

City of Petaluma, California

UV DISINFECTION EQUIPMENT MODIFICATIONS PROJECT ELLIS CREEK WATER RECYCLING FACILITY C66401416 VOLUME 2 OF 2



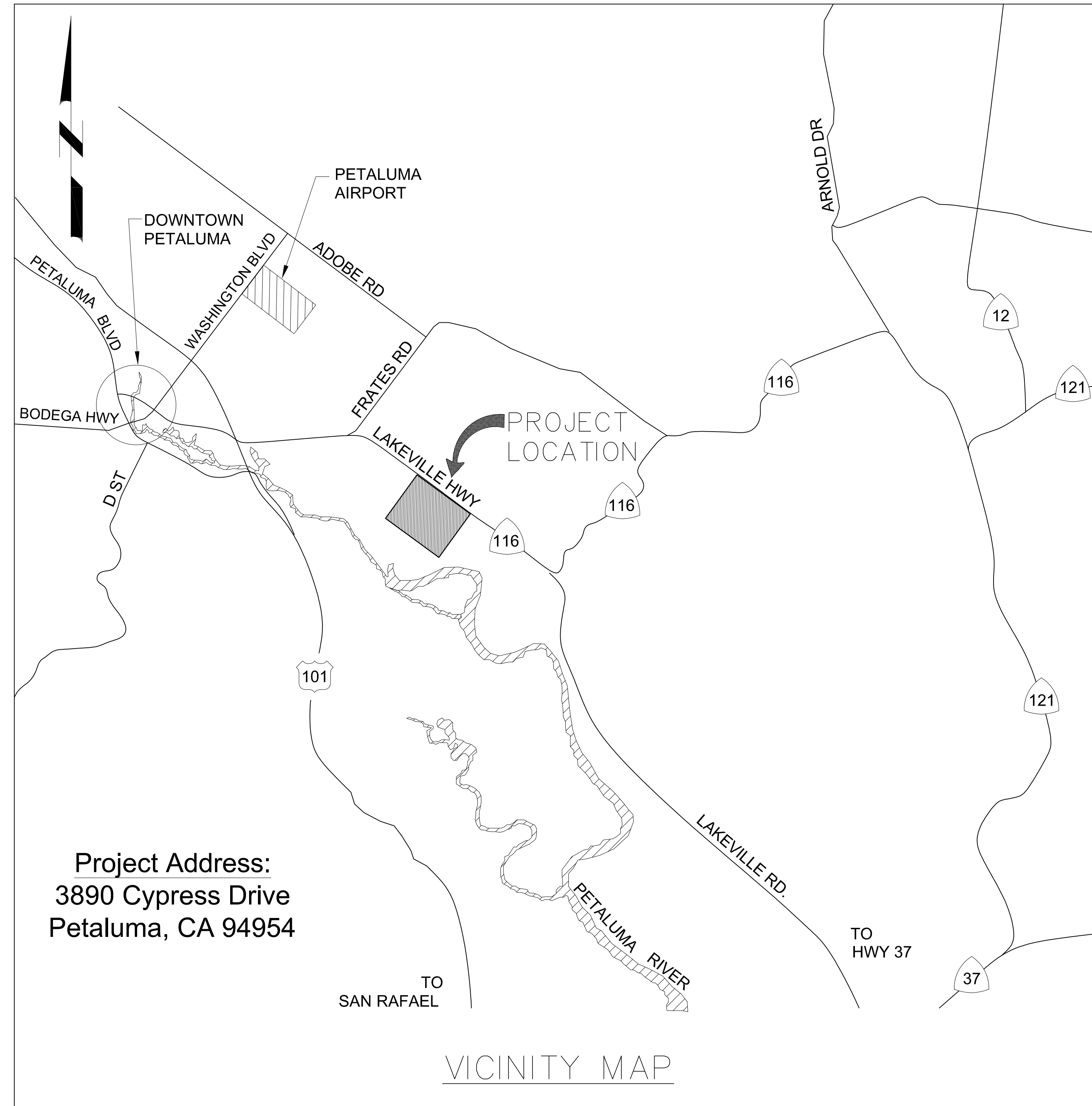
SEPTEMBER 2022

MAYOR
Teresa Barrett

COUNCIL MEMBERS
Brian Barnacle
D'Lynda Fischer
Mike Healy
Dave King
Kevin McDonnell
Dennis Pocekay

CITY MANAGER
Peggy Flynn

DIRECTOR OF PUBLIC WORKS
Christopher Bolt, P.E.



APPROVED BY:

JOHN MINSHALL
DATE: TBD

DESIGNED BY:

DOUGLAS WING P.E. C38950
DATE: TBD PROJECT MANAGER

DATE: FEBRUARY 2021
DESIGNED BY: CE
DRAWN BY: CE
CHECKED BY: CE

PROJECT NO.
C66401416

CITY OF PETALUMA
PUBLIC WORKS & UTILITIES
202 N. McDowell Blvd., PETALUMA, CALIFORNIA, 94954
PH. 707-778-4546 FAX. 707-778-4508

CITY OF PETALUMA
TERTIARY PROCESS UPGRADES PROJECT
TITLE SHEET, LOCATION MAP AND SIGNATURES

SHEET
G01B
1 OF 56

Plot Date: 28-SEP-2022 12:39:58 PM

User: svcPW

PlotScale: 1:1

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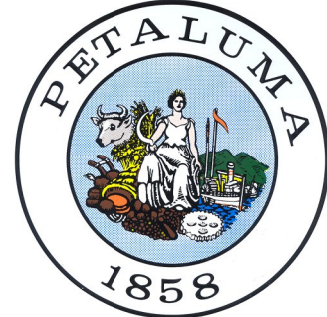
Model: Layout1 ColorTable: gshade.ctb

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SHEET NUMBER	DRAWING NUMBER	DESCRIPTION
<u>GENERAL DRAWINGS</u>		
1	G01B	COVER SHEET AND MAP
2	G02B	DRAWING INDEX
3	G03B	DESIGN CRITERIA
4	G04B	OVERALL SITE PLAN
5	G05B	PLANT FLOW SCHEMATIC - LIQUID PROCESS
6	G06B	TERTIARY PROCESS HYDRAULIC PROFILE
7	G07B	ABBREVIATIONS
8	G08B	GENERAL NOTES AND SYMBOLOGY
9	G09B	CIVIL SYMBOLOGY
10	G10B	STRUCTURAL NOTES - I
11	G11B	STRUCTURAL NOTES - II
12	G12B	GENERAL MECHANICAL SYMBOLOGY
13	G13B	MECHANICAL AND CIVIL NOTES
<u>TYPICAL DETAILS</u>		
14	TA01B	TYPICAL ARCHITECTURAL DETAILS
15	TA02B	TYPICAL ARCHITECTURAL DETAILS
16	TC01B	TYPICAL CIVIL DETAILS
17	TM01B	TYPICAL MECHANICAL DETAILS
18	TN01B	TYPICAL INSTRUMENTATION DETAILS
19	TP01B	TYPICAL PIPING DETAILS
20	TS01B	TYPICAL STRUCTURAL DETAILS
21	TS02B	TYPICAL STRUCTURAL DETAILS
<u>DEMOLITION</u>		
22	D01B	OVERALL SITE PLAN
23	08D01	UV DISINFECTION - PLAN AND SECTION
24	08D02	TERTIARY EFFLUENT METER VAULT - PLAN AND SECTION
<u>CIVIL</u>		
25	C01B	OVERALL SITE PLAN
26	C02B	GRADING AND DRAINAGE - PARTIAL PLAN
<u>STRUCTURAL</u>		
27	08S01	UV DISINFECTION CANOPY - FOUNDATION PLAN
28	08S02	UV DISINFECTION CANOPY - ROOF FRAMING PLAN
29	08S03	UV DISINFECTION CANOPY - SECTIONS
<u>MECHANICAL</u>		
30	08M01	UV DISINFECTION - PLAN
31	08M02	UV DISINFECTION - SECTIONS
32	08M03	TERTIARY EFFLUENT METER VAULT - PLAN AND SECTION
<u>ELECTRICAL</u>		
33	GE01B	LEGEND
34	GE02B	ABBREVIATIONS
35	GE03B	SCHEMATIC SYMBOLS
36	E01B	OVERALL SITE PLAN
37	E03B	PARTIAL SITE PLAN - II
38	E05B	DUCT BANK SECTIONS - I
39	E09B	09-MCC-A ELEVATION MODIFICATION
40	E10B	09-MCC-A ONE-LINE DIAGRAM - I MODIFICATION
41	E11B	09-MCC-A ONE-LINE DIAGRAM - II MODIFICATION
42		NOT USED
43	08E01B	UV DISINFECTION - POWER PLAN - I
44	08E02B	UV DISINFECTION - POWER PLAN - II
45	08E03B	TERTIARY EFFLUENT METER VAULT - POWER AND LIGHTING PLAN
46	09E01B	09-MCC-A BUILDING - POWER, GROUNDING AND LIGHTING PLANS
<u>INSTRUMENTATION & CONTROLS</u>		
47	GN01B	SYMBOLS AND ABBREVIATIONS - I
48	GN02B	SYMBOLS AND ABBREVIATIONS - II
49	GN03B	SYMBOLS AND ABBREVIATIONS - III
50	GN04B	SYMBOLS AND ABBREVIATIONS - IV
51	00N01B	NETWORK DIAGRAM
52	00N02B	NETWORK I/O TABLES
53	08N01	UV DISINFECTION
54	08N02	UV DISINFECTION CHANNEL 1
55	08N03	UV DISINFECTION CHANNEL 2
56	08N04	UV DISINFECTION CHANNEL 3

REV	DATE	BY	DESCRIPTION

DESIGNED PK
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DATE SEPTEMBER 2022



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
GENERAL
DRAWING INDEX

VERIFY SCALES
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JOB NO. 7310L.10
DRAWING NO. G02B
SHEET NO. 2 OF 56

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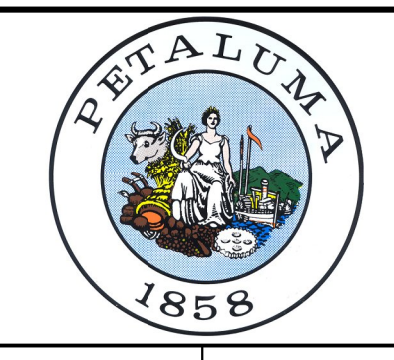
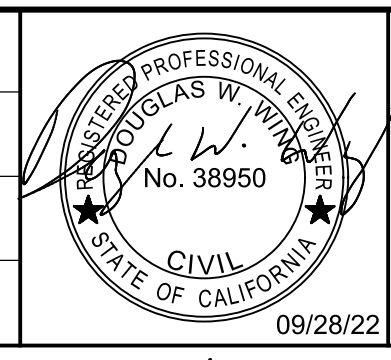
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KEY NOTES:

- 1 BASED ON ORIGINAL DESIGN CRITERIA 2005.
- 2 BASED ON AVERAGE AND MAXIMUM TSS OF 10 MG/L AND 15 MG/L, RESPECTIVELY.

	UNITS	EXISTING QUANTITY	NEW QUANTITY		UNITS	EXISTING QUANTITY	NEW QUANTITY	FUTURE BUILDOUT
INFLUENT CHARACTERISTICS				TERTIARY FILTERS 1 - 5				
<u>FLOW</u>				<u>TYPE</u>				
AVERAGE DRY WEATHER FLOW (ADWF)	MGD	6.7	6.7	1	--	CONTINUOUS BACKWASH	--	--
AVERAGE ANNUAL FLOW (AAF)	MGD	8	8		--		--	--
AVERAGE DAY MAXIMUM MONTH FLOW (ADMFM)	MGD	12	12		--		--	--
PEAK HOUR WET WEATHER FLOW (PHWWF)	MGD	36	36		SF	50	--	--
<u>AVERAGE ANNUAL BOD</u>					SF	750	--	--
LOAD	PPD	18,348	26,021	<u>HYDRAULIC LOADING</u>				
CONCENTRATION	MG/L	275	390	AVERAGE DAY @ 2.0 MGD				
<u>AVERAGE ANNUAL TSS</u>					GPM/SF	1.9	--	--
LOAD	PPD	18,348	18,682	MAXIMUM DAY @ 5.2 MGD				
CONCENTRATION	MG/L	275	280	AIR CONSUMPTION				
TITLE 22 REUSE FLOW					SCFM	45	--	--
MINIMUM	MGD	0.5	0.5	<u>BACKWASH (BW)</u>				
AVERAGE DAY	MGD	2	4	AVERAGE BW RATE @ 2.0 MGD				
MAXIMUM DAY	MGD	5.2	7.8	MAXIMUM BW RATE @ 5.2 MGD				
RECYCLED WATER TREATMENT AND PUMPING				TERTIARY FILTERS 6 & 7				
<u>TERTIARY PUMP STATION</u>				<u>TYPE</u>				
TYPE	--	SUBMERSIBLE	SUBMERSIBLE	--	--	--	--	CLOTH MEDIA DISK
NUMBER	--			--	--	--	--	2
HIGH FLOW	--	2	4	--	--	--	--	16
LOW FLOW	--	1	1	--	--	--	--	53.8
CAPACITY, EACH	MGD	2@2.6, 1@1.3	4@2.6, 1@1.3	--	--	--	--	1722
MOTOR SIZE	HP	2@40, 1@5	4@40, 1@5	<u>DESIGN FLOWS</u>				
<u>PRETREATMENT</u>				AVERAGE DAY				
<u>FLASH MIX</u>				MAXIMUM DAY				
TYPE	--	VERTICAL IMPELLER	VERTICAL IMPELLER	HYDRAULIC LOADING (BOTH UNITS ONLINE)				
DETENTION TIME	SEC	10	10	AVERAGE DAY @ 4.0 MGD				
BASIN DIMENSIONS	FT	4 x 4	4 x 4	MAXIMUM DAY @ 7.6 MGD				
SWD	FT	4 - 6	4 - 6	SOLIDS LOADING (BOTH UNITS ONLINE)				
MIXING GRADIENT	G	600	600	AVERAGE DAY @ 4.0 MGD				
MIXING POWER	HP	1.5	1.5	MAXIMUM DAY @ 7.6 MGD				
<u>FLOCCULATION - STAGE 1</u>				PPD/SF				
TYPE	--	VERTICAL IMPELLER	VERTICAL IMPELLER	PPD/SF				
DETENTION TIME	MIN	7	7	UV DISINFECTION				
BASIN DIMENSIONS	FT	12 x 12	12 x 12	NUMBER OF CHANNELS				
SWD	FT	16 - 18	16 - 18	FLOW				
MIXING GRADIENT	G	60 - 110	60 - 110	DOSE				
MIXING POWER	HP	2	2	TRANSMITTANCE				
<u>FLOCCULATION - STAGE 2</u>				%				
TYPE	--	VERTICAL IMPELLER	VERTICAL IMPELLER	2				
DETENTION TIME	MIN	7	7	5.2				
BASIN DIMENSIONS	FT	12 x 12	12 x 12	100				
SWD	FT	16 - 18	16 - 18	55				
MIXING GRADIENT	G	20 - 60	20 - 60	--				
MIXING POWER	HP	1	1	64				

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DATE	SEPTEMBER 2022		
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CITY OF PETALUMA
 UV DISINFECTION UPGRADES PROJECT
 GENERAL
 DESIGN CRITERIA

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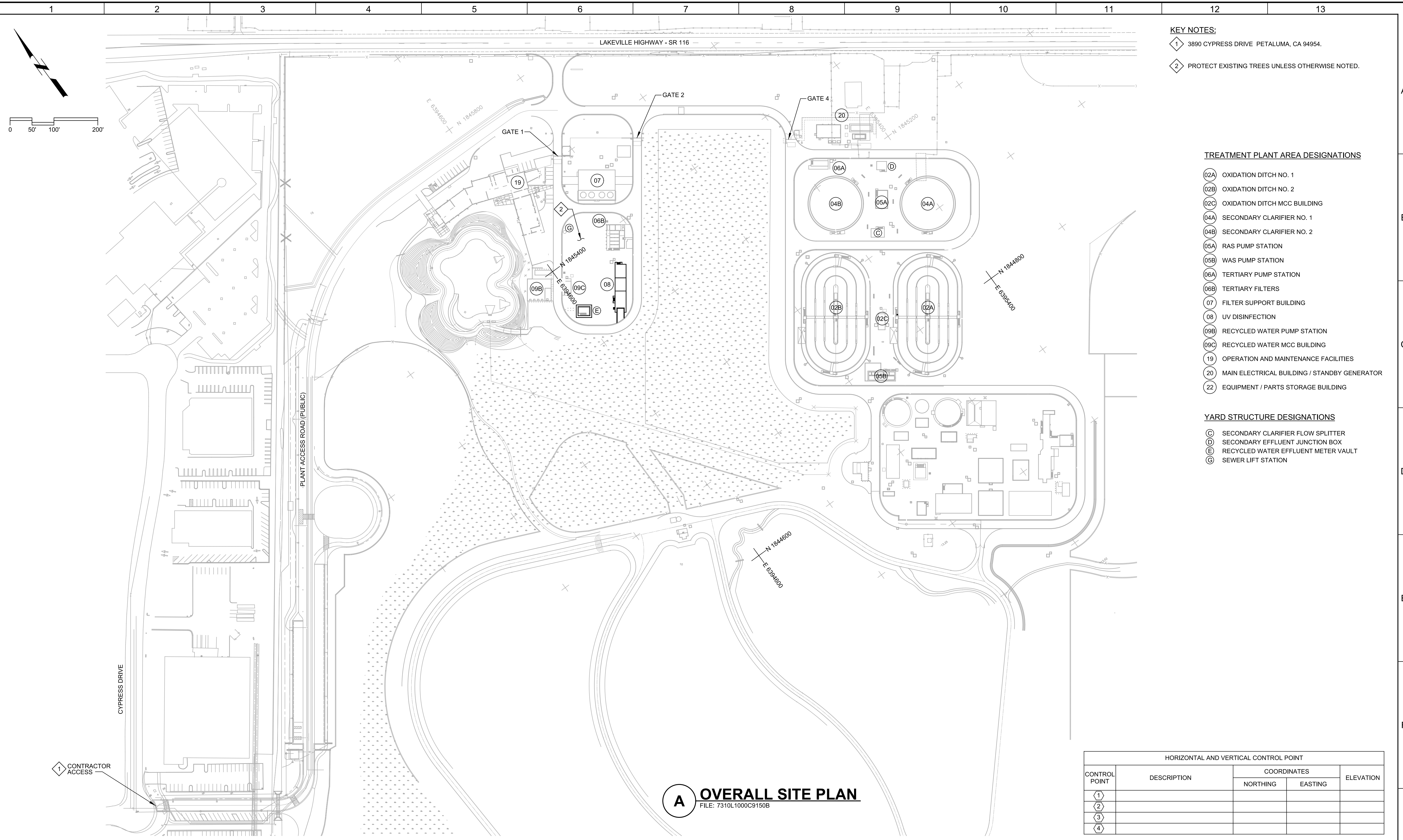
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 SHEET NO. 3 OF 56

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- KEY NOTES:**
- 1 3890 CYPRESS DRIVE PETALUMA, CA 94954.
 - 2 PROTECT EXISTING TREES UNLESS OTHERWISE NOTED.

TREATMENT PLANT AREA DESIGNATIONS

- 02A OXIDATION DITCH NO. 1
- 02B OXIDATION DITCH NO. 2
- 02C OXIDATION DITCH MCC BUILDING
- 04A SECONDARY CLARIFIER NO. 1
- 04B SECONDARY CLARIFIER NO. 2
- 05A RAS PUMP STATION
- 05B WAS PUMP STATION
- 06A TERTIARY PUMP STATION
- 06B TERTIARY FILTERS
- 07 FILTER SUPPORT BUILDING
- 08 UV DISINFECTION
- 09B RECYCLED WATER PUMP STATION
- 09C RECYCLED WATER MCC BUILDING
- 19 OPERATION AND MAINTENANCE FACILITIES
- 20 MAIN ELECTRICAL BUILDING / STANDBY GENERATOR
- 22 EQUIPMENT / PARTS STORAGE BUILDING

YARD STRUCTURE DESIGNATIONS

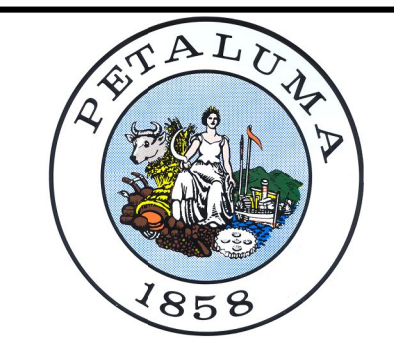
- 03 SECONDARY CLARIFIER FLOW SPLITTER
- 04 SECONDARY EFFLUENT JUNCTION BOX
- 05 RECYCLED WATER EFFLUENT METER VAULT
- 06 SEWER LIFT STATION

A OVERALL SITE PLAN
FILE: 7310L1000C9150B

HORIZONTAL AND VERTICAL CONTROL POINT				
CONTROL POINT	DESCRIPTION	COORDINATES		ELEVATION
		NORTHING	EASTING	
1				
2				
3				
4				

REV	DATE	BY	DESCRIPTION
1			
2			
3			

DESIGNED PK
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DATE SEPTEMBER 2022



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
GENERAL
OVERALL SITE PLAN

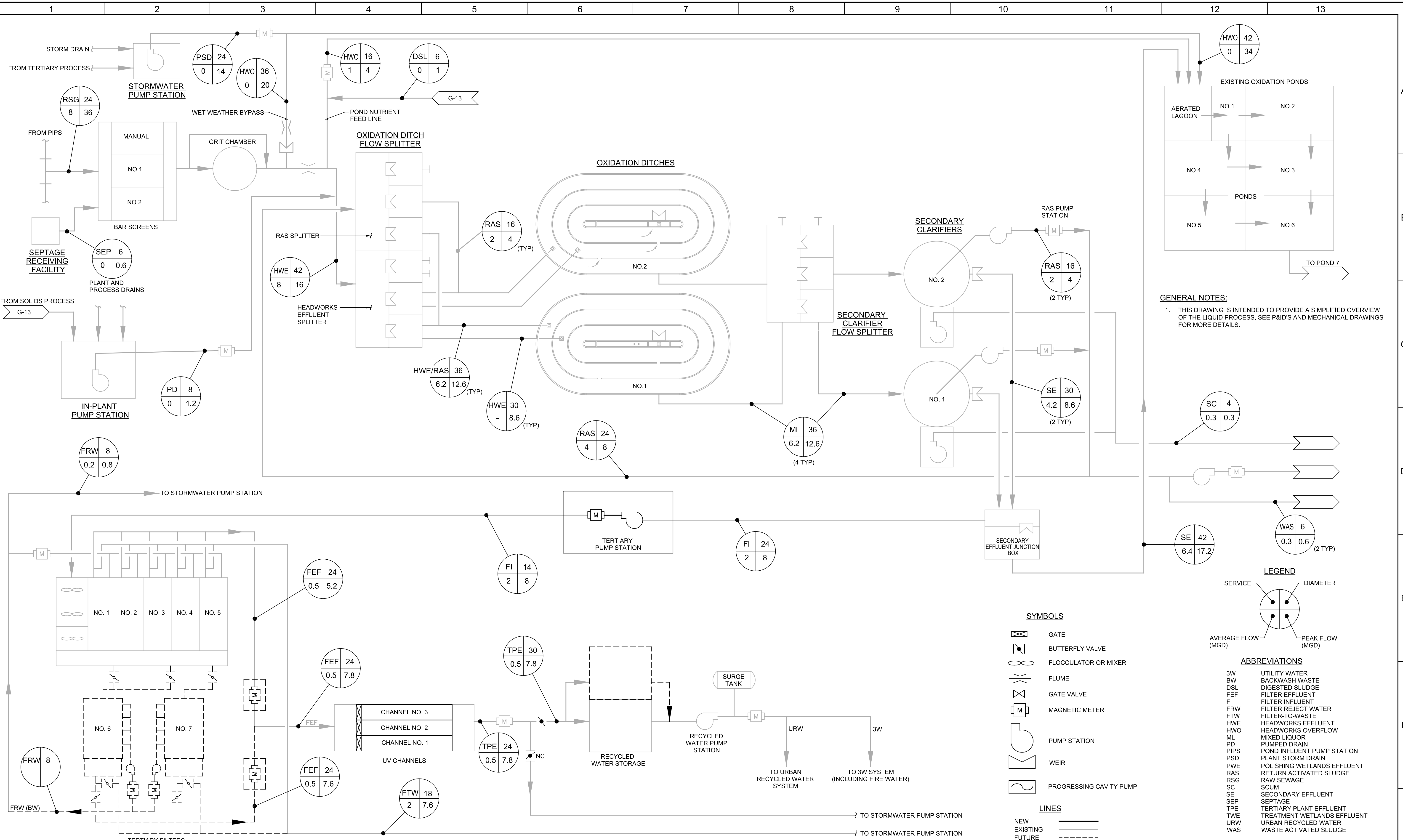
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DRAWING NO. G04B
SHEET NO. 4 OF 56

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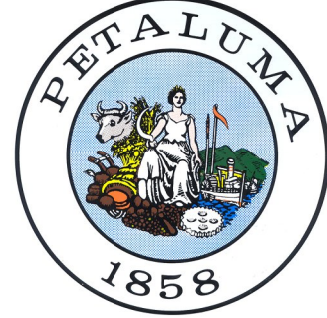
GENERAL NOTES:
 1. THIS DRAWING IS INTENDED TO PROVIDE A SIMPLIFIED OVERVIEW OF THE LIQUID PROCESS. SEE P&ID'S AND MECHANICAL DRAWINGS FOR MORE DETAILS.

