
    - (2) Quantity Three (3) ST-ST Patch Cable 3 Feet

## 2.11 POWER SUPPLIES

### A. DC Power Supply

1. Control panel DC power shall utilize solid state switching for primary control power. Standard power supplies shall be provided with automatic current limit and foldback. Power supplies shall be sized to power the equipment at maximum load with an additional 50 percent power capacity.
2. Power supply voltage shall be as required to power control panel equipment at their stated voltage and as indicated on the PLANS.
3. Powers supplies shall be Weidmuller PRO ECO 400W, Idec Slimline, SOLA, or Approved Equal.
4. Each PLC control panel shall be provided with a redundant 24 VDC power supply system. The redundant power supply shall be provided with bumpless



(diode isolated) power source and contact output for power supply failure indication to the PLC.

5. Power supply redundancy module shall be Weidmuller ECO Pro, SOLA, or Approved Equal.

## 2.12 EQUIPMENT ENCLOSURES (CONTROL PANELS)

- A. The local control panel(s) shall be wall mounted or free standing with extension legs as indicated on the DRAWINGS.
- B. Exterior panels shall be rated Nema 4X 316 SS.
- C. The access door shall have continuous hinges with neoprene gaskets and three-point keylock handle. The cabinet shall be constructed from formed 12-gauge steel minimum. All exposed edges and welds on the enclosure shall be ground smooth. Refer to the plans for minimum enclosure size and installation details.
- D. Panel ratings shall be based on NEMA standards for the location and environment in which the panel is installed. Panel materials shall be selected for corrosive environments based on standard chemical compatibility charts. Unless otherwise indicated on the DRAWINGS, control panels shall be rated as follows:
  1. Interior Non-Corrosive, NEMA 12
  2. Exterior Non-Corrosive, NEMA 4
  3. Outdoor and indoor Corrosive, wash down, NEMA 4X, 316 SS
- E. The interior shall be provided with a formed 12-gauge steel subpanel for attaching surface-mounted components. All components shall be attached with screws and the subpanel threaded. Rivets or back of panel nuts shall not be allowed. The interior shall be painted with two coats of white paint.
- F. Enclosures shall be a manufactured item supplied by Hoffman, Rittal, Gaylord or Approved Equal.

## 2.13 UNINTERRUPTIBLE POWER SYSTEM (UPS)

- A. This specification defines the electrical and mechanical characteristics and requirements for a continuous-duty single-phase, solid state, uninterruptible power system. The uninterruptible power system, hereafter referred to as the UPS, shall provide high-quality AC power for electronic equipment loads.
- B. UPS shall be Line Interactive
- C. UPS shall be DIN rail mount
- D. The UPS shall be designed in accordance with the applicable sections of the current revision of the following documents.
  1. UL Standard 1778
  2. FCC Part 15, Class A
  3. C62.41 1991 (IEEE 587), Category A & B
  4. National Electrical Code (NFPA 70)

- E. The UPS shall be designed to operate as a double conversion on-line UPS in the following modes:
1. Normal - The critical AC load is continuously supplied with filtered power. The battery charger shall maintain a float-charge on the battery.
  2. Voltage Boost/Buck - During input power source abnormalities (sags and swells), the AC output power shall be corrected by means of boost (sag correction) or buck (swell correction) compensation taps.
  3. Battery - When the input power source exceeds the defined operational parameters, the critical AC load shall be supplied power by the inverter, which obtains its power from the battery.
  4. Recharge - Upon restoration of utility the input power source within specified parameters, the critical AC load shall be supplied with filtered power and the battery charger shall simultaneously recharge the battery.
  5. Automatic UPS Bypass Circuit
  6. Automatic Restart- Upon restoration of the input power source, after a complete battery discharge, the UPS shall automatically restart and supply filtered power to the critical load. The bi-directional converter shall simultaneous recharge the battery.
  7. Design Requirements
    - a. Voltage Configuration: 120VAC; +23%, -25% (90 to 148 VAC), single phase, 2-wire-plus-ground
    - b. Internal Battery: The battery shall consist of valve regulated, lead acid cells.
    - c. Backup Time: 20 minutes at full load with ambient temperature at 40 deg C (104 deg F).
    - d. Battery Recharge: The recharge time shall be 3 hours to 95% capacity after discharged into a full load.
    - e. Frequency: UPS shall auto sense input frequency and shall operate within 55 - 65 Hz. When the input frequency exceeds these parameters, the UPS shall operate from the battery.
    - f. Surge Protection: 120 VAC Nominal units shall withstand input surges without damage per criteria listed in ANSI C62.41-1991 (IEEE 58, Category A & B. 230 VAC nominal units shall withstand input surge without damage per criteria Listed in IEC 801 - 5, Level 3.
    - g. Voltage Output Configuration:
      - (1) Voltage Output: 103 - 132 VAC
      - (2) Voltage Output Regulation: +5/-5%
      - (3) Output Frequency Regulation: 60 Hz +/- 8%
      - (4) Load Power Factor Range: 0.65 lagging to 1.0 unity
      - (5) Overload Capability: 110% for 5 minutes; 200% for 2 cycles

h. Inverter Configuration:

- (1) Voltage: 120 VAC,
- (2) Voltage Regulation: +/- 7% RMS battery voltage range.
- (3) Frequency Regulation: +/- 0.5 Hz
- (4) Frequency Sync. Range: +/-5 Hz
- (5) Frequency Slew Rate: 1 Hz per second
- (6) Load Power Factor Range: 0.5 lagging to 1.0 unity
- (7) Overload Capability:
  - (a) 110% for 30 seconds;
  - (b) 120% for 5 cycles;
  - (c) 150% for 1 cycle
- (8) Voltage Transient Response:
  - (a) +/- 7% maximum for 20%-100%-20% load step
- (9) Voltage Distortion:
  - (a) Resistive Loads: 10% before (2) minute warning; 15% after pre-alarm
  - (b) Switching Mode Power Supply (SMPS): 16% before 2 minute warning, 20% after pre-alarm
- (10) Transient Recovery Time:
  - (a) To within nominal voltage within 30 milliseconds.

F. ENVIRONMENTAL CONDITIONS

- 1. Operating: 0 deg C to +40 deg C (+ 32 deg F to + 104 deg F)
- 2. Storage: -15 deg C to +50 deg C (+ 5 deg F to +122 deg F)
- 3. Relative Humidity:
  - a. Operating: 0 to 95% non-condensing
  - b. Storage: 0 to 95% non-condensing
  - c. Altitude: 3000 m (10,000 ft max.) without power derating
  - d. Audible Noise: Noise generated by the UPS during any mode of operation shall not exceed 45 dBA.

G. FABRICATION

- a. The UPS shall be forced air cooled when required. Air intake shall be through the sides of the unit and exit out the rear.
- b. The UPS shall have built-in protection against undervoltage, overcurrent, and overvoltage conditions including low-energy lightning surges, introduced on the primary input power source. The 120 VAC

UPS modes shall withstand input surges without damage per criteria listed in ANSI C62.41-1980; IEEE 587, Cat. A.

- c. The converter shall be solid-state equipment and controls to convert AC power to regulated DC power for battery charging and convert DC power from the battery to regulated and conditioned sinewave AC power for supporting the critical load.
2. In the battery mode of operation, the bi-directional converter shall convert DC power from the battery to regulated and conditioned sinewave AC power for supporting the critical load.

#### H. Output Protection

1. For "Faults" indications within the UPS; including short circuits and overloads. The UPS shall employ the following overcurrent protection methods depending upon mode of operation:
  - a. Normal Mode - The UPS shall employ a Fuse or circuit protector
  - b. Battery Mode - Electronic Current Limit
2. The UPS shall be capable of supplying current and voltage for overloads exceeding 100% and up to 110% of full load current for 5 minutes in normal mode. A visual indicator and audible alarm shall indicate overload operation. The bi-directional converter (Battery operation) shall be capable of supplying current and voltage for overloads exceeding 100% and up to 110% of full load current for 30 seconds. For greater currents or longer time duration, the UPS shall shut down to prevent damage to components and the connected equipment.
3. To prevent battery damage from over discharging, the UPS control logic shall automatically raise the shutdown voltage set point based on lighter loading.
4. The UPS shall provide the operator with both visual and audible status indicators. Visual indicators shall consist LED's, to indicate utility/battery operation and inverter status.
5. This LED shall be used to provide operation mode status of the UPS. When operating from input AC power and the main On/Off switch is "on," this LED shall illuminate green. In the absence of input AC power (battery mode operation) this LED shall flash on/off for 1.0 second, every second.
  - a. Utility High/Low status indicator
  - b. Fault status indicator
  - c. Load/Battery Level Indicator
  - d. An audible alarm shall be used in conjunction with the visual indicators to indicate to the operator a change in UPS operating status.
6. The UPS shall contain front panel mounted main On/Off and alarm silence/manual battery test switches. The UPS shall also contain a microcontroller based monitoring and controls for reliable operation
7. Output distribution shall be direct wire connected.
8. UPS shall be provided with Output Contacts for the following:

- a. UPS On-Line (On Battery)
    - b. UPS Fault
    - c. UPS Low Battery
  - 9. UPS shall be provided with expansion slots for the addition of I/O modules and SNMP network interface modules. The UPS shall be provided with a relay option module to provide indication of UPS status to the PLC.
  - 10. UPS shall be Allen Bradley 1609-B1000, Or Equal
- 2.14 UPS Maintenance Bypass Switch
- A. Provide a two source maintenance bypass switch to allow for the UPS to be moved without disrupting power.
  - B. Maintenance bypass switch shall be Marathon, Leibert, Tripplite or Approved Equal.
- 2.15 SPARE PARTS, CONSUMABLE ITEMS, AND TOOLS
- A. For additional spare parts, refer to additional requirements as called for elsewhere in these SPECIFICATIONS.
  - B. Fuses: Provide 20 percent of each size and type used rounded to the next whole number, but no less than five of each size and type.
  - C. Indicating LED: Provide 10 percent of each color, size and type used rounded to the next whole number, but no less than 5 of each type. This requirement applies to annunciator light bulbs as well, if any are supplied under this Section.
  - D. Indicator switch cover plates, two lens covers for each type of switch and color combination shall provided. Lens covers shall not be printed.
  - E. Spare contact blocks 5 spare NO and NC for each type of switch contact block utilized.
  - F. Corrosion-Inhibiting Vapor Capsules: Two-year supply.
  - G. One of each type of relay.
  - H. One HOA Switches
  - I. One LED Pilot Lights with One LED of each color
- 2.16 MANUFACTURERER SUPPLIED EQUIPMENT
- A. The CSS shall install motor protective circuitry and components furnished by the pump and motor suppliers. Equipment for thermal and moisture sensing shall be installed in the local control panels as indicated and required to protect the motor.
    - 1. The CSS shall coordinate the installation requirements with the pump and motor suppliers. The CSS shall furnish and install power supplies, relays and converters as required to properly interface the control systems with the motor supplied protective systems.
- 2.17 FACTORY TESTING
- A. Reference Section 13320 for factory testing requirements.

- B. Prior to shipment the control panels shall be factory tested. The manufacturer shall notify the Owner four weeks prior to testing for Owner witnessing of the test to be conducted.
- C. The factory test shall not be scheduled until the factory test procedures have been approved.
- D. The factory test shall verify installation, conformance with plans, wiring continuity and operation of all panel displays and control components.
- E. Programmed equipment and instruments shall be exercised to verify proper range, scale, trip points and control functions.
- F. All control logic be tested at the factory.
- G. Certified factory test forms shall be provided prior to shipment.

## 2.18 FIELD SERVICE

- A. The CSS shall provide for ten (20) man-days of installation coordination, start-up, and final testing of the control panels. Installation shall be certified by the manufacturer.

## 2.19 WARRANTY AND CUSTOMER SUPPORT

- A. All control panel assemblies and associated control components shall be provided with a 1 year service and replacement warranty from date of project acceptance.

- END OF SECTION -

SECTION 13350  
PROGRAMMABLE CONTROL SYSTEMS

PART 1 -- GENERAL

1.01 SCOPE OF WORK

- A. The CSS shall furnish and install a PLC control system for the process, instrumentation and control systems as indicated in the Contract Documents.
- B. PLC control system shall be furnished complete in accordance with the Specification requirements.
- C. PLC and SCADA programming shall be provided the CSS

1.02 REQUIREMENTS

- A. General: This Section covers PLC based programmable control systems, complete. The Control System Supplier (CSS) shall furnish, install, test, calibrate, configure, and place into operation Programmable Logic Controllers (PLC's), Microcontroller Units (MCU), and PLC communications hardware as specified herein.
- B. The CSS shall coordinate the services to provide programming in accordance with the specifications and the Owner's PLC standards.
- C. The CSS shall furnish all necessary interconnecting cables, all accessories, and all appurtenances as indicated herein or as required for proper operation of the system. All major components of the system shall be of the same manufacturer.
- D. Programmable control systems are a part of the instrumentation and controls system. In addition to the requirements in this Section, the supplier of the programmable control systems shall meet all the applicable requirements of installation covered in the following:
  - 1. Section 13300, Instrumentation and Controls
  - 2. Section 13320, Quality Control
  - 3. Section 13340 Control Panels
  - 4. Section 13370 Applications Programming
- E. The CSS shall furnish, install, and wire PLC modules, communications modules, processors, and I/O modules in the control panels as indicated.

- F. The CSS shall configure, test, and start-up all hardware, and communications interface components as indicated herein or as required for proper operation of the system.
- G. The CSS shall schedule and coordinate PLC and SCADA communications and configuration requirements with the Owner.
- H. The CSS shall configure the hardware to provide SCADA access monitoring and control via Allen Bradley, Ethernet IP, and Modbus RTU/TCP to existing Modbus communications with remote locations and auxiliary equipment. All existing communications shall be retained and included within the Allen Bradley PLC program application.
- I. The CSS shall schedule and coordinate communications and configuration requirements Owner.
- J. The CSS shall provide the services of a PLC field technician for start-up, point testing, loop testing, operational testing, commissioning and final acceptance of the PLC hardware and software systems.
- K. The input and output requirements for the PLC's are contained in the wiring diagrams, Input/Output List/Schedules, and associated drawings. The CSS shall prepare a consolidated project wide PLC Input/Output wiring list for all I/O represented in the various documents.

#### 1.03 RELATED SECTIONS

- A. Contract Documents are a single integrated document, and as such all Divisions and Sections apply. It is the responsibility of the CONTRACTOR and its Sub-Contractors to review all Sections to insure a complete and coordinated project.
- B. The CSS shall provide hardware and software compatible with equipment, systems and services specified in the following sections:
  - 1. Division 13, Instrumentation and Control

#### 1.04 SUBMITTALS

- A. Submittals shall be supplied in conformance with Sections 13300 and the following:
  - 1. PLC Input/Output List
    - a. List shall include all I/O on a PLC per PLC basis with all I/O points assigned to a specific module input or output. The List shall include:
      - (1) Tagname and Number
      - (2) Description
      - (3) Function



- (4) Module Rack, Slot, and Channel
- (5) Voltage
- (6) Type
- (7) Equipment Designator

## 2. PLC Power Supply Loading Calculations

### 1.05 REFERENCED STANDARDS

- A. American National Standards Institute (ANSI)/Institute of Electrical and Electronic Engineers (IEEE):
  - 1. C62.90.2, trial-use standard withstand capability of relay systems to radiated electromagnetic interference from transceivers.
  - 2. C62.41, IEEE recommended practice on surge voltages in low-voltage AC power circuits.
  - 3. C62.45, IEEE guide on surge testing for equipment connected to low-voltage AC power circuits.
- B. Electronic Industries Association (EIA):
  - 1. TIA-232-E, interface between data terminal equipment and data circuit-terminating equipment employing serial binary data interchange.
  - 2. 422-A, electrical characteristics of balanced voltage digital interface circuits.
- C. International organization for standardization (ISO):
  - 1. ISO 9001, quality systems-model for quality assurance in design, development, production, installation, and servicing.
- D. National Electrical Manufacturers Association (NEMA):
  - 1. ICS 1, general standards for industrial control and systems.
  - 2. ICS 4, terminal blocks for industrial use.
  - 3. ICS 6, enclosures for industrial controls and systems.
  - 4. LS1, low voltage surge protection devices.
  - 5. Publication No.250, enclosures for electrical equipment (1000 V maximum).
- E. National Fire Protection Association (NFPA):
  - 1. National Electrical Code (NEC).
- F. Underwriters Laboratories, Inc. (UL):
  - 1. UL 1283, standard for safety-electromagnetic interference filters.

2. UL 1449, standard for transient voltage surge suppressors.

#### 1.06 COORDINATION

- A. The CSS shall coordinate all interconnection requirements to existing equipment with the Owner.
- B. The CSS shall coordinate the PLC wiring and Input/Output assignments with the Owner. The Owner shall approve the I/O arrangement prior to fabrication and wiring of the PLC cabinets by the CSS.

### PART 2 -- PRODUCTS

#### 2.01 GENERAL

- A. The PLC Control System shall be Allen Bradley ControlLogix to replace the existing SCADAPAK controllers. "No Equal"
- B. The PLC system shall operate in ambient conditions of 32 to 140°F temperature and 5 to 95 percent relative humidity without the need for purging or air conditioning.
- C. Where the PLC is utilized to control multiple trains of equipment, the PLC components (I/O modules, power supplies, etc.) shall be assigned so that the failure of one component does not affect equipment of all trains. I/O modules shall be segregated on a train basis unless required otherwise for safety reasons.
- D. The PLC program module shall dictate control outputs to a known and safe state prior to running of control program, under PLC fault conditions, and PLC runtime errors.
- E. Access to the PLC program, downloading, uploading and diagnostic functions shall have incorporated password protection or key lock operation.
- F. PLC system shall be designed with high noise immunity to prevent occurrence of false logic signals resulting from switching transients, relay and circuit breaker noise or conducted and radiated radio frequency interference.
- G. The controller shall be grounded to the panel ground bus with a separate ground conductor sized per the manufacturers grounding requirements the minimum ground connection shall be #12 awg.

#### 2.02 PROGRAMMABLE LOGIC CONTROLLER (PLC)

- A. Construction: The PLC central processing unit (CPU) shall be of solid-state design. All CPU operating logic shall be contained on plug-in modules for quick replacement. Chassis wired logic is not acceptable. The controller shall be capable of operating in a hostile industrial environment (i.e., heat,

electrical transients, RFI, vibration, etc.) without fans, air conditioning, or electrical filtering (up to 60 degrees C and 95 percent humidity).

- B. The PLC shall be furnished as a complete assembly with I/O (input/output) modules and peripheral equipment suitable for the interface with the PLC equipment, components, and field devices. The PLC design shall incorporate:
1. The PLC chassis shall contain all I/O modules, communications equipment, and power supplies required to provide the specified functions. PLC chassis shall be sized to house the required PLC modules plus an additional four slots for future expansion capability.
  2. PLC Power Supply: The PLC power supplies shall be sized to provide power at the maximum total module load plus an additional 50 percent for future expansion. The PLC power supply shall provide the following operational characteristics:
    - a. 120 VAC RMS plus or minus 15 percent continuously.
    - b. 120 VAC RMS plus or minus 30 percent maximum 30 seconds
    - c. 120 VAC RMS plus or minus 100 percent maximum milliseconds.
    - d. Line spikes at 1000V ac (5000 micro-seconds duration; 0.05 percent maximum duty cycle).
    - e. Power Supply Shall be ControlLogix Series 1756-PB Series
  3. Central Processor: The central processor shall contain all firmware logic, relays, timers, counters, number storage registers, shift registers, sequencers, arithmetic capability, and comparators necessary to perform the specified control functions. It shall be capable of interfacing sufficient discrete inputs, analog inputs, discrete outputs, and analog outputs to meet the specified requirements plus an additional 25 percent excess capacity.
  4. The power supply shall contain circuitry to provide orderly shutdown in the event incoming power does not meet specifications. If this occurs, the processor shall cease operation, forcing all outputs off. The processor shall have a key type memory protect switch to prevent unauthorized program changes. The central processor shall be 32-bit, minimum
    - a. Memory: The programmable controller memory be backed up by an internal power source.
    - b. The PLC shall be supplied with sufficient memory to implement the specified control function plus a reserve capacity of 25 percent of the total provided. This reserve capacity shall be totally free from any system use. Memory size shall be 40 MB

- c. The PLC shall be provided with a 2 GB Flash Memory module for program storage and memory back-up.
  - d. The PLC shall provide internal fault analysis with a fail-safe mode and a dry contact output for remote location alarming, and a local indicator on the PLC frame in the event of a fault in the PLC.
  - e. The PLC shall be support programming in IEC 61131 language using Allen Bradley Software. It shall be easily reprogrammed with a portable programming unit.
  - f. Communications Ports: The PLC system shall be equipped with an Ethernet interface ports.
  - g. The PLC processor shall be Allen Bradley ControlLogix 1756-L85E
5. Input/Output Modules: All I/O housings and I/O modules shall be of rugged construction with modules in place. Sufficient input and sufficient output modules shall be provided with the PLC to implement the specified control functions plus a reserve capacity of 25 percent of the total provided.
- a. Discrete Input Modules: Defined as contact closure inputs from devices external to the programmable logic controller module. Input modules shall be shielded from short time constant noise and 60-Hz pickup. Individual inputs shall be optically isolated for low energy common mode transients to 1500 volts peak from user's wiring or other I/O Modules. The modules shall have LED lights to indicate a discrete input.
    - (1) DC Input modules shall be supplied with a maximum of 16 or 32 points per module. Input voltage rating shall be provided as indicated on the contract drawings. Discrete input module shall be AB ControlLogix 1756-IB32.
    - (2) AC Input modules shall be supplied with a maximum of 16 points per module. Input voltage rating shall be provided as indicated on the contract drawings. Discrete input module shall be AB ControlLogix 1756-IA16.
  - b. Discrete Output Modules: Defined as contact closure outputs for ON/OFF operation of devices external to the programmable logic controller module. The output modules shall be fused at with blown fuse indicator lights. The output modules shall be optically isolated from inductively generated, normal mode and low energy, common mode transients to 1500 volt peak. All output modules shall have LED lights to indicate output has been cycled ON by the controller.

- (1) Grouped relay outputs shall be utilized for AC/DC switching and control applications. Output contact rating shall be 2 amps. Interposing relays shall be provided when controlled equipment current exceeds the contact output rating. Output module shall be supplied with a maximum of 16 points per module. Voltage shall be supplied as indicated on the contract drawings. Relay output module shall be AB ControlLogix 1756-OW16.
  - c. Analog Input Modules: Defined as analog inputs for 1 to 5 VDC or 4 to 20 mA dc signals, where an analog to digital conversion is performed and the digital result is entered into the processor. New inputs shall be provided for every scan. Analog inputs shall be supplied with a minimum resolution of 14 bits. Each analog input shall be isolated from common. Analog input modules shall be 8 channel AB ControlLogix Series 1756-IF16.
    - d. Analog Output Modules: Defined as analog output for 1 to 5 VDC or 4 20 mA dc signals, where a digital to analog conversion is performed and the analog result is produced on every scan. Analog output resolution shall be 14 bit minimum. Each analog output shall be capable of driving into a 1500 ohm load. Analog Output modules shall be 8 channel AB ControlLogix Series 1756-OF6C.
  6. Distributed Input/Output Communications: The PLC shall communicate with remote chassis utilizing a Ethernet I/O control network. Ethernet module shall be Allen Bradley ControlLogix EN2TR.
- C. Communications:
1. Ethernet Remote Input/Output (ERIO) – The PLC system shall be provided with a redundant ERIO network for rack mount I/O communications with the main processor CPU. The communication module shall be 1756-EN2TR
  2. Modbus TCP Communications Module – The PLC system shall be provided with a Modbus TCP communication module for communications with existing Modbus TCP systems. Modbus communications be provided for the following systems:
    - a. Well Pump Sites for Control
    - b. Chemical Feed Pump Control
  3. Ethernet: The PLC shall be provided with an Ethernet communications module port for SCADA Local Area Network access.
- D. The PLC system components shall be AB ControlLogix Series.

## 2.03 PLC APPLICATION PROGRAMMING

- A. The CONTRACTOR shall provide One (1) copies of Allen Bradley Studio 5000 Logix Designer software with the performance, functionality and configuration requirements as specified herein and within applicable specification sections.

## 2.04 PLC DATA COMMUNICATIONS

### A. General

- 1. The communications shall be configured to provide optimized communications between the PLC, and SCADA workstation nodes via a Fiber Optic Ethernet communications network.

### B. ETHERNET SWITCH

- 1. The Ethernet/fiber optic transceiver and embedded switch shall be manufactured with a ruggedized industrial case; 24VDC powered, and DIN rail mountable.
- 2. The Ethernet fiber transceiver switch shall have the following capabilities:
  - a. Operating temperature 32 to 158 Deg F
  - b. Shock and Vibration: 200g @ 10ms, 1g, 10-500Hz, 3 axis
  - c. 10/100BaseTx Auto Sense/Configuration, plug and play with auto MDIX/ port
  - d. Transceiver shall support Allen Bradley ring communications networks.
  - e. Fiber supports 62.5/125um @ 850/1300nm, multimode, communications and shall be compatible with the switch SFP modules.
  - f. Fiber transceiver shall be Allen Bradley 1783-ETAP1F.

### C. ETHERNET FIBER OPTIC SWITCH/ROUTER

- 1. The Ethernet/fiber transceiver switches shall be manufactured with a ruggedized industrial case; 24VDC powered, and DIN rail mountable.
- 2. The Ethernet/transceiver switch shall have the following capabilities:
  - a. Redundant 24VDC input supplies, (10 to 30VDC)
  - b. Operating temperature 32 to 158 Degrees F
  - c. Shock and Vibration: 200g @ 10ms, 1g, 10-500Hz, 3 axis
  - d. 10/100BaseTx Auto Sense/Configuration, plug and play with auto MDIX/ port

### 3. SFP MODULES

- a. SFP Modules shall be compatible with the Allen Bradley Switch, Stratix 5700 series and provide the functionality indicated.
  - b. Multi-Mode Fiber - Modules shall be Allen Bradley 1783
- 4. Ethernet Switch shall support Allen Bradley DLR communications connectivity.
- 5. Each switch shall be configured with Copper RJ-45 Ports and SFP Modular ports. Configuration shall include 2 Fiber Optic Ports and 8 Ethernet 10/100BaseT Ports.
- 6. The Ethernet/transceiver switch shall be AB Stratix 5700 Series 1783-BMS10CGN.

## 2.05 CABLING AND CONNECTORS

- A. Cables and connectors shall be supplied by the PLC manufacturer and fabricated for the required interface connection. Cables shall be fabricated at the required length, unspliced with factory installed terminations at both ends.
- B. Trunk, bus, drop and tap off cables and conductors shall be factory certified for use with the specified communication and interface media requirements.
- C. Termination, Data segment and Tee boxes shall be certified by the manufacturer and installed in accordance with the manufacturer's requirements.
- D. Connectors and terminators shall be provided with the correct connection interface without the use of additional adapters or fittings. Terminators shall be installed by the factory at the appropriate cable ends.
- E. All terminations shall be provided with screw type terminal connectors.
- F. Common Bus Bar connectors shall be utilized for ground and common connections for system power and grounding.
- G. The PLC system supplier shall furnish all communications connectors, adapters, terminating resistors as required to provide a complete communication cabling system. The CSS shall coordinate installation and terminate the Ethernet IP, Profibus, Modbus TCP, Modbus Serial RTU and DIO communications cables as required to interface with all supplied equipment.