- SYMBOLS**
- GATE
 - BUTTERFLY VALVE
 - FLOCCULATOR OR MIXER
 - FLUME
 - GATE VALVE
 - MAGNETIC METER
 - PUMP STATION
 - WEIR
 - PROGRESSING CAVITY PUMP
- LINES**
- NEW
 - EXISTING
 - FUTURE

- LEGEND**
- SERVICE
- DIAMETER
- AVERAGE FLOW (MGD)
- PEAK FLOW (MGD)
- ABBREVIATIONS**
- 3W UTILITY WATER
 - BW BACKWASH WASTE
 - DSL DIGESTED SLUDGE
 - FEF FILTER EFFLUENT
 - FI FILTER INFLUENT
 - FRW FILTER REJECT WATER
 - FTW FILTER-TO-WASTE
 - HWE HEADWORKS EFFLUENT
 - HWO HEADWORKS OVERFLOW
 - ML MIXED LIQUOR
 - PD PUMPED DRAIN
 - PIPS POND INFLUENT PUMP STATION
 - PSD PLANT STORM DRAIN
 - PWE POLISHING WETLANDS EFFLUENT
 - RAS RETURN ACTIVATED SLUDGE
 - RSG RAW SEWAGE
 - SC SCUM
 - SE SECONDARY EFFLUENT
 - SEP SEPTAGE
 - TPE TERTIARY PLANT EFFLUENT
 - TWE TREATMENT WETLANDS EFFLUENT
 - URW URBAN RECYCLED WATER
 - WAS WASTE ACTIVATED SLUDGE

REV	DATE	BY	DESCRIPTION

DESIGNED PK
 DRAWN DPF
 CHECKED DWW
 DATE SEPTEMBER 2022



CITY OF PETALUMA
 UV DISINFECTION UPGRADES PROJECT
 GENERAL
 PLANT FLOW SCHEMATIC
 LIQUID PROCESS

VERIFY SCALES
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JOB NO. 7310L.10
 DRAWING NO. G05B
 SHEET NO. 5 OF 56

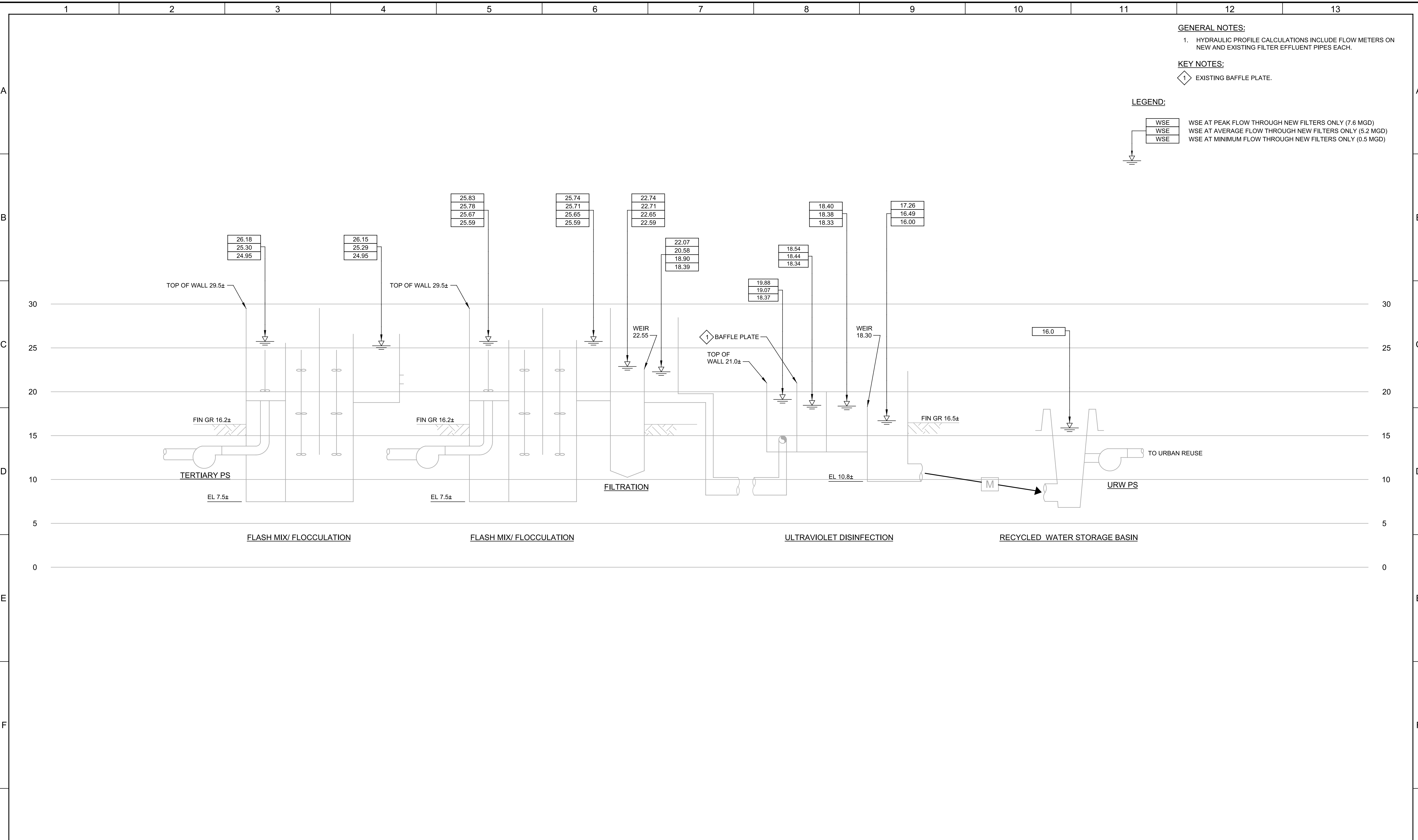
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GENERAL NOTES:
 1. HYDRAULIC PROFILE CALCULATIONS INCLUDE FLOW METERS ON NEW AND EXISTING FILTER EFFLUENT PIPES EACH.

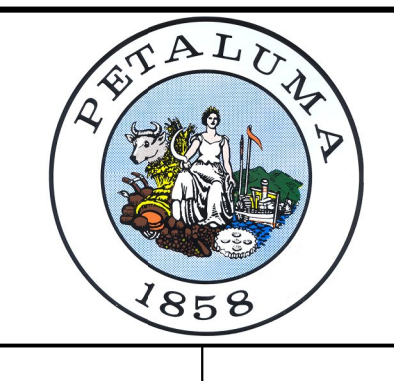
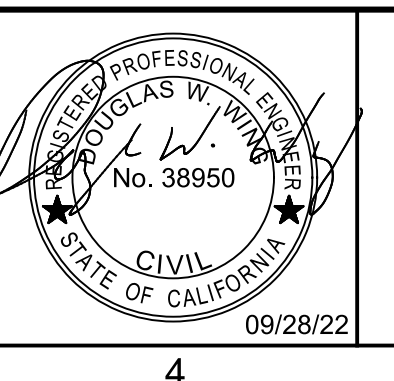
KEY NOTES:
 1 EXISTING BAFFLE PLATE.

LEGEND:

WSE	WSE AT PEAK FLOW THROUGH NEW FILTERS ONLY (7.6 MGD)
WSE	WSE AT AVERAGE FLOW THROUGH NEW FILTERS ONLY (5.2 MGD)
WSE	WSE AT MINIMUM FLOW THROUGH NEW FILTERS ONLY (0.5 MGD)

REV	DATE	BY	DESCRIPTION
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DESIGNED PK
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 CHECKED DWW
 DATE SEPTEMBER 2022

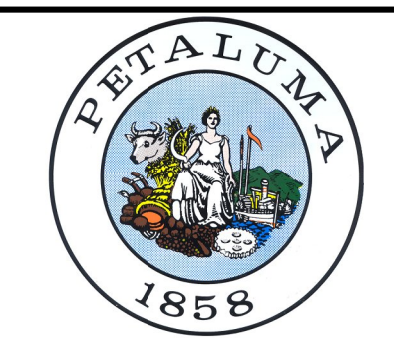


CITY OF PETALUMA		VERIFY SCALES	JOB NO. 7310L.10
UV DISINFECTION UPGRADES PROJECT		BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. G06B
GENERAL		0 1"	SHEET NO. 6 OF 56
TERTIARY PROCESS HYDRAULIC PROFILE		IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	

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Table with 13 columns and multiple rows containing abbreviations and their corresponding full names. Columns are labeled 1 through 13. Rows are grouped by letter (A, B, C, D, E, F, G) and contain various engineering terms like 'ANCHOR BOLT', 'CONCRETE ANCHOR', 'ELECTRICAL MANHOLE', etc.

- GENERAL NOTES:
1. NOT ALL ABBREVIATIONS SHOWN ON THIS DRAWING ARE USED ON THIS PROJECT. SEE OTHER DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL ABBREVIATIONS THAT MAY BE USED ON THIS PROJECT.
2. FOR PROCESS PIPING ABBREVIATIONS, SEE SHEET G05 AND G12.
3. FOR STRUCTURAL ABBREVIATIONS, SEE SHEET G10.
4. FOR ELECTRICAL ABBREVIATIONS, SEE SHEETS GE01 AND GE02.
5. FOR INSTRUMENTATION ABBREVIATIONS, SEE SHEETS GN01, GN02, GN03, AND GN04.



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
GENERAL ABBREVIATIONS
VERIFY SCALES
JOB NO. 7310L.10
DRAWING NO. G07B
SHEET NO. 7 OF 56

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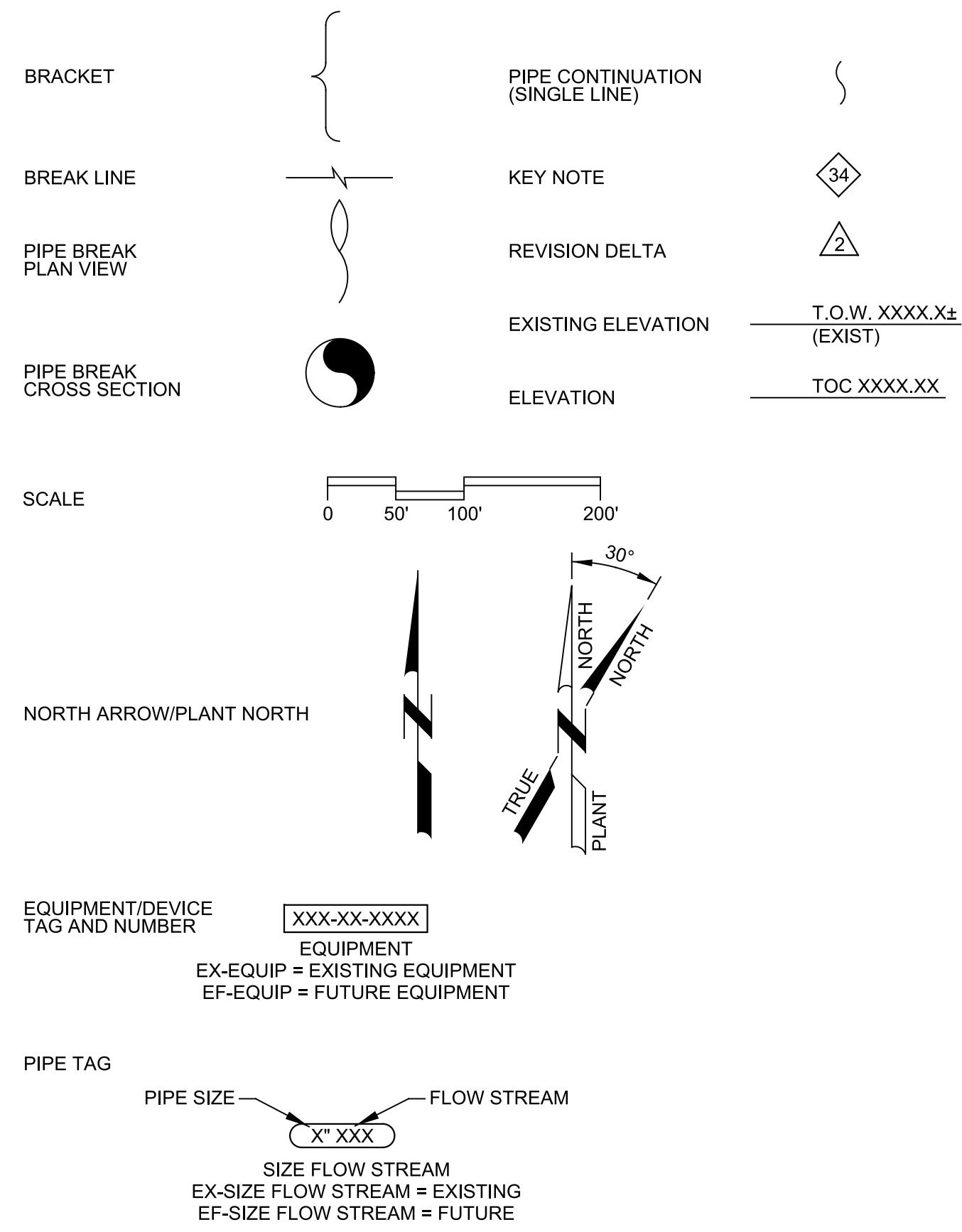
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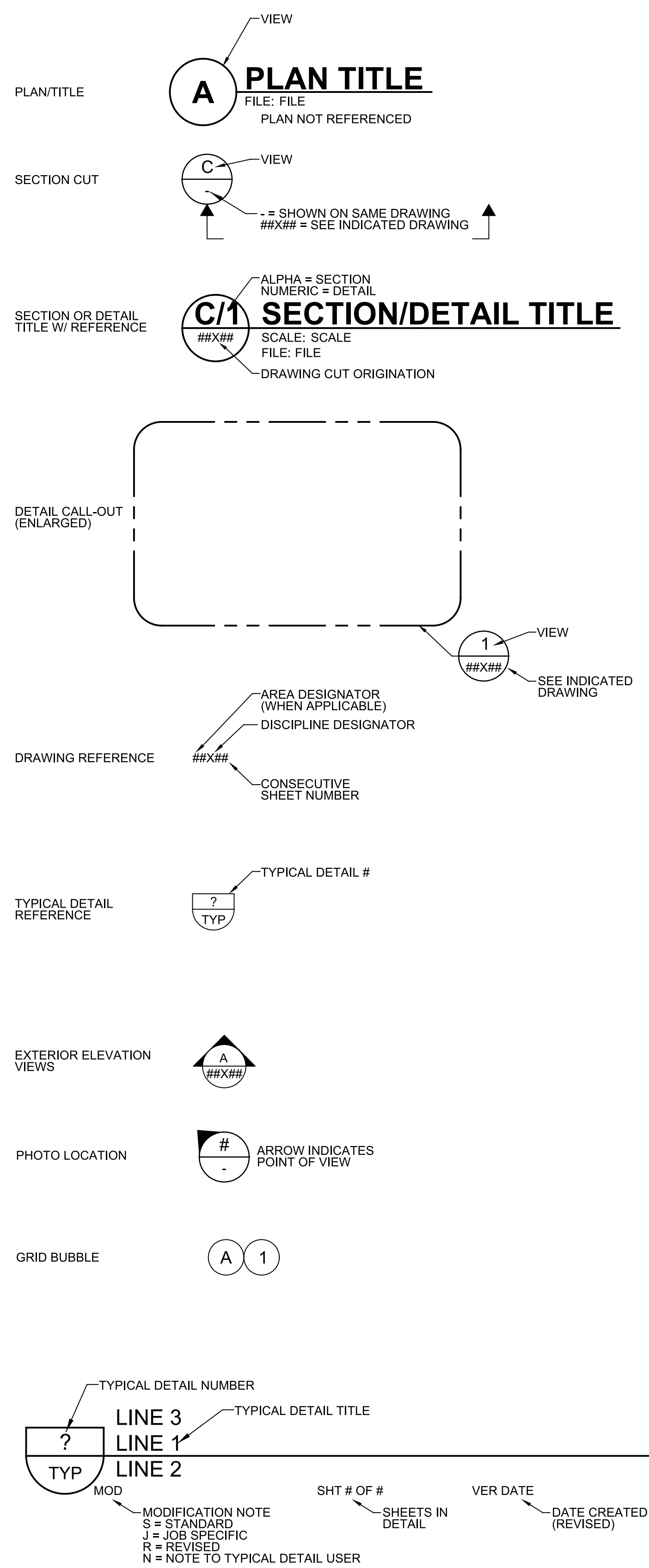
GENERAL NOTES

- FOLLOWING NOTES ARE GENERAL AND APPLY TO ALL SHEETS OF THESE CONTRACT DOCUMENTS AS IF THEY WERE WRITTEN IN THEIR ENTIRETY ON EACH SHEET.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE STARTING WORK AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS INCLUDING LOCATION AND DIMENSIONS OF ALL EXISTING CONSTRUCTION AND UTILITIES. CONTRACTOR SHALL NOTIFY ENGINEER IF THERE IS A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONSTRUCTION BEFORE PROCEEDING WITH WORK.
- UNLESS DETAILED, SPECIFIED, OR OTHERWISE INDICATED ON THE DRAWINGS, CONSTRUCTION SHALL BE AS INDICATED IN THE APPLICABLE TYPICAL DETAILS AND GENERAL NOTES. TYPICAL DETAILS SHALL APPLY EVEN THOUGH NOT REFERENCED AT SPECIFIC LOCATIONS ON DRAWINGS.
- WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF WORK. DETAILS SHALL BE IN THE SAME AS FOR OTHER SIMILAR WORK.
- CONTRACTOR SHALL COMPLY WITH STATE AND LOCAL CONSTRUCTION STORM WATER AND SANITARY DISCHARGE REGULATIONS AND REQUIREMENTS.
- PRIOR TO EXCAVATION FOR NEW STRUCTURES, ELECTRICAL CONDUIT, FABRICATION OF NEW PIPING AND/OR OTHER PROPOSED UTILITIES, CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING PIPING AND UTILITIES IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL TEMPORARILY RELOCATE CONFLICTING EXISTING UTILITIES AT TIE-IN CONNECTION LOCATIONS AND REINSTALL THEM AS REQUIRED TO ELIMINATE THE CONFLICT AT NO ADDITIONAL COST TO THE OWNER.
- ALL PIPELINES 12" AND LARGER SHALL HAVE A MINIMUM COVER OF 36" UNLESS THE COVER DEPTH IS SPECIFICALLY INDICATED ON THE DRAWINGS. PIPE SMALLER THAN 12" SHALL HAVE A MINIMUM COVER OF 30" UNLESS NOTED OTHERWISE. PIPES SHALL BE ROUTED AS SHOWN UNLESS MINOR REVISIONS ARE NECESSARY TO MISS EXISTING PIPES, STRUCTURES, ETC. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL FITTINGS AND ADAPTERS REQUIRED TO MAKE THE ROUTING CHANGES AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL INCLUDE COST FOR THIS IN THE BID.
- EXISTING FACILITY AND UTILITY INFORMATION SHOWN ON THE DRAWINGS WAS OBTAINED FROM AVAILABLE RECORDS OR ELECTRONIC FILES. NEITHER THE OWNER NOR ENGINEER ASSUMES ANY RESPONSIBILITY FOR FACILITIES AND UTILITIES NOT SHOWN OR NOT IN THE LOCATION SHOWN. THE CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS, SIZES, MATERIAL TYPES, AND ELEVATIONS SHOWN AROUND OR NEAR AREAS OF NEW CONSTRUCTION PRIOR TO START OF CONSTRUCTION.
- THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT FROM DAMAGE EXISTING FACILITIES AND UTILITIES SHOWN OR NOT SHOWN THAT ARE TO REMAIN IN PLACE. ALL FACILITIES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED TO THE ORIGINAL OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE WITHOUT ADDITIONAL COMPENSATION.
- CONTRACTOR SHALL MAKE CONNECTIONS TO EXISTING PIPE, EQUIPMENT, ETC. AS REQUIRED AND SHALL PROVIDE ALL FITTINGS, ADAPTERS, AND APPURTENANCES REQUIRED TO MAKE THE CONNECTIONS. PROVIDE ALL SUPPORTS REQUIRED FOR A RIGIDLY SUPPORTED COMPLETE AND WORKING SYSTEM.
- ADJUST ALL VALVE BOXES, VAULTS, PULL BOXES, AND MANHOLES TO FINISHED GRADE UNLESS OTHERWISE SHOWN OR DIRECTED. MANHOLES IN OPEN FIELDS SHALL BE SET TWELVE INCHES ABOVE FINISHED GRADE AND VAULTS SHALL BE SIX INCHES ABOVE FINISHED GRADE.
- THE CONTRACTOR SHALL CONTACT THE PROPER UTILITY REPRESENTATIVE AS FOLLOWS FOR QUESTIONS OR COORDINATION OF CONSTRUCTION RELATED TO EXISTING UTILITIES.
- CONTRACTOR SHALL VERIFY THAT PIPING SHOWN TO BE ABANDONED OR AS ABANDONED PREVIOUSLY IS NO LONGER IN SERVICE. LINES IN SERVICE SHALL BE MAINTAINED UNTIL NO LONGER REQUIRED BY THE PLANT.
- ALL EXISTING PIPES THAT ARE TO BE ABANDONED IN PLACE OR REMOVED MAY NOT BE SHOWN. WHERE PIPING IS TO BE ABANDONED AND MUST REMAIN IN SERVICE UNTIL COMPLETION OF OTHER PHASES OF WORK, AND IT CONFLICTS WITH NEW PIPING, TEMPORARILY RELOCATE PIPING AS REQUIRED TO MAINTAIN SERVICE BY THE PLANT.
- CONTRACTOR SHALL REROUTE THE EXISTING PIPING IF REQUIRED TO MISS THE PROPOSED STRUCTURES. THE EXISTING PIPE SHALL REMAIN IN SERVICE UNTIL NEW PIPING IS READY TO BE PLACED INTO SERVICE. DOWNTIME SHALL BE A MAXIMUM OF 2 HOURS, UNLESS SPECIFIED OR SHOWN OTHERWISE.
- ALL SIDEWALKS TO BE 4'-0" WIDE UNLESS SHOWN OTHERWISE.
- THE CONTRACTOR SHALL TAKE SPECIAL PRECAUTIONS IN THE VICINITY OF ANY OVERHEAD ELECTRIC LINES. CONTRACTOR SHALL ABIDE BY THE NATIONAL ELECTRIC CODE AND ANY REQUIREMENT BY THE OWNER OF THE ELECTRIC LINES.
- PROVIDE ALL SHEETING/SHORING REQUIRED TO PROTECT EXISTING STRUCTURES, PIPES AND FACILITIES.
- CONTRACTOR SHALL VERIFY LOCATION OF ALL ARCHITECTURAL, MECHANICAL, AND ELECTRICAL ITEMS BEFORE PLACING ANY STRUCTURAL STEEL OR CONCRETE. ALSO, STRUCTURAL DIMENSIONS AND OPENINGS CONTROLLED BY ARCHITECTURAL, MECHANICAL, OR ELECTRICAL EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- MECHANICAL AND ELECTRICAL EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES, AND REVEALS NOT SHOWN ON THE STRUCTURAL DRAWINGS, THAT ARE REQUIRED BY OTHER CONTRACT DRAWINGS, SHALL BE PROVIDED PRIOR TO CASTING CONCRETE.
- CONTRACTOR SHALL FOLLOW SPECIFICATION SECTION 01140 REGARDING NOTIFICATION AND COMMUNICATION WITH OWNER AND FACILITY OPERATIONS STAFF FOR START/STOP/TESTING AND INTERRUPTION OF SERVICE.

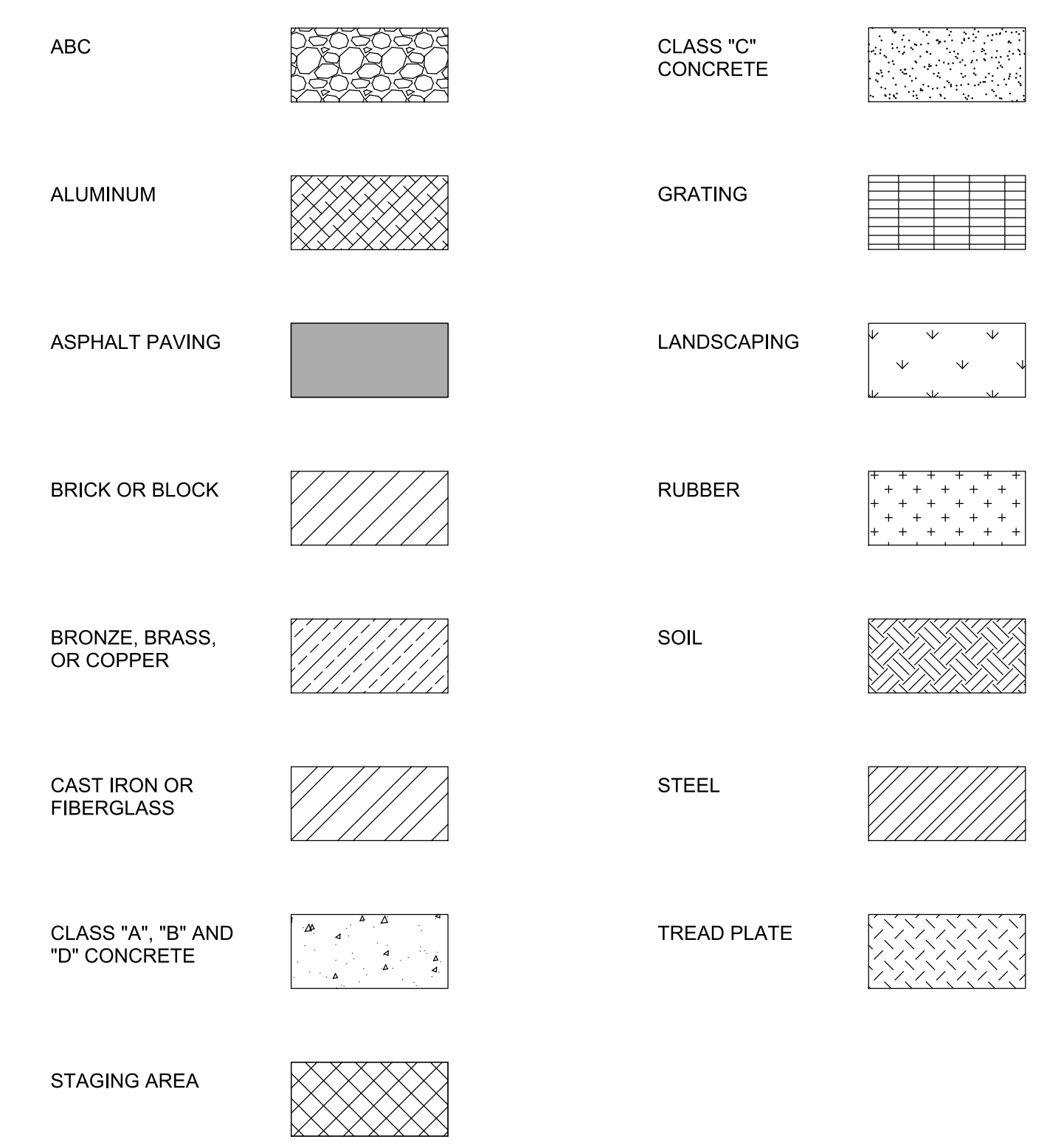
SYMBOLS



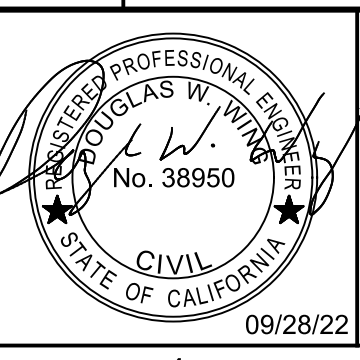
DETAIL REFERENCES



HATCH PATTERNS



DESIGNED	PK
DRAWN	JBR
CHECKED	DWW
DATE	SEPTEMBER 2022



CITY OF PETALUMA
 UV DISINFECTION UPGRADES PROJECT
 GENERAL
 GENERAL NOTES AND SYMBOLOGY

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING
 0 1" 1"
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 7310L.10
 DRAWING NO. G08B
 SHEET NO. 8 OF 56

Plot Date: 28-SEP-2022 12:41:31 PM

User: svcPW

PlotScale: 1:1

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sld_Pen_v0905.pen

LAST SAVED BY: iweich

NOTES

GENERAL PIPELINE NOTES

- DIMENSIONS TO STRUCTURES, REFERENCED PIPING, PAVING, AND OTHER IMPROVEMENTS IS APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND CONDITIONS 14 DAYS BEFORE THE CONSTRUCTION BEGINS.
- CONTRACTOR SHALL MAINTAIN A MINIMUM CLEARANCE OF 10 FEET HORIZONTAL AND 3 FEET VERTICAL BETWEEN THE SEWER LINES AND EXISTING WATER LINES.
- THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES ADJACENT TO THE WORK, THROUGHOUT THE CONSTRUCTION PERIOD.
- ALL OPEN TRENCHES, WORK AREAS AND SHAFTS SHALL HAVE A SHORING SYSTEM IN ACCORDANCE WITH OSHA, STATE AND LOCAL REQUIREMENTS.
- THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, COUNTY, AND LOCAL LAWS AND ORDINANCES RELATING TO THE SAFETY AND CHARACTER OF WORK, EQUIPMENT AND PERSONNEL. THIS INCLUDES BUT IS NOT LIMITED TO SHEETING, SHORING, BRACING, VENTILATION, CONFORMANCE WITH TRAFFIC CONTROL AND MAINTENANCE OF BARRICADES AND WARNING DEVICES.
- CONTRACTOR SHALL TAKE ALL PRACTICAL PRECAUTIONS TO MINIMIZE DISTURBANCES TO STREAMS, VEGETATION, TREES AND CROP LANDS. WHEREVER PRACTICAL LEAVE EXISTING TREES AND VEGETATED AREAS UNDISTURBED.

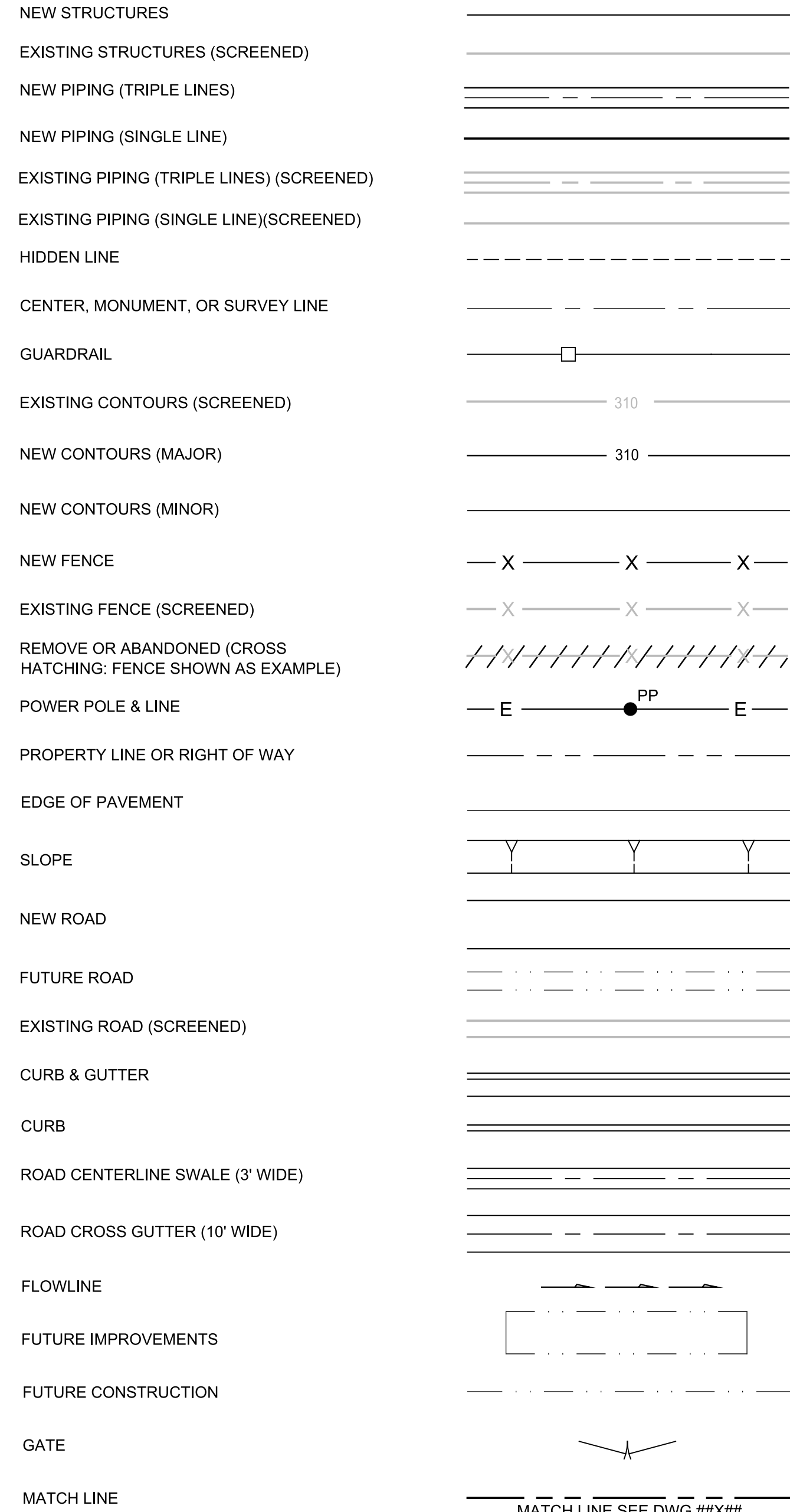
UTILITY NOTES

- EXISTING UTILITIES IN THE PROJECT MAY BE IN A FRAGILE CONDITION. THE CONTRACTOR SHALL EXERCISE NECESSARY CAUTION WHEN WORKING NEAR EXISTING UTILITIES.
- PLAN LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES ARE BASED ON RECORD DRAWINGS, POTHOLING AND SURVEY INFORMATION AND ARE CONSIDERED APPROXIMATE ONLY. WHERE NO ELEVATIONS ARE SHOWN, NO INFORMATION WAS AVAILABLE DURING THE DESIGN PERIOD.
- SOME UTILITY SERVICES MAY NOT BE SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL TAKE NECESSARY MEASURES TO LOCATE AND PROTECT SERVICE DURING CONSTRUCTION.
- THE LOCATION, SIZE, AND MATERIALS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE DRAWINGS ARE APPROXIMATE AND ARE SHOWN FOR BIDDING PURPOSES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR POT HOLING TO CONFIRM BURIED PIPING LOCATION / ELEVATION PRIOR TO ANY EXCAVATION ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF EXISTING UTILITIES.

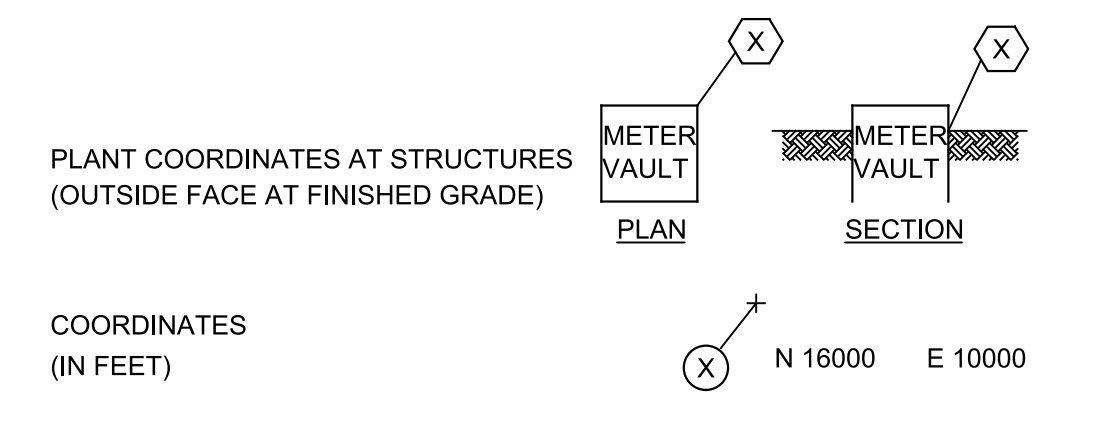
EARTHWORK NOTES

- CLEAR THE CONSTRUCTION AREA OF NATURAL OBSTRUCTIONS EXISTING FOUNDATIONS, BUILDINGS, FENCES, LUMBER, WALLS, STUMPS, BRUSH, WEEDS, RUBBISH, TREES, BOULDERS, AND ANY OTHER ITEMS WHICH INTERFERES WITH CONSTRUCTION OPERATIONS OR ARE DESIGNATED FOR REMOVAL.
- GRUB OUT AND DISPOSE OF TREE TRUNKS AND ROOT MATERIAL BELOW THE GROUND SURFACE REMAINING AFTER CLEARING.
- STRIP AND STOCKPILE THE TOPSOIL. THE DEPTH OF STRIPPING SHALL BE ESTIMATED TO BE 12-INCHES BUT WILL BE DETERMINED IN THE FIELD AS SOIL CONDITIONS DICTATE.
- REPLACE STOCKPILED SOIL AND RESTORE SITE AS SPECIFIED.
- ROCK AND AGGREGATE STORAGE AREAS SHALL BE RESTORED BY EXCAVATING ANY SOILS CONTAINING ROCK OR AGGREGATE AND BACKFILLING WITH TOPSOIL. SOIL REMOVED MAY BE USED FOR TRENCH BACKFILL ABOVE THE PIPE ZONE AND 3 FEET BELOW FINISHED GRADE.
- PROTECT TREES AND LANDSCAPING UNLESS OTHERWISE NOTED.

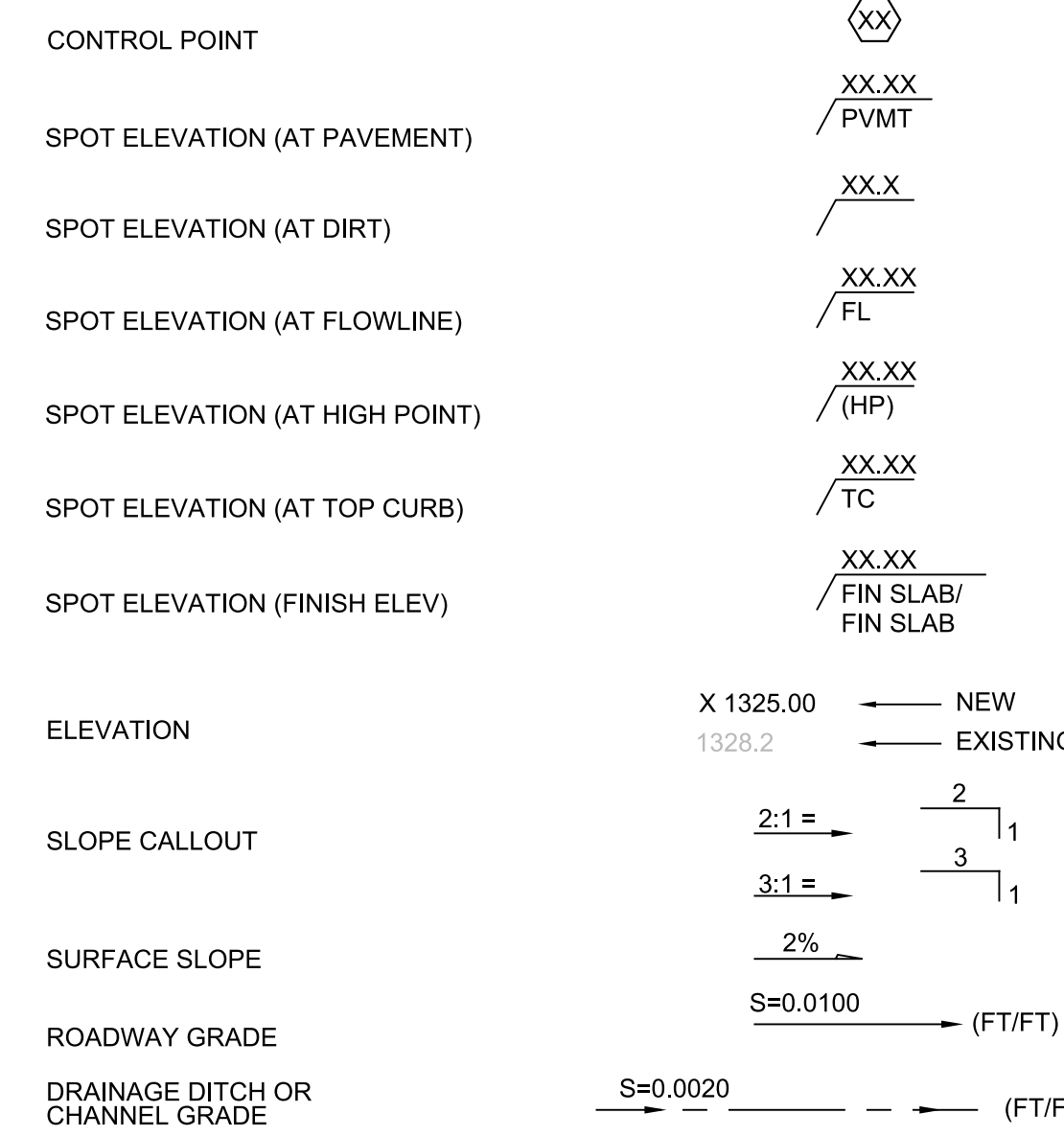
LINE WORK



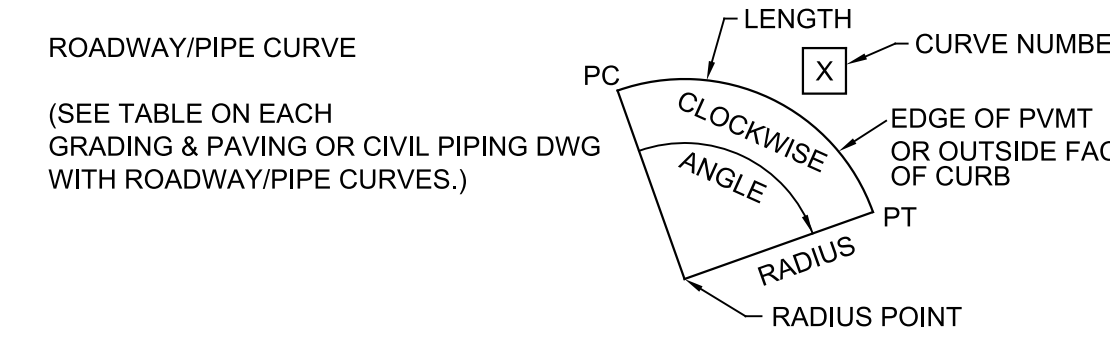
COORDINATES



ELEVATION/SLOPES



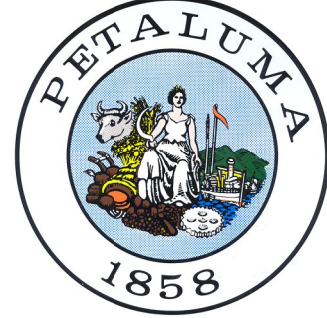
ROADWAY/PIPE CURVES



SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	BENCH MARK		TRANSIT POINT		FLANGE
	VERTICAL CONTROL POINT		ANCHOR POINT		VALVE
	MONUMENT		PARSHALL FLUME		CLOSED VALVE
	SOIL BORING LOCATIONS		GUARD POST		VALVE W/ CONNECTION
	TEST BORING LOCATIONS		HEADWALL		CLOSED VALVE W/ CONNECTION
	PERCOLATION TEST LOCATIONS		ROCK WALL		OPERATOR/ OPERATOR CLOSED
	POTHOLE/ POTHOLE NUMBER		RIP RAP		VALVE W/ OPERATOR
	IRON PIN		SHRUB/HEDGE		CLOSED VALVE W/ OPERATOR
	IRON ROD		TREE		VALVE W/ OPERATOR AND CONNECTION
	DATUM POINT		SIGN/SIGN POST		CLOSED VALVE W/ OPERATOR AND CONNECTION
	LIGHT		LIGHT POLE		VALVE W/ TWO CONNECTIONS
	HIGH LIGHT POLE		TRAFFIC LIGHT POLE		VALVE W/ OPERATOR AND TWO CONNECTIONS
	FLOW ARROW		TRAFFIC LIGHT POLE		GATE VALVE W/ BLIND FLANGE AND CONNECTION
	FLOW/SLOPE DIRECTION		SINGLE TRAFFIC LIGHT POLE		CHECK VALVE
	DIRECTION ARROW		GUYED LIGHT POLE		PLUG VALVE
	PROPERTY HOOK		UTILITY POLE		CLOSED PLUG VALVE
	MANHOLE (PLAN)		UTILITY POLE GUY WIRE		PIPE CAP OR CONNECTION
	MANHOLE (PROFILE)		POWER POLE		CAP OR TURN DOWN
	CURB MANHOLE		PA SPEAKER		CROSS
	CATCH BASIN (SQUARE)		2 WAY PA SPEAKER		REDUCER
	CATCH BASIN (ROUND)		3 WAY PA SPEAKER		REDUCER W/ CONNECTION
	DROP INLET		4 WAY PA SPEAKER		REDUCER W/ CONNECTION
	DROP MANHOLE		FIRE HYDRANT - 2 WAY		REDUCER FLANGED
	ELECTRICAL MANHOLE AND PULL BOX		FIRE HYDRANT - 3 WAY		REDUCER W/ FLANGE AND CONNECTION
	PULL BOX		YARD HYDRANT		REDUCER W/ TWO CONNECTIONS
	TELEPHONE PEDESTAL		CLEANOUT		FLANGED TEE
	CABLE TV		AIR RELEASE VALVE		TEE W/ CONNECTIONS
	X JUNCTION BOX		BLOW OFF VALVE		TEE W/ FLANGE AND CONNECTIONS
	JUNCTION BOX		HOSE BIBB		BURIED VALVE
	I JUNCTION BOX		SERVICE CONNECTION		GAS VALVE OPEN/CLOSED
	POWER TOWER		GAS METER		

*** ALL SYMBOLS SHOWN AS NEW. EXISTING SYMBOLS ARE SCREENED.



CITY OF PETALUMA
 UV DISINFECTION UPGRADES PROJECT
 GENERAL
 GENERAL CIVIL SYMBOLOGY

VERIFY SCALES	JOB NO. 7310L.10
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. G09B
0 1"	SHEET NO. 9 OF 56

Plot Date: 28-SEP-2022 12:39:39 PM

User: svcPW

PlotScale: 1:1

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen

ColorTable: gshade.ctb

LAST SAVED BY: iweich

SPECIAL INSPECTION:

1. SPECIAL INSPECTION SHALL BE IN ACCORDANCE WITH THE CALIFORNIA BUILDING CODE CHAPTER 17. SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING STRUCTURAL MATERIALS AND CONSTRUCTION. SEE SPECIFICATION SECTION 01455 FOR DETAILS.