## 2.06 SPARE PARTS

- A. The CSS shall provide, in addition to the specified wired spares, the following packaged spare parts:
  - 1. One spare I/O module for each type of module supplied
  - 2. One spare CPU Module

3. One spare Power Supply for each type
4. On Spare Modbus TCP Module
5. One spare communications module of each type

## PART 3 -- EXECUTION

### 3.01 GENERAL

- A. The CSS shall furnish all configuration labor, communications wiring, cabling, terminations, equipment, modules, converters, and interface components to provide for a complete and operational PLC control system.
- B. The PLC inputs/outputs shall implement the control functions and I/O specified within Section 13370, existing process control strategies as modified per section 13370, shown on the drawings, indicated in the I/O list, and specified under applicable specification sections.
- C. PLC control systems shall be configured to operate independent of SCADA workstation. The PLC shall be configured to operate failsafe in the event of a PLC failure.
- D. Modules shall be arranged such that a single module failure does not result in the shutdown of a complete system or station with the plant. Where only a single type module is utilized in a PLC rack, such as AI or AO modules, a second module shall be provided to split the AI and AO into multiple channels. The minimum number of AI or AO modules per PLC shall be two.
- E. PLC to MCC interface shall be DC Input and Relay Out (24 VDC Source).
- F. All unused module inputs and outputs shall be wired to terminal blocks.
- G. Provide 25 Percent Spare I/O for each type and voltage. Add modules as required.

### 3.02 PLC APPLICATION PROGRAMMING

- A. PLC Programming shall be provided utilizing Rockwell Studio 5000 development software
- B. Programming shall be provided as Function Block Style.
  1. Function Blocks shall be provided as follows:
    - a. Alarm Block
    - b. Instrument Block
    - c. Motor
    - d. Motor with VFD
    - e. Valve



- f. Chemical Feed Pump
- g. Well Pump
- h. Power Monitor
- i. Equipment Status Block
- j. Additional Blocks as required

C. Programming Application Requirements

1. Reference Appendix A for existing PLC application programming functionality.
2. The existing PLC register sets shall be provided in Allen Bradley communications Protocol compatible with the existing Wonderware SCADA system.
3. The existing PLC Application program functionality shall be duplicated within the Allen Bradley ControlLogix PLC with the following revisions:
  - a. The existing WTP PLC SCADAPAK and Filter Control Panel SCADAPAK application programs shall be combined into a single ControlLogix application program.
  - b. Existing register sets for SCADA and Remote applications shall be recreated to support the Allen Bradley communications protocol.
  - c. The
  - d. Although not referenced in the existing control strategies, new I/O and control functions have been added over time to the program application, but not documented. A copy of the ISAGRAF programming files is available for review.
  - e. The CSS shall verify existing operation and allow for the programming of these functions with-in the Allen Bradley program. This functionality includes:
    - (1) VFD monitoring and control of 4 Pumps
    - (2) Chemical Feed Pump Control for 4 Pumps via Modbus/TCP.
    - (3) 8 Status Monitoring Points
    - (4) 4 Analog Inputs
    - (5) 2 Analog Outputs

### 3.03 FACTORY TESTING

- A. Reference Section 13320 for additional factory testing requirements.

- B. Factory testing shall be conducted with the Communications Systems, PLC's, and SCADA.
- C. The CSS shall provide the services of a factory trained PLC technician to provide the following:
  - 1. Setup, configure and wire all control panels and SCADA workstations.
  - 2. Set-up, configure and verify all Ethernet and Fiber Optic communications modules.
- D. The CSS shall provide the services of a factory trained PLC technician to provide for:
  - 1. Point Testing of all I/O systems with the PLC diagnostic graphic displays.
  - 2. Analog testing of all I/O systems with signal generator to vary the signal from 0 – 100 percent at 10 percent intervals.
  - 3. Test communications interface between PLC's, PLC to SCADA and SCADA to SCADA communications.
  - 4. Assist with functional testing as required to verify all communications, I/O functionality, and hardware operation.
- E. The CSS shall provide all necessary cables, connectors, simulators, and testing equipment required to perform a complete system test.
- F. Test equipment shall be provided to test and independently vary up four analog input values simultaneously via 4-20 mA signal.

#### 3.04 SITE ACCEPTANCE TESTING

- A. Reference Section 13320 for site and field testing requirements
- B. The CSS shall provide On-Site PLC and SCADA programming services during testing. Remote access to the system will not be allowed.

#### 3.05 WARRANTY AND CUSTOMER SUPPORT

- A. All PLC hardware and software shall be provided with a 1 year replacement warranty from date of PROJECT acceptance

- END OF SECTION -

SECTION 13370  
APPLICATION PROGRAMMING

PART 1 -- GENERAL

1.01 GENERAL

- A. The Control Systems Supplier (CSS) shall provide all SCADA, PLC and Communications programming to implement an Allen Bradley ControlLogix PLC within an existing Wonderware System Platform operating environment. The system shall be programmed and configured to implements a PLC system replacement of the existing SCADAPAK RTU's located at the following:
  - 1. Railroad Water Treatment Plant Main Control Panel
  - 2. Railroad Water Treatment Plant Filter Control Panel
- B. PLC and SCADA Hardware and Software Programming and Development for:
  - 1. Railroad Water Treatment Plant Main Control Panel
  - 2. Railroad Water Treatment Plant Filter Control Panel
- C. The CSS shall provide all services required to coordinate the communications interface and interoperability between the various existing systems to include the following:
  - 1. Networking Hardware and Software Development to communicate with:
    - a. Chlorine System
    - b. (8) Well Site Pump Systems
    - c. (4) Chemical Feed Pump Controllers
    - d. Power Monitor
- D. The CSS shall provide all testing and test programming for testing and general hardware configuration services referenced and contained within the Project Plans and Specifications.
  - 1. Factory Testing
  - 2. Functional Testing
  - 3. Pre- Commissioning Testing
  - 4. Operator Training (PLC and Communications Hardware)

- E. The CSS shall provide complete and comprehensive services for the implementation; coordination and support of a PLC based Control system incorporating an Allen Bradley ControlLogix system to be integrated with the Owners existing Wonderware SCADA application.
- F. Final detailed and comprehensive control strategies shall be developed and submitted by the CSS in the specified formats and in accordance with the standard specifications contained in this section. The CSS shall detail and delineate all control systems and parameters on a process-by-process, loop-by-loop basis. The control strategies shall include the generalized control requirements, additional support system control requirements, existing control systems and any vendor supplied system controls that are necessary to fully understand the operational parameters and control functions to be provided.
  - 1. The CSS shall meet with the Owner to obtain the latest I/O and register tagging, SCADA and PLC programming formats and configurations to assist in the testing, start-up and commissioning of the control systems.
  - 2. The Owner shall provide the CSS with supplemental data during the course of the contract as required to address alarms, permissives and calibration ranges. The CSS shall incorporate this data into the final I/O configurations for loop testing and commissioning.

#### 1.02 PLC APPLICATIONS PROGRAMMING DEVELOPMENT

- A. Reference Section 13350 for Additional PLC System Development requirements.
- B. Program PLC system is based on the system control strategies presented in Appendix A, and standard development practices specified in this section.
  - 1. The Appendix A program listing is based on the original programming documentation provided by Tesco Controls. Programming has since been modified and enhanced to include additional I/O and systems as indicated and noted on the PLC wiring diagrams. The following systems have been added:
    - a. VFD process control for the Booster #6, #1, Return Pump # 1 and Return Pump #2. (Utilize PID module per This Section)
    - b. Chemical Feed Pumps #1 and #2 (Utilize Chemical Feed Module per this Section)
    - c. PH and Chlorine Monitoring (Utilize Analog Process and Alarm Block per this Section)
    - d. Remote Well Site controls for up to 8 locations
    - e. (4) Chemical Feed Pumps Controlled via Modbus TCP
    - f. Chlortec Chlorine Generation System

### 1.03 SCADA Application Development Requirements

- A. Modify existing SCADA system to support communications utilizing Allen Bradley Protocol.
- B. For development and testing purposes the CSS shall pretest the communications network and associated register sets prior to removal of the existing system.
- C. The CSS shall utilize the existing graphics and modify them to support the new PLC communications network and additional features presented in the specified control blocks. The existing graphics will be utilized to compare the new system communications with the old system to verify operation and confirm SCADA application operation prior to commissioning.
- D. The following Additional Graphics shall be provided:
  - 1. I/O Diagnostic Screens
  - 2. EIO Communications Network Diagnostic Screen to indicate:
    - a. PLC Module and I/O Status

### 1.04 PROJECT MEETINGS

- A. The CSS shall provide for a minimum of three (3) programming workshops as follows:
  - 1. Workshop #1 – Pre-Programming Clarification Meeting
    - a. Existing Program Clarification
    - b. Programming Methods
    - c. Control Strategy Review and Development Meeting
  - 2. Workshop #2 – Programming Review
    - a. Proposed programming blocks
    - b. Detailed Control Strategy Definition
  - 3. Workshop #3 – Programming Demonstration
    - a. Demonstrate SCADA and PLC Operation
- B. The CSS shall attend two programming coordination specific meetings as they pertain to coordination for Factory Operational Readiness Testing and System Commissioning efforts with the Owner.

#### 1.05 RELATED SECTIONS

- A. Contract Documents are a single integrated document, and as such all Divisions and Sections apply. It is the responsibility of the CONTRACTOR and its Sub-Contractors to review all sections to insure a complete and coordinated project.
- B. The WORK of the following Sections applies to the WORK of this Section. Other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of this WORK with respect to PLC programming and SCADA system configuration
- C. Related Divisions shall include but not be limited to the following:  
Division 13

#### 1.06 TECHNICAL SERVICES

- A. In addition to the technical services required by the Project Plans and Specifications, the CSS shall provide for 80 hours of PLC technical support for programming, additional testing and coordination efforts to be assigned by the Owner.
- B. Services shall be utilized by the Owner to add to, expand or modify the system that is outside the intended "Scope of Work".

#### 1.07 DIVISION OF WORK

- A. The CSS will perform all of the programming and configuration of PLC's, SCADA and communications equipment.

#### 1.08 SUBMITTALS

- A. The CSS shall prepare detailed programming submittals for the PLC and OIP.
- B. The CSS shall review the Packaged System Supplier Submittals and include their submittals as part of the overall system programming submittal:
  - 1. The system configuration submittal shall provide sufficient data to illustrate that the plant control systems and the packaged systems will be programmed and configured in accordance with the specified requirements. Configuration submittal shall include:
    - a. Table of Contents
    - b. Drawing Index
    - c. Sequence of Operation

2. PLC and SCADA register tables identifying all setpoints, I/O, Internal registers and associated data required for the Owner's SCADA System Programmer to read/write data from the PLC via the SCADA and PLC Control Network.

C. PLC APPLICATION PROGRAMMING DOCUMENTATION

1. Provide Documentation per Section 13350.

## PART 2 -- STANDARD PROGRAMMING METHODS

### 2.01 GENERAL

- A. The following control functions are based on a Wonderware SCADA foundation for monitoring, control and information systems implementing Allen Bradley ControlLogix based PLC controls for new PLC network implementation. The SCADA system shall have complete monitoring and control capability of the PLC system.

### 2.02 CONTROL STRATEGIES

- A. These existing PLC control strategies and register sets are not intended to be all-inclusive operational procedures for the complete system. Existing control strategies for PLC control programs and SCADA configurations are provided to establish a general understanding of system operation and supplement application specific requirements referenced in other sections.
- B. For clarification purposes the term SCADA and OIP are used throughout the specification to identify operator interface requirements to be supplied at both the SCADA and local OIP. Either term referenced as OIP or SCADA applies to both the OIP and SCADA for functional programming requirements. The OIP and SCADA shall be configured to provide all the functionality specified. What is specified for one shall be provided for the other.
- C. The CSS shall be responsible for reviewing the standard program and configuration documentation standards contained in this section.
- D. Detailed control strategies revisions will be prepared by the CSS during the course of program development and presented during the specified workshops. The CSS shall submit a modified and revised control strategy utilizing the Appendix A control description as a basis for development.

### 2.03 GENERAL CONTROL AND MONITORING

- A. In general, control and monitoring functionality shall be as follows:
  1. Provide SCADA programming coordination for access by the SCADA system provided for in the Project Specifications.

2. The CSS shall coordinate all specified configuration and development requirements with the owner. Coordination shall be achieved with specified configuration meetings and submittals to establish an acceptable configuration format and operational methods that meet the intent of the contract documents.
- B. The SCADA system shall be configured to access all registers contained within the PLC for Setpoints, Time Delays, Process Data and system I/O. The PLC shall be configured to make all information available to the SCADA system via the network.
- C. All setpoints, timers and registers shall be accessible from SCADA.

#### 2.04 COMMON MONITORING AND CONTROL FUNCTIONS

- A. Common functions and terms for basic monitoring and control operations are provided as a standard of implementation for the control system. These terms and functions address items that are typical for process control loops and most operator initiated actions. These functions are not necessarily repeated in each individual control strategy. Unless otherwise stated they are considered a part of each control strategy implemented.
- B. PLC Configuration Requirements
  1. Operator Settings (Setpoints)
    - a. Operator/user set or entered values that are adjustable or set from operator displays. Examples of operator set or entered values are controller Setpoints, batch setpoints, timers, counters, mode selection, etc. Specific values that are normally required to be operator settable shall be noted in the process control strategy descriptions. The PSS shall provide a list of all operator settable parameters that are required for normal monitoring, control, alarming and process troubleshooting to be available at the SCADA workstation.
    - b. Operator settable parameters shall be provided for:
      - (1) Process control setpoints (Flow, Level, Pressure, Analytical)
      - (2) Process mode selection, equipment sequencing and selection.
      - (3) Non-critical system control override and manual equipment operation.
      - (4) Manual control setpoints for equipment speed and stroke operations.
      - (5) High-High, High, Low and Low-Low alarm setpoints that will vary with process dynamics, time of use, energy conservation and seasonal modes of operation.



(6) Operational parameters required for providing normal operation of the control system from the SCADA system. The operator shall not be required to leave the control room to conduct any monitoring, control and alarm acknowledgement functions.

(7) Time of Day setpoints

2. Tunable Values (Setpoints)

a. Tunable values are setpoints that are adjustable at password protected engineer level displays without requiring any PLC or SCADA software reconfiguration. Tunable values are also identified, and their preliminary values are shown.

b. Tunable setpoint values shall be provided for:

(1) Tunable time settings,

(2) Tunable alarm setpoints,

(3) PID tuning constants

(4) Deadband Percentages

(5) Filter Constants

(6) Alarm Enable/Disable Operations

(7) Alarm Delay Timers

(8) Sequence Delay Timers

(9) Start and Stop Delay Timers

3. Fixed Values:

a. Fixed values are formula constants that never change and are contained within the PLC or SCADA control logic normally inaccessible by the SCADA system. Modification of fixed values requires a modification to the control logic via the PLC programming, configuration and diagnostics software package.

4. Displayed Values:

a. The term displayed means that the value, or information referred to, is displayed in an easily read and understood format on the SCADA workstation. Values shall be identified by their device tag reference and associated equipment number. For analog variables the value is

tagged (ISA Standard) and its associated engineering units are displayed.

5. **Hardware Interlocks:** Hardware interlocks refer to interlocks directly wired within the electrical control circuits of equipment that, when activated, will cause the equipment to shutdown or otherwise prevent operation of the equipment. Hardware interlocks do not necessarily pass through or depend on the PLC or SCADA to be operable.
  - a. Hardware interlocks may also be derived by local control panels or switches wired directly to the PLC to provide direct hardwired alarm status to the PLC for processing.
6. **Software Interlocks:**
  - a. Software interlocks refer to interlocks that are generated by the PLC or SCADA logic or otherwise pass through the PLC. Software interlocks are not operable when the PLC is not operable or if for some reason equipment is operated while bypassing the PLC logic.
7. **Hardware Generated Alarms:** Hardware generated alarms are alarms that are generated external to the SCADA/PLC by equipment such as local control panels, analytical devices and process switches.
  - a. Direct wired alarms that do not depend on the PLC or SCADA to be operable.
    - (1) An example would be a High H<sub>2</sub>S level signal from the H<sub>2</sub>S monitor and wired directly to an alarm light or horn.
    - (2) Direct PLC wired alarms such as a High-High pressure switch that interfaces directly with the PLC inputs.
8. **Software Generated Alarms:**
  - a. Alarms that are processed or generated by PLC or SCADA logic are referred to as software generated. Software generated alarms are displayed on the SCADA workstation alarm screens and are available for archiving.
9. **Local Automatic Control Mode:**
  - a. Local automatic control refers to control logic performed in a local control panel independent of the PLC or SCADA. An example is a standalone air compressor package that, when in the local automatic control mode, automatically controls the compressors to maintain air pressure within a fixed deadband.
10. **Local Manual Control Mode:**

- a. Local manual control refers to the mode where operators can control equipment from the equipment location. Examples are an air compressor that may be stopped or started from the compressor's local control panel (LCP), or a gate that may be opened or closed from the gate operator.

11. PLC Automatic Control Mode:

- a. In automatic mode equipment is controlled automatically per predetermined control schemes residing in the SCADA or PLC usually without operator intervention. However, in some cases the operators may be required to initiate certain automatic functions. An example of this would be the operator initiation of the pump auto-start command. All setpoint registers shall be contained within PLC logic. PLC logic shall provide automatic control parameters (setpoints, modes of operation, equipment sequences, alarm interfacing, manual controls) and shall be accessible from the SCADA workstation. The SCADA workstation shall have access to all timers, counters, registers and control parameters.

12. SCADA Manual Control Mode:

- a. SCADA manual control refers to the remote manual control of equipment from the SCADA workstation. In this mode, the operators override the PLC automatic control logic while safety interlock logic remains in effect. The SCADA shall set a control status at the PLC signifying that the SCADA has assumed control of the equipment. The PLC shall provide positive feedback that SCADA is selected and display at the workstation. The SCADA control status shall remain in effect until removed by the SCADA or an override condition occurs.

13. SCADA Automatic Control Mode:

- a. SCADA automatic control refers to higher-level control logic that calculates flow and/or level set-points that are transmitted to the PLC's for use in the PLC automatic logic routines. The SCADA shall set a control status at the PLC signifying that the SCADA has assumed control of the equipment. The SCADA control status shall remain in effect until removed by the SCADA or an override condition occurs.

14. SCADA Override Control:

- a. SCADA override control refers to the ability to override specific software interlocks and initiate control actions. Software interlocks or permissives that can be overridden are identified within the individual control strategies. Override control is an abnormal control operation and a "SAFETY INTERLOCK OVERRIDE ALARM" shall be initiated for the specific override condition whenever an override command is in effect.

## 2.05 COMMON SCADA/PLC SOFTWARE FUNCTIONS

- A. To provide for a standard of implementation various software control and monitoring functions are defined. The standard functions may not be fully delineated within each individual control strategy, however unless otherwise stated to be excluded, the standard functions shall be provided for the defined alarm, action, display, variable or control action.
- B. PLC Operation:
  - 1. All automatic and semi-automatic controls are resident within the PLC. The PLC is configured as the primary control system for all alarm monitoring; pump start/stop sequencing, filter controls, backwash sequencing, shutdown and interlock and basic process control functions.
  - 2. The PLC shall be programmed to operate the process independent of the SCADA or Workstation Status.
  - 3. PLC setpoints and operational parameters shall be stored in non-volatile memory, allowing the PLC to be powered up and operate the control system without operator intervention.
- C. EQUIPMENT MONITORING AND CONTROL BLOCK
  - 1. The following provides the equipment requirements for common PLC monitoring and control functions:
  - 2. All equipment status items monitored by the PLC and generated within the PLC control strategies are displayed at the SCADA. Unless otherwise specified the following items are monitored by the PLC and displayed at SCADA for each equipment item:
    - a. Equipment REMOTE or AUTO status
    - b. Equipment RUNNING or ON status
    - c. Equipment READY Status (Internal Register)
    - d. Equipment OFF status
    - e. Equipment OUT OF SERVICE
    - f. Equipment Fault
    - g. Equipment Fail to Run/Operate
    - h. Equipment Shutdown
    - i. Process Alarms

3. Control logic that employs step sequencing of process control equipment such as Backwash, Washing and Drain to Waste operations shall be provided with user adjustable step durations for individual step sequences.
4. Discrete output control is processed by the PLC based on the PLC control algorithm or SCADA commands. All interlocks, permissives and start sequences shall be provided at the PLC level. Unless otherwise stated or shown, all discrete outputs shall be provided as follows:
  - a. For equipment RUN/START PLC functions, the PLC shall issue a maintained START command until a RUNNING state is no longer detected or the START command is removed resulting from an alarm interlock or stop condition.
  - b. For equipment OPEN/CLOSE PLC functions, the PLC shall issue a maintained OPEN/CLOSE command until the command is removed.
  - c. When a momentary command is required, the PLC shall issue the command for a minimum two (5) seconds, and then remove the signal.
  - d. Where pulsed outputs are utilized for valve positioning control, pulse width and rates shall be based on the valve control dynamics. Pulsed controls shall be provided with a user adjustable pulse width in seconds and a minimum off time in seconds.
5. For equipment that the PLC is allowed to control, the PLC shall provide a Fail to operate alarm if the equipment fails to comply with a PLC command signal (START, STOP, OPEN, CLOSE) that has been present for more than a tunable time period. In this event, the command shall be removed subsequent to the expiration of the tunable time period.
6. Equipment that is operated that has not been commanded to operate by the PLC shall produce an UNCOMMANDED OPERATION alarm.
7. Equipment that is controlled by the PLC will produce Equipment Not In Auto/Remote alarm if the Auto or Remote Status is removed for a user adjustable delay
8. When equipment is tagged OUT OF SERVICE, a SCADA function, all associated equipment, and devices are automatically placed in OUT OF SERVICE status and their associated alarms inhibited until the tagged equipment is re-tagged IN SERVICE. The PLC shall receive an "Out of Service" status from the SCADA and remove all associated equipment from operation at the PLC control level.

#### D. PROCESS ALARM BLOCK

1. All discrete alarm and failure inputs are alarmed by the PLC application software and displayed at the SCADA.

2. Each discrete alarm input shall have a unique associated alarm delay setpoint that prevents nuisance tripping.
3. A discrete alarm will be generated based on a tunable setpoint time after the discrete event is initiated.
4. Each Alarm shall be provided with a Alarm Count Up/Down Timer
5. Each Alarm will indicate the trigger event and then the Alarm Condition
6. Process related alarms shall be disabled when process is, paused, shutdown or operating in an abnormal mode. Example, filter turbidity, and related filter influent and effluent alarms are disabled during a backwash sequence or the plant is offline.
7. Each alarm shall be provided with an Enable/Disable status at the PLC. When disabled the alarm logic is disabled and the status is indicated only for SCADA monitoring. When the alarm condition is disabled all associated shutdown interlocks are disabled.
8. Process alarms shall be provided with adjustable setpoints and interlocks to prevent nuisance alarms and totalization operations as follows:
  - a. When associated flow producing equipment is off, the No Flow Alarm and Flow Totalization shall be disabled and the flow value set to zero.
  - b. When the flow value is less than a no totalization setpoint value, the flow shall be zeroed to disable totalization when equipment is not operational.
9. SCADA alarm activation and annunciation shall adhere to a priority hierarchy that is established and maintained at the SCADA system. Each alarm shall have an associated priority level defined as:
  - a. Level 0 – Life Threatening or Danger Conditions
  - b. Level 1 – Critical process alarms that will create a plant shutdown condition cause a critical process failure or severely hinder plant operation.
  - c. Level 2 – Minor process alarms associated with warning conditions and minor equipment failures.
  - d. Level 3 – Informational alarms and status that will not hinder operation or cause equipment failure.
  - e. Level 4 – 10 Non-critical alarm and event levels shall be coordinated with the Owner.

E. ANALOG PROCESS LOOP BLOCK

1. All analog inputs shall have instrument failure alarms when the input is below 0 percent or above 100 percent for a tunable time initially set at 10 seconds.
2. Where alarms are specified as shutdown in the control strategy descriptions, those alarms are initiated by the PLC control logic based on the applicable analog input signals.
3. User adjustable trip points shall be provided at the PLC for each analog input to establish High-High, High, Low, Low-Low, and Rate-Of-Change events.
4. Each trip point shall be provided with a user tunable deadband for set and reset operations. Individual signal trip points shall be provided with a unique tunable delay to alarm activation. See Alarm Block
5. All process related analog inputs shall be trended based on a continuous one, 12 and 24-hour trends additional trend times may be selected at the discretion of the operator utilizing historical trend configuration and evaluation tools.
6. Instrument "OUT OF SERVICE" tagging. When an instrument is failed or removed from service, the operator at the SCADA may block the instrument signal at the PLC to prevent nuisance alarm and abnormal control conditions. When an instrument signal is blocked at the PLC, associated alarms and controls are disabled. The operator shall be capable of entering substitute values for monitoring and control while in the blocked mode of operation.
7. A simulation mode shall be provide to all an Operator to simulate and Analog input value. The operator shall be capable of inputting a simulated process value.

F. ACCUMULATION BLOCK

1. All power, flow inputs and equipment run times shall be totalized by the PLC, recorded and displayed at the SCADA workstation.
2. Totalizers shall be provided as both non-resettable and resettable at the engineer level only.
3. Provide in the PLC the following Registers
  - a. Daily Total
  - b. Yesterday Total
  - c. Monthly Total
  - d. Last Month Total

- e. Yearly Total
- f. Total Since Last Reset
- g. Running Total

#### G. PID CONTROL BLOCK

1. All PID control functions (P, PI, and PID) are provided with standard analog controller functions and SCADA operator interfaces including, but not limited to, the following:
  - a. AUTO/MANUAL mode selection: In AUTO, the output of controller shall be based on the PID control calculation resident in the PLC. In MANUAL, the output of the controller shall be operator adjustable. Transfer between operational modes shall be bumpless.
  - b. LOCAL/REMOTE set point selection: In LOCAL, the set point shall be operator adjustable from the equipment. In REMOTE, the set point shall be adjustable from a REMOTE set point input.
  - c. Set point, process variable, and controller output shall be displayed at the SCADA workstation. The display shall be represented as a dynamic bargraph with the associated value displayed in engineering units.
  - d. Deadband limits shall be placed on PID control algorithms to avoid hunting and continuous change actions. Deadband limits shall maintain a constant control until the process variable exceeds the deadband boundaries. A deadband value of zero will disable the deadband. Provisions shall be included to prevent reset windup.
  - e. PID controls shall be provided with a setpoint deviation alarm. The alarm condition shall be generated when the controller cannot sustain the desired setpoint within a user definable deadband for a tunable time delay.
  - f. Bumpless transition shall be provided when PID is invoked after a transition from manual to PID control or when pump start logic utilizes minimum speed controls for starting applications. The transition from current speed to calculated speed shall be provided as a user tunable setpoint percentage per second value.
  - g. PID control systems employing external setpoint controllers as back-up or local automatic control equipment shall interface with the PLC control logic based on the following:
    - (1) Local/Remote mode control of the Setpoint Controller shall be capable of selecting "local automatic", "local manual" and remote



control of the setpoint controller. In the remote control mode the setpoint controller receives output control signals from the PLC to maintain the desired setpoint or position.

- (2) Alternate mode select, in remote control the setpoint controller shall receive an alternate mode control condition from the PLC. This mode shall freeze the control output at its current state or drive the controller to produce a 0 output until the alternate mode condition is removed.
  - (3) The setpoint controller shall provide a mode status condition to the PLC indicating that is in the local or remote HOST mode of operation.
2. SCADA manual control shall be provided for all PLC controlled equipment. SCADA manual equipment control shall utilize two state (bit) control operation for equipment start-stop and valve open-close functions. When the control action is selected it shall be highlighted in accordance with the owner's standard color code conventions.
3. Equipment operating in SCADA manual mode shall have the manual control action removed when an associated shutdown condition is in effect. On a shutdown condition the equipment shall be stopped and removed from SCADA manual mode. The operator shall be required to reset the alarm and restart the pump manually in SCADA mode.