2. SPECIAL INSPECTION TABLES:

A: REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

TYPE	CONTINUOUS SPECIAL INSPECT	PERIODIC SPECIAL INSPECT	REFERENCED STANDARD (NOTE 1)	IBC REFERENCE
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	-	X	ACI 318 CH. 20, 25.2, 25.3, 26.6.1 - 26.6.3	1908.4
2. REINFORCING BAR WELDING: A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706; B. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"; C. INSPECT ALL OTHER WELDS.	- X	X X	AWS D1.4 ACI 318: 26.6.4	-
3. INSPECT ANCHORS CAST IN CONCRETE.	-	X	ACI 318: 17.8.2	-
4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBER (NOTE 2). A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4. A.	X	X	ACI 318: 17.8.2.4 ACI 318: 17.8.2	-
5. VERIFY USE OF REQUIRED DESIGN MIX.	-	X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	-	ASTM C172 ASTM C31 ACI 318: 26.5, 26.12	1908.10
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-	ACI 318: 26.5	1908.6, 1908.7, 1908.8
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X	ACI 318: 26.5.3 - 26.5.5	1908.9
9. INSPECT PRESTRESSED CONCRETE FOR: A. APPLICATION OF PRESTRESSING FORCES; B. GROUTING OF BONDED PRESTRESSING TENDONS.	X X	- -	ACI 318: 26.10	-
10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.	-	X	ACI 318: CH. 26.9	-
11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAM AND STRUCTURAL SLABS.	-	X	ACI 318: 26.11.2	-
12. INSPECT FORMWORK FOR SHAPE, LOCATIONS, AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X	ACI 318: 26.11.1 (NOTE 2)	-

NOTES:
(1) WHERE APPLICABLE, SEE ALSO CBC SECTION 1705.12, SPECIAL INSPECTION FOR SEISMIC RESISTANCE.
(2) SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH 17.8.2 IN ACI 318 OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF THE WORK.

B: ESSENTIAL ARCHITECTURAL, MECHANICAL AND ELECTRICAL INSPECTION SCHEDULE

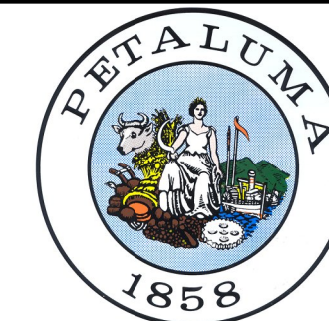
VERIFICATION AND INSPECTION	REFERENCE STANDARD	FREQUENCY OF INSPECTION	
		CONTINUOUS DURING TASK LISTED	PERIODIC DURING TASK LISTED
1. ANCHORAGE OF ELECTRICAL EQUIPMENT FOR EMERGENCY STANDBY POWER.	-	-	X
2. ANCHORAGE OF OTHER ELECTRICAL OR MECHANICAL EQUIPMENT OVER 1,000 LBS. ON FLOORS OR ROOFS.	-	-	X
3. ANCHORAGE OF DUCTS GREATER THAN 6 S.F. IN CROSS-SECTION.	-	-	X
4. ANCHORAGE OF PIPELINES GREATER THAN 8" IN DIAMETER.	-	-	X
5. STEEL STORAGE RACKS SUPPORTING PIPELINES.	-	-	X

C: REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOIL

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. VERIFY MATERIALS BELOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	-	X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-
5. PRIOR TO PLACEMENT OF CONTROLLED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	-	X

REV	DATE	BY	DESCRIPTION

DESIGNED
EJW
DRAWN
JG
CHECKED
JAD
DATE
SEPTEMBER 2022



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
GENERAL
GENERAL STRUCTURAL NOTES - II

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 7310L.10
DRAWING NO. G11B
SHEET NO. 11 OF 56

Plot Date: 28-SEP-2022 12:41:35 PM

User: svcPW

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo Std Pen_v0905.pen PlotScale: 1:1

LAST SAVED BY: mvelch

PIPING SYMBOLS

MECHANICAL SYMBOLS

FLOW STREAM IDENTIFIER

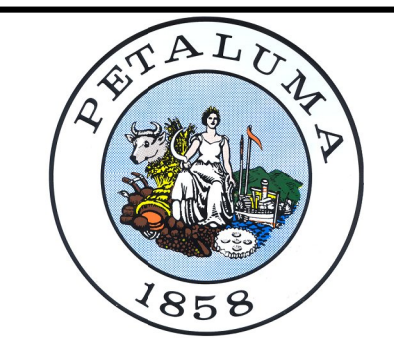
DOUBLE LINE	SINGLE LINE	DESCRIPTION	DOUBLE LINE	SINGLE LINE	DESCRIPTION
		WELDED JOINT			GATE VALVE
		GROOVED END JOINT			KNIFE GATE VALVE
		FLANGED JOINT			BUTTERFLY VALVE
		HUB & SPIGOT JOINT (RUBBER GASKET)			CHARACTERIZED BALL CONTROL VALVE
		PUSH-ON JOINT (RESTRAINED)			BALL VALVE
		ADAPTER SIDE GROOVED END ADAPTER FLANGE			GLOBE VALVE
		FLANGED COUPLING ADAPTER			3-WAY GLOBE TYPE MIXING VALVE
		FLANGED COUPLING ADAPTER WITH THRUST TIES			DIAPHRAGM VALVE
		FLEXIBLE COUPLING			PLUG VALVE
		FLEXIBLE COUPLING WITH THRUST TIES			LUBRICATED PLUG VALVE
		METAL BELLOWS EXP JOINT			ECCENTRIC PLUG VALVE
		ELASTOMER BELLOWS EXP JOINT			SWING CHECK VALVE
		FLEXIBLE COUPLING ADAPTER			WAFER CHECK VALVE
		DISMANTLING JOINT			PINCH VALVE
		RESTRAINED FLEX COUPLING			BALL CHECK VALVE
		EXPANSION COMPENSATOR			DUAL CHECK VALVE
		ELBOW UP			SILENT CHECK VALVE
		ELBOW DOWN			MUD VALVE (PLAN VIEW)
		TEE UP			NEEDLE VALVE
		TEE DOWN			CHECK BACKFLOW PREVENTER
		LATERAL UP			PIPE MATERIAL CHANGE
		LATERAL DOWN			
		CONCENTRIC REDUCER			
		ECCENTRIC REDUCER TF, BF			
		UNION			
		CAP			
		ANCHOR			
		ELBOW, 90 DEGREE			
		CROSS			
		TEE			
		ELBOW, 45 DEGREE			
		ELBOW, 22.5 DEGREE			
		ELBOW, 11.25 DEGREE			
		LATERAL			

SINGLE LINE	DESCRIPTION	SINGLE LINE	DESCRIPTION	SINGLE LINE	DESCRIPTION
	AIR OR CHEMICAL DIFFUSER		PRIMARY LEVEL ELEMENT: RADAR		STRAINER: WYE TYPE WITH BLOWOFF
	QUICK DISCONNECT HIGH PRESSURE AIR OR FLUSHING		PRIMARY LEVEL ELEMENT: ULTRASONIC		THERMOMETER
	BATCHMETER		PRIMARY FLOW ELEMENT: FLUME		VALVE: ANGLE
	AIR VENT		PRIMARY FLOW ELEMENT: X = C - CORIOLIS X = M - MAGNETIC X = P - PROPELLER X = PT - PITOT TUBE X = R - ROTAMETER X = T - TURBINE X = TH - THERMAL X = U - ULTRASONIC X = D - DENSITY		VALVE: AIR RELIEF
	BASKET STRAINER		PRIMARY FLOW ELEMENT: ORIFICE PLATE		VALVE: BALL
	BLOWER		PRIMARY FLOW ELEMENT: VENTURI TUBE		VALVE: BALL CHECK
	CALIBRATION COLUMN		PRIMARY FLOW ELEMENT: WEIR		VALVE: BUTTERFLY
	COMPRESSOR/TURBINE		PULSATION DAMPENER		VALVE: CONE
	COMPRESSOR: RECIPROCATING		PUMP: CENTRIFUGAL		VALVE: DIAPHRAGM
	DIAPHRAGM SEAL		PUMP: DIAPHRAGM		VALVE: FLAPPER CHECK
	DRAIN		PUMP: METERING		VALVE: FOUR WAY
	EJECTOR OR EDUCTOR		PUMP: PLUNGER		VALVE: GATE
	ELECTRIC MOTOR		PUMP: PERISTALTIC TUBE METERING		VALVE: GLOBE
	EQUIPMENT DRAIN		PUMP: PROGRESSIVE CAVITY		VALVE: HOSE
	EXPANSION JOINT, FLEXIBLE VIBRATION JOINT		PUMP: RECIPROCATING		VALVE: NEEDLE
	FAN: EXHAUST/SUPPLY		PUMP: ROTARY		VALVE: PINCH
	FILTER		PUMP: SCREW		VALVE: PLUG CONCENTRIC
	FIRE HYDRANT		PUMP: VERTICAL LIFT		VALVE: PLUG ECCENTRIC
	FLAME ARRESTER		PIPE REDUCER: CONCENTRIC		VALVE: PRESSURE RELIEF PRESSURE-REDUCING REGULATOR
	FLAME ARRESTER WITH THERMALLY OPERATED VALVE		PIPE REDUCER: ECCENTRIC		VALVE: SWING CHECK
	FLOOR DRAIN		ROTARY CHEMICAL FEEDER		VALVE: TELESCOPING
	FLOW SWITCH		RUPTURE DISK		VALVE: THREE WAY AIR OPERATED
	GAUGE: PRESSURE		SAMPLE PORT		VALVE: THREE WAY MOTOR OPERATED
	GAUGE: DIFFERENTIAL PRESSURE		SIGHT GLASS		VALVE: THREE WAY SOLENOID OPERATED
	WEIR		SLIDE GATE		VALVE: VACUUM
	MIXER		SLUICE GATE		BACKPRESSURE REGULATOR SELF-CONTAINED
	OIL OR MOISTURE TRAP		STRAINER: WYE TYPE		BACKPRESSURE REGULATOR W/ EXTERNAL PRESSURE TAP
	PRIMARY LEVEL ELEMENT: BUBBLER				PRESSURE-REDUCING REGULATOR SELF-CONTAINED
	PRIMARY LEVEL ELEMENT: ELECTRODE				PRESSURE-REDUCING REGULATOR W/ EXTERNAL PRESSURE TAP
	PRIMARY LEVEL ELEMENT: FLOAT SWITCH				
	PRIMARY LEVEL ELEMENT: FLUID				
	PRIMARY LEVEL ELEMENT: INVERTED COLUMN				

ABBREVIATION	SERVICE
AL	ALUM
CD	CHEMICAL DRAIN
D	DRAIN
FBA	FILTER BACKWASH AIR
FE	FINAL EFFLUENT
FEF	FILTER EFFLUENT
FI	FILTER INFLUENT
FIL	FILTRATE
FRW	FILTER REJECT WATER
FTW	FILTER TO WASTE
HCS	HYPOCHLORITE SOLUTION
HPA	HIGH PRESSURE AIR
LPA	LOW PRESSURE AIR
PD	PLANT DRAIN
POL	POLYMER
POLS	POLYMER SOLUTION
PSD	PLANT STORM DRAIN
SA	SAMPLE
TPE	TERTIARY PLANT EFFLUENT
2W	NON-POTABLE WATER
3W	UTILITY WATER

DESIGNED PK
DRAWN JBR
CHECKED DWW
DATE SEPTEMBER 2022

09/28/22



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
GENERAL
GENERAL MECHANICAL SYMBOLOGY

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 7310L.10
DRAWING NO. G12B
SHEET NO. 12 OF 56

Plot Date: 28-SEP-2022 12:41:22 PM

User: svcPW

Model: Layout1

ColorTable: gshade.ctb

LAST SAVED BY: iweich

GENERAL MECHANICAL NOTES:

- GENERAL MECHANICAL NOTES APPLY TO ALL MECHANICAL DRAWINGS.
- THE EXISTING PUMP AND PIPING LAYOUT IS APPROXIMATE AND HAS BEEN MODIFIED SUBSEQUENT TO THE GENERATION OF THE BACKGROUND DRAWINGS. CONTRACTOR SHALL VERIFY ALL EQUIPMENT AND PIPING CONFIGURATIONS AND SIZES.
- NOT ALL REQUIRED FITTINGS ARE SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL PROVIDE ALL THE FITTINGS SHOWN ON THE DRAWINGS AND ADDITIONAL FITTINGS AS REQUIRED FOR PIPING ARRANGEMENTS SHOWN ON THE DRAWINGS AND PER EQUIPMENT FURNISHED.
- SUCTION AND DISCHARGE PIPING OF EQUIPMENT SHALL BE INSTALLED AND SUPPORTED IN SUCH A MANNER SO THAT THEY SHALL NOT IMPART STRAIN ON PUMPS AND PUMP BASE.
- PIPING IS SHOWN DIAGRAMMATICALLY ON THE DRAWINGS. NOT EVERY OFFSET AND FITTING OR STRUCTURAL DIFFICULTY THAT MAY BE ENCOUNTERED HAS BEEN SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL MAKE MODIFICATIONS TO PIPING ALIGNMENT WHERE NECESSARY. MODIFICATIONS SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER AND SHALL BE DONE AFTER OWNER'S APPROVAL.
- NOT ALL ITEMS ARE SHOWN IN ALL PLANS, SECTIONS, DETAILS, SCHEMATICS, ISOMETRICS, AND P&ID DRAWINGS. THE CONTRACTOR SHALL PROVIDE ALL THE ITEMS EVEN IF THEY ARE SHOWN AT ANY ONE LOCATION ON THE DRAWINGS OR SPECIFIED IN THE SPECIFICATIONS ONLY.
- THE CONTRACTOR SHALL PROVIDE ALL THE ITEMS REQUIRED PER SPECIFICATIONS WHETHER OR NOT THEY ARE SHOWN ON THE DRAWINGS.
- IN CASE OF A CONFLICT BETWEEN THE DRAWINGS, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN UNLESS SPECIFICALLY APPROVED OTHERWISE BY THE ENGINEER.
- SIZES OF EQUIPMENT PADS INDICATED ON THE DRAWINGS ARE APPROXIMATE. EXACT DIMENSIONS SHALL BE DETERMINED BY THE CONTRACTOR FOR THE EQUIPMENT. ALL FLOOR MOUNTED EQUIPMENT SHALL BE SET ON CONCRETE PADS AS SHOWN ON THE STRUCTURAL DRAWINGS.
- OVERALL PHYSICAL SIZE OF THE EQUIPMENT SELECTED BY THE CONTRACTOR SHALL NOT EXCEED THE SIZE SHOWN ON THE DRAWINGS OR SPECIFIED IN THE SPECIFICATIONS. CLEARANCES, DIMENSIONS, OR SCALED DISTANCES SHOWN ON THE DRAWINGS SHALL BE MAINTAINED. ALL PROPOSED CHANGES AND ADDITIONS SHALL BE SUBMITTED FOR OWNER'S REVIEW AND SHALL BE DONE ONLY IF APPROVED BY OWNER AND AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL BEAR ALL COSTS OF THE ASSOCIATED CHANGES AND ADDITIONS INCLUDING CHANGES TO BUILDINGS AND STRUCTURE SIZES AND OWNER'S ENGINEERING COSTS.
- WARNING SIGNS SHALL BE PROVIDED PER SPECIFICATIONS ON FRONT AND BACK OF ALL REMOTELY CONTROLLED EQUIPMENT.
- SEE STRUCTURAL DRAWINGS FOR ALL EQUIPMENT BASE DETAILS.
- PIPING JOINTS SHALL BE PER PIPE SCHEDULE AND IN ACCORDANCE WITH THE SPECIFICATIONS.
- REFER TO SPECIFICATION SECTION 01140 AND OTHER APPLICABLE SECTIONS FOR WORK RESTRICTIONS AND CONSTRAINTS.
- VERIFY LOCATIONS, SIZES, AND CONNECTION MATERIALS OF EXISTING PIPING AND EQUIPMENT BEFORE FABRICATING NEW PIPE.
- ALL PIPING UNDER STRUCTURES OR CONCRETE SLABS SHALL BE CONCRETE ENCASED BELOW THE STRUCTURE AND BEYOND THE EDGE OF FOOTING TO A DIMENSION EQUAL TO THE DISTANCE FROM BOTTOM OF FOOTING TO TOP OF PIPE, UNLESS NOTED OTHERWISE, PER TYPICAL DETAIL CP119/TYP, WHETHER SHOWN OR NOT.
- ALL FLEXIBLE COUPLINGS SHALL BE RESTRAINED PER APPLICABLE TYPICAL DETAILS P110/TYP, UNLESS SPECIFICALLY NOTED OTHERWISE.
- THE FIRST PIPE JOINT OUT OF STRUCTURES OR OUT OF CONCRETE ENCASEMENTS SHALL BE AT THE EDGE OF WALL OR WITHIN TWO (2) FEET FROM EDGE OF WALL OR END OF CONCRETE ENCASEMENT. THE NEXT TWO (2) JOINTS SHALL BE MAXIMUM OF FOUR (4) FEET ON CENTER UNLESS NOTED OTHERWISE.
- WHETHER SHOWN ON THE DRAWINGS OR NOT, PROVIDE PIPE INSULATION PER INSULATION SCHEDULE.
- PLUG VALVE INSTALLATION: FOR ORIENTATION OF SEAT AND VALVE STEM, REFER TO SPECIFICATIONS.
- ALL STAINLESS STEEL SHALL BE TYPE 316 OR TYPE 316L UNLESS SPECIFICALLY NOTED OTHERWISE.
- UNLESS SPECIFICALLY NOTED OTHERWISE, PROVIDE STAINLESS STEEL PIPE SUPPORTS THAT ARE PICKLED AND PASSIVATED FOR STAINLESS STEEL PIPING.
- REFER TO P&ID DRAWINGS FOR INSTALLATION OF INSTRUMENTS. REFER TO CIVIL DRAWINGS FOR CATHODIC PROTECTION NOTES. CATHODIC PROTECTION NOTES APPLY TO ALL MECHANICAL AND HVAC DRAWINGS.

GENERAL CIVIL NOTES:

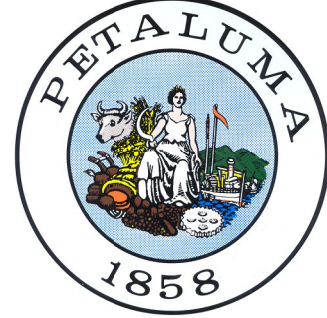
- TYPES, LOCATIONS, SIZES, AND DEPTHS OF EXISTING UNDERGROUND FACILITIES AS SHOWN ON THESE PLANS WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND FACILITIES. HOWEVER, OWNER AND ENGINEER CAN ASSUME NO RESPONSIBILITY FOR COMPLETENESS OR ACCURACY OF DELINEATION OF SUCH UNDERGROUND FACILITIES, NOR FOR EXISTENCE OF OTHER BURIED OBJECTS OR FACILITIES WHICH ARE ENCOUNTERED BUT WHICH ARE NOT SHOWN ON THESE PLANS. CONTRACTOR IS RESPONSIBLE FOR DETERMINING EXACT LOCATION OF THOSE FACILITIES SHOWN AND ANY WHICH MAY EXIST AND ARE NOT SHOWN PRIOR TO COMMENCEMENT OF ANY WORK. CONTRACTOR SHALL EXPOSE ALL UNDERGROUND FACILITIES THAT ARE TO BE CONNECTED TO OR THAT ARE IN THE PATH OF PROPOSED IMPROVEMENTS FOR VERIFICATION OF LOCATION AND ELEVATION. CONTRACTOR SHALL DETERMINE LOCATION OF CONFLICTS, IF ANY, PRIOR TO COMMENCING CONSTRUCTION OF THAT PORTION OF WORK THAT WOULD BE AFFECTED BY A CONFLICT WITH EXISTING FACILITIES. MINOR CHANGES (<5 FT HORIZONTAL, <1 FT VERTICAL), IN ACTUAL LOCATION, DEPTH, AND CONFIGURATION OF EXISTING PIPING SYSTEMS DOES NOT CONSTITUTE A CHANGED SITE CONDITION AND THEREFORE NO EXTRA PAYMENT WILL BE ALLOWED.
- ALL PIPING BEYOND THE LIMITS OF EXCAVATION FOR STRUCTURES SHALL BE TRENCHED PER DETAIL CP111/TYP AND SPECIFICATIONS.
- UNLESS SHOWN OTHERWISE, THE MINIMUM COVER OR BURY FROM FINISH GRADE TO TOP OF PIPING SHALL BE 36".
- UNLESS OTHERWISE INDICATED ON THE DRAWINGS, ALL PIPING SHALL HAVE A MINIMUM OF 12" CLEARANCE FROM NEAREST PIPELINE.
- WARNING TAPE OVER BURIED PIPING SHALL BE PROVIDED IN ACCORDANCE WITH SPECIFICATION SECTION 15076.
- LOCATION SHOWN FOR ALL NEW PIPING AND CONNECTIONS TO EXISTING PIPING IS APPROXIMATE AND DEPENDS ON LOCATION OF EXISTING PIPING AND OTHER IMPROVEMENTS. CONTRACTOR IS REQUIRED TO FOLLOW ALIGNMENT SHOWN AS CLOSELY AS POSSIBLE AFTER DETERMINING EXACT LOCATION OF EXISTING FACILITIES.
- COORDINATE ALL PIPING WITH SITE ELECTRICAL WORK. DO NOT START PIPING UNTIL ELECTRICAL CONDUITS AND DUCT BANKS ARE LOCATED.
- ALL PAVING, LANDSCAPING, PIPING, AND OTHER EXISTING FACILITIES NOT DESIGNATED FOR REMOVAL/DEMOLITION DURING CONSTRUCTION OF NEW FACILITIES TO BE PROTECTED IN PLACE OR REPLACED IN KIND.
- SELECT CONSTRUCTION EQUIPMENT TO MINIMIZE DAMAGE TO EXISTING PAVEMENT AT PROJECT SITE AND AT ALL ROADS USED TO MOVE MATERIAL AND EQUIPMENT TO AND FROM PROJECT. REPLACE DAMAGED ASPHALT CONCRETE PAVEMENT IN ACCORDANCE WITH CONTRACT DOCUMENTS. ALL PAVEMENT, INCLUDING ASPHALT CONCRETE (AC) AND PORTLAND CEMENT CONCRETE (PCC) PAVING, SHALL BE SAW CUT PRIOR TO INSTALLATION OF PAVEMENT PATCH. ROUGH EDGES THAT DEVELOP DURING CONSTRUCTION SHALL BE SAW CUT PRIOR TO INSTALLATION OF PAVEMENT PATCH.
- COMPLY WITH ALL STATE AND COUNTY LAWS AND ORDINANCES RELATING TO SAFETY AND CHARACTER OF WORK, EQUIPMENT, AND LABOR PERSONNEL. THIS SHALL INCLUDE, BUT NOT LIMITED TO, SHORING OF TRENCHES, VENTILATION OF CONFINED SPACES, CONFORMANCE TO TRAFFIC CONTROL REQUIREMENTS, INCLUDING PROVISION AND MAINTENANCE OF BARRICADES AND PREPARATION AND IMPLEMENTATION OF TRAFFIC CONTROL PLANS AS REQUIRED.
- ARRANGE FOR ALL REQUIRED INSPECTION. PRESENCE OR ABSENCE OF AN INSPECTOR WILL NOT RELIEVE CONTRACTOR OF FULL RESPONSIBILITY FOR PROPER PERFORMANCE OF WORK. CONTRACTOR WILL BE REQUIRED TO UNCOVER WORK PERFORMED WITHOUT PROPER INSPECTION.
- SHOWN WORK TO BE RESTRICTED TO LIMITS OF OWNERS PROPERTY, TEMPORARY CONSTRUCTION EASEMENTS, PERMANENT EASEMENTS, AND RIGHTS-OF-WAYS.
- CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING MATERIAL.
- WHEN EXCAVATION IS REQUIRED AROUND EXISTING UTILITIES, THOSE EXISTING UTILITIES SHALL BE SUPPORTED USING STEEL BEAMS OR OTHER SUITABLE SUPPORTS.
- ALL STANDARD STREET MONUMENTS, LOT CORNER PIPES, AND OTHER PERMANENT MONUMENTS DISTURBED DURING THE PROCESS OF CONSTRUCTION SHALL BE REPLACED AND A RECORD OF SURVEY OR CORNER RECORD PER SECTION 8771 OF THE PROFESSIONAL LAND SURVEYOR'S ACT FILED BEFORE ACCEPTANCE OF THE IMPROVEMENTS BY THE CITY. COPIES OF ANY RECORD OF SURVEY OR CORNER RECORDS SHALL BE SUBMITTED TO THE CITY.
- CONTRACTOR SHALL KEEP UP-TO-DATE A COMPLETE RECORD SET OF PRINTS OF THE CONTRACT DRAWINGS SHOWING EVERY CHANGE FROM THE ORIGINAL DRAWINGS MADE DURING THE COURSE OF CONSTRUCTION INCLUDING EXACT LOCATION, SIZES, MATERIALS, AND EQUIPMENT. A COMPLETE SET OF CORRECTED AND COMPLETED RECORD DRAWING PRINTS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FINAL ACCEPTANCE FOR REVIEW AND APPROVAL BY THE ENGINEER. CONTRACTOR TO PROVIDE AS-BUILTS IN ELECTRONIC PDF OR CADD FORMAT WITH ALL CHANGES NOTED.
- CONTRACTOR SHALL COORDINATE UTILITY INFORMATION SHOWN ON THE PLANS WITH INSTALLATION OF PG&E, CABLE, TELEPHONE, AND/OR JOINT TRENCH LAYOUT AND DETAILS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO POTHOLE AND/OR UNCOVER AND EXPOSE EXISTING UTILITIES AT CROSSING LOCATIONS. CONTRACTOR TO PROTECT ALL EXISTING UTILITIES AND SERVICE LATERALS FROM DAMAGE DUE TO CONTRACTOR'S OPERATIONS. ANY AND ALL UTILITY SERVICE LATERALS THAT ARE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED TO THE SATISFACTION OF THE CITY ENGINEER.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES WITH THE APPROPRIATE AGENCIES.
- THE EXISTING UTILITIES CROSSING NEW PIPELINES ARE SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY THE TYPE, SIZE, LOCATION, AND DEPTH OF ALL THE UTILITY CROSSINGS (BOTH MAINS AND LATERALS) ARE CORRECT AS SHOWN. NO GUARANTEE IS MADE THAT ALL EXISTING UTILITIES (BOTH - MAINS AND LATERALS) ARE SHOWN.
- CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE STATE OF CALIFORNIA BEST MANAGEMENT PRACTICES HANDBOOK FOR APPLICABLE EROSION CONTROL MEASURES AND EMPLOY ITS PROVISIONS THROUGHOUT ALL CONSTRUCTION.
- ALL CONSTRUCTION MATERIALS, EQUIPMENT, STORAGE, STOCKPILING, AND STAGING MUST BE DONE ON-SITE AND THE PUBLIC RIGHT-OF-WAY/STREET MUST BE KEPT CLEAR AND FREE OF DEBRIS.

GENERAL CIVIL NOTES (CONT) :

- ALL STATIONING SHOWN IS APPROXIMATE. CONTRACTOR SHALL VERIFY LENGTHS IN FIELD PRIOR TO FABRICATION OF PIPING AND SUBMIT SHOP DRAWINGS FOR REVIEW.
- ALL CLEAN OUTS SHALL BE CONSTRUCTED PER DETAIL CP411/TYP. RESTRAINED JOINTS SHALL BE PROVIDED INSTEAD OF THRUST BLOCKS. USE TYPE 1, 2, OR 3 AS REQUIRED, UNLESS NOTED OTHERWISE ON THE DRAWING.
- REFER TO SPECIFICATION SECTION 01140 AND OTHER APPLICABLE SECTIONS FOR WORK RESTRICTIONS AND CONSTRAINTS.
- TIE-IN TO EXISTING SYSTEMS SHALL BE MADE WITHOUT INTERRUPTION OF EXISTING SERVICE, UNLESS NOTED OTHERWISE. CONTRACTOR SHALL REFER TO SPECIFICATION SECTION 01140 AND SUBMIT A PROPOSED SCHEDULE OF INTERRUPTION OF SERVICE IN ACCORDANCE WITH THE SPECIFICATIONS.
- THE CONTRACTOR SHALL REPLACE IN KIND, OR REPAIR EXISTING ITEMS DAMAGED BY THE CONTRACTOR'S ACTIVITIES. NOT ALL THE EXISTING ITEMS ARE SHOWN ON THE DRAWINGS. THE DRAWINGS OF THE EXISTING ITEMS ARE AVAILABLE FROM THE OWNER ON REQUEST. SUBMISSION OF A BID SHALL BE CONSIDERED PROOF THE CONTRACTOR HAS REVIEWED THE DRAWING OF ALL THE EXISTING ITEMS.
- THE CONTRACTOR SHALL AT ALL TIMES MAINTAIN ADEQUATE DRAINAGE AT THE SITE. WATER SHALL NOT BE ALLOWED TO POND OR STAND DUE TO THE CONTRACTORS ACTIVITIES.
- REPLACE SIGNS, POSTS AND MARKERS REMOVED OR DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL LOCATION AND CONDITIONS.

REV	DATE	BY	DESCRIPTION

DESIGNED	PK
DRAWN	JBR
CHECKED	DWW
DATE	SEPTEMBER 2022



CITY OF PETALUMA

UV DISINFECTION UPGRADES PROJECT

GENERAL

GENERAL MECHANICAL AND CIVIL NOTES

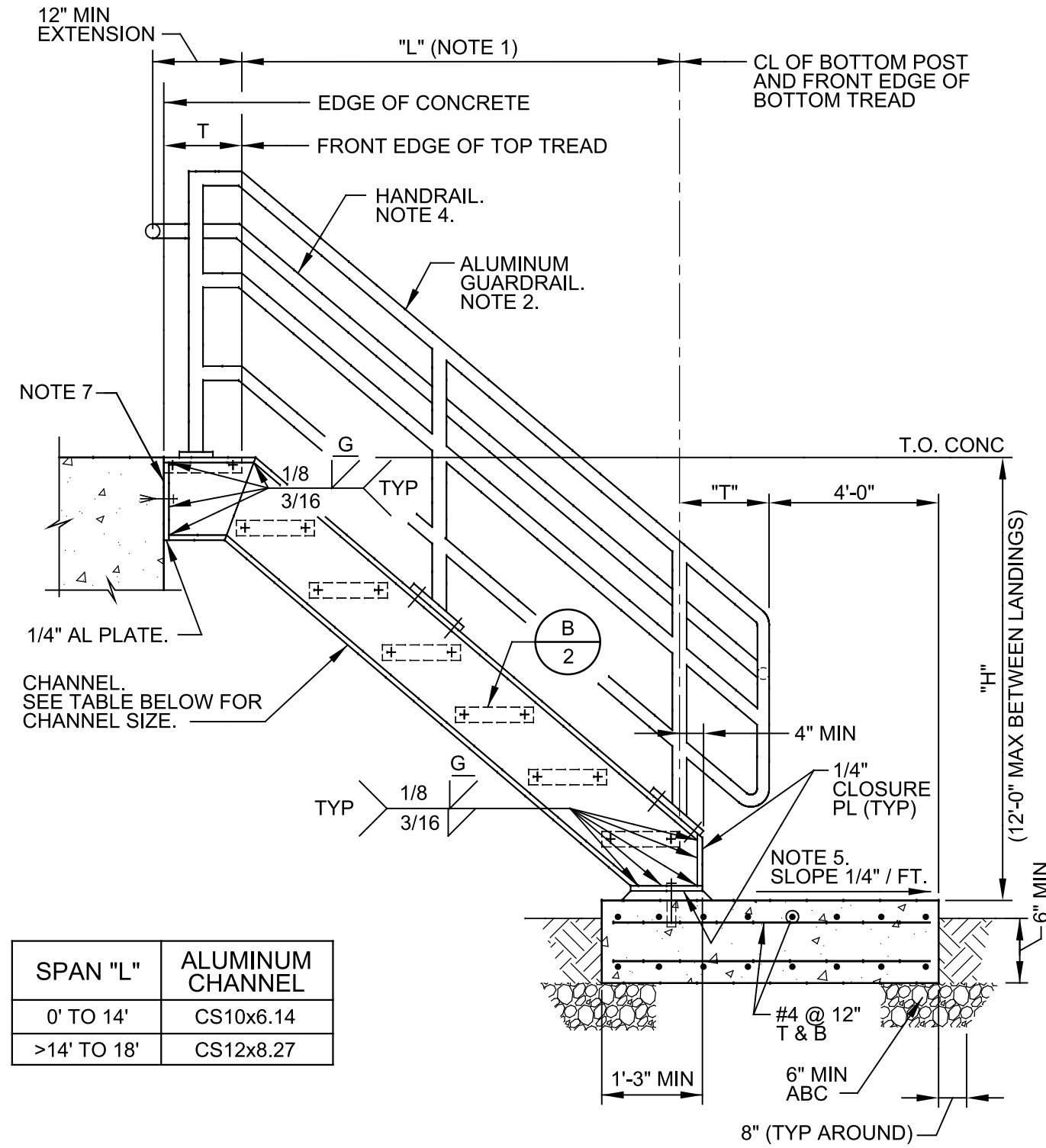
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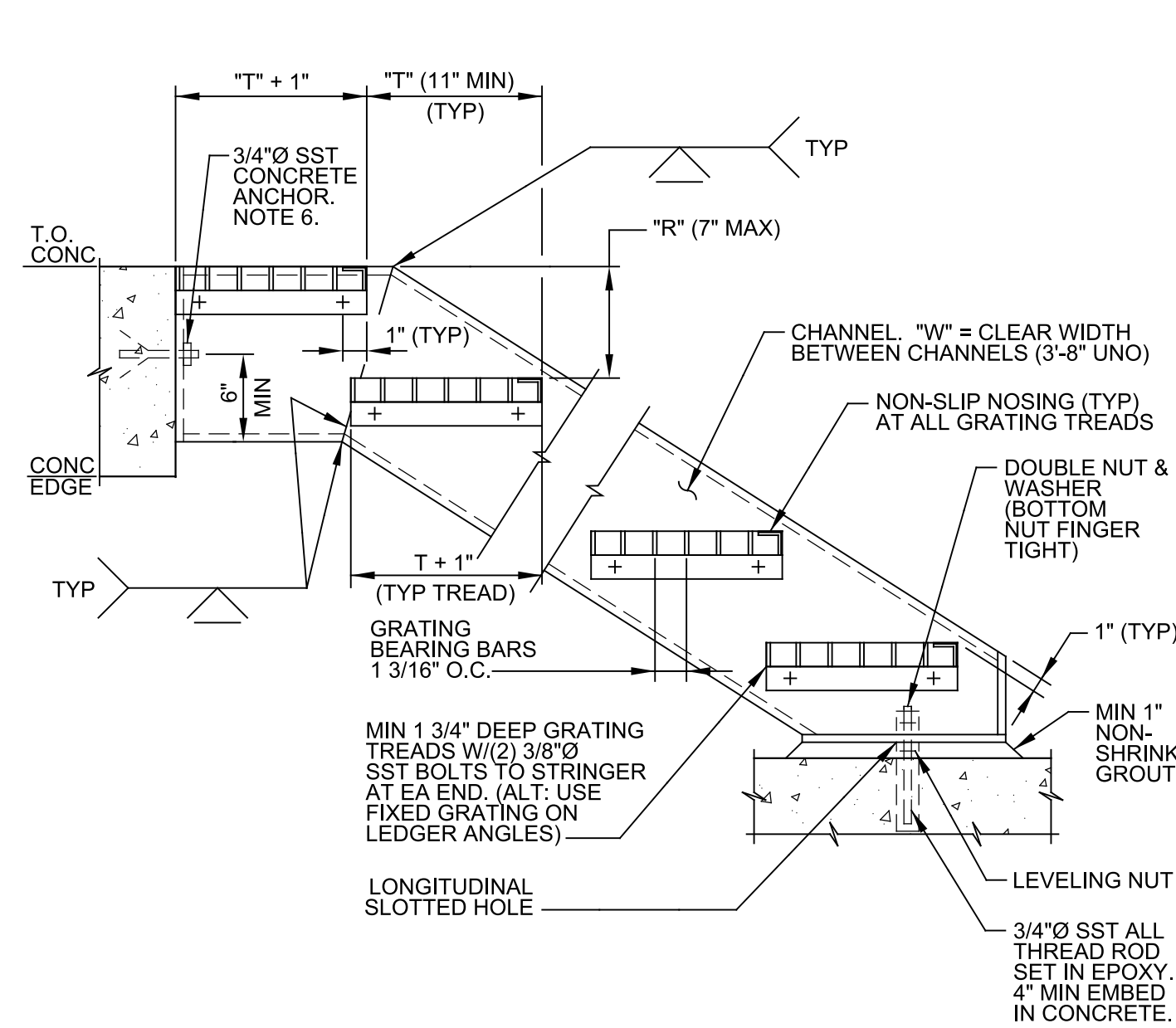
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A ELEVATION - STAIRS

AC101 STAIRS - ALUMINUM - FLUSH TOP - THREE RAIL

TYP NS SHEET 1 OF 3 06/21/19



B SECTION - STAIR TREADS

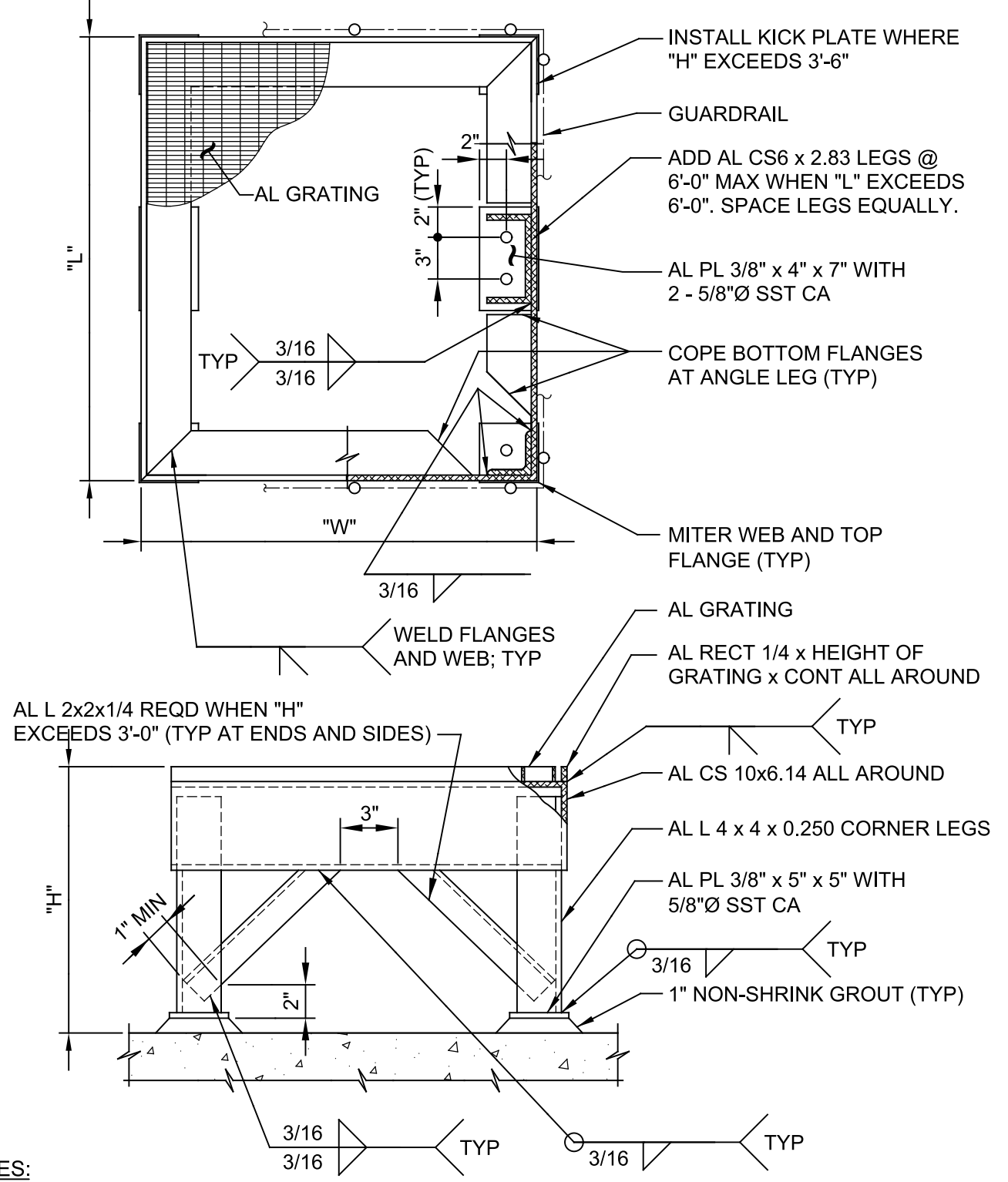
AC101 STAIRS - ALUMINUM - FLUSH TOP - THREE RAIL

TYP NS SHEET 2 OF 3 06/21/19

- NOTES:
- SEE DRAWINGS FOR DIMENSIONS "H", "L", "R", "T" AND "W".
 - SEE DETAIL AC500/TYP FOR ALUMINUM GUARDRAIL NOTES AND DETAIL AC504/TYP FOR ALUMINUM GUARDRAIL DETAILS.
 - COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE, AND INSTALL ISOLATION SLEEVES AND WASHERS BETWEEN DISSIMILAR METALS AS SPECIFIED.
 - PROVIDE HANDRAIL EXTENSIONS AS SHOWN AT BOTH SIDES OF STAIR, UNLESS HANDRAIL IS CONTINUOUS (AS AT SWITCHBACK STAIR).
 - AT EXTERIOR STAIRS, PROVIDE CONCRETE SLAB ON GRADE UNLESS OTHERWISE INDICATED ON THE DRAWINGS. MINIMUM CONCRETE SLAB WIDTH = STAIR CLEAR WIDTH ("W") PLUS 2'-0" (12" EACH SIDE). EDGE TOP CORNERS OF SLAB TO 1/4" RADIUS.
 - INSTALL CONCRETE ANCHORS MIN 6" FROM BOTTOM AND 6" FROM SIDES/EDGES OF CONCRETE.
 - CONNECTION TO CONCRETE SHOWN.
 - FOR PROJECTS LOCATED IN CALIFORNIA, PROVIDE WARNING STRIPS FOR THE TOP AND BOTTOM TREAD ON INTERIOR STAIRS, AND FOR ALL TREADS ON EXTERIOR STAIRS. STRIPS SHALL BE OF CLEARLY CONTRASTING COLOR AT LEAST 2" WIDE. PLACE STRIP PARALLEL TO AND NOT MORE THAN 1" FROM THE NOSE OF THE STEP OR LANDING TO ALERT THE VISUALLY IMPAIRED.

AC101 STAIRS - ALUMINUM - FLUSH TOP - THREE RAIL

TYP NS SHEET 3 OF 3 06/21/19



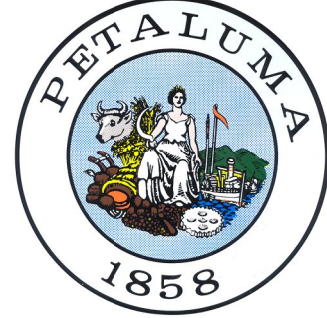
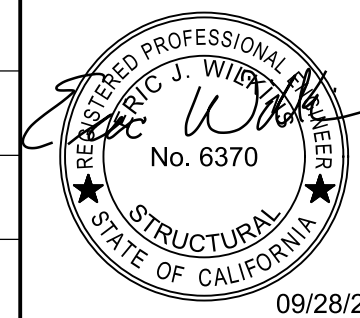
- NOTES:
- PLATFORM DIMENSIONS "L", "W" AND "H" ARE INDICATED ON THE DRAWINGS.
 - SEE DETAILS AC120/TYP, AC121/TYP AND AC122/TYP FOR CONNECTIONS OF STAIRS TO PLATFORM.