#### H. CHEMICAL FEED PUMP BLOCK

1. Chemical Feed Controls shall be provided with SCADA manual Start/Stop control. Equipment provided with speed control and feedback shall be provided with three modes of control unless otherwise specified. The chemical feed controls shall be provided as follows:
  - a. On/Off Control – When selected for On/Off control the PLC shall start the associated chemical feed equipment based on equipment run and/or process flow interlock conditions.
  - b. Manual Speed Control – The operator shall select SCADA manual control and manually set the speed from the SCADA workstation. In this mode the equipment shall Start/Stop automatically and utilize the last speed setpoint value for equipment control.
  - c. Open Loop Control – The PLC shall control the chemical feed rate based on its associated flow pacing signal. The chemical feed output shall be provided with operator adjustable ratio and offset setpoints.
  - d. Closed Loop Control – The PLC shall control the chemical feed rate based on its associated flow pacing signal and feedback process variable for trimming the output to maintain a desired process

parameter such as Chlorine Residual, PH etc. Unless otherwise specified the control shall be based on a PID control algorithm as described.

- e. The operator shall select the desired mode of operation On-Off/manual/open loop/closed loop control from the SCADA workstation. The chemical feed controller shall display the operational status, speed and mode selected on the graphical screen.
- 2. Valve and gate controls provided with positive feed back for Opened and Closed states shall be provided with the following features:
  - a. When commanded to Open/Close and the valve is not Opened/Closed the SCADA shall display an equipment traveling status.
  - b. When both the equipment Opened/Closed states are present an equipment alarm shall be generated at the SCADA.

## 2.06 SYSTEM CONTROL HIERARCHY

- A. The SCADA control system provides for all monitoring, alarming, interlocking and control functionality of the plant control systems. It provides the means in which the SCADA monitors and controls the system at the operator level. Equipment items throughout the plant are provided with numerous levels of control ranging from local manual to SCADA initiated controls. To establish a control hierarchy the following control precedence shall be in effect unless otherwise specified within individual control strategies:
  - 1. Hardwired Interlock, E-Stop and Lock Out Stop (LOS)
  - 2. Local Manual Control
  - 3. Local Automatic Control
  - 4. PLC Automatic Control
  - 5. SCADA Manual Control
  - 6. SCADA Automatic Control
- B. For equipment that is controllable from a PLC, a control mode status signal shall be present at the PLC to indicate when the PLC is allowed to control the equipment. The PLC monitors the switch position status (LOCAL/ REMOTE, HAND-OFF-REMOTE) of each equipment item and is able to control only the equipment that is in the REMOTE or selected PLC mode.
- C. SCADA control (Auto or Manual) can occur only when the PLC is in either the REMOTE or selected PLC mode for the equipment item and it is placed into the SCADA AUTO/MANUAL control mode. Under SCADA mode the SCADA system

provides for all start/stop, open/close, speed and position control based on operator initiated actions or control algorithms resident within the SCADA system.

- D. All interlocks, start sequences, stop sequences and permissives shall be retained in the PLC and remain active in the SCADA mode. Exceptions to this are those alarms listed as overrideable alarms by the SCADA.
- E. There shall be three levels of PLC initiated control once the equipment is placed into the remote or PLC mode of operation. The control hierarchy for PLC operation is as follows.
  - 1. Equipment placed into service and not under SCADA AUTO/MANUAL mode is directly controlled by the PLC without SCADA intervention.
  - 2. Equipment placed into SCADA MANUAL is controlled at the SCADA workstation based on operator initiated control actions.
  - 3. Equipment placed into SCADA AUTO is controlled by a control strategy resident within the SCADA. Control data is sent to the PLC based on SCADA calculated control requirements.
  - 4. Equipment placed into SCADA AUTO with various modes of control is controlled by a control strategy resident within the SCADA. Control data is sent to the PLC based on SCADA calculated control requirements for the control mode selected.
- F. The local OIP shall be configured to provide the same operational functionality as that of SCADA. The OIP/SCADA shall be configured to monitor, display and control all aspects of the system. The OIP and SCADA shall be capable of adjusting and tuning all setpoints within the local PLC. The CSS shall coordinate the SCADA interface, monitoring and control requirements with the Owner.

### PART 3 -- PROCESS CONTROL DESCRIPTION

#### 3.01 Process Control Reference Appendix A

- A. A basic control description with I/O and setpoint register listings are provided for in Appendix A.
- B. The program has been modified and enhanced since the creation of this document. The CSS shall review the existing native application program available from the City to establish the as-programmed application for developing the Allen Bradley program.
- C. The Original Program was developed in ISAGRAPH and a copy of the existing most recent program files can be made available for the CSS to review and verify.
- D. The CSS shall revise and modify the existing control descriptions to reflect the current programming and submit for review prior to PLC programming development.

-END OF SECTION -

July 15, 2025

TO: Chair and Directors of the Florin Resource Conservation District

FROM: Travis Franklin, Program Manager

SUBJECT: **LEGISLATIVE MATTERS AND POTENTIAL DIRECTION TO STAFF**

### **RECOMMENDATION**

This item is presented as information although the Florin Resource Conservation District Board of Directors may provide an action to authorize staff to respond to a legislative item.

### **SUMMARY**

There are several bills that have been introduced in the 2025 legislative session that could potentially impact the Florin Resource Conservation District/Elk Grove Water District (District) if passed. These bills are highlighted below.

### **DISCUSSION**

#### **Background**

The Florin Resource Conservation District (FRCD) Board of Directors (Board) is periodically updated on legislative and regulatory issues.

#### **Present Situation**

The following bills have been introduced in the 2025 legislative session that could potentially impact the District if passed in their current form.

#### **AB 93 (Papan D) Water resources: demands: data centers.**

This bill would impose water efficiency requirements on data centers and would require inclusion of water delivered to data centers in a water agency cost-of-service analysis. The California Special Districts Association (CSDA), and Regional Water Authority (RWA) are a watch on this bill. The Association of California Water Agencies (ACWA) has an oppose unless amended position looking to remove urban water use objective language from the bill.

#### **AB 259 (Rubio, Blanca D) Open meetings: local agencies: teleconferences.**

The Brown Act authorizes the legislative body of a local agency to use teleconferencing and requires a legislative body of a local agency that elects to use teleconferencing to

**LEGISLATIVE MATTERS AND POTENTIAL DIRECTION TO STAFF**

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comply with specified requirements, including that the local agency post agendas at all teleconference locations, identify each teleconference location in the notice and agenda of the meeting or proceeding, and have each teleconference location be accessible to the public. Current law, until January 1, 2026, authorizes the legislative body of a local agency to use alternative teleconferencing if, during the teleconference meeting, at least a quorum of the members of the legislative body participates in person from a singular physical location clearly identified on the agenda that is open to the public and situated within the boundaries of the territory over which the local agency exercises jurisdiction, and the legislative body complies with prescribed requirements. Current law requires a member to satisfy specified requirements to participate in a meeting remotely pursuant to these alternative teleconferencing provisions, including that specified circumstances apply. Current law establishes limits on the number of meetings a member may participate in solely by teleconference from a remote location pursuant to these alternative teleconferencing provisions, including prohibiting such participation for more than 2 meetings per year if the legislative body regularly meets once per month or less. This bill would remove the January 1, 2026, date from those provisions, thereby extending the alternative teleconferencing procedures indefinitely. CSDA is the sponsor, RWA has a support position, and Elk Grove Water District (EGWD) has joined a support letter through ACWA.

**AB 428 (Rubio D) Joint powers agreements: water corporations.**

This bill would authorize a water corporation, a mutual water company, and one or more public agencies to provide insurance by a joint powers agreement. The bill would also authorize a water corporation, a mutual water company, and one or more public agencies to enter into a joint powers agreement for the purposes of risk pooling. The bill would prohibit the Public Utilities Commission from allowing a water corporation to join a joint powers agency for insurance coverage if there are no greater benefits to the customers of the water corporation than are provided by the water corporation's current insurance policy. The bill would require the joint powers agency to be 100% reinsured with no joint and several liability, no assessments, and no financial liability attributable to the participating members, as provided. CSDA and RWA have a watch position and ACWA is not tracking.

**AB 532 (Ransom D) Water rate assistance program.**

This bill would authorize an urban retail water supplier to provide water rate assistance to its ratepayers, and would define the term "water rate assistance" to mean any offset of the cost of water service provided through a low-income water rate assistance program, without violating constitutional restrictions. The bill would authorize the water rate assistance to be provided to specified eligible ratepayers. The bill would authorize an

**LEGISLATIVE MATTERS AND POTENTIAL DIRECTION TO STAFF**

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urban retail water supplier to use any funding it has available to provide water rate assistance to its ratepayers, as specified, including voluntary contributions sought from other ratepayers. The bill would require an urban retail water supplier to, beginning January 1, 2028, include in the technical report to the state board specified information regarding its water rate assistance program. RWA and CSDA supports this bill, ACWA has a favor position on this bill.

**AB 620 (Jackson D) Medium- and Heavy-Duty Zero-Emission Vehicle Fleet Purchasing Assistance Program: rental vehicles.**

This bill or other regulations that are regarding the procurement or use of medium- and heavy-duty zero-emission vehicles by a public or private fleet, would require the state board to consider specified things, including the environmental and supply chain benefits of renting medium- and heavy-duty zero-emission vehicles compared to procuring them. RWA is watching this bill and CSDA supports this bill.

**AB 709 (Gonzalez R) Sustainable Groundwater Management Act: groundwater sustainability plans.**

Existing law, the Sustainable Groundwater Management Act, requires all groundwater basins designated as high- or medium-priority basins by the Department of Water Resources to be managed under a groundwater sustainability plan or coordinated groundwater sustainability plans (GSP). The act requires a groundwater sustainability agency (GSA), upon adoption of a GSP, to submit the GSP to the department for review. If GSA develop multiple GSPs for a basin, the act requires, when the entire basin is covered by GSP, the GSA to jointly submit to the department the GSP, an explanation of how the plans satisfy specified provisions of the act, and a copy of the coordination agreement between the GSA. The act requires the department to evaluate a GSP within 2 years of its submission and issue an assessment of the plan. This bill would provide that nothing in those provisions relating to making submissions to the department shall be construed to prohibit GSA that have developed multiple GSP for a basin from amending the coordination agreement following department issuance of an assessment of the plans. RWA and CSDA are watching this bill.

**SB 224 (Hurtado D) Department of Water Resources: water supply forecasting.**

This bill would require the Department of Water Resources, on or before January 1, 2027, to adopt a new water supply forecasting model and procedures that better address the effects of climate change and implement a formal policy and procedures for documenting the department's operational plans and the department's rationale for its operating

**LEGISLATIVE MATTERS AND POTENTIAL DIRECTION TO STAFF**

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procedures, including the department's rationale for water releases from reservoirs. CSDA and RWA have a watch position.

**SB 394 (Allen D) Water theft: fire hydrants.**

This bill would add to the list of acts for which a utility may bring a civil cause of action to include tampering with a fire hydrant, fire hydrant meter, or fire detector check, or diverting water from a fire hydrant from an unauthorized connection. This bill would add to the ability to issue fines for this specified water theft. ACWA is a co-sponsor of the bill and EGWD joined a coalition, RWA and CSDA have a support position.

Staff will continue to monitor these bills along with any other bills which may affect District operations.

**ENVIRONMENTAL CONSIDERATIONS**

There are no direct environmental considerations associated with this report.

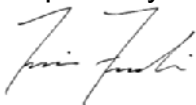
**STRATEGIC PLAN CONFORMITY**

Monitoring, advocating and developing legislation complies with the District's Water Industry Leadership goals of the 2025-2030 Strategic Plan.

**FINANCIAL SUMMARY**

There is no direct financial impact associated with this report.

Respectfully submitted,



TRAVIS FRANKLIN  
PROGRAM MANAGER



July 15, 2025

TO: Chair and Directors of the Florin Resource Conservation District

FROM: Bruce Kamilos, General Manager

SUBJECT: **GENERAL MANAGER'S REPORT**

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### **RECOMMENDATION**

This item is presented to the Florin Resource Conservation District Board of Directors for information, discussion, and in some instances, to provide direction to staff.

### **SUMMARY**

The General Manager's Report is a standing item on the regular board meeting agenda. The report is intended to inform the Florin Resource Conservation District (FRCD) Board of Directors (Board) of notable, miscellaneous items the General Manager would like to share with the Board. The report also provides an opportunity for the Board to discuss the items, and in some instances provide direction to staff.

### **DISCUSSION**

#### **Background**

Each month, the General Manager provides a report to the Board of any notable, miscellaneous items.

#### **Present Situation**

- **Elections Cost Update** – On February 21, 2025, staff submitted an application package to Sacramento Local Agency Formation Commission (LAFCo) for the detachment of FRCD territory that lies outside the Elk Grove Water District service boundaries. On June 2, 2025, staff received confirmation from LAFCo to use District staff to prepare an updated Municipal Services Review (MSR). Staff will provide an update.
- **Enterprise Resource Planning (ERP) Implementation Update** – The Payroll module will be the next ERP module to be implemented with a planned go-live date of August 25, 2025. Staff will provide an update.

**GENERAL MANAGER'S REPORT**

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**ENVIRONMENTAL CONSIDERATIONS**

There are no direct environmental considerations associated with this report.

**STRATEGIC PLAN CONFORMITY**

This item conforms to the FRCD/EGWD 2025-2030 Strategic Plan. Due to the varied subject matters presented in the General Manager's Report, the report over time will likely touch on every strategic goal contained in the plan.

**FINANCIAL SUMMARY**

There is no financial impact associated with this report.

Respectfully submitted,



BRUCE KAMILOS  
GENERAL MANAGER

Attachment

July 15, 2025

TO: Chair and Directors of the Florin Resource Conservation District

FROM: Bruce Kamilos, General Manager

SUBJECT: **ELK GROVE WATER DISTRICT OPERATIONS REPORT – JUNE 2025**

### **RECOMMENDATION**

This item is presented for information only. No action by the Florin Resource Conservation Board of Directors is proposed at this time.

### **SUMMARY**

The Elk Grove Water District (EGWD) Operations Report is a standing item on the regular board meeting agenda.

All regulatory requirements were met for the month of June. Other notable events are described below.

### **DISCUSSION**

#### **Background**

Every month, staff present an update on the activities related to the operations of the EGWD. Included for the Florin Resource Conservation District Board of Director's review is the EGWD's June 2025 Operations Report.

#### **Present Situation**

The EGWD June 2025 Operations Report highlights are as follows:

- **Operations Activities Summary** – 378 door hangers were placed for past due balances, which resulted in 45 shutoffs. We received two (2) water pressure complaints and zero water quality complaints.
- **Production** – The Combined Total Service Area 1 production graph on page 13 shows that production during the month of June increased by 0.30 percent compared to what was produced in 2024. The Total Demand/Production for both service areas on page 14 shows that customer use during the month of June compared to 2024 increased by 1.58 percent.
- **Static and Pumping Level Graphs** – The second quarter soundings are shown and indicate that the static water levels of the deep wells and shallow wells are

**ELK GROVE WATER DISTRICT OPERATIONS REPORT – JUNE 2025**

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comparable to or above the static water levels measured in the second quarter of 2024.

- **Treatment (Compliance Reporting)** – All samples taken during the month comply with all regulatory permit requirements. No exceedances of any maximum contaminant levels were found, and all water supplied to EGWD's customers met or exceeded safe drinking water standards.
- **Safety Meetings/Training** – Three (3) safety training sessions were conducted for the month in compliance with OSHA standards.
- **Service and Main Leaks Map** – There were three (3) service line leaks and zero main line leaks during June.
- **System Pressures** – Pressures in Service Area 1 and Service Area 2 were stable during the month of June.

**ENVIRONMENTAL CONSIDERATIONS**

There are no direct environmental considerations associated with this report.

**STRATEGIC PLAN CONFORMITY**

This item conforms to the FRCD/EGWD 2025-2030 Strategic Plan. The EGWD Operations Report provides an ongoing and transparent review of EGWD's operations, and therefore conforms with Strategic Goal No. 1, Governance.

**FINANCIAL SUMMARY**

There is no financial impact associated with this report.

Respectfully submitted,



BRUCE KAMILOS  
GENERAL MANAGER

BMK/ac

Attachment

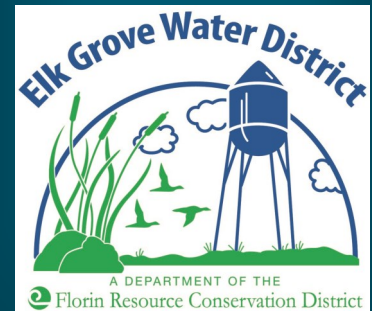
# EGWD

## OPERATIONS REPORT

June 2025



Elk  
Grove  
Water  
District



**Elk Grove Water District**  
**Operations Report**  
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# Operations Activities Summary

## Service Requests:

	June -25		YTD (Since Jan. 1, 2025)	
<u>Department</u>	<u>Service Request</u>	<u>Hours</u>	<u>Service Request</u>	<u>Hours</u>
<b>Distribution</b>				
Door Hangers	378	29	2,427	137
Shut offs	45	7	351	45.5
Turn ons	43	12	322	66.5
Investigations	34	8.5	174	870
USA Locates	409	102.25	2,583	645.75
Customer Complaints				
-Pressure	2	0	4	9
-Water Quality	0	0	1	1

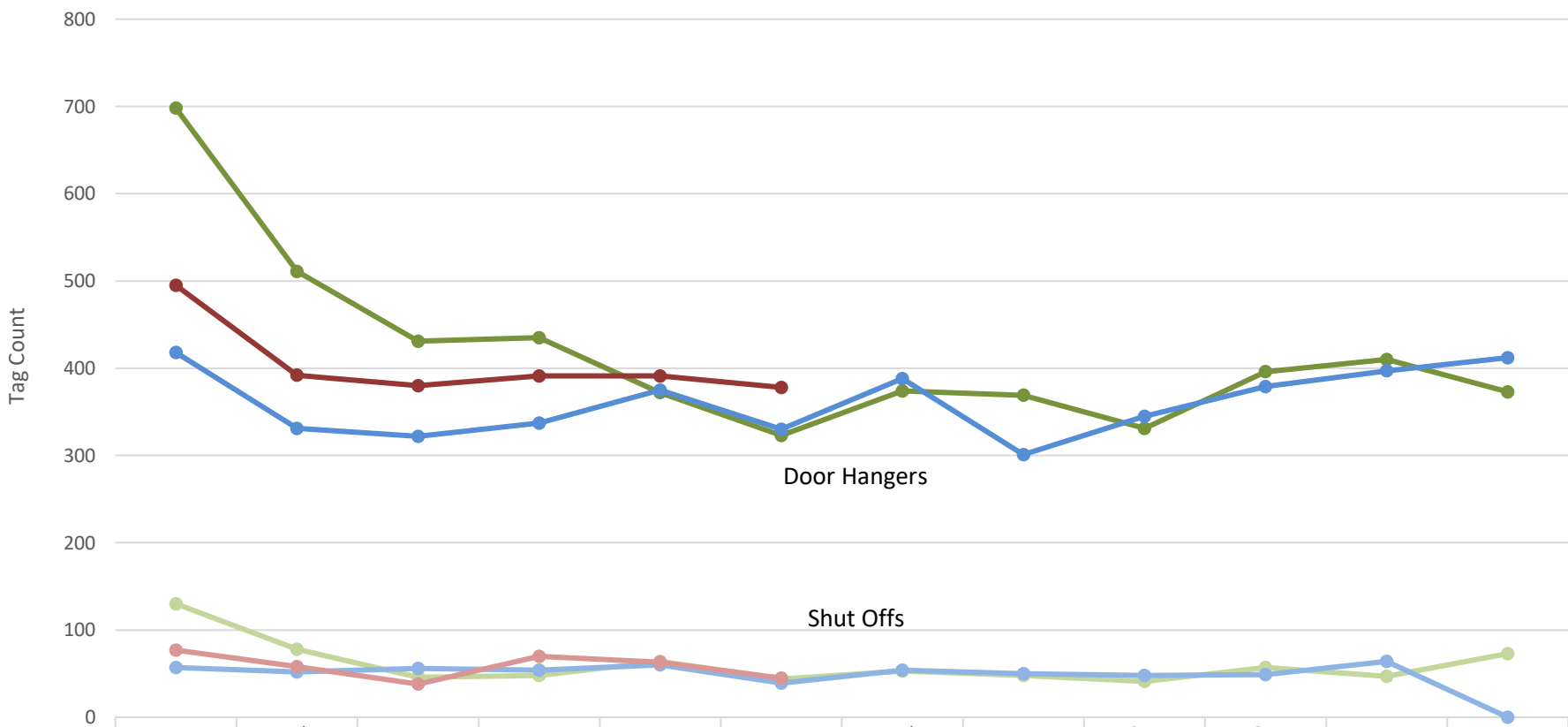
## Work Orders:

	June -25		YTD (Since Jan. 1, 2025)	
<u>Department</u>	<u>Work Orders</u>	<u>Hours</u>	<u>Work Orders</u>	<u>Hours</u>
<b>Distribution:</b>				
Meters Installed	16	11.75	81	41.25
Meter Change Out	54	39.5	247	164.5
Preventative Maint.				
-Hydrant Maintenance (142)	142	35.5	877	219.25
-Valve Exercising (80)	80	20	620	155
Corrective Maint.				
-Leaks	3	35.5	18	245.5
-Other	1	10.5	10	199.5
Valve Locates	0	0	0	0



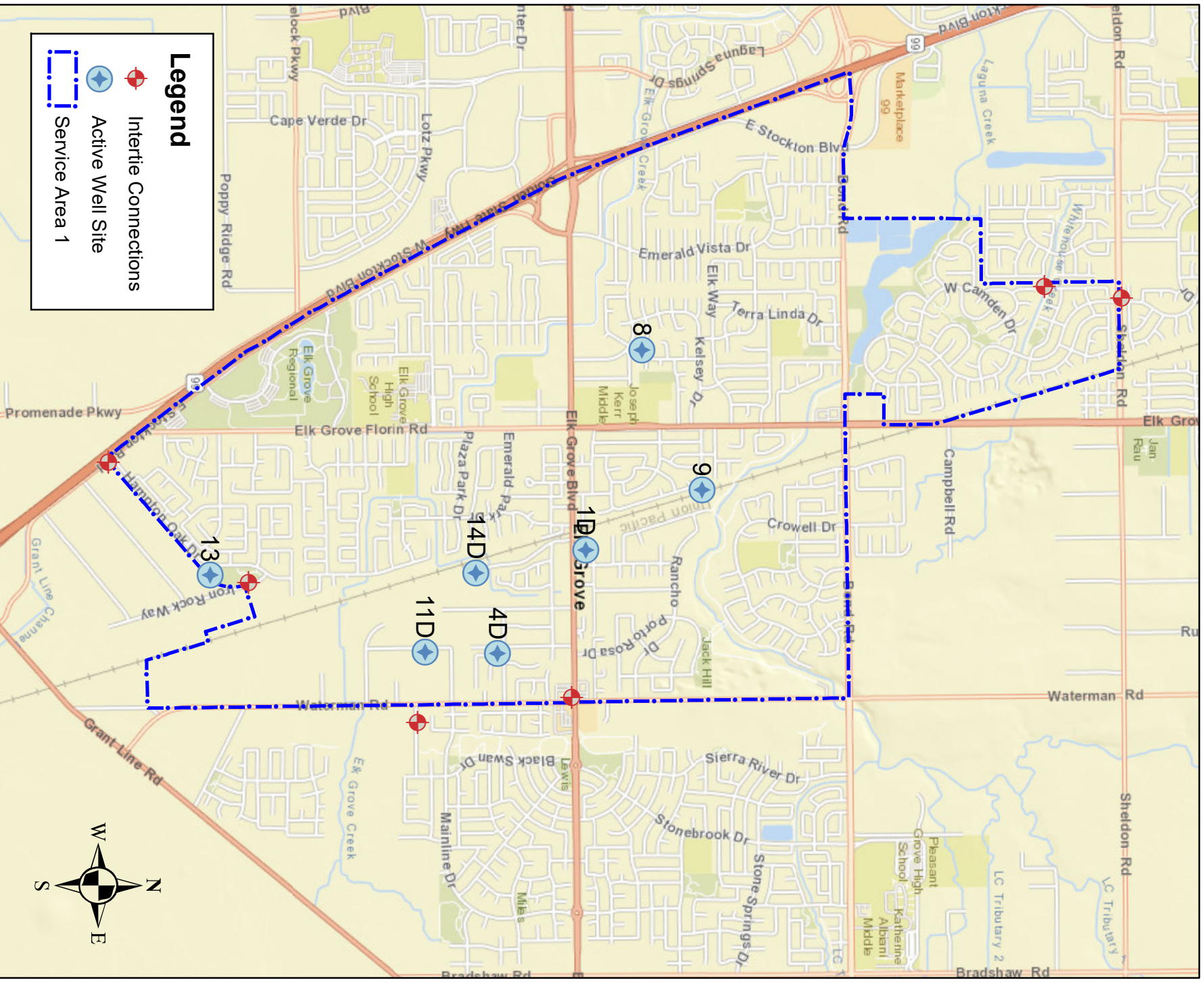
# Elk Grove Water District

## Door Hangers and Shut Off Tags



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2023 Door Hangers	698	511	431	435	372	323	374	369	331	396	410	373
2023 Shut Offs	130	78	46	48	64	44	53	48	41	57	47	73
2024 Door Hangers	418	331	322	337	375	330	388	301	345	379	397	412
2024 Shut Offs	57	52	56	54	60	39	54	50	48	49	64	0
2025 Door Hangers	495	392	380	391	391	378						
2025 Shut Offs	77	58	38	70	63	45						







## Elk Grove Water District

### Monthly Production

Well 1D School - June 2025

### Selected Month Production

1,843,875 Gallons

Average GPM: 1,670  
Pump depth: 275 ft  
Well depth: 1025 ft

### Motor:

Volts: 468  
Volts (Rated): 460  
RPM: 1788  
RPM (Rated): 2115  
Amps A: 177  
Amps A (Rated): 222  
Amps B: 176  
Amps B (Rated): 222  
Amps C: 171  
Amps C (Rated): 222