AC132 STAIRS - ALUMINUM - PLATFORM

TYP R 12/16/20

REV	DATE	BY	DESCRIPTION

DESIGNED CE
 DRAWN CE
 CHECKED DWW
 DATE SEPTEMBER 2022



CITY OF PETALUMA
 UV DISINFECTION UPGRADES PROJECT
 TYPICALS
 TYPICAL ARCHITECTURAL DETAILS

VERIFY SCALES
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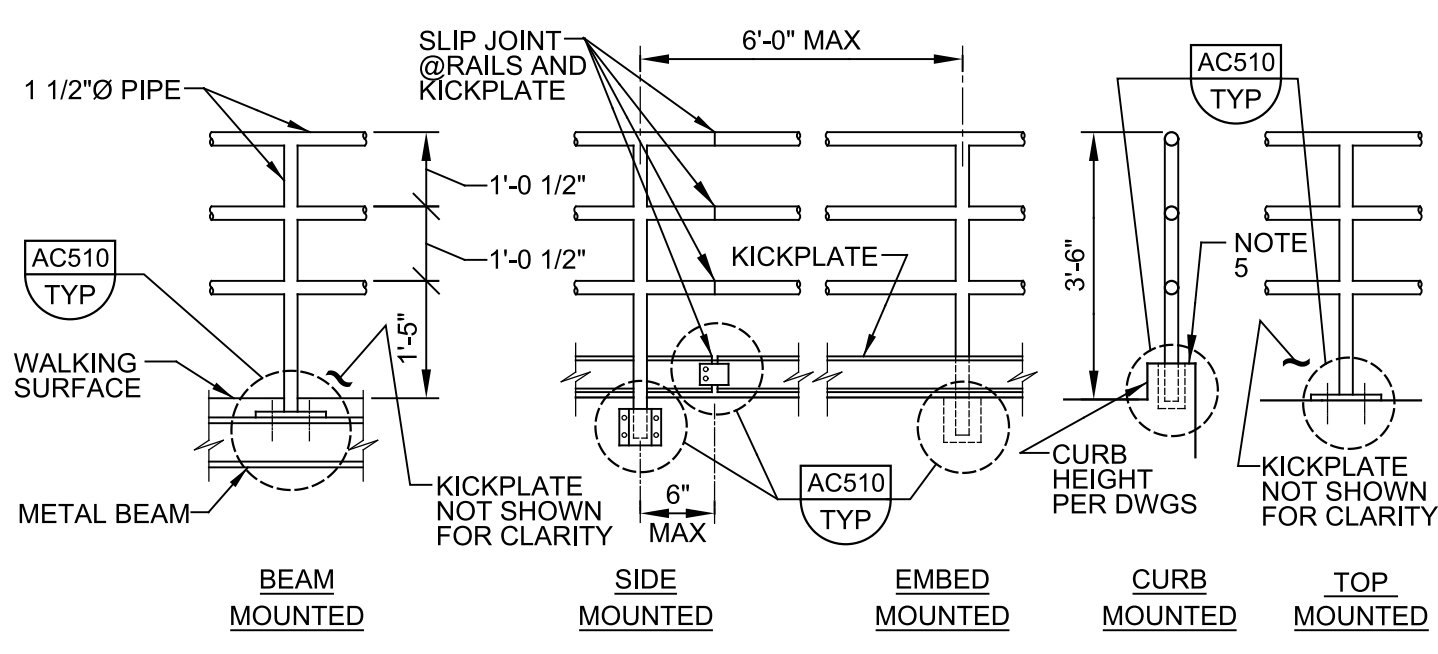
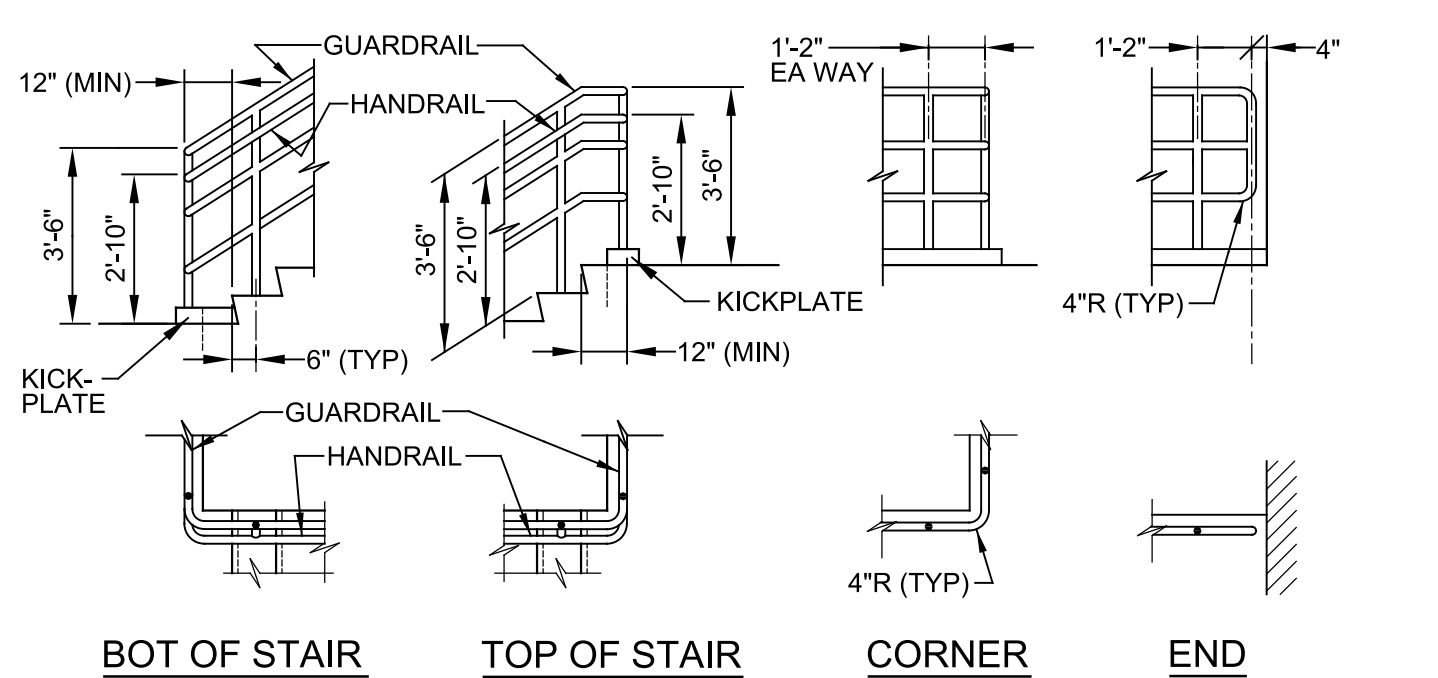
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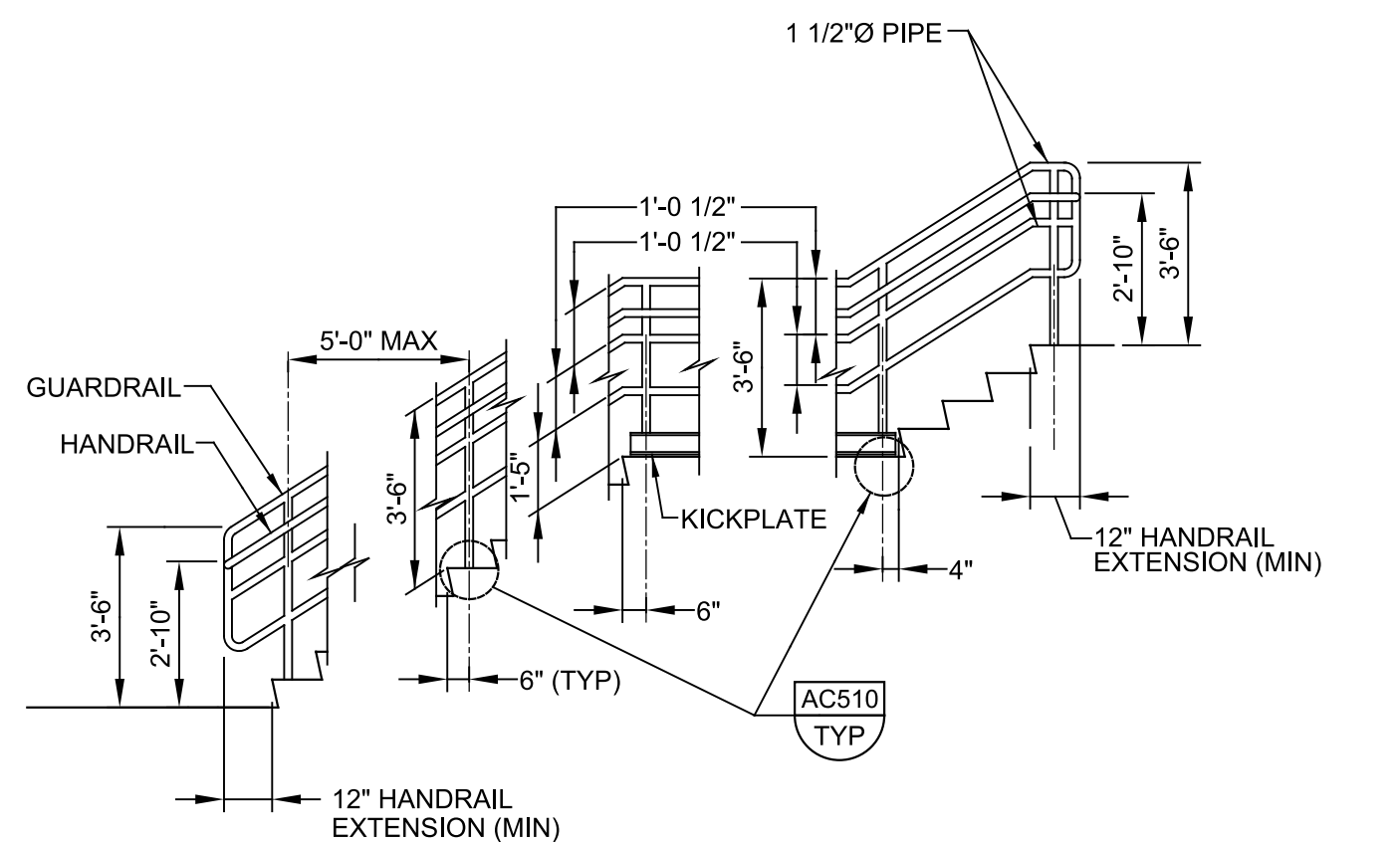
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AC504 GUARDRAIL - THREE RAIL
TYP

NS SHEET 1 OF 3 06/21/19

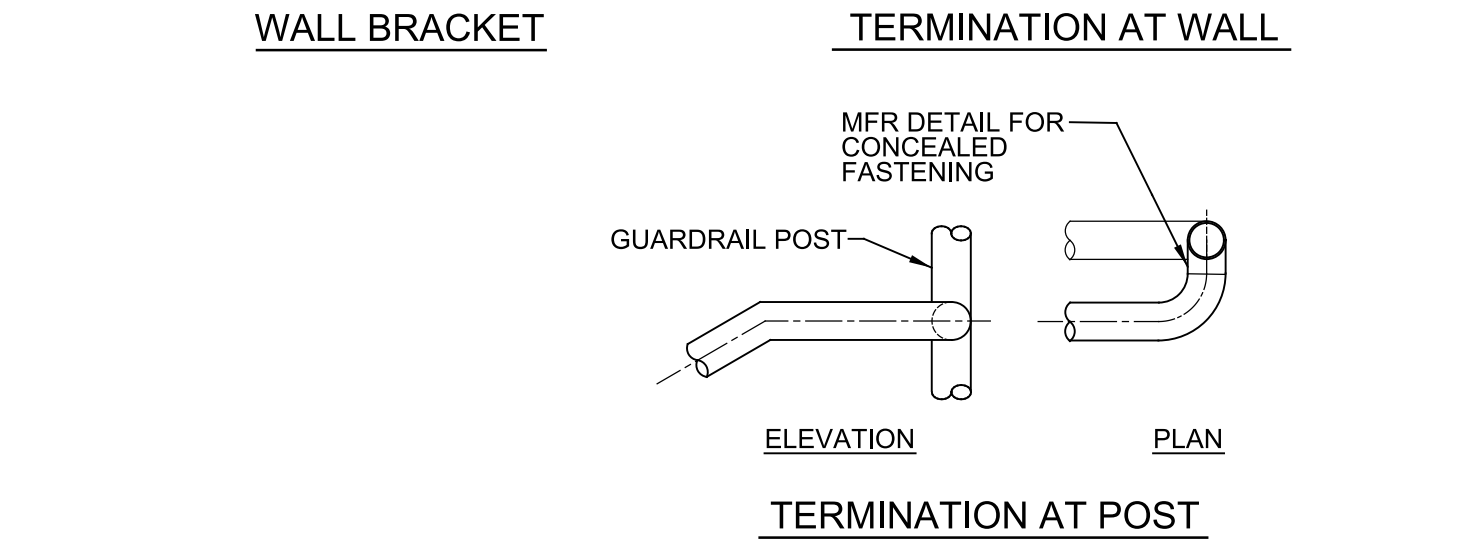
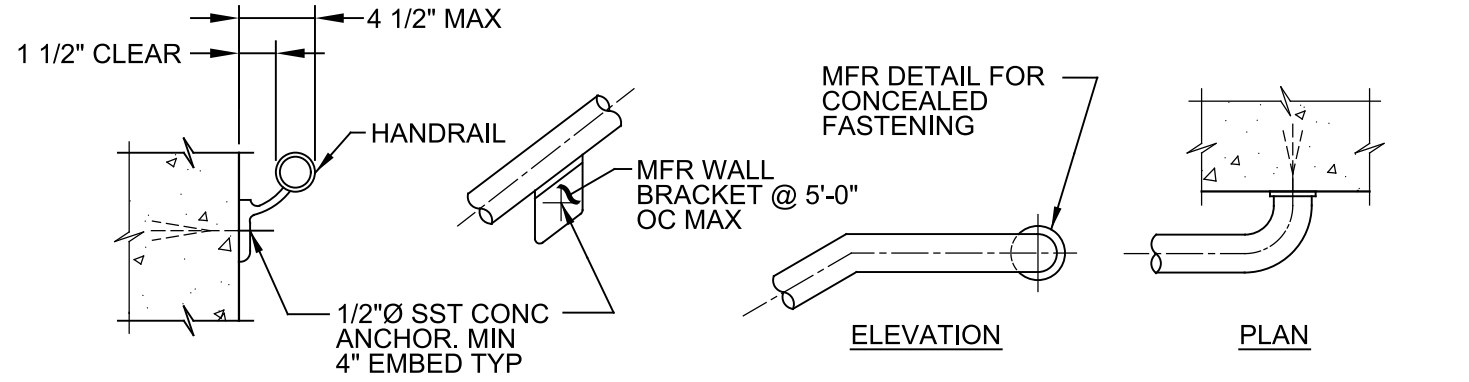
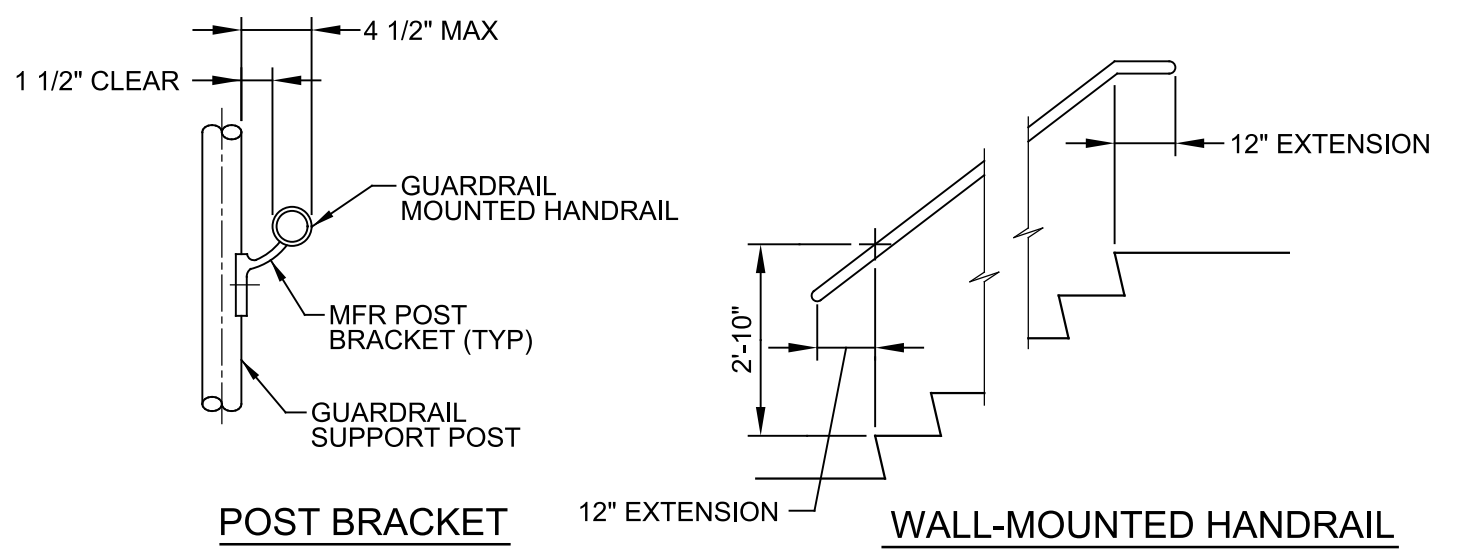


AC504 GUARDRAIL - THREE RAIL
TYP

- NOTES:
1. THIS DETAIL IS APPLICABLE AT PRIVATE STAIRS IN F, H, AND S OCCUPANCIES WHERE OPERATOR ONLY ACCESS IS REQUIRED. DETAILS AND INSTALLATION SHALL COMPLY WITH THE BUILDING CODE.
 2. SEE SPECIFICATIONS AND DETAIL AC500/TYP FOR ADDITIONAL REQUIREMENTS.
 3. VARIOUS POST MOUNTING DETAILS ARE ILLUSTRATED. SEE DRAWINGS AND DETAIL AC510/TYP FOR SPECIFIC MOUNTING REQUIREMENTS.
 4. HANDRAIL EXTENSIONS ARE REQUIRED ON BOTH SIDES OF STAIR, EXCEPT WHERE INSIDE HANDRAIL IS CONTINUOUS AT SWITCHBACK STAIR.
 5. AT CURB, USE EMBEDDED OR TOP MOUNTED POST AS INDICATED ON THE DRAWINGS.

AC504 GUARDRAIL - THREE RAIL
TYP

NS SHEET 2 OF 3 06/21/19

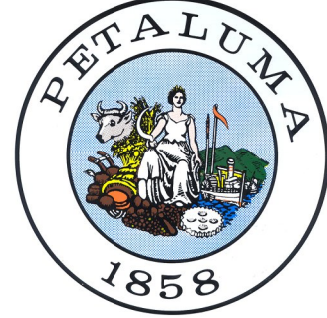


AC504 GUARDRAIL - THREE RAIL
TYP

NS SHEET 3 OF 3 06/21/19

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SEPTEMBER 2022



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
TYPICALS
TYPICAL ARCHITECTURAL DETAILS

VERIFY SCALES
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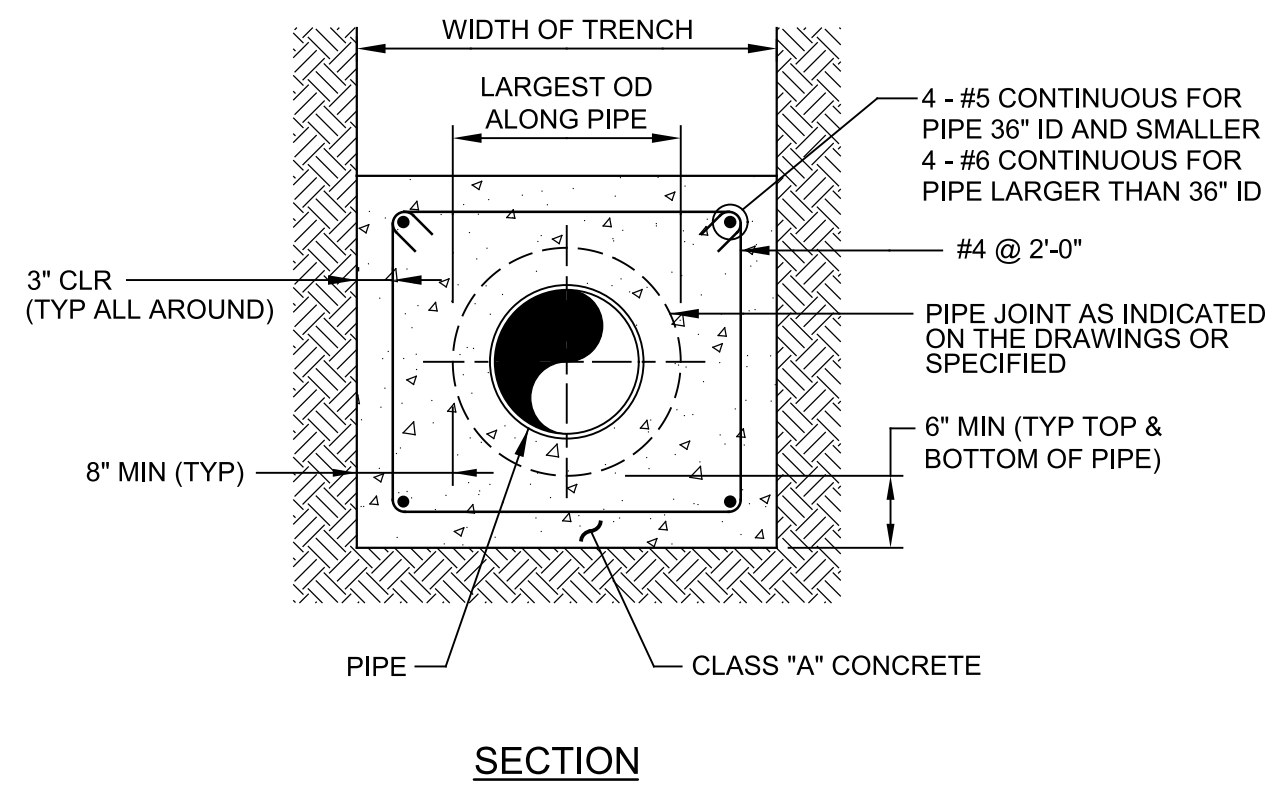
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TA02B
SHEET NO.
15 OF 56

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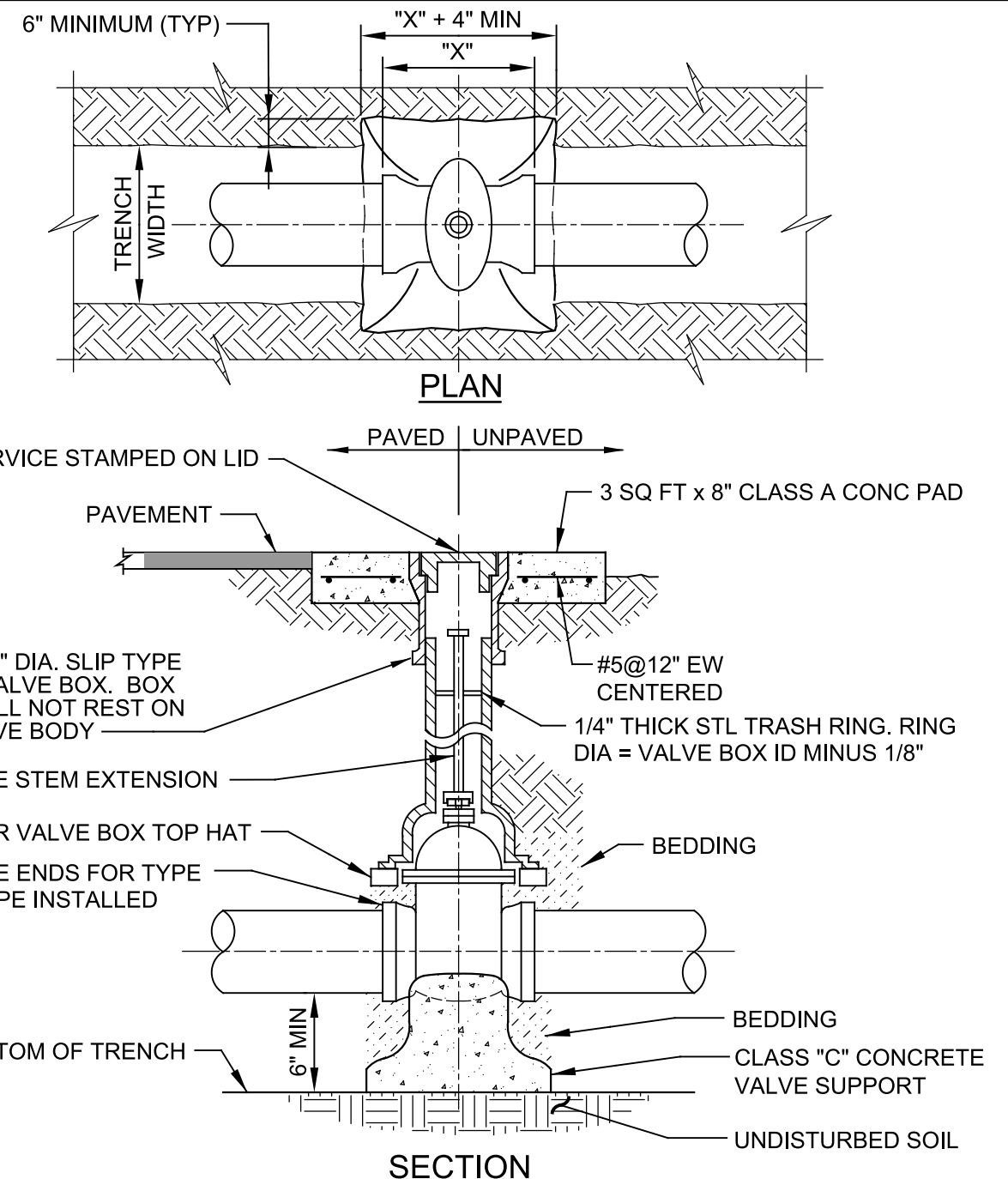
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LAST SAVED BY: mvelch



- NOTE:
1. TYPE OF PIPE AND TYPE OF PIPE JOINT OR COUPLER AS INDICATED ON THE DRAWINGS.
 2. SEE MP100 - MP199 FOR DETAILS OF PIPE ENCASEMENT CONNECTIONS TO STRUCTURES.

CP119 PIPE ENCASEMENT - CONCRETE
TYP S 12/29/2020

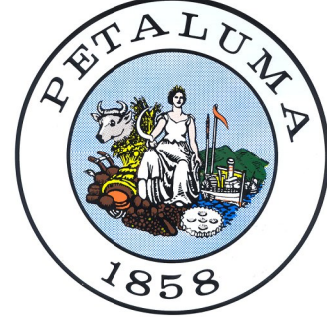


- NOTES:
1. ALL BURIED VALVES SHALL BE PROVIDED WITH EXTENSION STEM OPERATION WITH 2\"/>
 - 2. COAT BURIED PIPE AND VALVE BOX AS SPECIFIED.
 - 3. CLEAN VALVE BOX OF ALL DEBRIS AND SOIL.
 - 4. VALVE TYPE AS INDICATED ON THE DRAWINGS.

CP716 VALVE - DIRECT BURY
TYP R 08/23/22

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SEPTEMBER 2022



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
TYPICALS
TYPICAL CIVIL DETAILS

VERIFY SCALES
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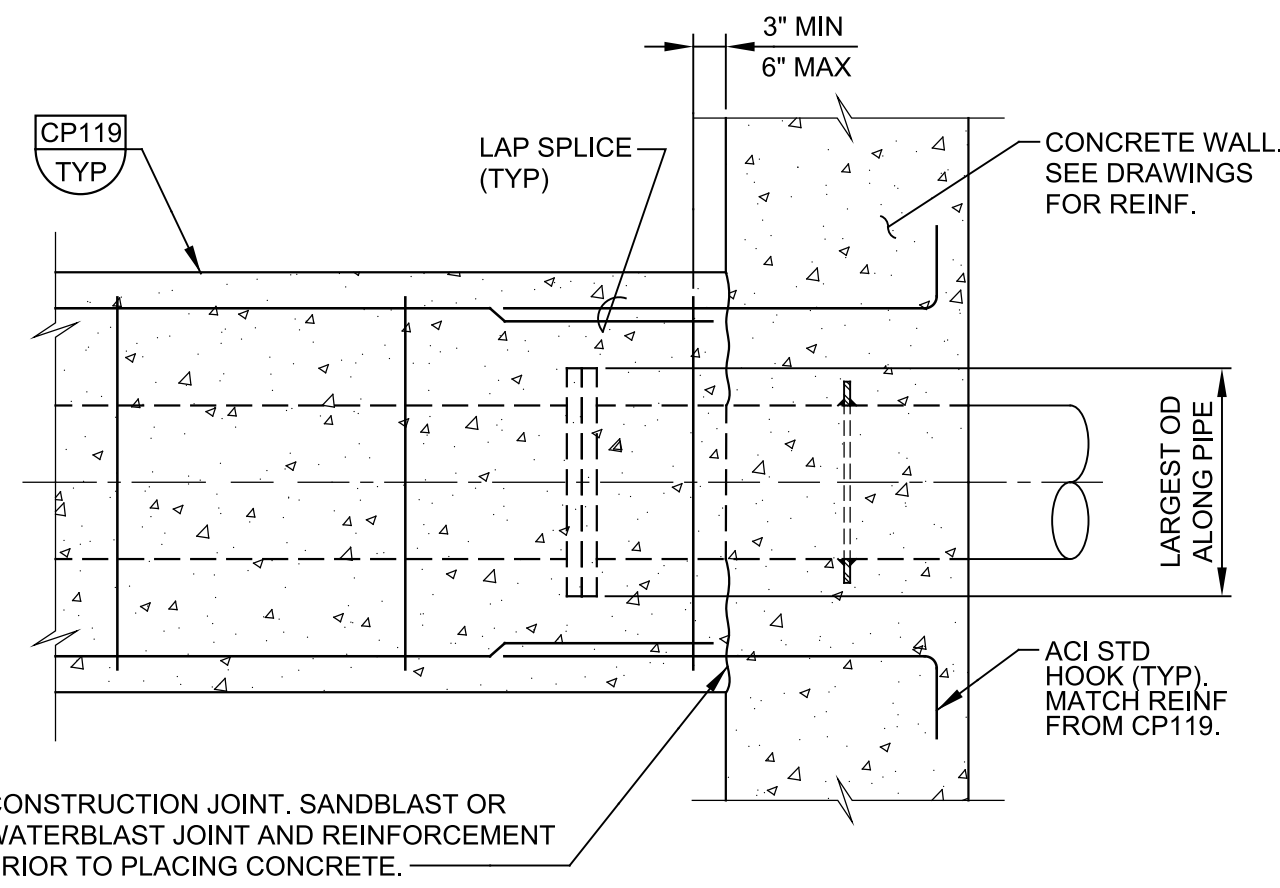
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SHEET NO. 16 OF 56

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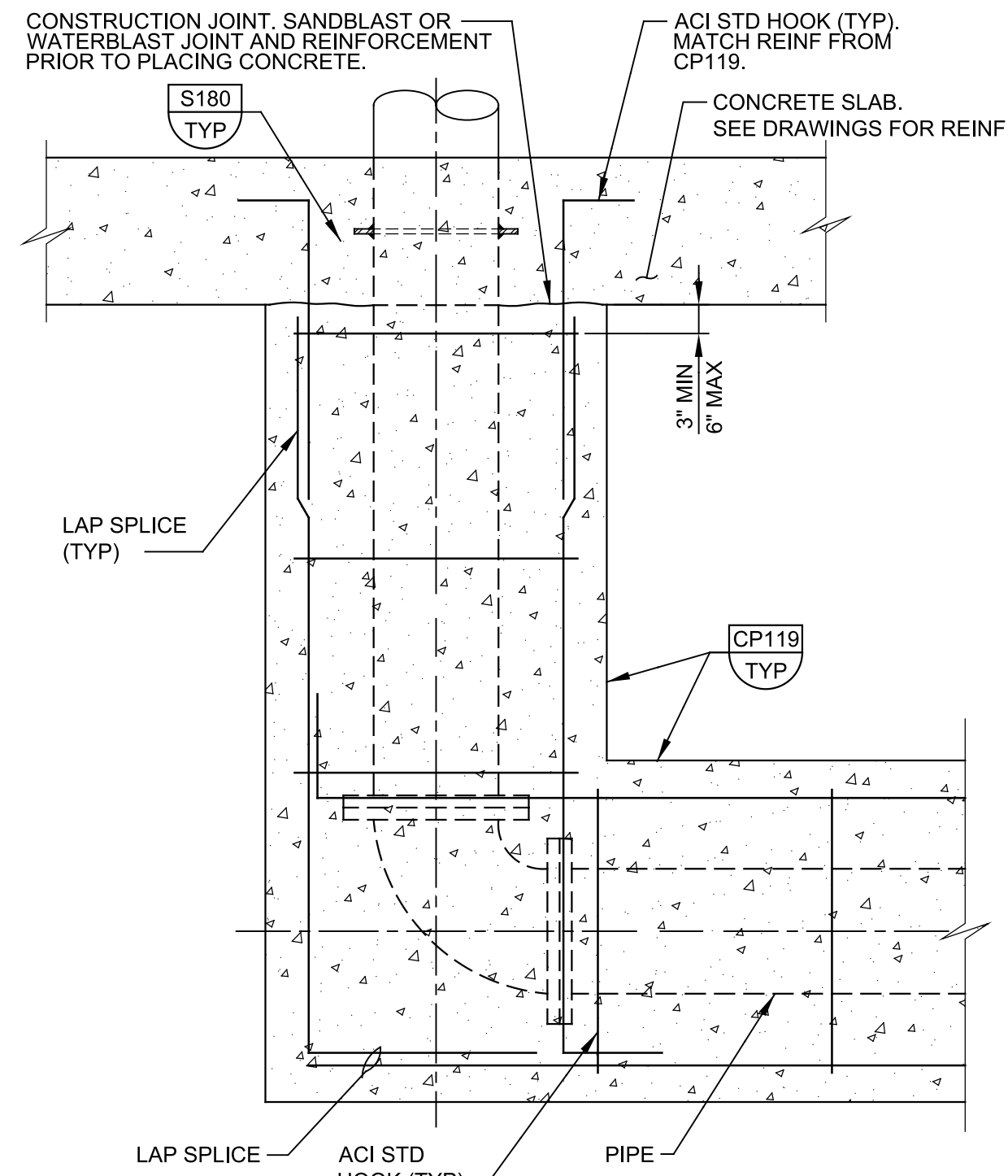
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A SECTION AT WALL

NOTE:
1. TYPE OF PIPE AND TYPE OF PIPE JOINT OR COUPLER AS INDICATED ON THE DRAWINGS.

MP140 CONCRETE PIPE ENCASEMENT - CONNECTION AT STRUCTURE
TYP NS SHEET 1 OF 2 06/21/21



B SECTION AT SLAB

MP140 CONCRETE PIPE ENCASEMENT - CONNECTION AT STRUCTURE
TYP NS SHEET 2 OF 2 06/21/21

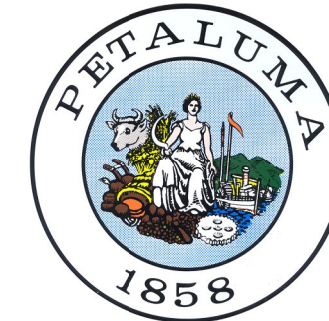
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SEPTEMBER 2022



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
TYPICALS
TYPICAL MECHANICAL DETAILS

VERIFY SCALES
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7310L.10

DRAWING NO.
TM01B

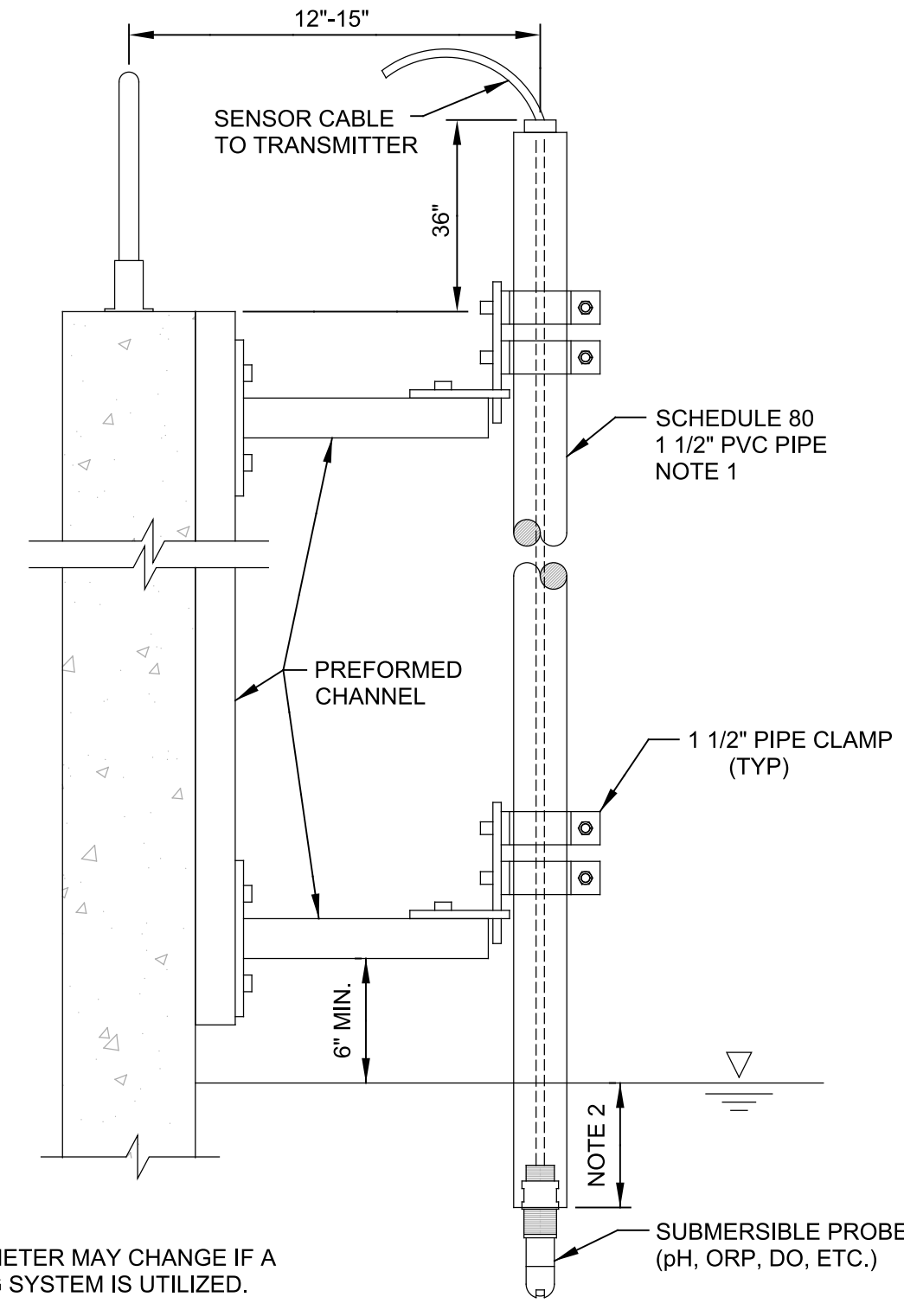
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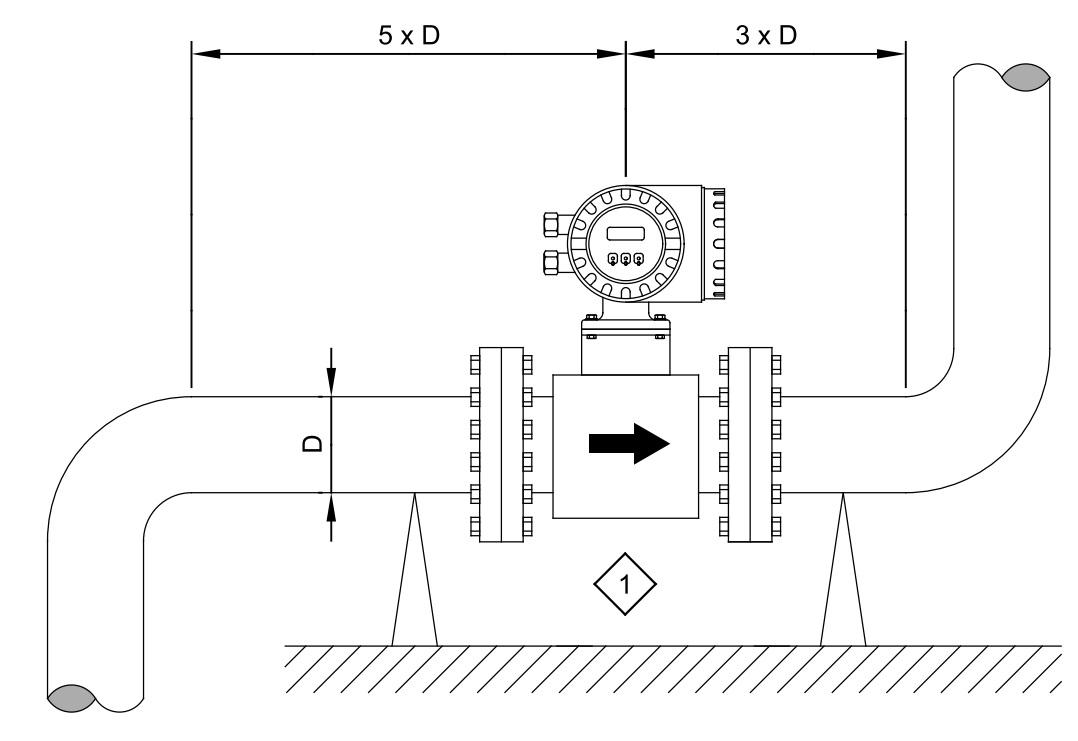
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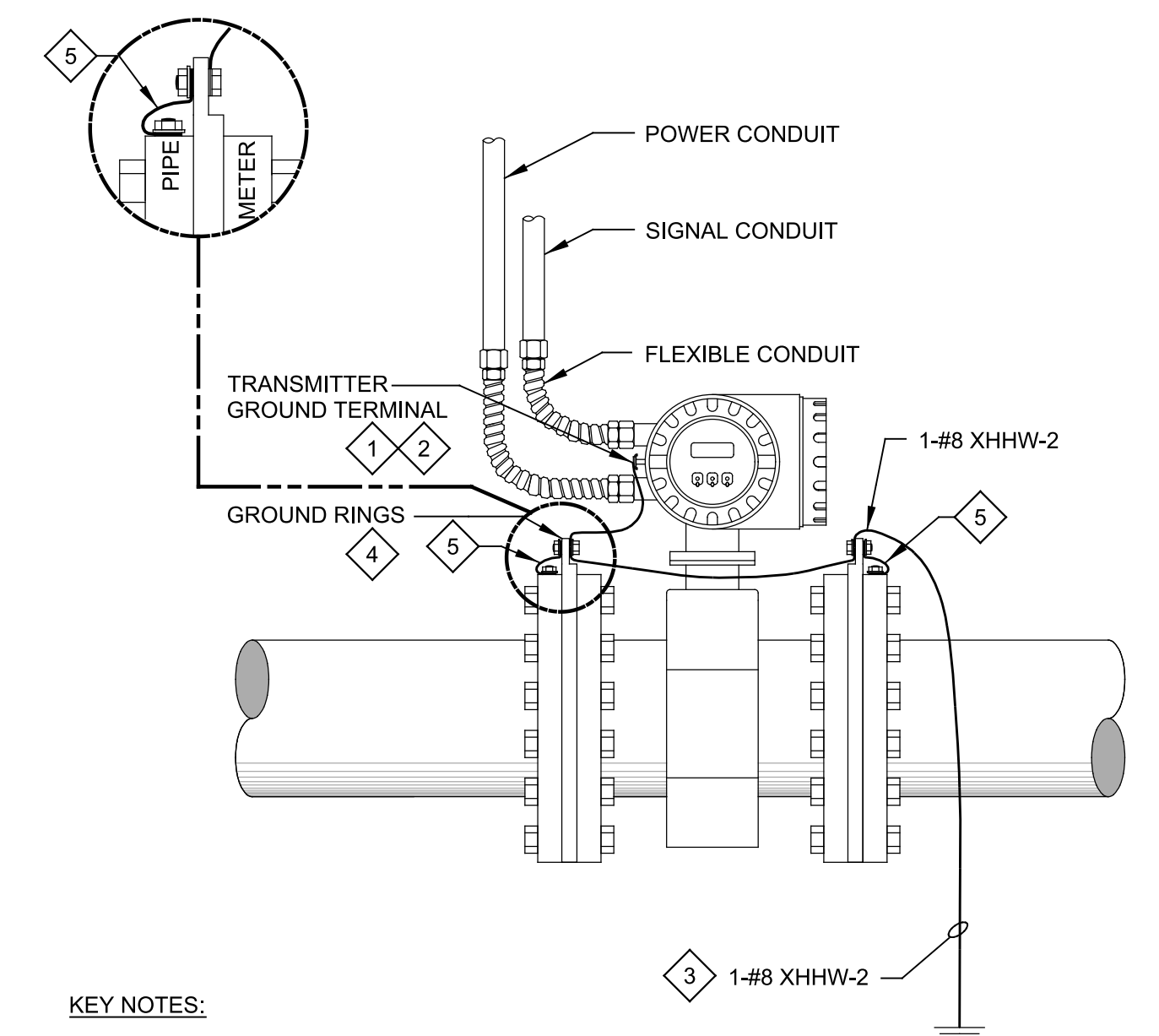
- NOTES:**
- PIPE DIAMETER MAY CHANGE IF A CLEANING SYSTEM IS UTILIZED.
 - MOUNTING DEPTH BASED ON MANUFACTURERS REQUIREMENTS.

NA012 ANALYZER IN BASIN PROBE MOUNTING DETAIL
TYP S



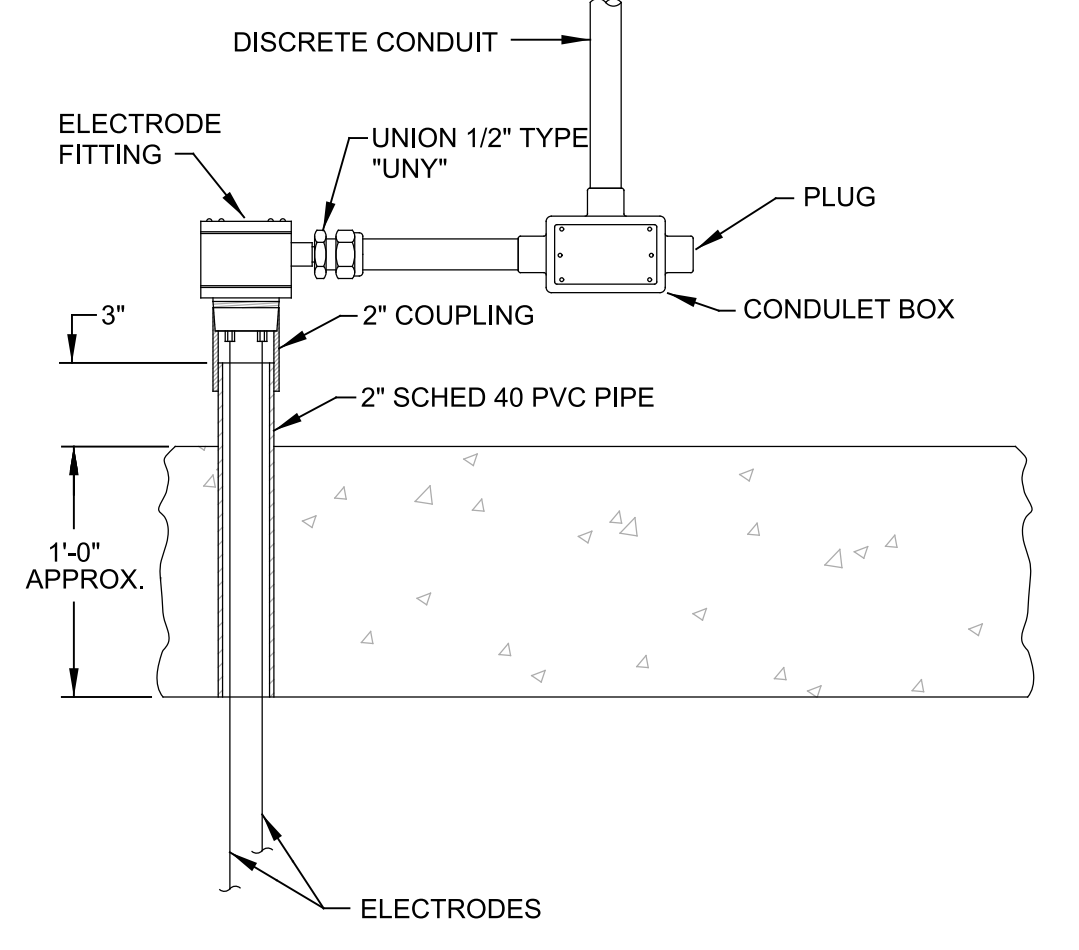
- NOTES:**
- FOLLOW MANUFACTURER'S RECOMMENDED MAXIMUM TORQUE SETTINGS. DO NOT OVER-TORQUE FLANGE BOLTS. OVERTIGHTENING THE FASTENERS WILL DEFORM SEALING FACES OR DAMAGE THE LINE.
 - ALWAYS TIGHTEN FLANGE BOLTS UNIFORMLY AND IN DIAGONALLY OPPOSITE SEQUENCE.
 - MOUNT METER SO THAT IT REMAINS FULLY FLOODED.
 - INSTALL METER SUCH THAT THERE ARE NO PIPE BENDS FOR 5 PIPE DIAMETERS UPSTREAM AND 3 PIPE DIAMETERS DOWNSTREAM OF THE METER.
- KEY NOTES:**
- PIPE SUPPORTS BY MECHANICAL CONTRACTOR. NO SUPPORTS SHALL BE INSTALLED AT THE METER HOUSING.