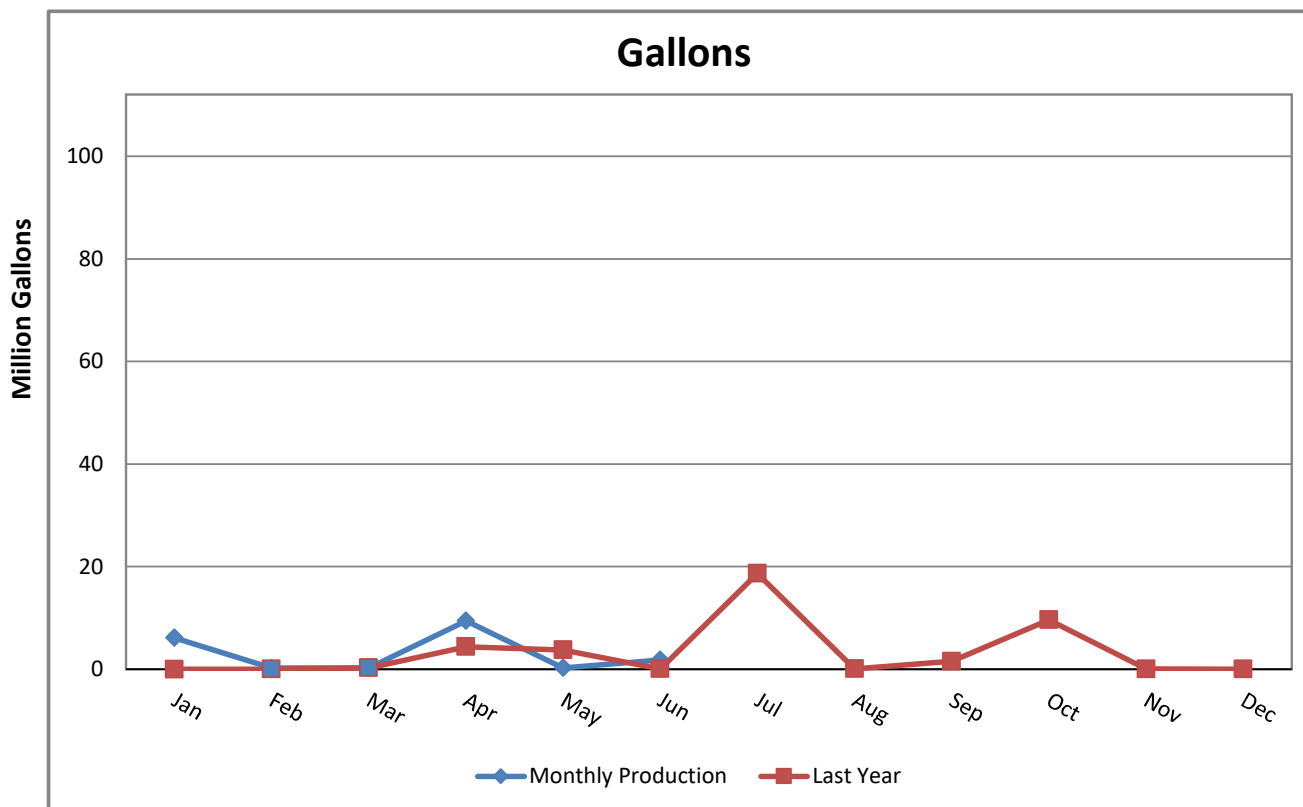
Motor Temp: 111.3 F  
Hour Meter: 18.4

### Chlorine:

Dosing: 1.72 mg/L  
Demand: 0.75 mg/L  
Residual: 0.97 mg/L

### Vibration Reading:

Base Line: 0.05 in/sec  
Current: 0.05 in/sec





## Elk Grove Water District

### Monthly Production

Well 4D Webb -- June 2025

### Selected Month Production

44,015,169 Gallons

Average GPM: 1693  
Pump depth: 340 ft  
Well depth: 1075 ft

### Motor:

Volts: 485  
Volts (Rated): 460  
RPM: 1769  
RPM (Rated): 1775  
Amps A: 192  
Amps A (Rated): 225  
Amps B: 190  
Amps B (Rated): 225  
Amps C: 189  
Amps C (Rated): 225

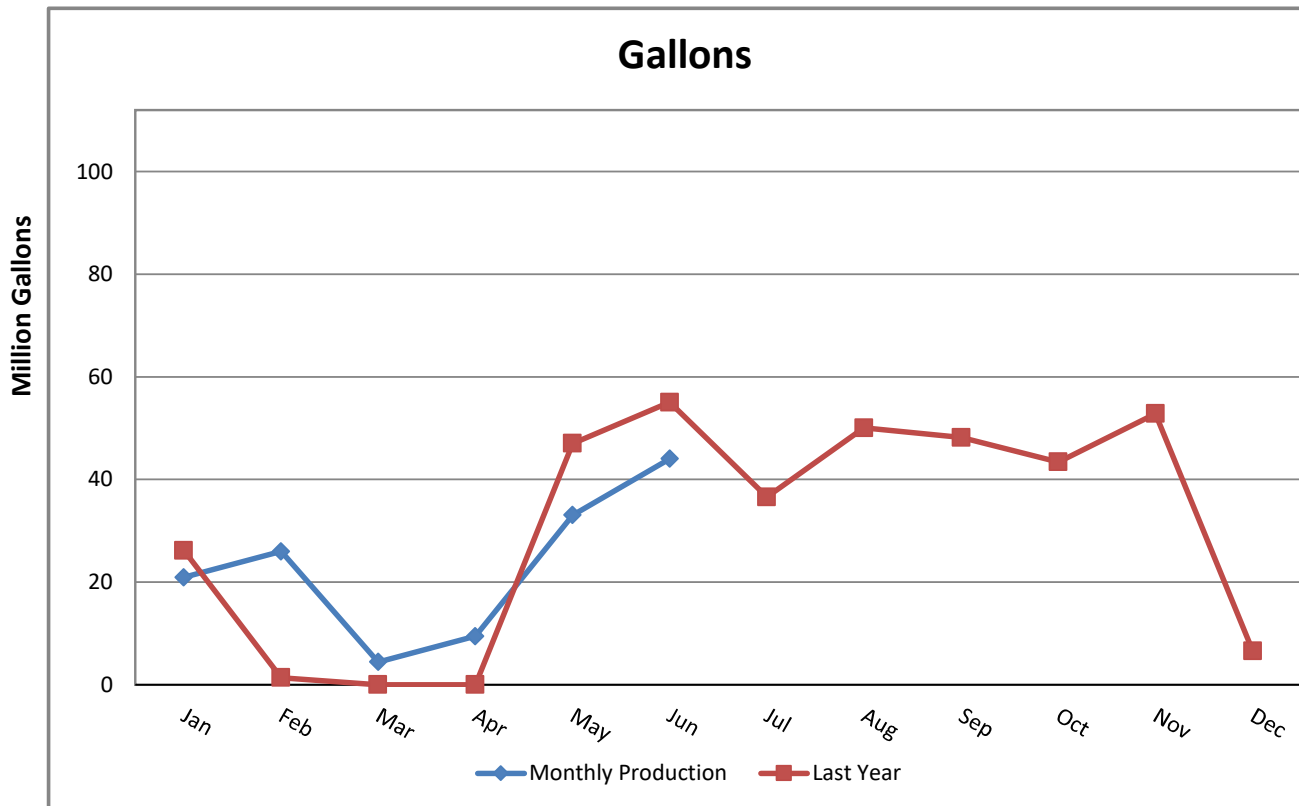
Motor Temp: 139.4 F  
Hour Meter: 433.30

### Chlorine:

Dosing: 1.68 mg/L  
Demand: 0.67 mg/L  
Residual: 1.01 mg/L

### Vibration Reading:

Base Line: 0.05 in/sec  
Current: 0.03 in/sec





## Elk Grove Water District

### Monthly Production

Well 11D Dino -- June 2025

### Selected Month Production

57,562,813 Gallons

Average GPM: 1,700  
Pump depth: 340 ft  
Well depth: 1038 ft

### Motor:

Volts: 480  
Volts (Rated): 460  
RPM: 1769  
RPM (Rated): 1775  
Amps A: 220  
Amps A (Rated): 225  
Amps B: 218  
Amps B (Rated): 225  
Amps C: 205  
Amps C (Rated): 225

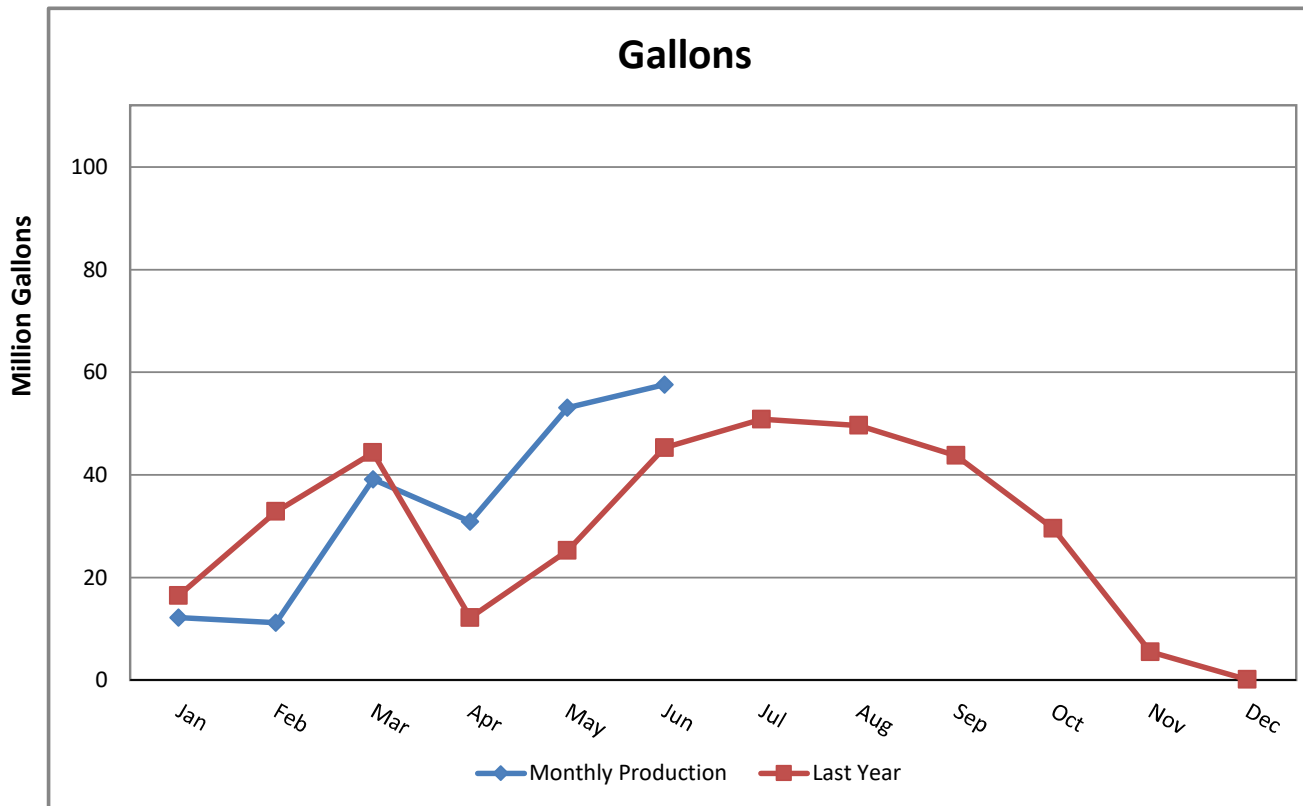
Motor Temp: 152.1 F  
Hour Meter: 564.2

### Chlorine:

Dosing: 1.67 mg/L  
Demand: 0.72 mg/L  
Residual: 0.95 mg/L

### Vibration Reading:

Base Line: 0.05 in/sec  
Current: 0.04 in/sec





## Elk Grove Water District

### Monthly Production

Well 14D Railroad -- June 2025

### Selected Month Production

4,210,863 Gallons

Average GPM: 1404  
Pump depth: 340 ft  
Well depth: 1051 ft

### Motor:

Volts: 473  
Volts (Rated): 460  
RPM: 1784  
RPM (Rated): 1785  
Amps A: 162  
Amps A (Rated): 171  
Amps B: 165  
Amps B (Rated): 171  
Amps C: 167  
Amps C (Rated): 171

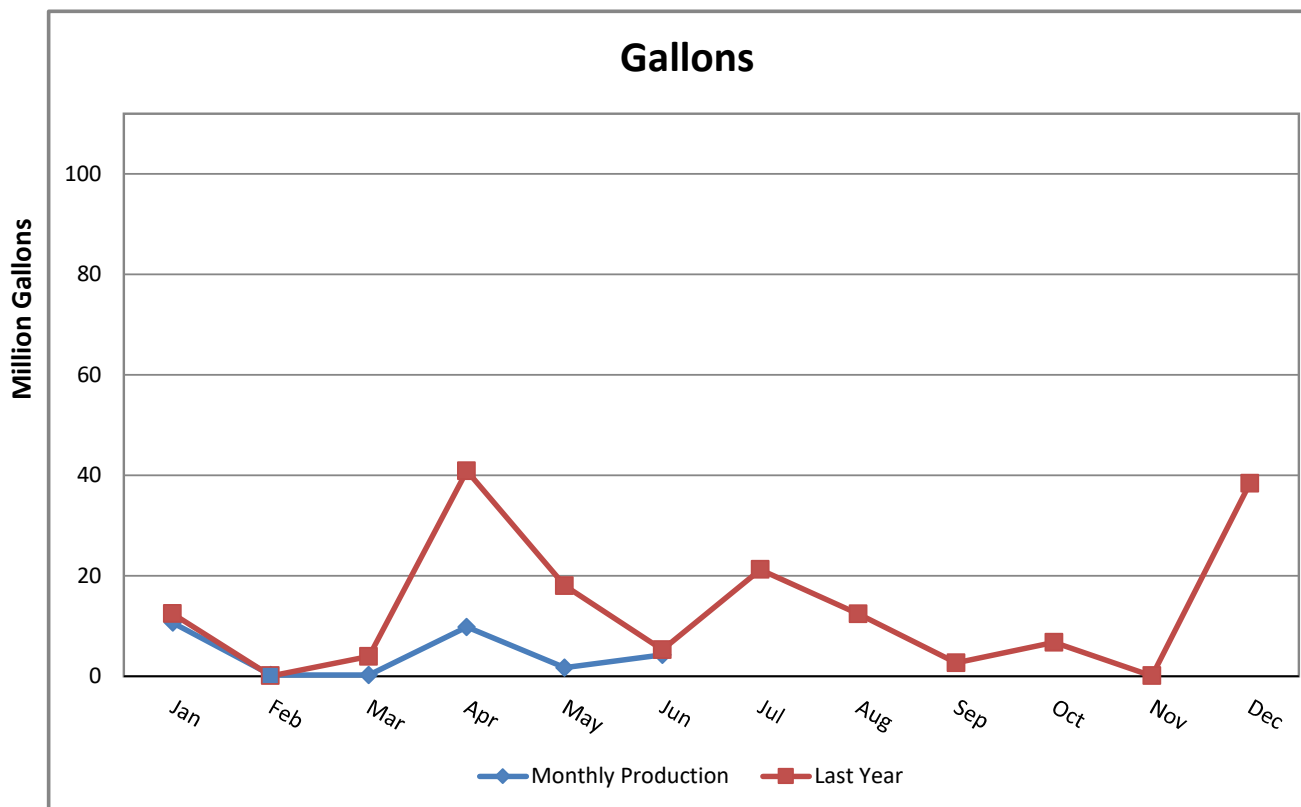
Motor Temp.: 116.9 F  
Hour Meter: 50

### Chlorine:

Dosing: 1.84 mg/L  
Demand: 0.76 mg/L  
Residual: 1.08 mg/L

### Vibration Reading:

Base Line: 0.02 in/sec  
Current: 0.04 in/sec





## Elk Grove Water District

### Monthly Production

Well 8 Williamson -- June 2025  
(Submersible)

### Selected Month Production

8,374,109 Gallons

Average GPM: 555  
Pump depth: 150 ft  
Well depth: 564 ft

### Motor:

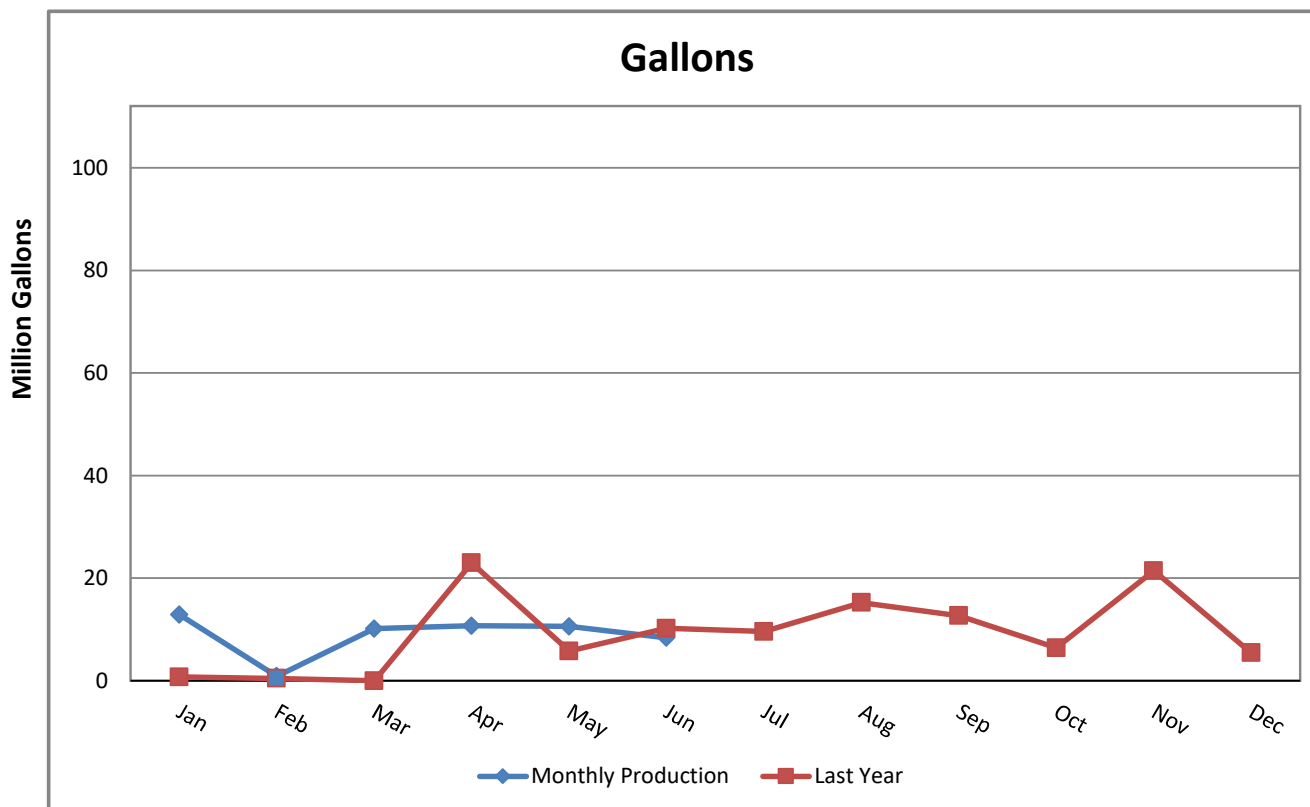
Volts: 457  
Volts (Rated): 460

Amps A: 69  
Amps A (Rated): 65  
Amps B: 66  
Amps B (Rated): 65  
Amps C: 66  
Amps C (Rated): 65

Hour Meter: 251.6

### Chlorine:

Dosing: 1.14 mg/L  
Demand: 0.25 mg/L  
Residual: 0.89 mg/L





## Elk Grove Water District

### Monthly Production

Well 9 Polhemus -- June 2025  
(Submersible)

### Selected Month Production

12,473,526 Gallons

Average GPM: 496  
Pump depth: 150 ft  
Well depth: 556 ft

### Motor:

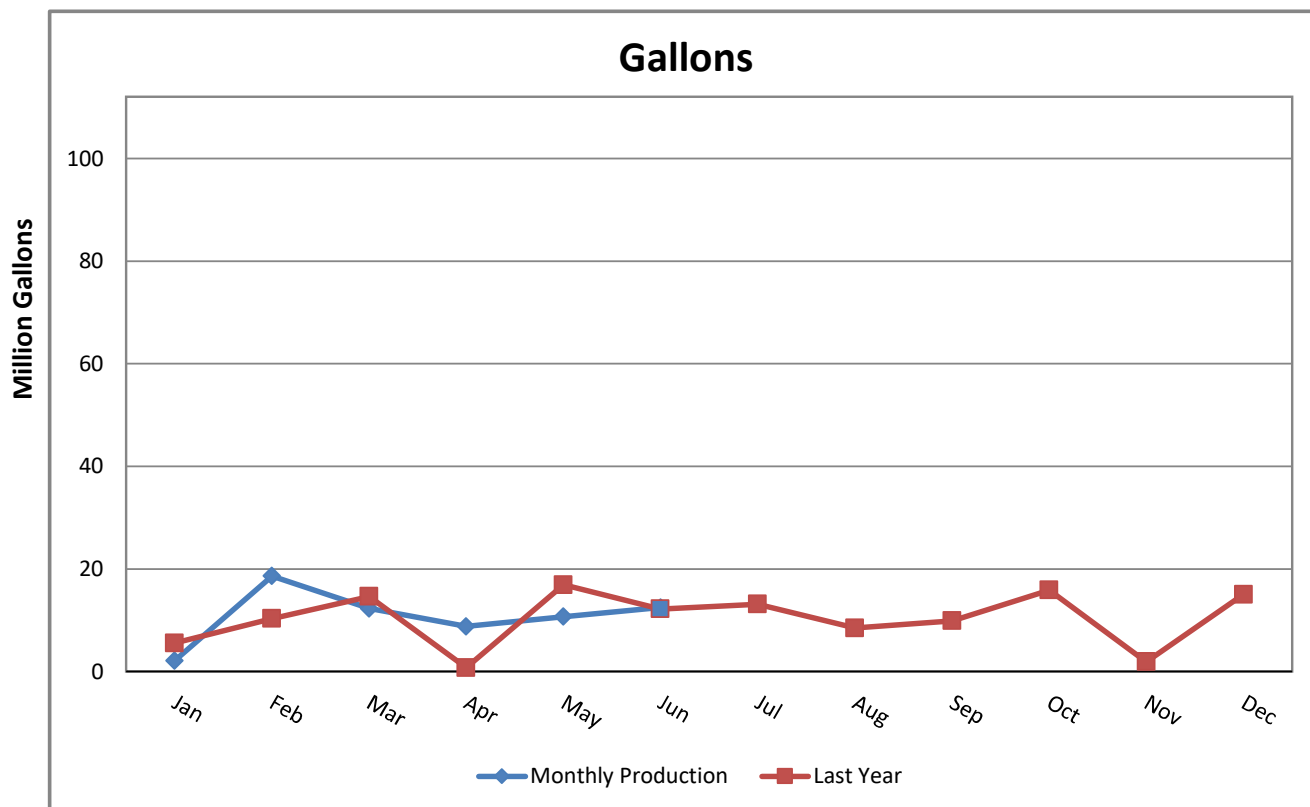
Volts: 479  
Volts (Rated): 460

Amps A: 56  
Amps A (Rated): 65  
Amps B: 58  
Amps B (Rated): 65  
Amps C: 62  
Amps C (Rated): 65

Hour Meter: 419.1

### Chlorine:

Dosing: 1.57 mg/L  
Demand: 0.29 mg/L  
Residual: 1.28 mg/L





## Elk Grove Water District

### Monthly Production

Well 13 Hampton -- June 2025

### Selected Month Production

41,097,788 Gallons

Average GPM: 958  
Pump depth: 200 ft  
Well depth: 500 ft

### Motor:

Volts: 474  
Volts (Rated): 460  
RPM: 1782  
RPM (Rated): 1785  
Amps A: 103  
Amps A (Rated): 141  
Amps B: 105  
Amps B (Rated): 141  
Amps C: 106  
Amps C (Rated): 141

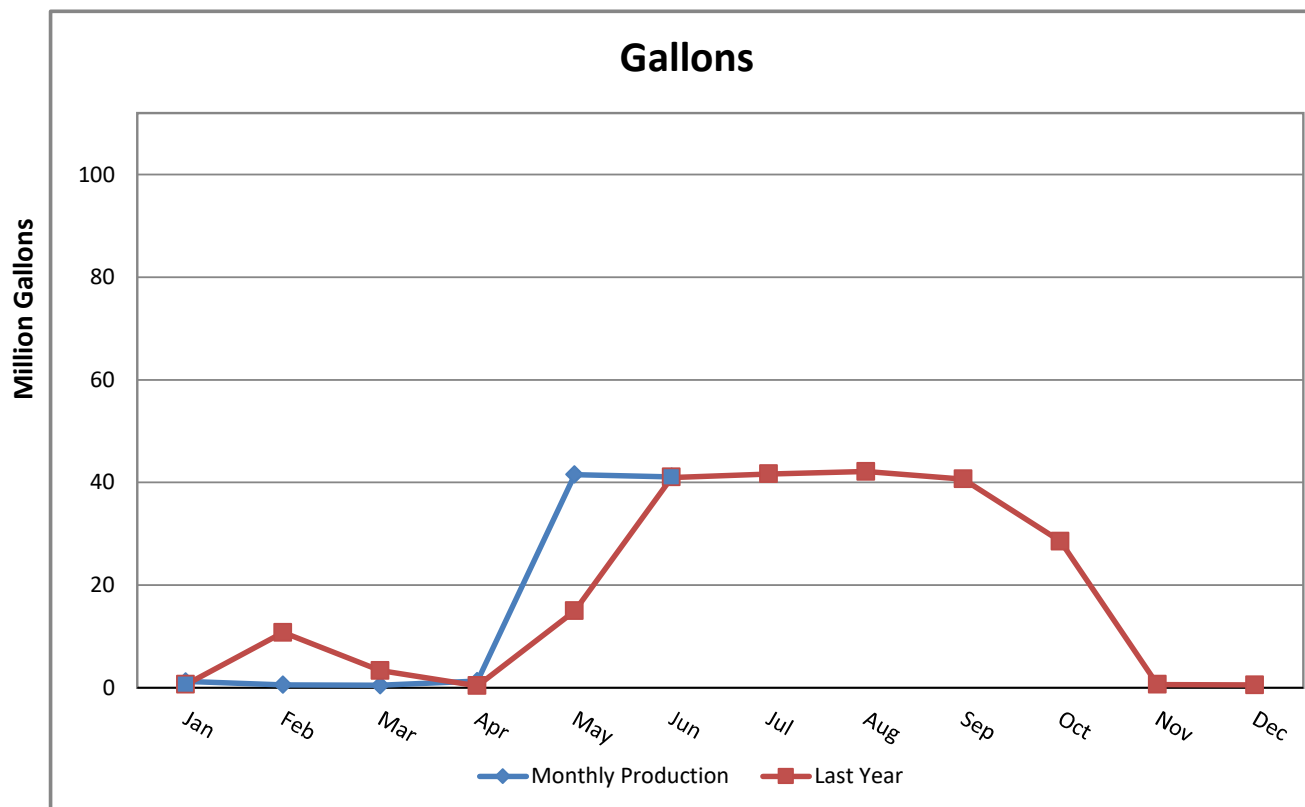
Motor Temp.: 161.8 F  
Hour Meter: 718.8

### Chlorine:

Dosing: 1.4 mg/L  
Demand: 0.62 mg/L  
Residual: 0.78 mg/L

### Vibration Reading:

Base Line: 0.02 in/sec  
Current: 0.04 in/sec







Elk Grove Water District

Combined Total Production

Service Area 1

Jun-2025

Current Month Production:  
169,578,143 Gallons

Highest Day Demand of the Month: 6,136,316 Date of Occurance 28-Jun-25

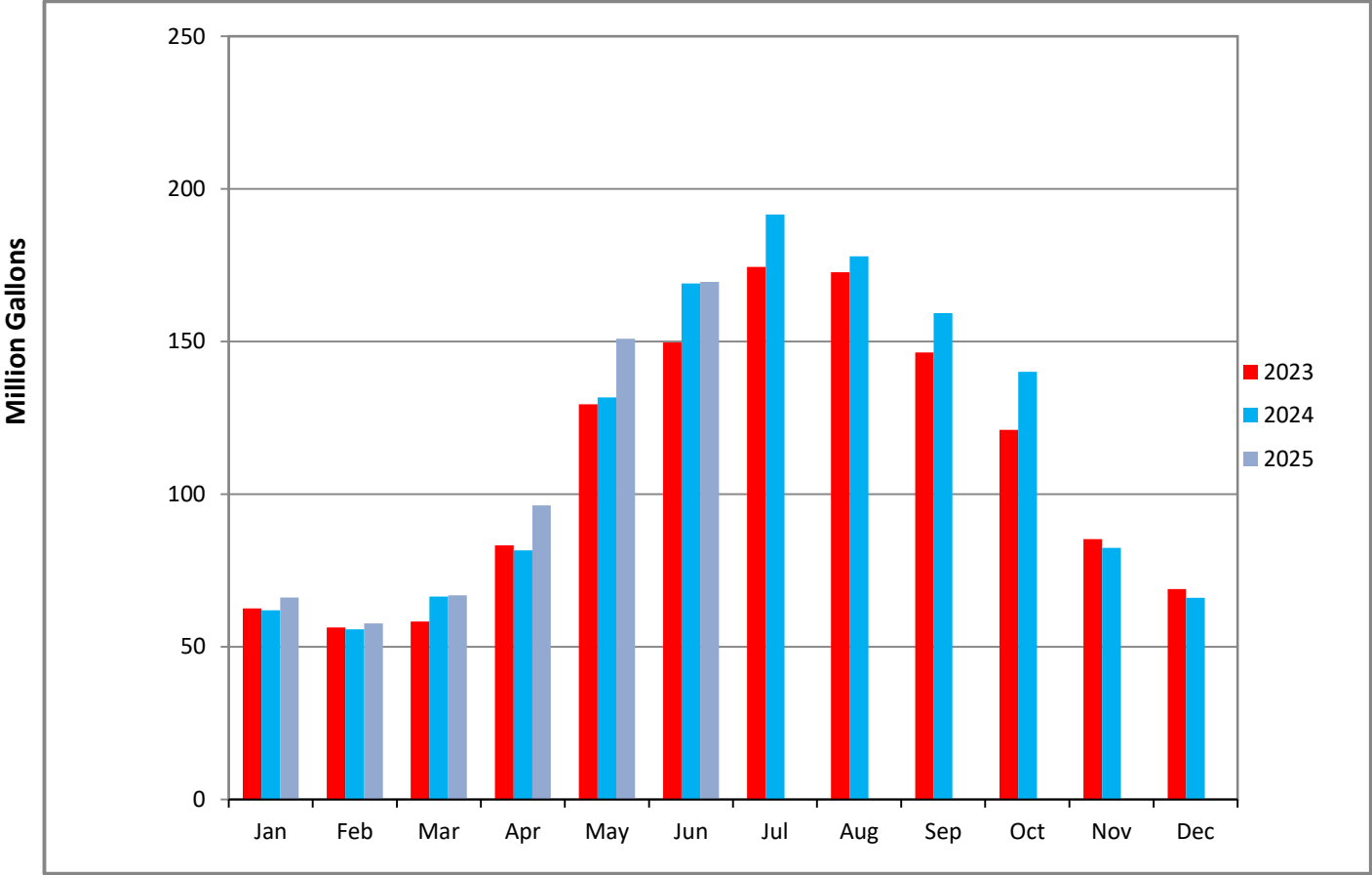
Highest Day Demand of the Calender Year: 6,136,316 Date of Occurance 28-Jun-25

"Water Year" Rainfall: (Oct-24 to Sep-25)  
Current Month: 0.00 in  
Year To Date: 13.61 in

"Water Year" Rainfall: (Oct-23 to Sep-24)  
June 2024 0.00 in  
Year To Date: 17.60 in  
Entire Year Total: 17.63 in

Temperature:  
This Month High 100 F  
This Month Low 51 F  
This Month Average 72.4 F

JUN-24 High 102 F  
JUN-24 Low 52 F  
JUN-24 Average 75.2 F

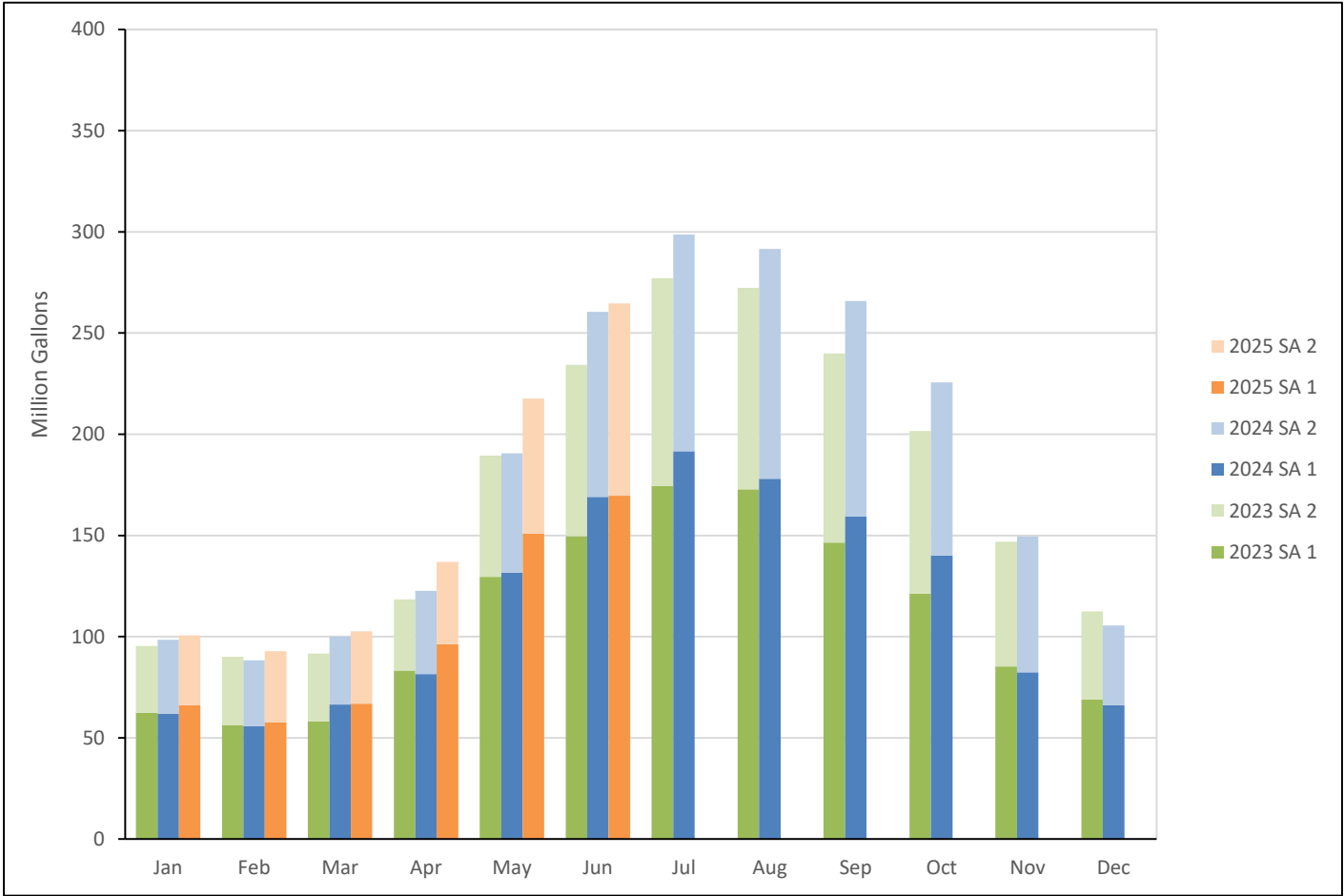




# Elk Grove Water District

## Total Demand/Production

Jun-2025



### Current Month Demand/Production:

264,616,031 Gallons

**\*Change From June 2024:** 1.58%

**GPCD:** 199.7 Gallons per Day

**R-GPCD:** 149.1 Gallons per Day

### Service Area 1

**Active Connections:** 7,943

### Current Month Demand/Production:

169,578,143 Gallons

**\*Change From June 2024:** 0.30%

**GPCD:** 213.8 Gallons per Day

**R-GPCD:** 162.9 Gallons per Day

### Service Area 2

**Active Connections:** 5,182

### Current Month Demand/Production:

95,037,888 Gallons

**\*Change From June 2024:** 3.95%

**GPCD:** 178.7 Gallons per Day

**R-GPCD:** 129.3 Gallons per Day

\*Percent reduction has been changed to percent change. Negative change is reduction and positive change is increase.

Elk Grove Water District Water Usage

----- Monthly Production (gallons) -----

2022	January	February	March	April	May	June	July	August	September	October	November	December	Total
GW (SA1)	63,469,715	74,242,203	92,483,924	97,643,001	140,747,995	155,597,114	166,596,675	164,513,039	144,632,180	126,478,648	76,517,155	65,813,605	1,368,735,254
Purchased (SA2)	32,115,380	43,369,788	47,452,372	68,588,608	62,494,652	90,110,812	96,146,424	95,299,688	92,002,504	81,006,904	61,785,548	41,748,872	812,121,552
Total	95,585,095	117,611,991	139,936,296	166,231,609	203,242,647	245,707,926	262,743,099	259,812,727	236,634,684	207,485,552	138,302,703	107,562,477	2,180,856,806

2023	January	February	March	April	May	June	July	August	September	October	November	December	Total
GW (SA1)	62,562,387	56,343,279	58,232,742	83,205,416	129,475,692	149,684,059	174,452,699	172,730,059	146,408,453	121,106,581	85,315,369	68,908,092	1,308,424,828
Purchased (SA2)	32,851,412	33,735,548	33,439,340	35,189,660	59,937,240	84,604,784	102,673,472	99,610,412	93,544,132	80,540,900	61,575,360	43,502,932	761,205,192
Total	95,413,799	90,078,827	91,672,082	118,395,076	189,412,932	234,288,843	277,126,171	272,340,471	239,952,585	201,647,481	146,890,729	112,411,024	2,069,630,020

2024	January	February	March	April	May	June	July	August	September	October	November	December	Total
GW (SA1)	61,915,877	55,729,972	66,410,639	81,535,145	131,704,427	169,076,492	191,647,032	177,958,857	159,339,160	140,109,268	82,418,795	66,139,444	1,383,985,108
Purchased (SA2)	36,458,268	32,530,520	33,633,072	41,059,964	58,853,388	91,426,544	107,064,980	113,644,388	106,453,864	85,452,268	67,061,940	39,318,620	812,957,816
Total	98,374,145	88,260,492	100,043,711	122,595,109	190,557,815	260,503,036	298,712,012	291,603,245	265,793,024	225,561,536	149,480,735	105,458,064	2,196,942,924

2025	January	February	March	April	May	June	July	August	September	October	November	December	Total
GW (SA1)	66,097,901	57,654,400	66,894,017	96,270,179	150,905,402	169,578,143	-	-	-	-	-	-	607,400,042
Purchased (SA2)	34,520,948	35,116,356	35,715,504	40,573,764	66,775,456	95,037,888	-	-	-	-	-	-	307,739,916
Total	100,618,849	92,770,756	102,609,521	136,843,943	217,680,858	264,616,031	0	0	0	0	0	0	915,139,958

----- Monthly Percent Change - Comparing 2024 to 2025 -----

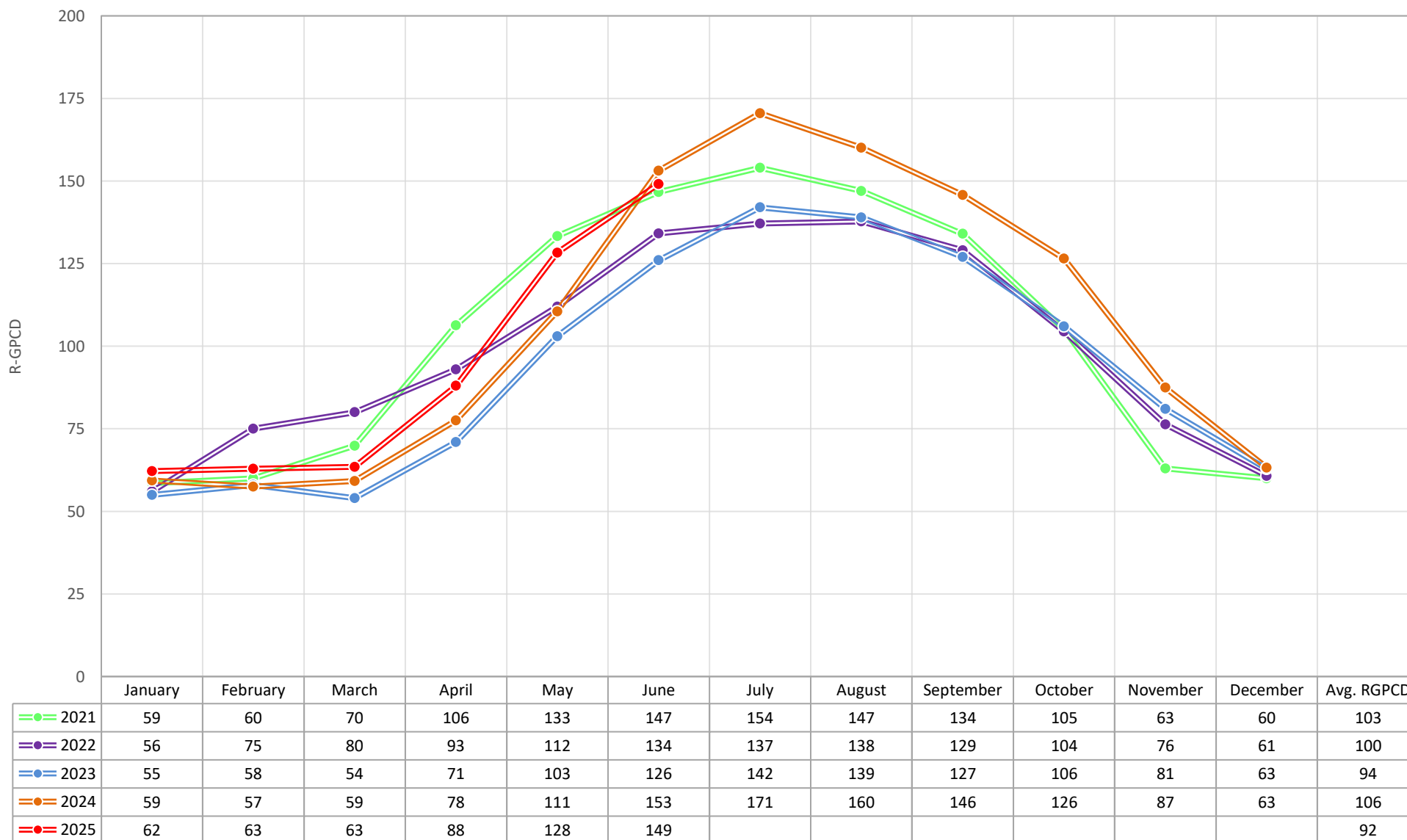
% Change	January	February	March	April	May	June	July	August	September	October	November	December	Total
GW (SA1)	6.75%	3.45%	0.73%	18.07%	14.58%	0.30%	-	-	-	-	-	-	-
Purchased (SA2)	-5.31%	7.95%	6.19%	-1.18%	13.46%	3.95%	-	-	-	-	-	-	-
Total	2.28%	5.11%	2.56%	11.62%	14.23%	1.58%	-	-	-	-	-	-	-
% Cumulative Change	2.28%	3.62%	3.25%	5.76%	8.45%	6.37%	-	-	-	-	-	-	-

Service Area 2		Consumption	
2025	# Accts	CCF	Gallons
Jan	5,095	46,151	34,520,948
Feb	5,121	46,947	35,116,356
Mar	5,147	47,748	35,715,504
Apr	5,149	54,243	40,573,764
May	5,156	89,272	66,775,456
Jun	5,182	127,056	95,037,888
Jul			0
Aug			0
Sep			0
Oct			0
Nov			0
Dec			0



## EGWD COMBINED R-GPCD

2021 2022 2023 2024 2025



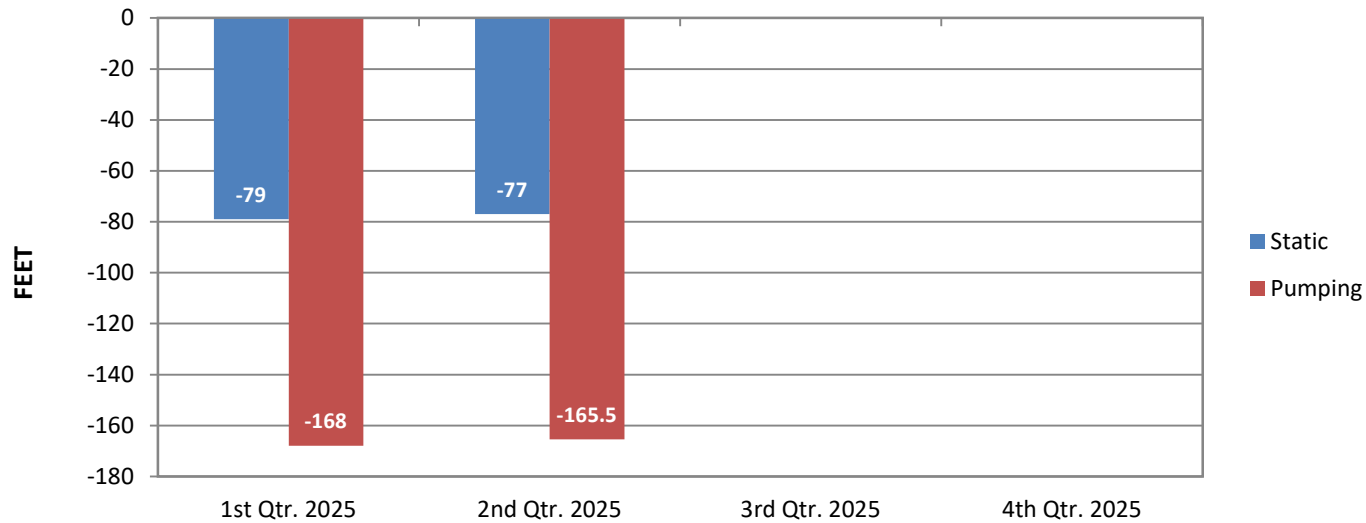
R-GPCD = Residential Gallons per Capita per Day



## Elk Grove Water District

### Static and Pumping Levels

Well 1D School St



#### Latest Well Sounding

Static: 77 Ft

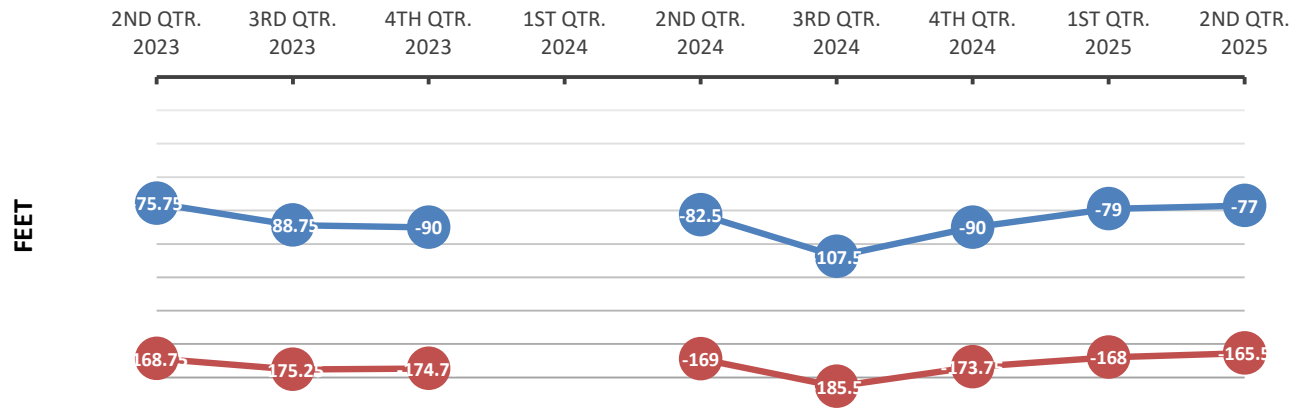
Pumping: 165.5 Ft

Drawdown: 88.5 Ft

GPM: 1,738

Specific Capacity: 19.640

#### Sounding Quarter/Year



#### Latest Sand Tester Results:

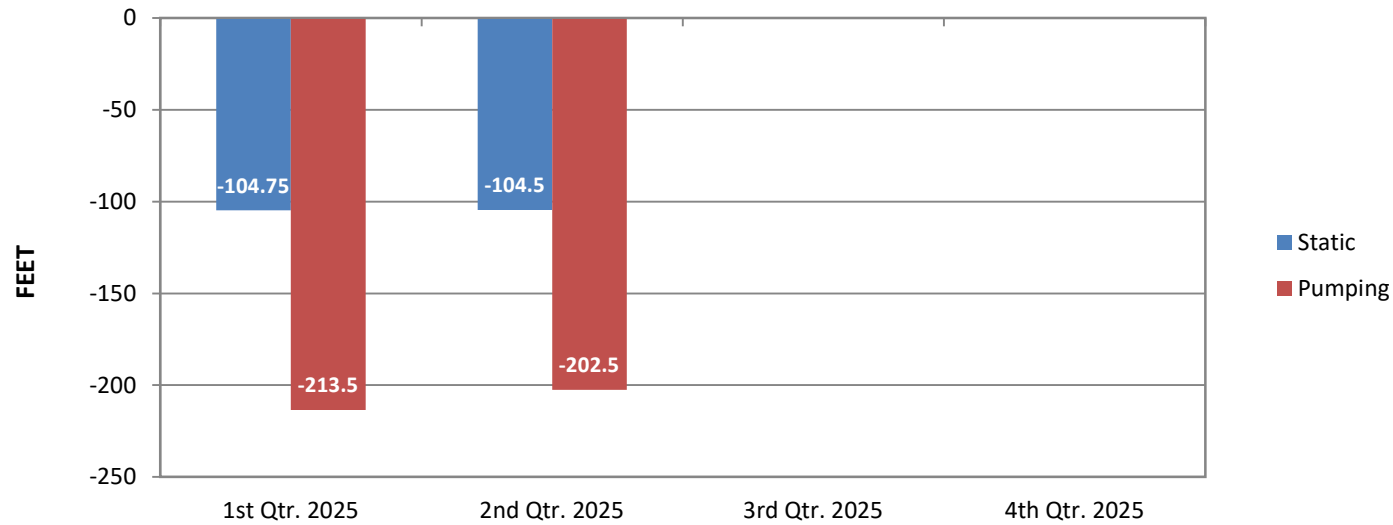
15 Min: < 5 ppm



## Elk Grove Water District

### Static and Pumping Levels

Well 4D Webb St



#### Latest Well Sounding

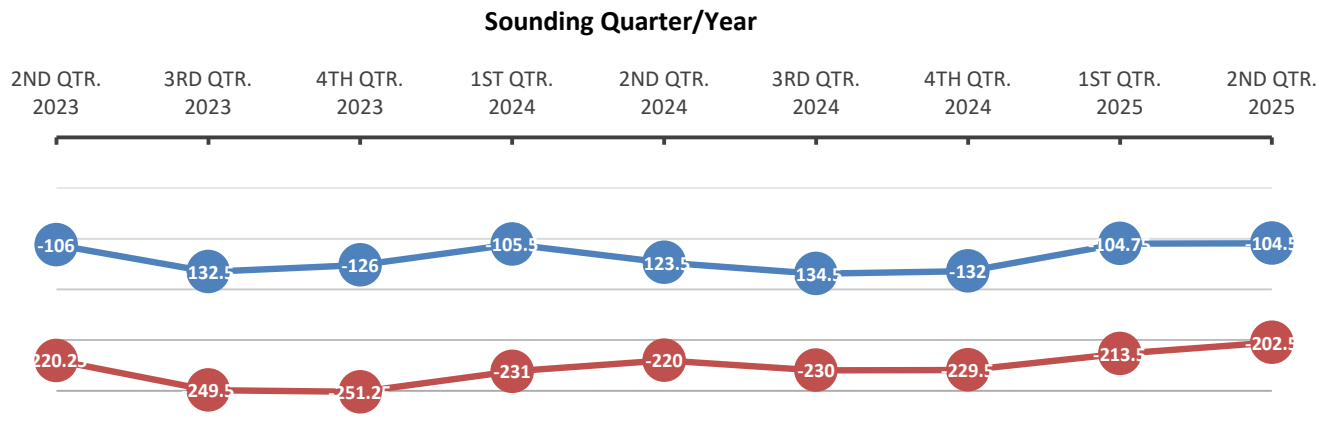
**Static:** 104.5 Ft

**Pumping:** 202.5 Ft

**Drawdown:** 98 Ft

**GPM:** 1,695

**Specific Capacity:** 17.296



#### Latest Sand Tester Results:

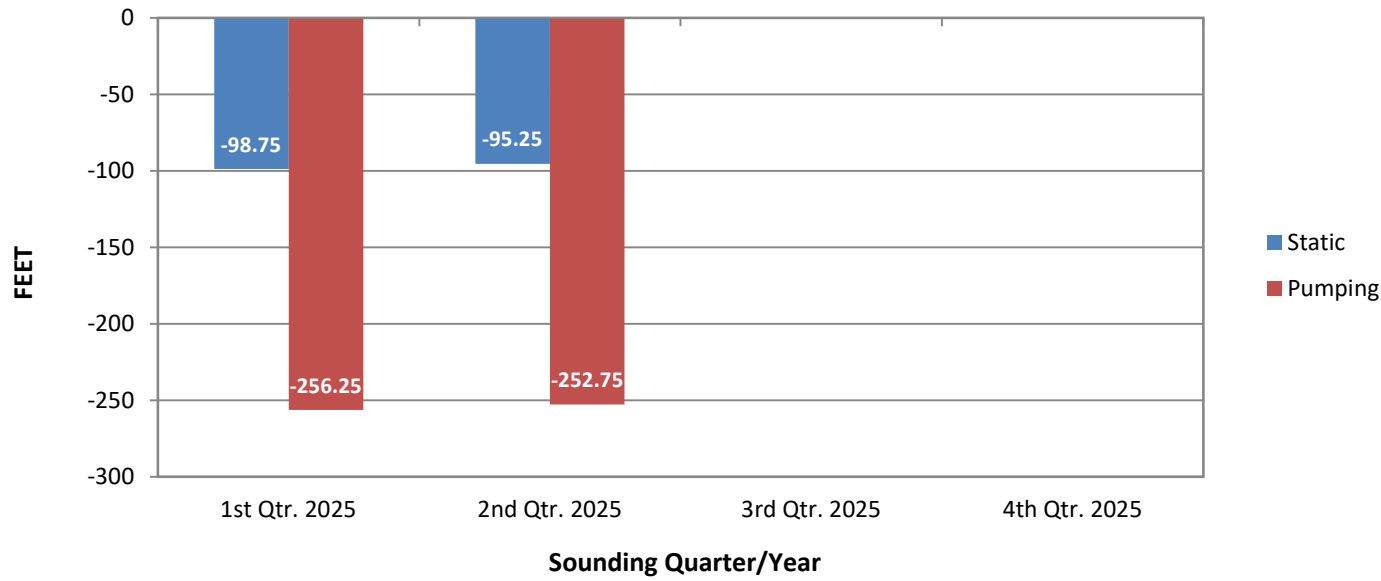
15 Min: < 5 ppm



## Elk Grove Water District

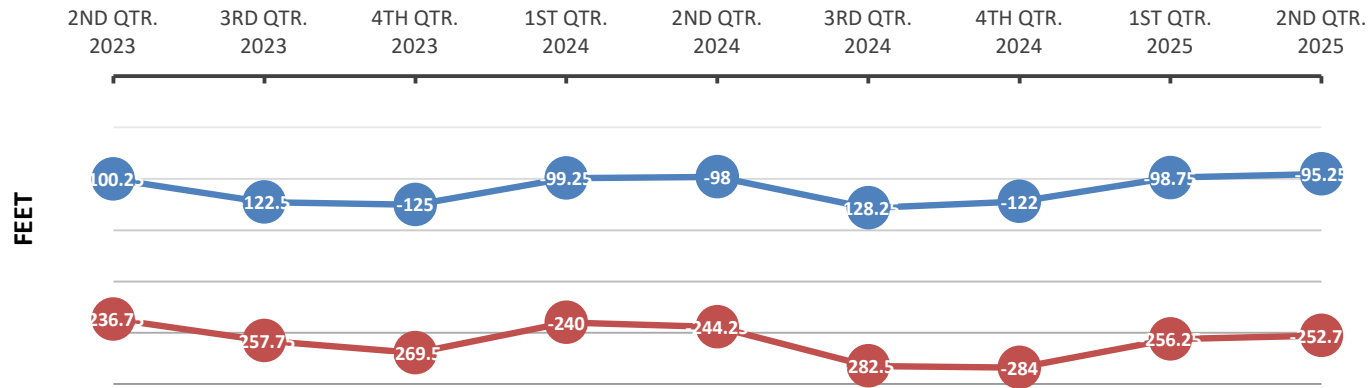
### Static and Pumping Levels

Well 11D Dino



#### Latest Well Sounding

Static: 95.25 Ft  
Pumping: 252.75 Ft  
Drawdown: 157.5 Ft  
GPM: 1,722  
Specific Capacity: 10.936



#### Latest Sand Tester Results:

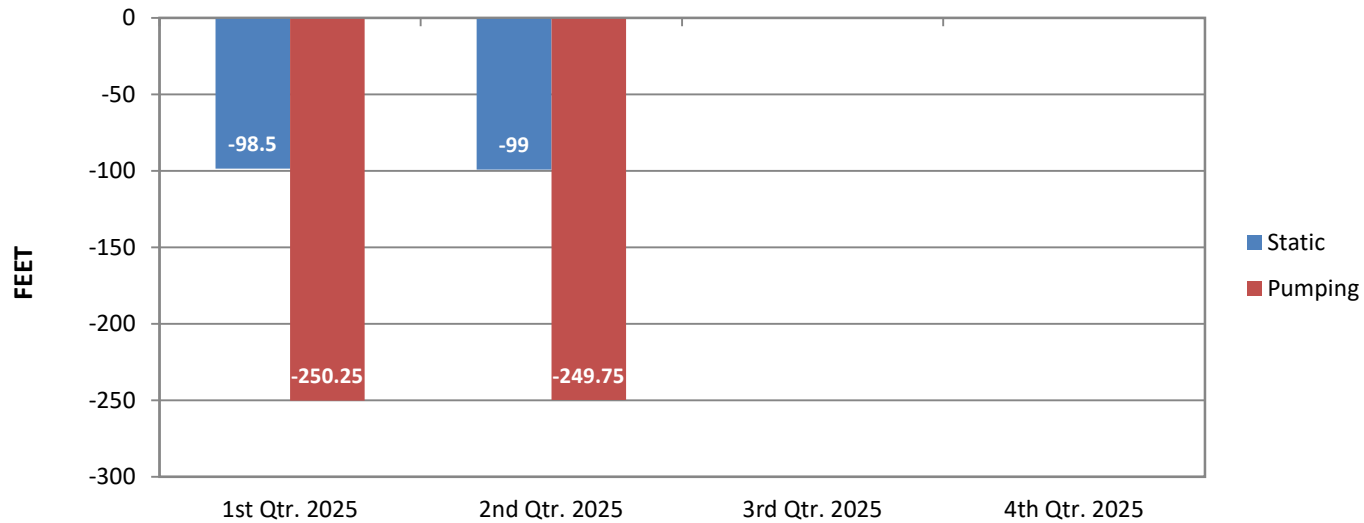
15 Min: < 5 ppm



## Elk Grove Water District

### Static and Pumping Levels

Well 14D Railroad



#### Latest Well Sounding

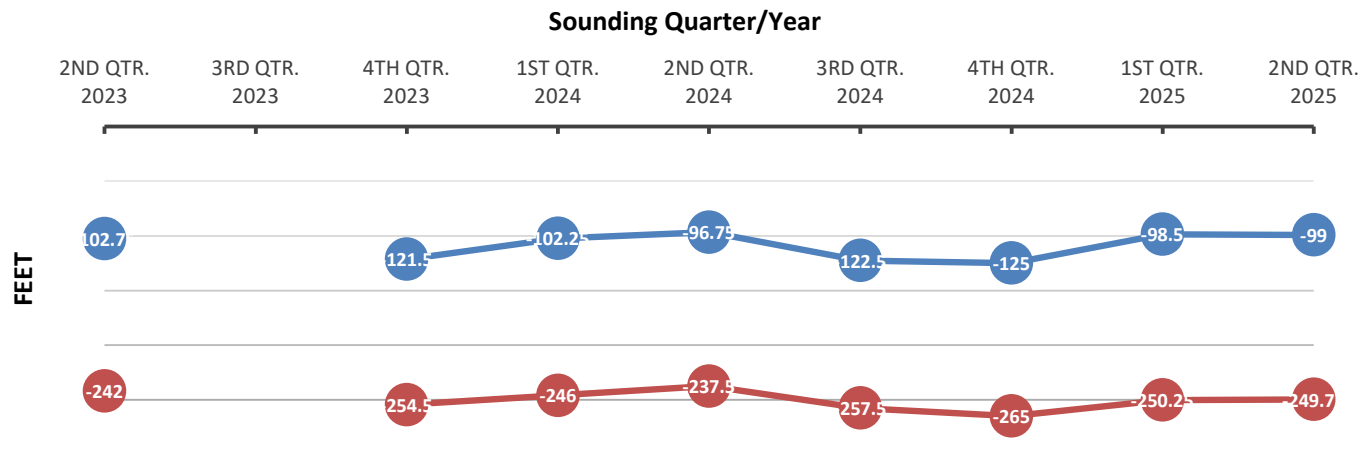
**Static:** 99 Ft

**Pumping:** 249.75 Ft

**Drawdown:** 150.75 Ft

**GPM:** 1,496

**Specific Capacity:** 9.922



#### Latest Sand Tester Results:

15 Min: < 5 ppm

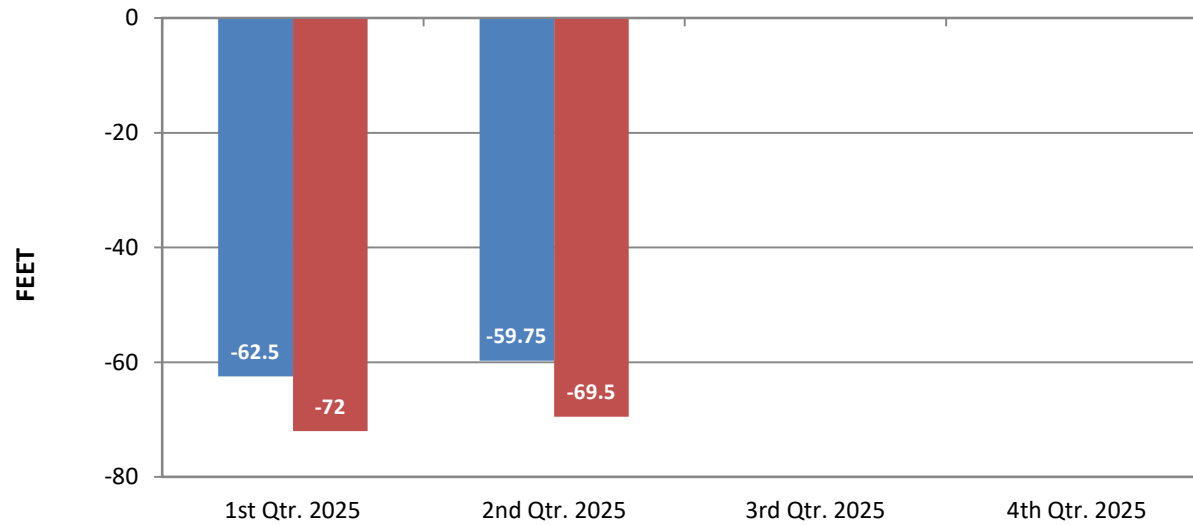




## Elk Grove Water District

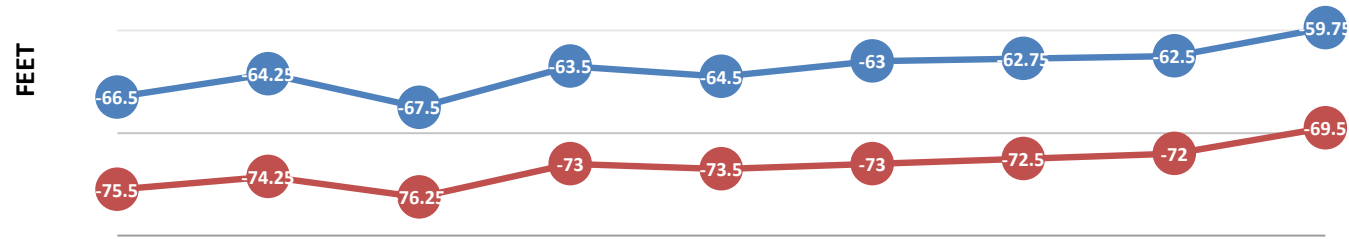
### Static and Pumping Levels

Well 8 Williamson



### Sounding Quarter/Year

2ND QTR. 2023   3RD QTR. 2023   4TH QTR. 2023   1ST QTR. 2024   2ND QTR. 2024   3RD QTR. 2024   4TH QTR. 2024   1ST QTR. 2025   2ND QTR. 2025



### Latest Well Sounding

Static: 59.75 Ft

Pumping: 69.5 Ft

Drawdown: 9.75 Ft

GPM: 557

Specific Capacity: 57.096

### Latest Sand Tester Results:

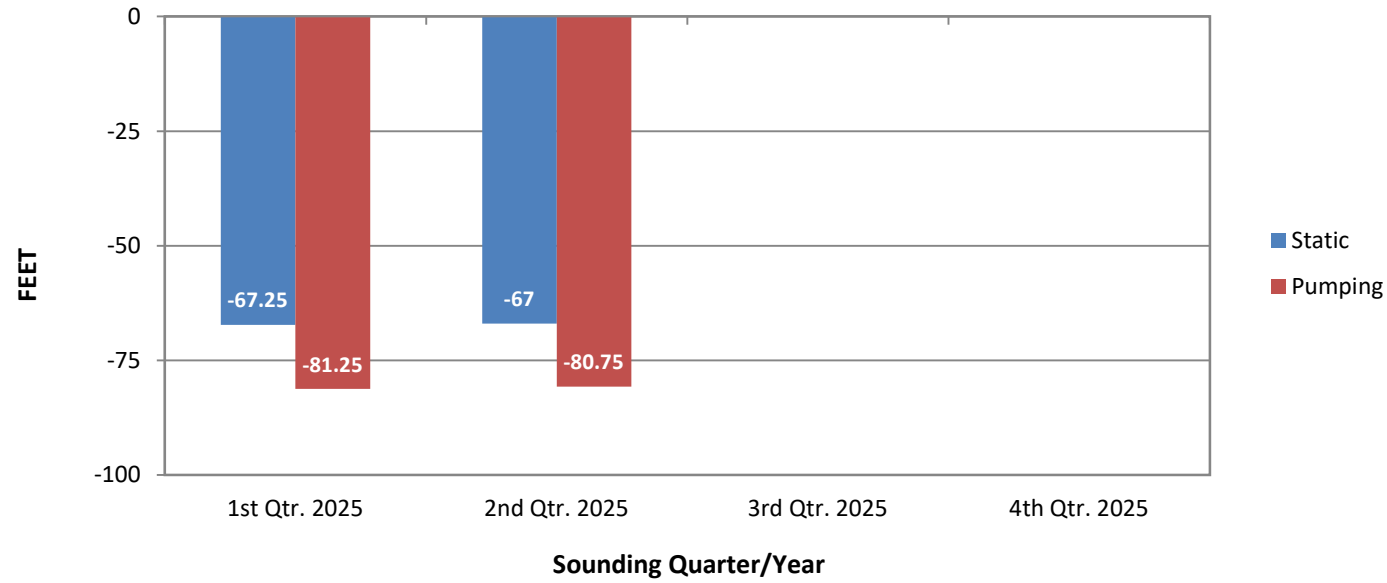
15 Min: < 5 ppm



## Elk Grove Water District

### Static and Pumping Levels

Well 9 Polhemus



#### Latest Well Sounding

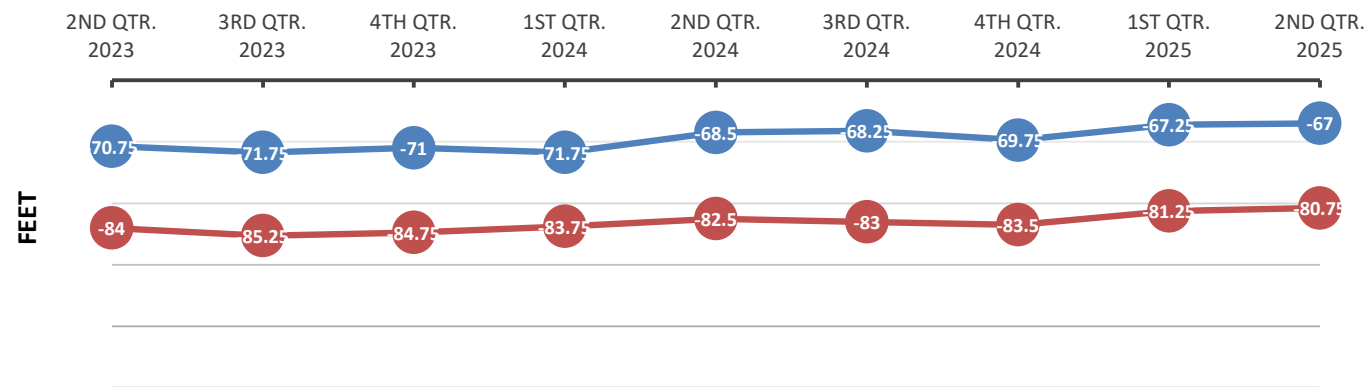
Static: 67 Ft

Pumping: 80.75 Ft

Drawdown: 13.75 Ft

GPM: 500

Specific Capacity: 36.356



#### Latest Sand Tester Results:

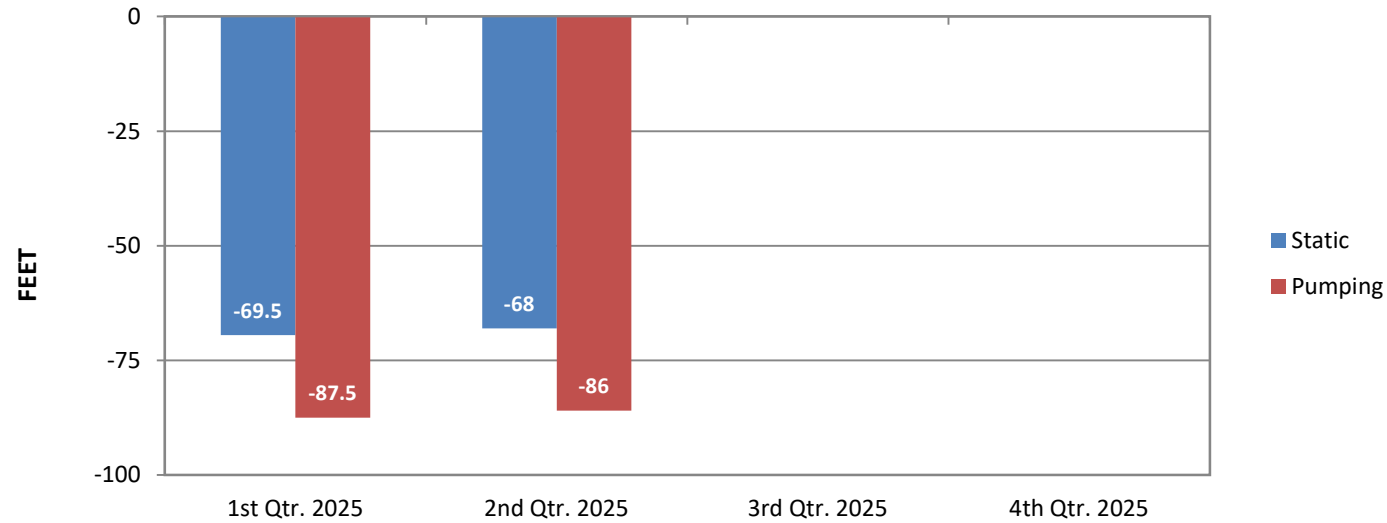
15 Min: < 5 ppm



## Elk Grove Water District

### Static and Pumping Levels

Well 13 Hampton



#### Latest Well Sounding

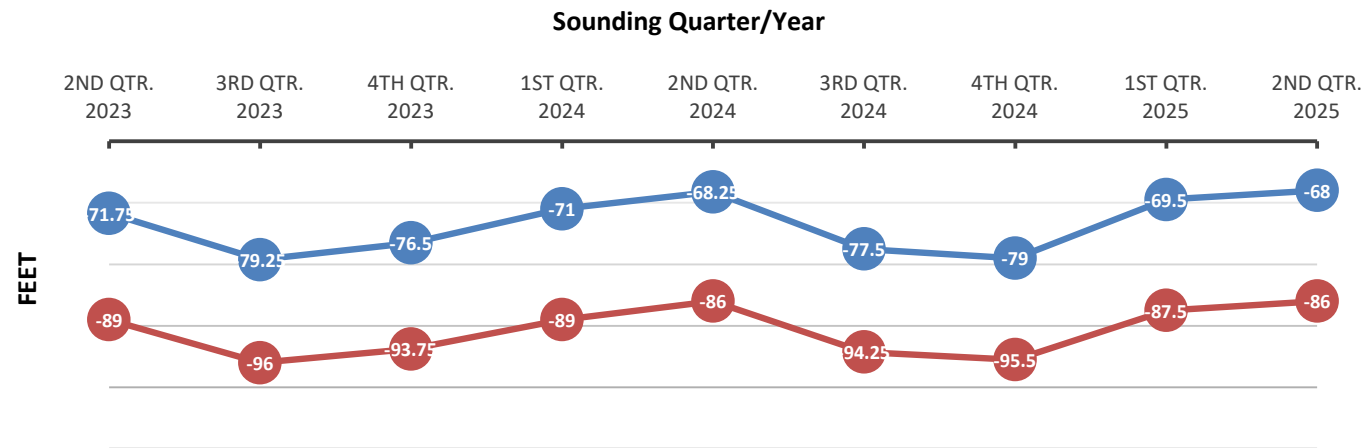
Static: 68 Ft

Pumping: 86 Ft

Drawdown: 18 Ft

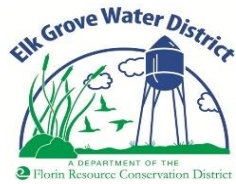
GPM: 989

Specific Capacity: 54.969



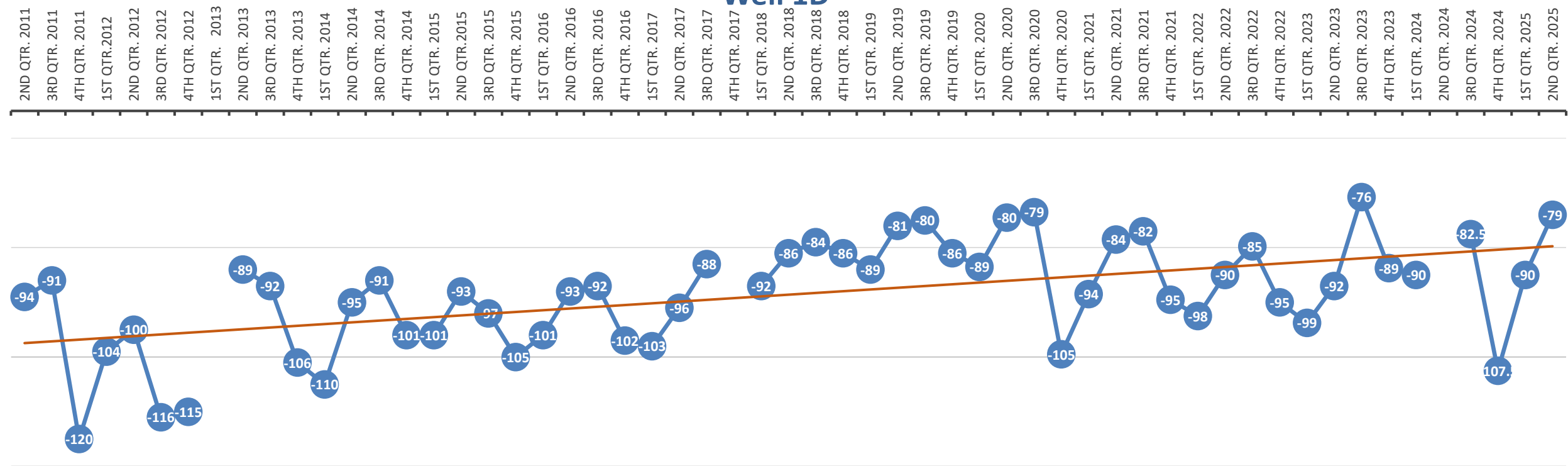
#### Latest Sand Tester Results:

15 Min: < 5 ppm

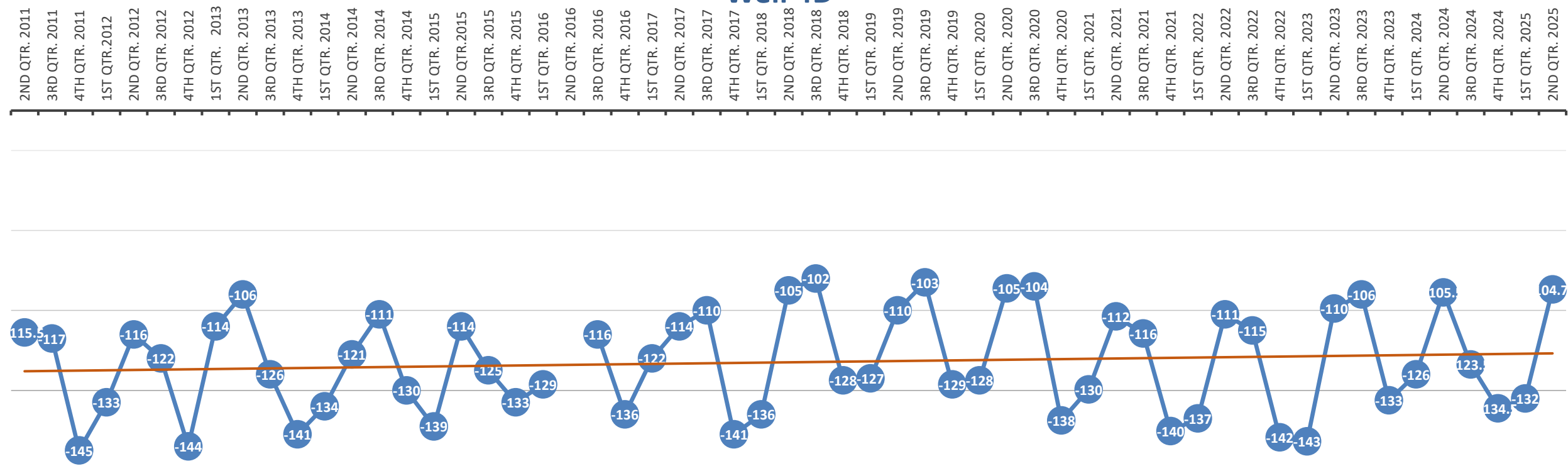


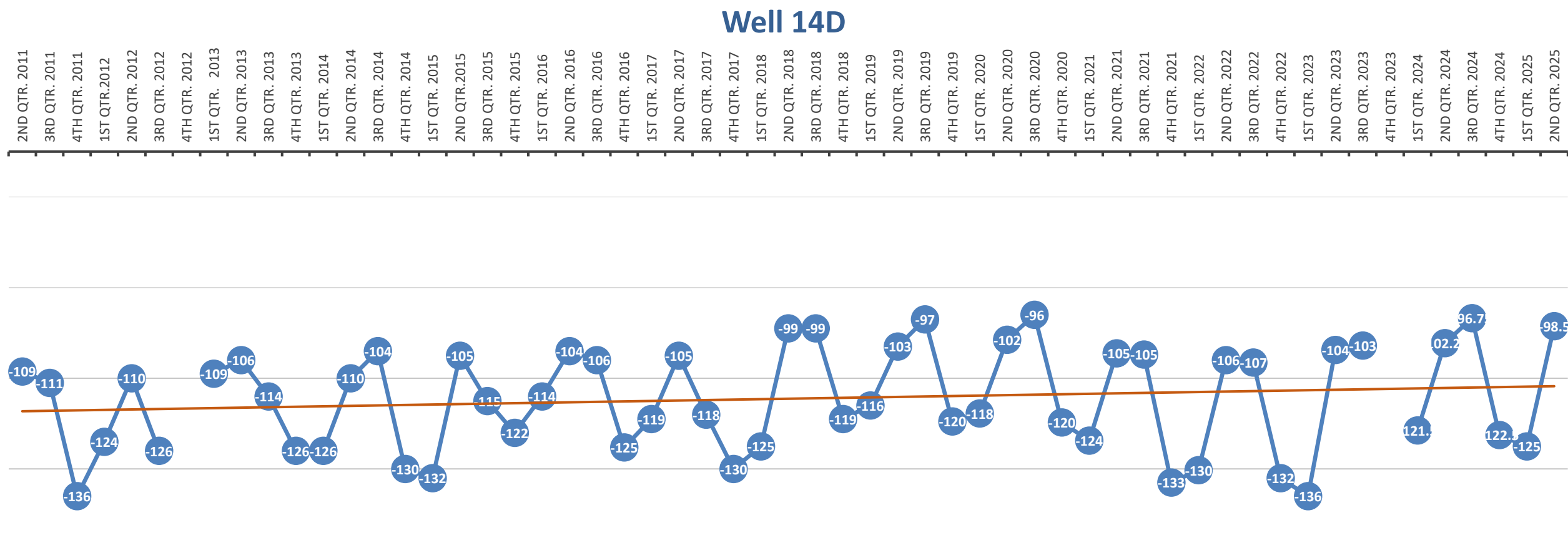
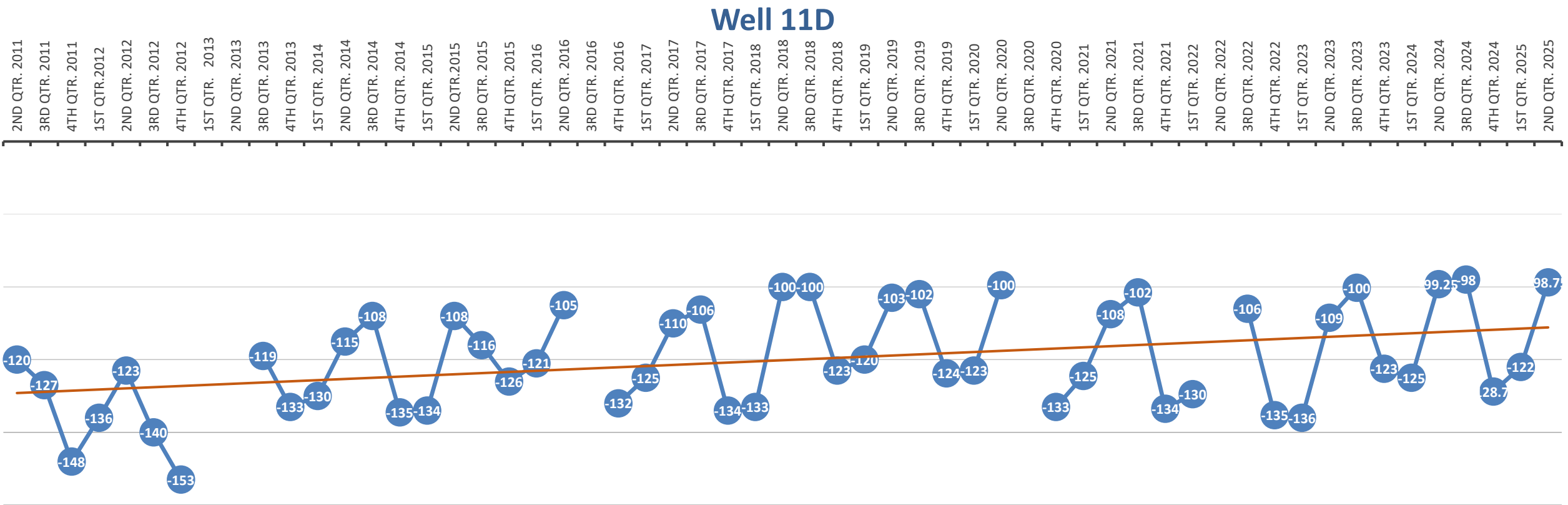
# Historic Static Well Levels

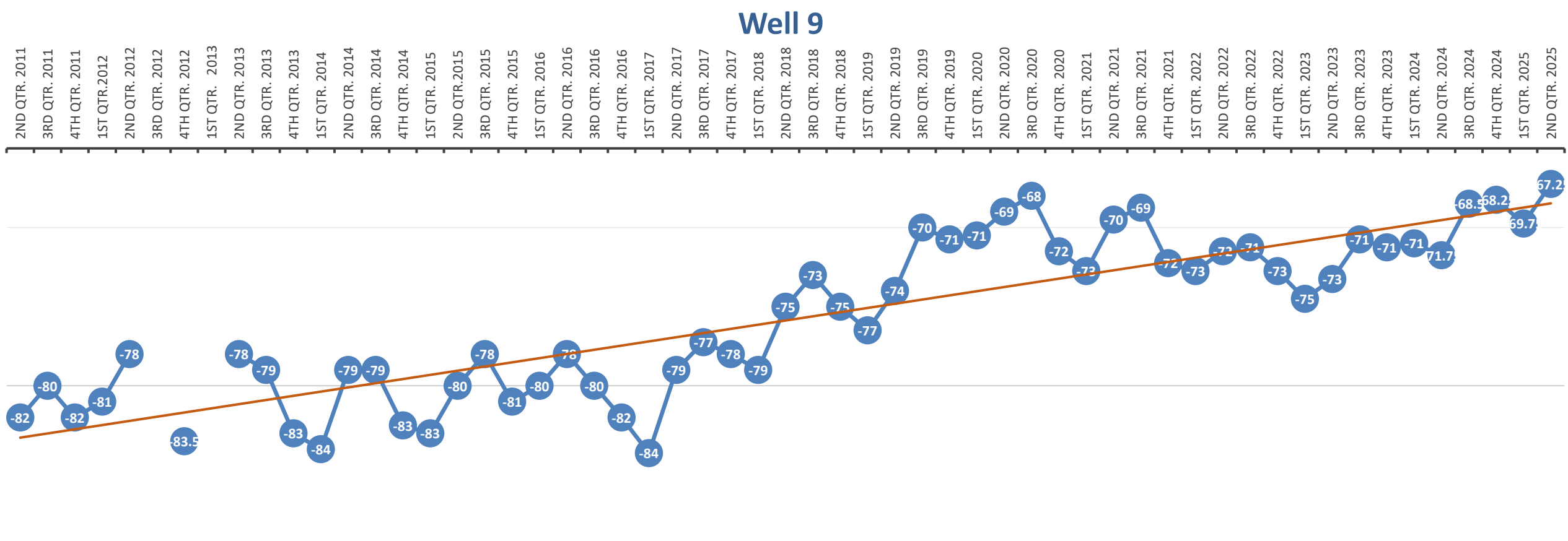
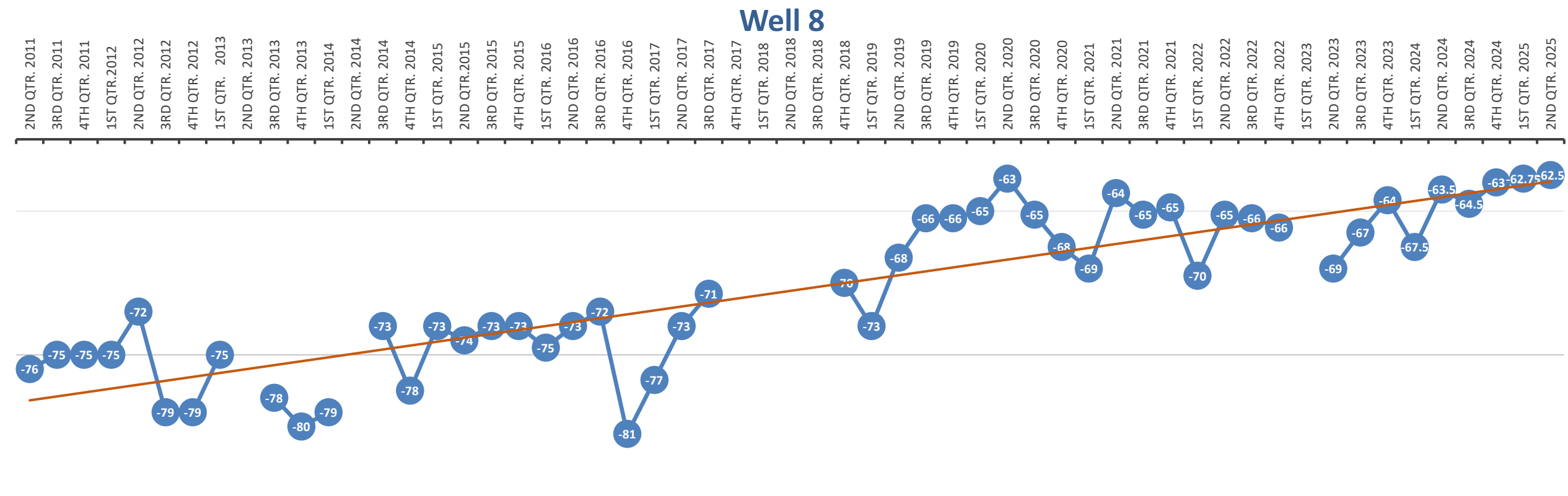
Well 1D



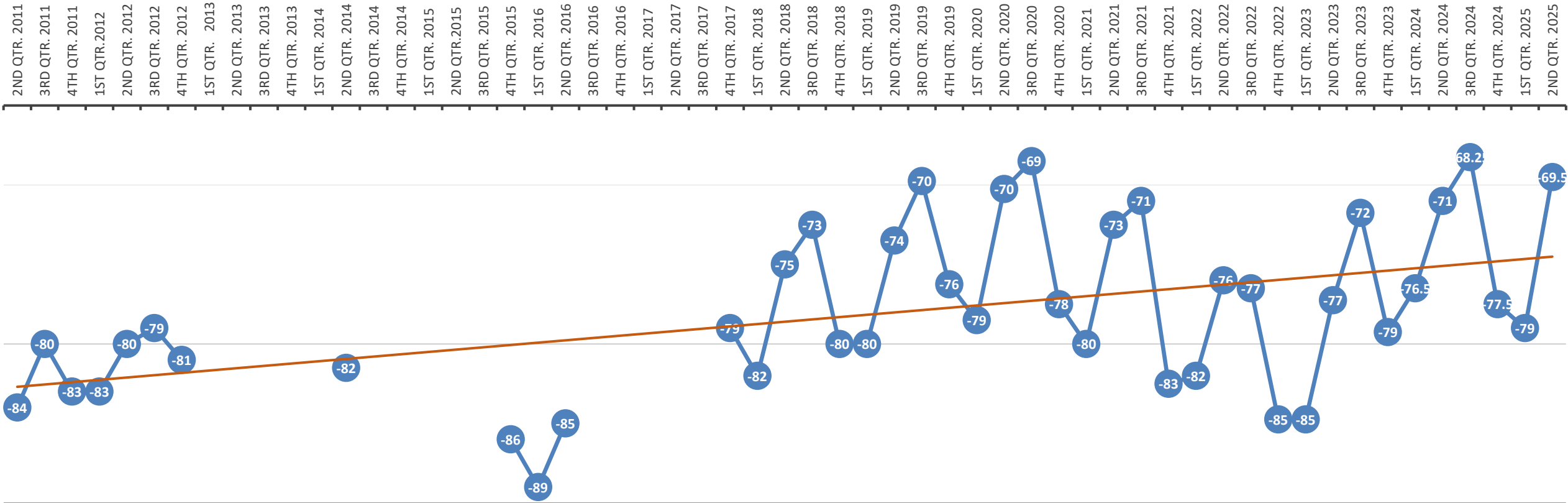
Well 4D







Well 13



**Monthly Sample Report - June 2025**  
**Water System: Elk Grove Water System**

**Sampling Point: 01 - 8693 W. Camden**

Sample Date	Sample Class	Sample Name	Collection Occurrence
6/3/2025	Distribution System	Bacteriological	Week
6/10/2025	Distribution System	Bacteriological	Week
6/11/2025	Distribution System	Threshold Odor	Supplemental - 2 samples taken
6/17/2025	Distribution System	Bacteriological	Week
6/24/2025	Distribution System	Bacteriological	Week

**Sampling Point: 02 - 9425 Emerald Vista**

Sample Date	Sample Class	Sample Name	Collection Occurrence
6/3/2025	Distribution System	Bacteriological	Week
6/10/2025	Distribution System	Bacteriological	Week
6/17/2025	Distribution System	Bacteriological	Week
6/24/2025	Distribution System	Bacteriological	Week

**Sampling Point: 03 - 8809 Valley Oak**

Sample Date	Sample Class	Sample Name	Collection Occurrence
6/3/2025	Distribution System	Bacteriological	Week
6/10/2025	Distribution System	Bacteriological	Week
6/17/2025	Distribution System	Bacteriological	Week
6/24/2025	Distribution System	Bacteriological	Week

**Sampling Point: 04 - 10122 Glacier Point**

Sample Date	Sample Class	Sample Name	Collection Occurrence
6/3/2025	Distribution System	Bacteriological	Week
6/10/2025	Distribution System	Bacteriological	Week
6/17/2025	Distribution System	Bacteriological	Week
6/24/2025	Distribution System	Bacteriological	Week



**Sampling Point: 05 - 9230 Amsden Ct.**

Sample Date	Sample Class	Sample Name	Collection Occurrence
6/3/2025	Distribution System	Bacteriological	Week
6/10/2025	Distribution System	Bacteriological	Week
6/17/2025	Distribution System	Bacteriological	Week
6/24/2025	Distribution System	Bacteriological	Week

**Sampling Point: 06 - 9227 Rancho Dr.**

Sample Date	Sample Class	Sample Name	Collection Occurrence
6/3/2025	Distribution System	Bacteriological	Week
6/10/2025	Distribution System	Bacteriological	Week
6/17/2025	Distribution System	Bacteriological	Week
6/24/2025	Distribution System	Bacteriological	Week

**Sampling Point: 07 - Al Gates Park Mainline Dr.**

Sample Date	Sample Class	Sample Name	Collection Occurrence
6/3/2025	Distribution System	Bacteriological	Week
6/10/2025	Distribution System	Bacteriological	Week
6/17/2025	Distribution System	Bacteriological	Week
6/24/2025	Distribution System	Bacteriological	Week

**Sampling Point: 08 - 9436 Hollow Springs Wy.**

Sample Date	Sample Class	Sample Name	Collection Occurrence
6/3/2025	Distribution System	Bacteriological	Week
6/10/2025	Distribution System	Bacteriological	Week
6/17/2025	Distribution System	Bacteriological	Week
6/24/2025	Distribution System	Bacteriological	Week

**Sampling Point: 09 - 8417 Blackman Wy.**

Sample Date	Sample Class	Sample Name	Collection Occurrence
6/3/2025	Distribution System	Bacteriological	Week
6/3/2025	Distribution System	Fluoride	Month
6/10/2025	Distribution System	Bacteriological	Week
6/17/2025	Distribution System	Bacteriological	Week
6/24/2025	Distribution System	Bacteriological	Week

**Sampling Point: 10 - 9373 Oreo Ranch Cir.**

Sample Date	Sample Class	Sample Name	Collection Occurrence
6/3/2025	Distribution System	Bacteriological	Week
6/10/2025	Distribution System	Bacteriological	Week
6/17/2025	Distribution System	Bacteriological	Week
6/24/2025	Distribution System	Bacteriological	Week

**Sampling Point: 11 - 9907 Kapalua Ln.**

Sample Date	Sample Class	Sample Name	Collection Occurrence
6/3/2025	Distribution System	Bacteriological	Week
6/10/2025	Distribution System	Bacteriological	Week
6/17/2025	Distribution System	Bacteriological	Week
6/24/2025	Distribution System	Bacteriological	Week

**Sampling Point: 12-9205 Meadow Grove Dr.**

Sample Date	Sample Class	Sample Name	Collection Occurrence
6/3/2025	Distribution System	Bacteriological	Week
6/10/2025	Distribution System	Bacteriological	Week
6/11/2025	Distribution System	Threshold Odor	Supplemental - 2 samples taken
6/17/2025	Distribution System	Bacteriological	Week
6/24/2025	Distribution System	Bacteriological	Week

**Sampling Point: 13 - Elloit Springs Dr.**

Sample Date	Sample Class	Sample Name	Collection Occurrence
6/3/2025	Distribution System	Bacteriological	Week
6/10/2025	Distribution System	Bacteriological	Week
6/17/2025	Distribution System	Bacteriological	Week
6/24/2025	Distribution System	Bacteriological	Week

**Sampling Point: Hampton Well 13 - Raw Water**

Sample Date	Sample Class	Sample Name	Collection Occurrence
6/2/2025	Source Water	Fe, Mn, As, Total	Week
6/9/2025	Source Water	Fe, Mn, As, Total	Week
6/16/2025	Source Water	Fe, Mn, As, Total	Week
6/23/2025	Source Water	Fe, Mn, As, Total	Week
6/30/2025	Source Water	Fe, Mn, As, Total	Week

**Sampling Point: Dino Well 11D - Raw Water**

Sample Date	Sample Class	Sample Name	Collection Occurrence
6/11/2025	Source Water	Threshold Odor	Supplemental - 2 samples taken

**Sampling Point: Webb Well 04D - Raw Water**

Sample Date	Sample Class	Sample Name	Collection Occurrence
6/11/2025	Source Water	Threshold Odor	Supplemental - 2 samples taken

**Sampling Point: Hampton WTP Effluent**

Sample Date	Sample Class	Sample Name	Collection Occurrence
6/2/2025	Source Water	Fe, Mn, As, Total	Week
6/9/2025	Source Water	Fe, Mn, As, Total	Week
6/16/2025	Source Water	Fe, Mn, As, Total	Week
6/23/2025	Source Water	Fe, Mn, As, Total	Week
6/30/2025	Source Water	Fe, Mn, As, Total	Week

**Sampling Point: Railroad WTP Effluent**

Sample Date	Sample Class	Sample Name	Collection Occurrence
6/3/2025	Treated Plant Effluent	WTP Eff - Fe,Mn,As Total	Month
6/11/2025	Treated Plant Effluent	Threshold Odor	Supplemental - 2 samples taken

**Sampling Point: Special Distribution/Construction Samples**

Sample Date	Sample Class	Sample Name	Collection Description
6/26/2025	Distribution System	Bacteriological	9662 Eisenbeisz St. Hydrant # F5-031H (CIP New Valve tie in)

<u>Colors</u>	<u>Monthly Total</u>	<u>Yearly Total</u>
Black = Scheduled	63	437
Green = Unscheduled	11	27



July 1, 2025

Sacramento Regional County  
Sanitation District  
Environmental Specialist  
10060 Goethe Rd.  
Sacramento, CA. 95827

### **WASTEWATER DISCHARGE COMPLIANCE REPORT FORM**

Enclosed is the Wastewater Discharge Compliance Report Form from Elk Grove Water District for June 2025.

If you have any further questions, you may contact me at 916-585-9390

AARON HEWITT  
WATER TREATMENT SUPERVISOR

# SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT (REGIONAL SAN)

## COMPLIANCE REPORT FORM

Attn: Scott Mullin	E-mail: mullins@sacsewer.com	Wastewater Source Control Section
Phone: (916) 875-6470	Fax: (916) 854-9286	
From: Aaron Hewitt		
Company: Elk Grove Water District		Permit # WTP-010

<b>Discharge Month:</b>	<b>June</b>	<b>Year:</b>	<b>2025</b>
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The following reports and information are attached (check all that apply):

	Location	Total Gallons
<input checked="" type="checkbox"/> Water use/flow meter report (If there is no discharge during the reporting period, this must be reported)	OF 1 Hampton WTP Backwash Tank	1,304,615
	OF 3 Railroad WTP Backwash Tank	0
	OF 5 Analyzer Water	34,560
	OF 6 Tank Sludge (preapproval req)	
	OF 7 Misc. (preapproval req)	

☐ Monitoring results/analytical report(s)

**pH (if measured); Grab Monitoring Data Review**

Location	Date and Time	pH
OF1		
OF3		
OF6		
OF7		

☐

**pH compliance statement – CHECK ONE BELOW**

☐ Based on a review of this facility's pH data, pH has exceeded the discharge limits.

☐ I certify that this facility has reviewed pH data and is in compliance.

**Discharge Rate - CHECK ONE BELOW**

or ☐ Based on a review of this facility's flow data, the discharge rate limit was exceeded.

☒ I certify that this facility is in compliance with the discharge rate limit.

☐ Attached is a description of anticipated changes that may significantly alter the nature, quality, or volume of the wastewater discharged.

☐ Flow monitoring equipment certification

☐ Other (explain):

## SACRAMENTO REGIONAL COUNTY SANITATION DISTRICT (REGIONAL SAN)

### Domestic Calculation

Domestic Usage/ Employee Monthly Totals	Number of Full-time Equivalent* Employees	Business Days per Month	Allowance (gallons per day)	Gallons
Production	2	18	15	540
Office	3	18	10	540
Drivers/Field	12	18	3	648
Total				1,728

\*FTE Equivalent: all employees' monthly hours added together and converted to a full-time employee count

### Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations."

SIGNATURE of Authorized Representative:



PRINTED NAME, TITLE:

Aaron Hewitt Treatment Plant Supervisor  
(Name) (Title)

DATE:

7.1.2025



July 1, 2025

State Water Resources Control Board  
Division of Drinking Water  
1001 I Street  
13<sup>th</sup> Floor  
Sacramento, CA 95814

### **MONTHLY SUMMARY OF DISTRIBUTION SYSTEM COLIFORM MONITORING**

Enclosed is the Monthly Summary of Distribution System Coliform Monitoring report from Elk Grove Water District for June 2025.

If you have any further questions, you may contact me at 916-585-9390.


AARON HEWITT  
WATER TREATMENT SUPERVISOR



# MONTHLY SUMMARY OF REVISED TOTAL COLIFORM RULE DISTRIBUTION SYSTEM MONITORING

(including triggered source monitoring for systems subject to the Groundwater Rule)

System Name <b>Elk Grove Water District</b>	System Number <b>3410008</b>
Sampling Period <b>June</b>	Year <b>2025</b>

	Number Required	Number Collected	Number Total Coliform Positives	Number E.coli Positives
1. Routine Samples (see note 1)	<b>50</b>	<b>52</b>	<b>0</b>	<b>0</b>
2. Repeat Samples following samples that are Total Coliform Positive and <i>E.coli</i> <b>Negative</b> (see notes 10 and 11)		<b>0</b>	<b>0</b>	<b>0</b>
3. Repeat Samples following Routine Samples that are <b>Total Coliform Positive</b> and <i>E. coli</i> <b>Positive</b> (see notes 10 and 11)		<b>0</b>	<b>0</b>	<b>0</b>
4. Treatment Technique (TT)/MCL Violation Computation for Total Coliform/ <i>E. coli</i> Positive Samples				
a. Totals (sum of columns)	<b>50</b>	<b>52</b>	<b>0</b>	<b>0</b>
b. If 40 or more samples collected in month, determine percent of samples that are total coliform positive [(total number positive/total number collected) x 100] =	<b>0</b>	<b>%</b>		
c. Did the system trigger... a <b>Level 2</b> Assessment TT? (see notes 2, 3, 4, 5 and 6 for trigger info)		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
<i>If a Level 2 Assessment is triggered, see note 8 below.</i>				
a <b>Level 1</b> Assessment TT? (see note 7 for trigger info)		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
<i>If a Level 1 Assessment is triggered, see note 9 below.</i>				
5. Triggered Source Samples per Groundwater Rule (see notes 12 and 13)		<b>0</b>	<b>0</b>	<b>0</b>
6. Invalidated Samples (Note what samples, if any, were invalidated; who authorized the invalidation; and when replacement samples were collected. Attach additional sheets, if necessary.)				
7. Summary Completed By: <b>Aaron Hewitt</b>				
Signature 	Title <b>Water Treatment Supervisor</b>	Date <b>7/1/2025</b>		

## NOTES AND INSTRUCTIONS:

- Routine samples include:
  - Samples required pursuant to 22 CCR Section 64423 and any additional samples required by an approved routine sample siting plan established pursuant to 22 CCR Section 64422.
  - Extra samples are required for systems collecting less than five routine samples per month that had one or more total coliform positives in previous month;
  - Extra samples for systems with high source water turbidities that are using surface water or groundwater under direct influence of surface water and do not practice filtration in compliance with regulations;
- Note: For a repeat sample following a total coliform positive sample, any *E.coli* positive repeat (boxed entry) **constitutes an MCL violation and requires immediate notification to the Division** (22, CCR, Section 64426.1).
- Note: For repeat sample following a *E.coli* positive sample, any total coliform positive repeat (boxed entry) **constitutes an MCL violation and requires immediate notification to the Division** (22, CCR, Section 64426.1).
- Note: Failure to take all required repeat samples following an *E. coli* positive routine sample (22, CCR, Section 64426.1) **constitutes an MCL violation and requires immediate notification to the Division** (22, CCR, Section 64426.1).
- Note: Failure to test for *E. coli* when any repeat sample tests positive for total coliform (22, CCR, Section 64426.1) **constitutes an MCL violation and requires immediate notification to the Division** (22, CCR, Section 64426.1).
- Note: Second Level 1 treatment technique trigger in a rolling 12-month period.
- Total coliform Treatment Technique (TT) Violation (**Notify Department within 24 hours of TT violation**):
  - For systems collecting less than 40 samples, if two or more samples are total coliform positive, then the TT is violated and a Level 1 Assessment is required.
  - For systems collecting 40 or more samples, if more than 5.0 percent of samples collected are total coliform positive, then the TT is violated and a Level 1 Assessment is required.
- Contact the Division as soon as practical to arrange for the division to conduct a Level 2 Assessment of the water system. The water system shall complete a Level 2 Assessment and submit it to the Division within 30 days of learning of the trigger exceedance.
- Conduct a Level 1 Assessment in accordance with as soon as practical that covers the minimum elements (22, CCR, Section 64426.8 (a), (2)). Submit the report to the Division within 30 days of learning of the trigger exceedance.
- Positive results and their associated repeat samples are to be tracked on the Coliform Monitoring Worksheet.
- Repeat samples must be collected within 24 hours of being notified of the positive results. For systems collecting more than one routine sample per month, three repeat samples must be collected for each total coliform positive sample. For systems collecting one or fewer routine samples per month, four repeat samples must be collected for each total coliform positive sample. At least three samples shall be taken the month following a total coliform positive.
- For systems subject to the Groundwater Rule: Positive results and the associated triggered source samples are to be tracked on the Coliform Monitoring Worksheet.
- For triggered sample(s) required as a result of a total coliform routine positive sample, an *E.coli* positive triggered sample (boxed entry) **requires immediate notification to the Division, Tier 1 public notification, and corrective action.**



July 1, 2025

State Water Resources Control Board  
Division of Drinking Water  
1001 I Street  
13<sup>th</sup> Floor  
Sacramento, CA. 95814

**MONTHLY SUMMARY OF THE HAMPTON GROUNDWATER TREATMENT PLANT**

Enclosed is the Monthly Summary of the Hampton GWTP report from Elk Grove Water District for June 2025.

If you have any further questions, you may contact me at 916-585-9390.

AARON HEWITT  
WATER TREATMENT SUPERVISOR

# Elk Grove Water District

## Hampton GWTP Monthly Report

PWS Number

3410008-013

Month:

June

GWTP Name

Hampton Water Treatment Plant

Date	Hour Meter	Run Hours	Production Meter	Well Production	Backwash Meter	Backwash Waste	Weekly In-House Monitoring (mg/L) R (Raw) T (Treated)As (ug/L)									
last day	33114.1		925129045		42334610	51278450	Date	Fe, R	Fe, T	Mn, R	Mn, T	As, R	As, T	Weekly Average		
1	33138	23.9	926498377	1369332	42368214	51320776	6/2/2025	0.02	0.032	0.007	0.002	10	2	Inf. pH      Eff. pH		
2	33162.2	24.2	927876179	1377802	42409375	51366248	6/9/2025	0.002	0.033	0.012	0.007	12	2	Week 1: 7.17 to 7.12		
3	33186.1	23.9	929250922	1374743	42443100	51408484	6/16/2025	UR	0.05	0.004	0.002	11	2	Cl2		0.97
4	33209.9	23.8	930618348	1367426	42473133	51448234	6/23/2025	0.005	0.032	0.022	0.01	13	2	Week 2: 7.27 to 7.21		
5	33232.3	22.4	931901303	1282955	42503247	51487803	6/30/2025	UR	0.027	0.003	0.004	12	2	Cl2		0.8
6	33256.7	24.4	933300678	1399375	42537152	51529310								Week 3: 7.30 to 7.24		
7	33280.3	23.6	934654001	1353323	42571060	51570229	Total Gallons Sodium Hypochlorite: 385.7 Gal							Cl2		0.72
8	33304.6	24.3	936043019	1389018	42604865	51611366	Pounds per day 15.43 Lbs/Day							Week 4: 7.17 to 7.09		
9	33328.6	24	937419248	1376229	42638684	51652345	Dosage (Milligrams Per Liter @ 12% Cl) 1.35							Cl2		0.9
10	33352.7	24.1	938806308	1387060	42672410	51693719								Week 5: 7.14 to 7.06		
11	33376.6	23.9	940179811	1373503	42706053	51734235	Total Gallons Ferric Chloride: 240 Gal							Cl2		1.04
12	33400.6	24	941557115	1377304	42739659	51774693	Dosage (Milligrams Per Liter @ 38% FeCl) 1.19									
13	33424.7	24.1	942939340	1382225	42773163	51815073										
14	33448.5	23.8	944305032	1365692	42806666	51855225	Total Gallons Sulfuric Acid : 275.5 Gal									
15	33472.2	23.7	945658465	1353433	42840247	51894185	Dose (Gallons Per Hour @ 93% H2SO4 ) 0.383 Gal/Hr									
16	33496.7	24.5	947054937	1396472	42873754	51935331										
17	33520.1	23.4	948397547	1342610	42903508	51974179										
18	33544.3	24.2	949778584	1381037	42933415	52014537										
19	33569.4	25.1	951213278	1434694	42970944	52061698										
20	33593	23.6	952557212	1343934	43000718	52106629	Total Backwashed 1,007,514							Total Run Hours 718.8		
21	33616.7	23.7	953912066	1354854	43034295	52151832										
22	33640.8	24.1	955283181	1371115	43064209	52199135	Total Water Pumped 41,097,788							Total Backwash Waste 1,304,615		
23	33665.1	24.3	956662881	1379700	43105620	52250006										
24	33688.8	23.7	958015092	1352211	43135973	52295249	Reporting Limits/Units			Maximum Contaminant Levels (MCLs)						
25	33712.4	23.6	959364569	1349477	43165894	52340491	Iron = 0.100 mg/L			Iron (Fe) = 0.300 mg/L (Secondary)						
26	33736.6	24.2	960749417	1384848	43199655	52388691	Manganese = 0.010 mg/L			Manganese (Mn) = 0.050 mg/L (Secondary)						
27	33760.2	23.6	962092878	1343461	43233468	52436815	Arsenic = 1.0 µg/L			Arsenic (As) = 10 µg/L (Primary)						
28	33785	24.8	963509100	1416222	43267172	52484950										
29	33808.5	23.5	964845606	1336506	43300997	52532934										
30	33832.9	24.4	966226833	1381227	43342124	52583065	Prepared By: Aaron Hewitt							Date: 7/1/2025		
Total		718.8		41097788	1007514	1304615										



July 1, 2025

State Water Resources Control Board  
Division of Drinking Water  
1001 I Street  
13<sup>th</sup> Floor  
Sacramento, CA 95814

## **MONTHLY FLUORIDATION MONITORING REPORT**

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Enclosed is the Monthly Summary of the Fluoridation Monitoring from Elk Grove Water District for June 2025.

If you have any further questions, you may contact me at 916-585-9390.

A handwritten signature in blue ink, appearing to read "Aaron Hewitt", is written over a light blue circular stamp.

AARON HEWITT  
WATER TREATMENT SUPERVISOR

# ELK GROVE WATER DISTRICT AREA 2

## DISTRIBUTION SYSTEM

### MONTHLY FLUORIDATION MONITORING REPORT

June-25

Week      Location of Sample      Monitoring Results (mg/L)

			Date	Time	Results
1	Hollow Springs		6.3.2025	9:07 AM	0.42
1	Kapalua		6.3.2025	9:50 AM	0.7
1	Al Gates Park		6.3.2025	10:15 AM	0.63
1	Oreo Ranch		6.3.2025	10:45 AM	0.53
1	Blackman		6.3.2025	11:38 AM	0.77
1	Elliot Springs		6.3.2025	11:19 AM	0.80
2	Hollow Springs		6.10.2025	9:11 AM	0.78
2	Kapalua		6.10.2025	9:35 AM	0.55
2	Al Gates Park		6.10.2025	9:59 AM	0.63
2	Oreo Ranch		6.10.2025	10:19 AM	0.57
2	Blackman		6.10.2025	10:55 AM	0.73
2	Elliot Springs		6.10.2025	11:20 AM	0.76
3	Hollow Springs		6.17.2025	10:11 AM	0.69
3	Kapalua		6.17.2025	10:38 AM	0.71
3	Al Gates Park		6.17.2025	11:07 AM	0.87
3	Oreo Ranch		6.17.2025	11:25 AM	0.88
3	Blackman		6.17.2025	12:00 PM	0.71
3	Elliot Springs		6.17.2025	12:29 PM	0.66
4	Hollow Springs		6.24.2025	10:06 AM	0.84
4	Kapalua		6.24.2025	10:29 AM	0.71
4	Al Gates Park		6.24.2025	10:52 AM	0.85
4	Oreo Ranch		6.24.2025	11:08 AM	0.91
4	Blackman		6.24.2025	12:22 PM	0.88
4	Elliot Springs		6.24.2025	1:07 PM	0.88

Monthly fluoride split sample results:

Date: 6.3.2025

Water System Results: 0.77 mg/L

Approved Lab: 0.78 mg/L

Contact Name: Aaron Hewitt

Telephone : (916) 585-9390

System PWS Number: 3410008



July 1, 2025

State Water Resources Control Board  
Division of Drinking Water  
1001 I Street  
13<sup>th</sup> Floor  
Sacramento, CA 95814

#### **QUARTERLY REPORT FOR DISINFECTANT RESIDUALS COMPLIANCE MONITORING**

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Enclosed is the Quarterly Report for Disinfectant Residuals Compliance Monitoring from Elk Grove Water District for 2nd Quarter 2025.

If you have any further questions, you may contact me at 916-585-9390

AARON HEWITT  
WATER TREATMENT SUPERVISOR

**Quarterly Report for Disinfectant Residuals Compliance  
For Systems Using Chlorine or Chloramines**System Name: Elk Grove Water District Area 1System No.: 3410008Calendar Year: 2025Quarter: 2nd

1st Quarter		
Month	Number of Samples Taken	Monthly Avg. Chlorine Level (mg/L)
Previous Year	April	0.96
	May	0.99
	June	1.00
	July	0.94
	August	1.00
	September	0.99
	October	0.96
	November	0.99
	December	0.89
Current Year	January	28
	February	28
	March	28
		1.00
Running Annual Average (RAA):		0.98
Meets standard? (i.e. RAA ≤ MRDL of 4.0 mg/L as Cl <sub>2</sub> )		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

2nd Quarter		
Month	Number of Samples Taken	Monthly Avg. Chlorine Level (mg/L)
Previous Year	July	0.94
	August	1.00
	September	0.99
	October	0.96
	November	0.99
	December	0.89
Current Year	January	1.07
	February	0.99
	March	1.00
	April	35
	May	28
	June	28
Running Annual Average (RAA):		0.98
Meets standard? (i.e. RAA ≤ MRDL of 4.0 mg/L as Cl <sub>2</sub> )		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

3rd Quarter		
Month	Number of Samples Taken	Monthly Avg. Chlorine Level (mg/L)
Previous Yr	October	0.96
	November	0.99
	December	0.89
Current Year	January	1.07
	February	0.99
	March	1.00
	April	1.02
	May	0.97
	June	0.93
	July	35
	August	28
	September	28
		0.99
Running Annual Average (RAA):		0.98
Meets standard? (i.e. RAA ≤ MRDL of 4.0 mg/L as Cl <sub>2</sub> )		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

4th Quarter		
Month	Number of Samples Taken	Monthly Avg. Chlorine Level (mg/L)
Current Year	January	1.07
	February	0.99
	March	1.00
	April	1.02
	May	0.97
	June	0.93
	July	0.95
	August	1.00
	September	0.99
	October	35
	November	28
	December	35
Running Annual Average (RAA):		0.99
Meets standard? (i.e. RAA ≤ MRDL of 4.0 mg/L as Cl <sub>2</sub> )		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Comments: The Elk Grove Water District is split into two different water systems. Area 1 water is produced and distributed by Elk Grove Water District.

Signature: \_\_\_\_\_

43Date: 7.01.2025

# Quarterly Report for Disinfectant Residuals Compliance For Systems Using Chlorine or Chloramines

System Name: Elk Grove Water District Area 2System No.: 3410008Calendar Year: 2025Quarter: 2nd

1st Quarter			
Month		Number of Samples Taken	Monthly Avg. Chlorine Level (mg/L)
Previous Year	April		1.19
	May		1.21
	June		1.17
	July		1.14
	August		1.13
	September		1.09
	October		0.94
	November		0.87
	December		0.89
Current Year	January	24	1.00
	February	24	1.18
	March	24	1.11
Running Annual Average (RAA):			1.08
Meets standard? (i.e. RAA ≤ MRDL of 4.0 mg/L as Cl <sub>2</sub> )			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

2nd Quarter			
Month		Number of Samples Taken	Monthly Avg. Chlorine Level (mg/L)
Previous Year	July		1.14
	August		1.13
	September		1.09
	October		0.94
	November		0.87
	December		0.89
Current Year	January		1.00
	February		1.18
	March		1.11
	April	30	1.28
	May	24	1.25
	June	24	1.26
Running Annual Average (RAA):			1.10
Meets standard? (i.e. RAA ≤ MRDL of 4.0 mg/L as Cl <sub>2</sub> )			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

3rd Quarter			
Month		Number of Samples Taken	Monthly Avg. Chlorine Level (mg/L)
Previous Yr	October		0.94
	November		0.87
	December		0.89
Current Year	January		1.00
	February		1.18
	March		1.11
	April		1.28
	May		1.25
	June		1.26
	July	30	1.19
	August	24	1.21
	September	24	1.09
Running Annual Average (RAA):			1.11
Meets standard? (i.e. RAA ≤ MRDL of 4.0 mg/L as Cl <sub>2</sub> )			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

4th Quarter			
Month		Number of Samples Taken	Monthly Avg. Chlorine Level (mg/L)
Current Year	January		1.00
	February		1.18
	March		1.11
	April		1.28
	May		1.25
	June		1.26
	July		1.19
	August		1.21
	September		1.09
	October	30	1.09
	November	24	1.12
	December	30	0.96
Running Annual Average (RAA):			1.15
Meets standard? (i.e. RAA ≤ MRDL of 4.0 mg/L as Cl <sub>2</sub> )			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Comments: The Elk Grove Water District is split into two different water systems. Area 2 is wholesale water from Sacramento County Water Agency.

Signature: \_\_\_\_\_



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Date: 7.01.2025

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July 1, 2025

State Water Resources Control Board  
Division of Drinking Water  
1001 I Street  
13<sup>th</sup> Floor  
Sacramento, CA 95814

#### **QUARTERLY SUMMARY OF RAW GROUNDWATER COLIFORM MONITORING**

Enclosed is the Quarterly Summary of Raw Groundwater Coliform Monitoring from Elk Grove Water District for 2nd Quarter 2025.

If you have any further questions, you may contact me at 916-585-9390

AARON HEWITT  
WATER TREATMENT SUPERVISOR

## QUARTERLY SUMMARY OF RAW GROUNDWATER COLIFORM MONITORING

Samples must be taken prior to chlorination

**Water System Name**

Elk Grove Water District

**Water System Number**

3410008

**Sampling Period:**

Month

April - June 2nd Quarter

Year

2025

Well Name	Status (On/Off)	Sample Time & Date	Total Coliforms (P/A, CFU or MPN)	<i>E. coli</i> (P/A, CFU or MPN)
Well # 1D School St.	ON	4.15.2025 9:00 AM	A	A
Well # 4D Webb St.	ON	4.8.2025 8:50 AM	A	A
Well # 11D Dino Dr.	ON	4.2.2025 8:55 PM	A	A
Well 14D Railroad St.	ON	4.15.2025 8:27 AM	A	A
Well # 8 Williamson	ON	4.8.2025 11:16 AM	A	A
Well # 9 Polhemus	ON	4.2.2025 9:15 AM	A	A
Well # 13 Hampton	ON	4.14.2025 10:19 AM	A	A



July 1, 2025

State Water Resources Control Board  
Division of Drinking Water  
1001 I Street  
13<sup>th</sup> Floor  
Sacramento CA. 95814

#### **QUARTERLY TTHM AND HAA5 REPORT FOR DISINFECTION BYPRODUCTS COMPLIANCE**

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Enclosed is the Quarterly TTHM and HAA5 Report from Elk Grove Water District for the 2nd Quarter 2025.

If you have any further questions, you may contact me at 916-585-9390.

AARON HEWITT  
WATER TREATMENT SUPERVISOR

Quarterly TTHM Report for Disinfection Byproducts Compliance (in µg/L or ppb)

System Name: **Elk Grove Water District** System No.: **3410008** Year: **2025** Quarter: **2**

Year:	2021				2022				2023				2024				2025			
Quarter:	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Sample Date (month/date):	1/19	4/6	7/6	10/5	1/11	4/5	7/12	10/11	1/17	4/11	7/3	10/10	1/8	4/9	7/2	10/8	1/7	4/2		
<b>Site Q1 TTHM Results</b>	1	40	0	0	38	25	0	6	44	39	0	37	48	31	0	6	40	31		
Lcn. Running Annual Average	1	20	14	10	20	16	16	17	19	22	22	30	31	29	29	21	19	19	N/A	N/A
Meets Standard? <sup>1</sup>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>
(check box)	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>
Projected LRAA Next Quarter	N/A	N/A	10	10	19	22	16	9	23	32	21	28	33	37	20	11	22	27	N/A	N/A
Op Evaluation Req'd? <sup>2</sup>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>
(check box)	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>
<b>Site Q2 TTHM Results</b>																				
Lcn. Running Annual Average	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Meets Standard? <sup>1</sup>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>
(check box)	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>
Projected LRAA Next Quarter	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Op Evaluation Req'd? <sup>2</sup>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>
(check box)	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>
<b>Site Q3 TTHM Results</b>	2	1	1	0	0	7	0	0	1	2	0	1	0	2	0	1	1	0		
Lcn. Running Annual Average	2	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	N/A	N/A
Meets Standard? <sup>1</sup>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>
(check box)	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>
Projected LRAA Next Quarter	N/A	N/A	1	1	0	3	2	2	1	1	1	1	0	1	0	1	1	1	N/A	N/A
Op Evaluation Req'd? <sup>2</sup>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>
(check box)	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>
<b>Site Q4 TTHM Results</b>	1	1	1	0	3	5	0	0	1	3	0	1	0	2	1	1	3	0		
Lcn. Running Annual Average	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	2	1	N/A	N/A
Meets Standard? <sup>1</sup>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>
(check box)	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>
Projected LRAA Next Quarter	N/A	N/A	1	1	1	3	2	1	1	2	1	1	0	1	1	1	2	1	N/A	N/A
Op Evaluation Req'd? <sup>2</sup>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>
(check box)	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>
Quarterly Average	1	14	1	0	14	12	0	2	16	15	0	13	16	12	0	3	15	10	N/A	N/A
No. Samples This Quarter	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0

Identify the sample locations in the table below.

Site	Sample Location
Q1	9436 Hollow Springs
Q2	
Q3	8693 W. Camden
Q4	9230 Amsden Ct

Comments:

<sup>1</sup> Meets Standard - LRAA, calculated quarterly, is less than 80 ug/L

<sup>2</sup> Operation Evaluation Req'd - Projected LRAA, calculated quarterly, is greater than 80 ug/L



Signature

7.01.2025

Date

\*If, during the first year of monitoring, any individual quarter's average will cause the running annual average of that system to exceed the standard, then the system is out of compliance at the end of that quarter.

Quarterly HAA5 Report for Disinfection Byproducts Compliance (in µg/L or ppb)

System Name: **Elk Grove Water District** System No.: **3410008** Year: **2025** Quarter: **2**

Year:	2021				2022				2023				2024				2025			
Quarter:	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Sample Date (month/date):	1/19	4/6	7/6	10/5	1/11	4/5	7/12	10/11	1/17	4/11	7/3	10/10	1/8	4/9	7/2	10/8	1/7	4/2		
<b>Site Q1 HAA5 Results</b>	0	21	0	0	31	12	0	0	34	24	0	21	39	19	0	2	30	17		
Lcn. Running Annual Average	0	11	7	5	13	11	11	11	12	15	15	20	21	20	20	15	13	12	N/A	N/A
Meets Standard? <sup>1</sup>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>
(check box)	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>
Projected LRAA Next Quarter	N/A	N/A	5	5	16	14	11	3	17	21	15	17	25	25	15	6	16	17	N/A	N/A
Op Evaluation Req'd? <sup>2</sup>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>
(check box)	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>
<b>Site Q2 HAA5 Results</b>																				
Lcn. Running Annual Average	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Meets Standard? <sup>1</sup>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>
(check box)	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>
Projected LRAA Next Quarter	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Op Evaluation Req'd? <sup>2</sup>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>
(check box)	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>
<b>Site Q3 HAA5 Results</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Lcn. Running Annual Average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
Meets Standard? <sup>1</sup>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>
(check box)	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>
Projected LRAA Next Quarter	N/A	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
Op Evaluation Req'd? <sup>2</sup>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>
(check box)	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>
<b>Site Q4 HAA5 Results</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Lcn. Running Annual Average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
Meets Standard? <sup>1</sup>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>
(check box)	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>
Projected LRAA Next Quarter	N/A	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N/A	N/A
Op Evaluation Req'd? <sup>2</sup>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>
(check box)	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>
Quarterly Average	0	7	0	0	10	4	0	0	11	8	0	7	13	6	0	1	10	6	N/A	N/A
No. Samples This Quarter	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	0

Identify the sample locations in the table below.

Site	Sample Location
Q1	9436 Hollow Springs
Q2	
Q3	8693 W. Camden
Q4	9230 Amsden Ct

Comments:

<sup>1</sup> Meets Standard - LRAA, calculated quarterly, is less than 60 ug/L

<sup>2</sup> Operation Evaluation Req'd - Projected LRAA, calculated quarterly, is greater than 60 ug/L



Signature

7.01.2025

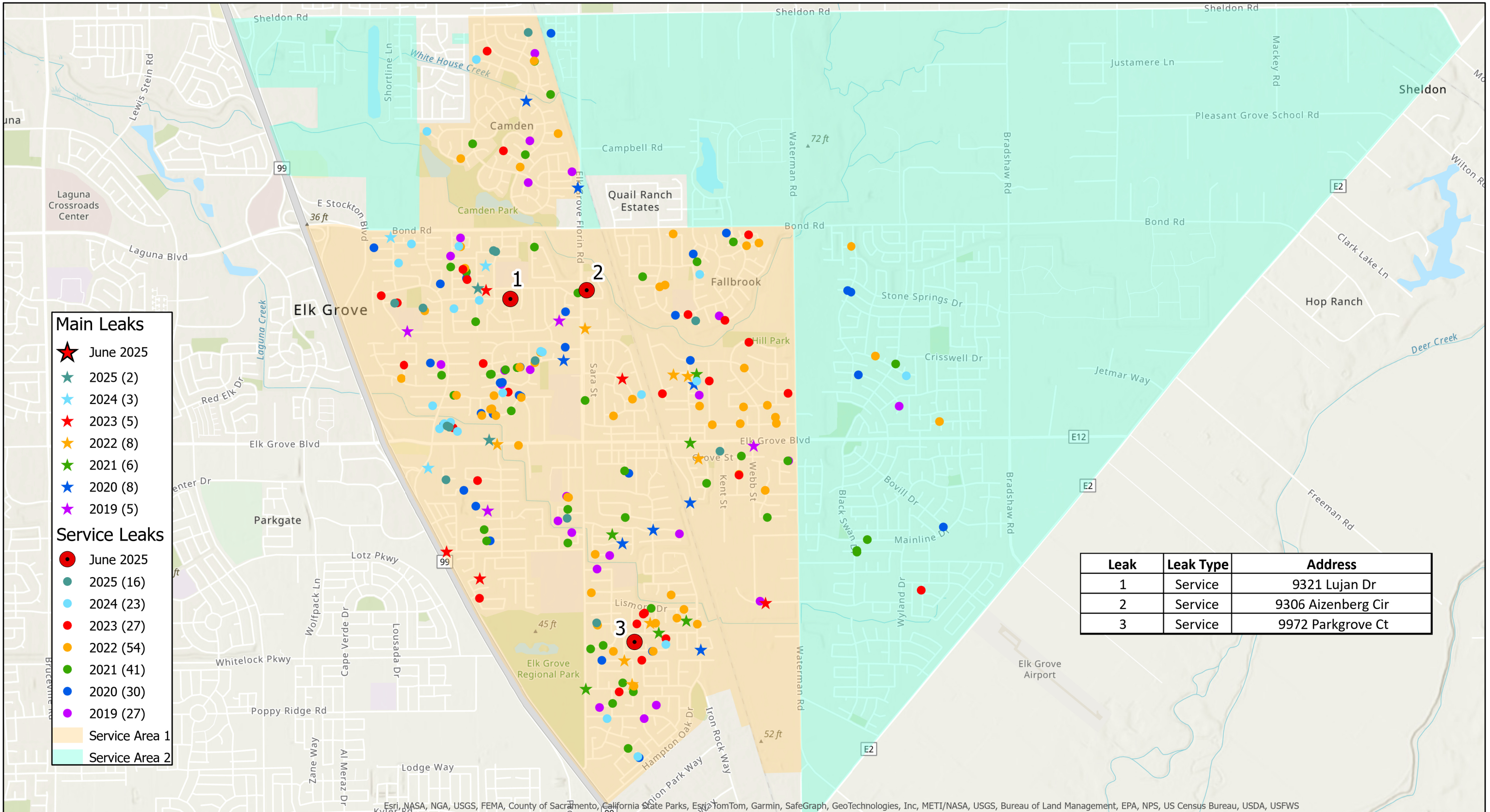
Date

\*If, during the first year of monitoring, any individual quarter's average will cause the running annual average of that system to exceed the standard, then the system is out of compliance at the end of that quarter.

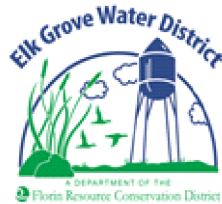
Elk Grove Water District  
Safety Meetings/Training  
June 2025

Date	Topic	Attendees	Hosted By
6/2/2025	Rushing to Get Work Done	Alan Aragon, Stefan Chanh, David Frederick, Jaylyn Gordon-Ford, Gabriel Guerrero, Aaron Hewitt, James Hinegardner, Sean Hinton, Brandon Kent, Justin Mello, Jose Mendoza, Sal Mendoza, Chris Phillips, Emmanuel Vasquez, Marcell Wilson	Sean Hinton & Aaron Hewitt
6/16/2025	Traffic and Flagger Safety	Alan Aragon, Stefan Chanh, David Frederick, Jaylyn Gordon-Ford, Gabriel Guerrero, Aaron Hewitt, James Hinegardner, Sean Hinton, Jose Mendoza, Chris Phillips, Emmanuel Vasquez, Brandon Wagner, Marcell Wilson	Sean Hinton & Aaron Hewitt
6/30/2025	Heat Illness Prevention	Alan Aragon, Stefan Chanh, David Frederick, Gabriel Guerrero, Aaron Hewitt, James Hinegardner, Sean Hinton, Brandon Kent, Justin Mello, Jose Mendoza, Chris Phillips, Emmanuel Vasquez, Brandon Wagner, Marcell Wilson	Sean Hinton & Aaron Hewitt

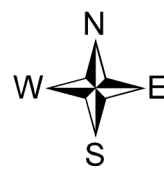
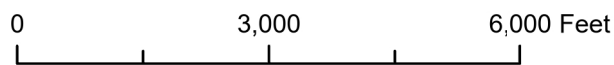




June 2025	
Main Line Leaks: 0	YTD: 2
Service Line Leaks: 3	YTD: 16
Total Leaks: 3	YTD: 18

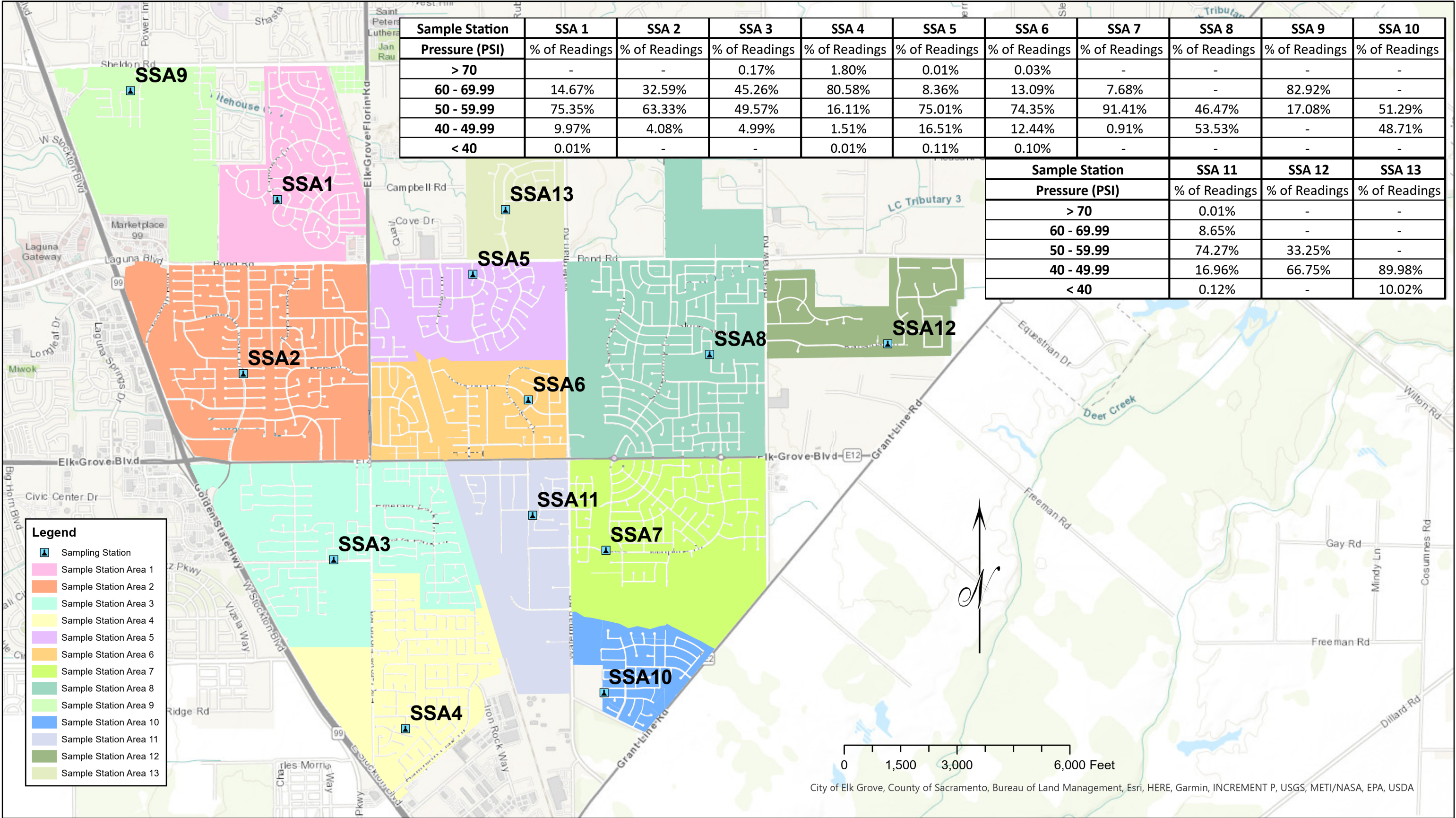


## Elk Grove Water District Main and Service Line Leaks Map



Elk Grove Water District	
Main & Service Line Leaks	
Created by: Richard Ko	
Date: July 3, 2025	





Sample Station	SSA 1	SSA 2	SSA 3	SSA 4	SSA 5	SSA 6	SSA 7	SSA 8	SSA 9	SSA 10
Pressure (PSI)	% of Readings	% of Readings	% of Readings	% of Readings	% of Readings	% of Readings	% of Readings	% of Readings	% of Readings	% of Readings
> 70	-	-	0.17%	1.80%	0.01%	0.03%	-	-	-	-
60 - 69.99	14.67%	32.59%	45.26%	80.58%	8.36%	13.09%	7.68%	-	82.92%	-
50 - 59.99	75.35%	63.33%	49.57%	16.11%	75.01%	74.35%	91.41%	46.47%	17.08%	51.29%
40 - 49.99	9.97%	4.08%	4.99%	1.51%	16.51%	12.44%	0.91%	53.53%	-	48.71%
< 40	0.01%	-	-	0.01%	0.11%	0.10%	-	-	-	-

Sample Station	SSA 11	SSA 12	SSA 13
Pressure (PSI)	% of Readings	% of Readings	% of Readings
> 70	0.01%	-	-
60 - 69.99	8.65%	-	-
50 - 59.99	74.27%	33.25%	-
40 - 49.99	16.96%	66.75%	89.98%
< 40	0.12%	-	10.02%

- Legend**
- ▲ Sampling Station
  - Sample Station Area 1
  - Sample Station Area 2
  - Sample Station Area 3
  - Sample Station Area 4
  - Sample Station Area 5
  - Sample Station Area 6
  - Sample Station Area 7
  - Sample Station Area 8
  - Sample Station Area 9
  - Sample Station Area 10
  - Sample Station Area 11
  - Sample Station Area 12
  - Sample Station Area 13

Sample Stations: 13

June 2025



Elk Grove Water District  
Sample Station Areas

Projected Coordinate System: NAD 83 State Plane CA II FIPS 0402

Source: EGWD GIS Database

Modified by: Richard Ko

July 2, 2025