NF130 MAGNETIC FLOW MOUNTING DETAIL
TYP S

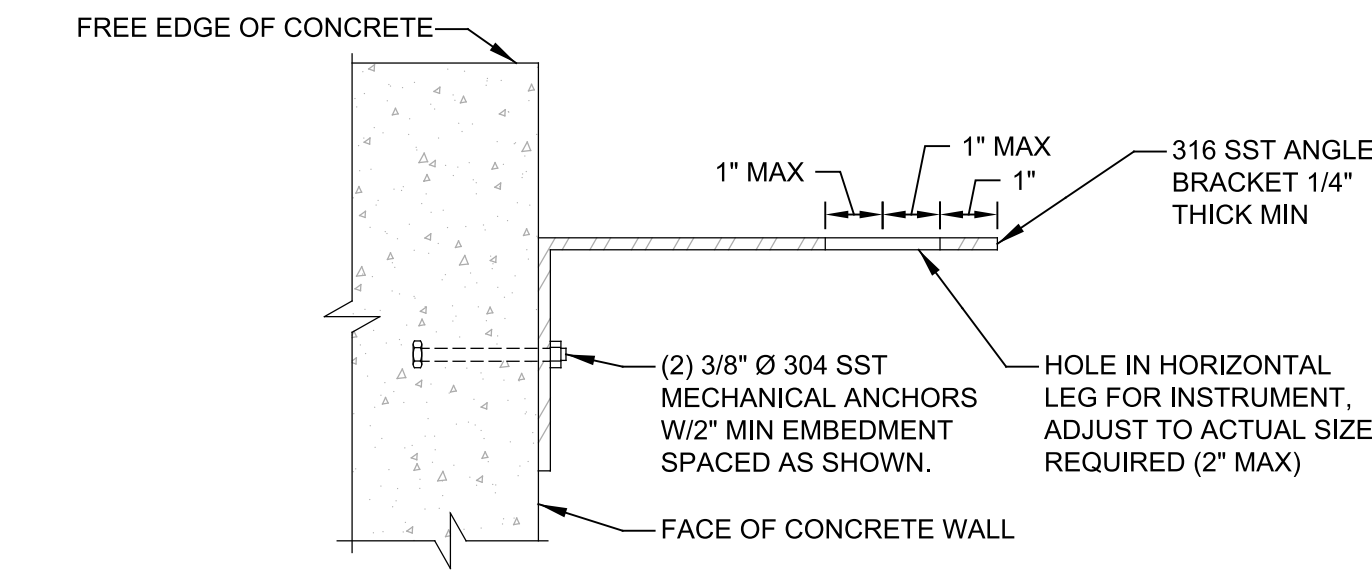


- KEY NOTES:**
- CONTRACTOR SHALL VERIFY ZERO POTENTIAL BETWEEN FLOW TUBE, EARTH GROUND AND TRANSMITTER GROUND TERMINAL.
 - CONNECT TRANSMITTER GROUND TERMINAL TO GROUND RINGS.
 - CONNECT METER BODY TO EARTH GROUND POTENTIAL.
 - EQUALIZE POTENTIAL VIA GROUND RINGS BETWEEN FLUID AND MAGMETER.
 - PROVIDE BONDING JUMPER ON CONDUCTIVE PIPES.

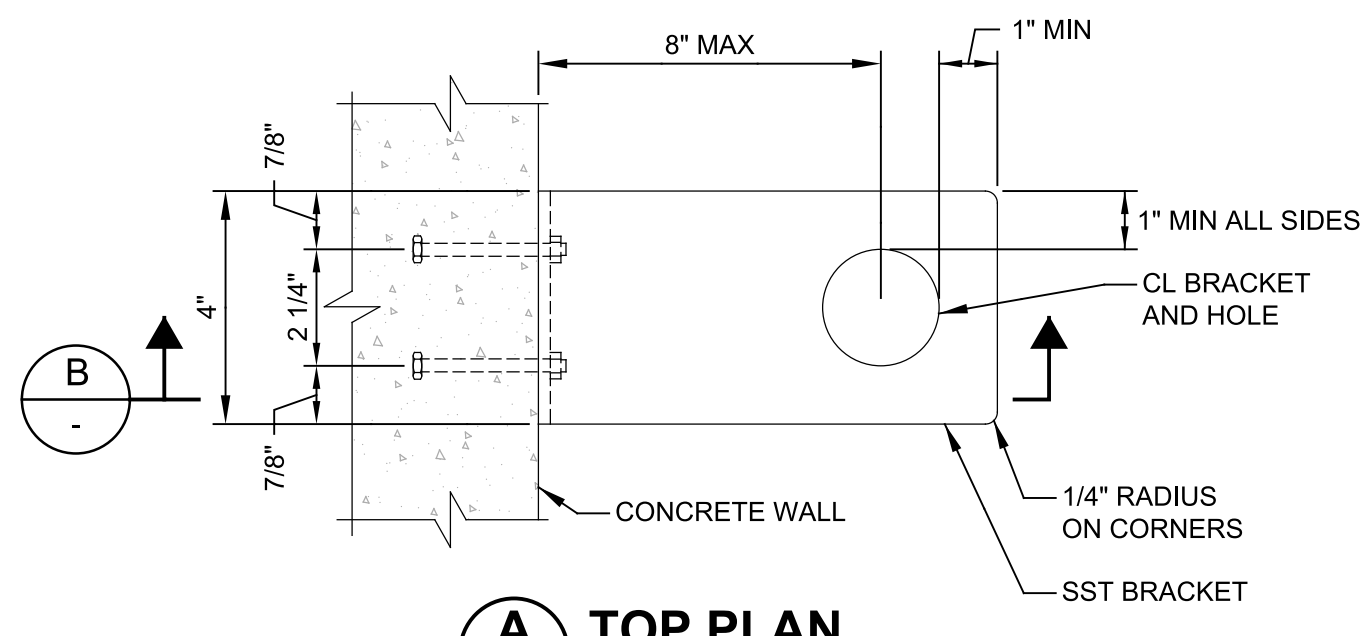
NF136 INTEGRAL MAGNETIC FLOWMETER GROUNDING DETAIL
TYP S



NL111 ELECTRODE LEVEL SENSOR MOUNTING DETAIL
TYP S

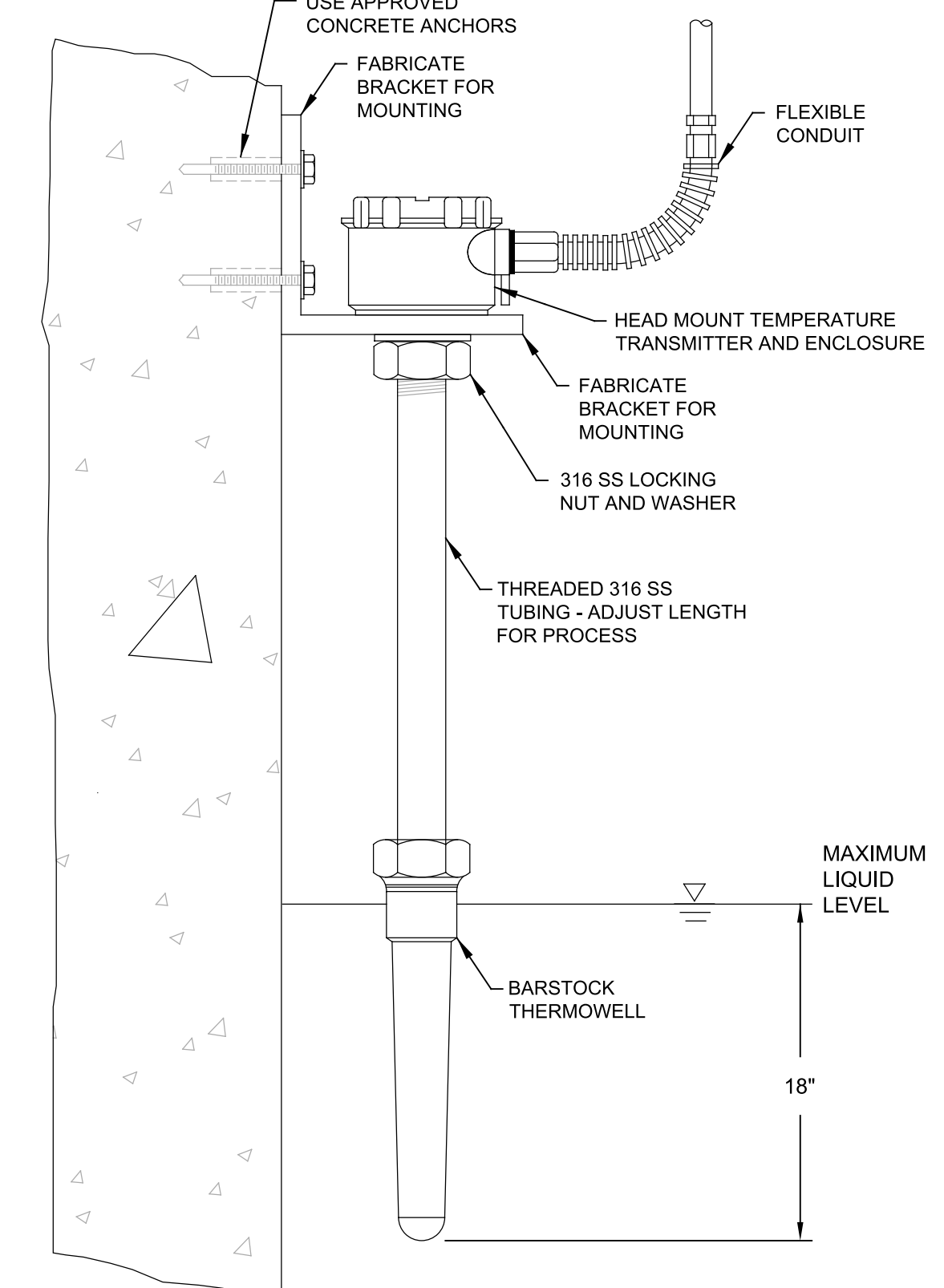


B SECTION



A TOP PLAN

NL901 ULTRASONIC LEVEL TRANSDUCER MOUNTING BRACKET
TYP J



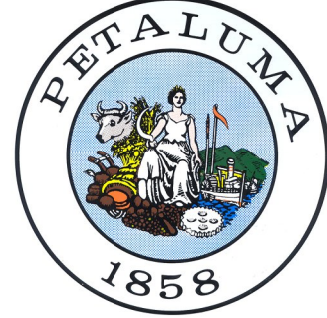
NT002 TEMPERATURE SENSOR MOUNTING DETAIL
TYP S

REV	DATE	BY	DESCRIPTION

DESIGNED
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CHECKED
DJC
DATE
SEPTEMBER 2022

06-15-20

REGISTERED PROFESSIONAL ELECTRICAL ENGINEER
No. 20740
STATE OF CALIFORNIA
09/28/22



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
INSTRUMENTATION
TYPICAL DETAILS - INSTRUMENTATION

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

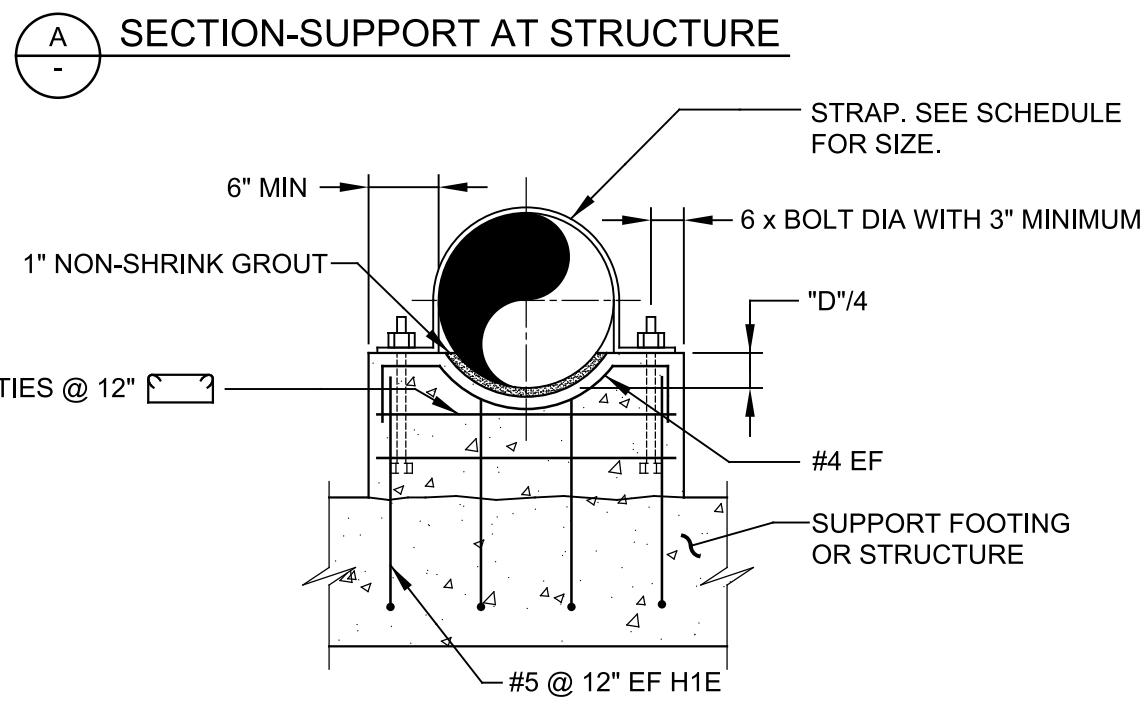
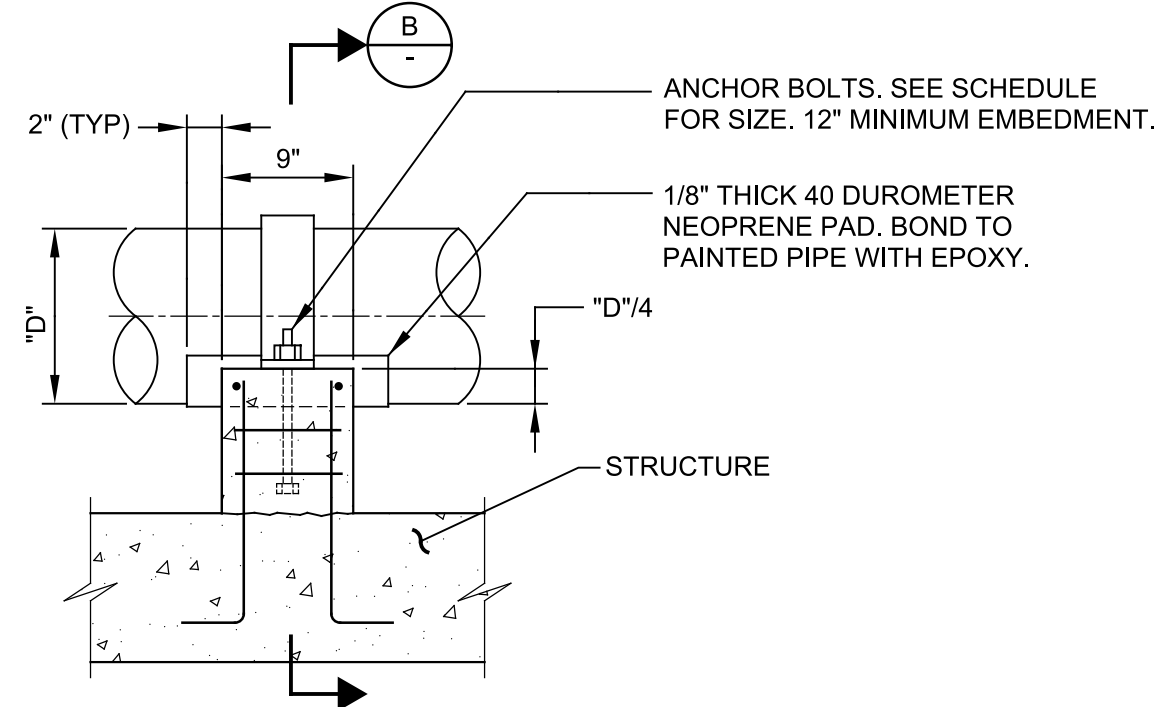
JOB NO.
7310L.10
DRAWING NO.
TN01B
SHEET NO.
18 OF 56

Plot Date: 28-SEP-2022 12:46:43 PM

User: svcPW

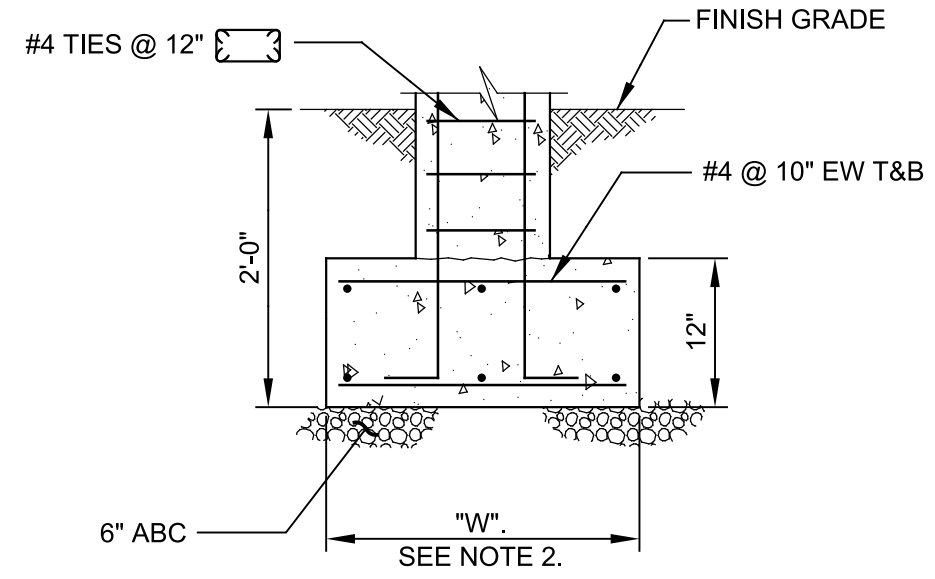
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LAST SAVED BY: mvelch



P602 CONCRETE PIPE SUPPORT
TYP

SHEET 1 OF 2 07/19/16



C SECTION-ISOLATED SUPPORT WITH FOOTING

SCHEDULE		
PIPE SIZE	STRAP SIZE	ANCHOR BOLT DIA
8" - 12"	FB 1/4" x 4"	1/2"
14" - 24"	FB 5/16" x 4"	5/8"
26" - 36"	FB 3/8" x 4"	3/4"

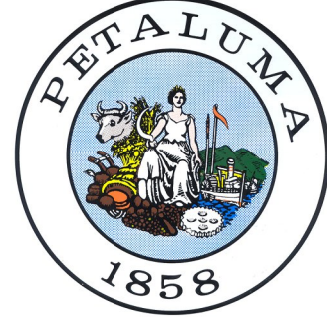
- NOTES:
- IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, MATERIAL FOR ANCHOR BOLTS AND STRAP SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, THE MATERIAL FOR ANCHOR BOLTS AND STRAP SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
 - THE WIDTH OF THE FOOTING "W" = 2'-6". THE LENGTH OF THE FOOTING = "D" + 2'-0".

P602 CONCRETE PIPE SUPPORT
TYP

SHEET 2 OF 2 11/30/08

REV	DATE	BY	DESCRIPTION

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CE
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DATE
SEPTEMBER 2022



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
TYPICALS
TYPICAL PIPING DETAILS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
7310L.10
DRAWING NO.
TP01B
SHEET NO.
19 OF 56

Plot Date: 28-SEP-2022 12:46:52 PM

User: svcpw

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 1:1

LAST SAVED BY: iweich

1. MINIMUM CONCRETE DESIGN STRENGTHS LISTED BELOW. SEE DIVISION 03 SPECIFICATION FOR REQUIREMENTS FOR CONCRETE CONSTRUCTION.
STRUCTURAL CAST-IN-PLACE CONCRETE $f_c = 4000$ PSI
REINFORCING STEELASTM A615, GRADE 60 DEFORMED BARS UNO
2. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, MINIMUM REINFORCEMENT OF CONCRETE WALLS OR SLABS SHALL BE AS FOLLOWS. CONTACT ENGINEER FOR LOCATIONS INSIDE CONCRETE.
10" THICK OR LESS:#5 @ 12" EACH WAY.
MORE THAN 10" THICK:#5 @ 12" EACH WAY, EACH FACE.
3. WALL REINFORCEMENT AT CORNERS OR JUNCTIONS OF WALLS SHALL BE CONTINUOUS, LAP SPICED, OR TERMINATED IN AN ACI STANDARD 90 DEGREE HOOK. SEE DETAIL S144/TYP.
4. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, DOWELS BETWEEN ADJACENT CONCRETE PLACEMENTS SHALL BE THE SAME SIZE AND SPACING AS THE REINFORCEMENT WHICH IS SPICED TO THE DOWELS.
5. SLAB, BEAM AND COLUMN REINFORCING BARS SHALL HAVE A MINIMUM EXTENSION OR ANCHORAGE INTO SUPPORTS IN ACCORDANCE WITH ACI 318 AND ACI 350.
6. PROVIDE STIRRUP SUPPORT BARS SHALL BE TO SECURE TOP BARS AGAINST DISPLACEMENT AS REQUIRED.
7. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, CONCRETE COVER OVER #11 AND SMALLER REINFORCING BARS SHALL BE AS FOLLOWS:
- A. SLABS AND JOISTS:
FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES FOR DRY CONDITIONS
#7 BARS AND SMALLER.....1"
#8 BARS AND LARGER.....1 1/2"
FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES EXPOSED TO WEATHER, IN CONTACT WITH SOIL OR FLUIDS, OR LOCATED OVER FLUIDS.....2"
B. BEAMS AND COLUMNS:
FORMED CONCRETE SURFACES FOR DRY CONDITIONS:
STIRRUPS, SPIRALS, AND TIES.....1 1/2"
PRINCIPAL REINFORCEMENT.....2"
FORMED CONCRETE SURFACES EXPOSED TO WEATHER, IN CONTACT WITH SOIL OR FLUIDS, OR IN BEAMS LOCATED OVER FLUIDS:
STIRRUPS AND TIES.....2"
PRINCIPAL REINFORCEMENT.....2 1/2"

S101 REINFORCED CONCRETE NOTES
TYP S, J SHEET 1 OF 3 04/13/20

- C. WALLS:
FORMED CONCRETE SURFACES FOR DRY CONDITIONS:
#7 BARS AND SMALLER.....1"
#8 BARS AND LARGER.....1 1/2"
FORMED CONCRETE SURFACES EXPOSED TO WEATHER, OR IN CONTACT WITH SOIL OR FLUIDS.....2"
- D. FOOTINGS AND SLABS ON GRADE:
FORMED VERTICAL CONCRETE SURFACES.....2"
AT UNFORMED CONCRETE SURFACES CAST AGAINST SOIL, ROCK, OR CONCRETE WORK MATS.....3"
TOP SURFACE OF FOOTINGS AND SLABS.....SAME AS SLABS
8. WATERSTOPS:
A. PROVIDE WATERSTOPS AT JOINTS IN SLABS AND WALLS OF LIQUID-CONTAINING STRUCTURES, AND PORTIONS OF STRUCTURES BELOW THE DESIGN GROUNDWATER LEVEL. MAKE WATERSTOPS CONTINUOUS THROUGH STRUCTURE, SPICING WATERSTOPS IN SLABS WITH WATERSTOPS IN WALLS.
B. END WATERSTOPS 3" BELOW TOP OF WALLS. WHERE TOP OF WALL IS COVERED BY A SLAB WITHOUT WATERSTOPS, CONTINUE WATERSTOP TO WALL/SLAB JOINT. WHERE TOP OF WALL IS COVERED BY A SLAB WITH WATERSTOPS, MAKE WATERSTOPS CONTINUOUS, SPICING WATERSTOPS IN WALLS WITH WATERSTOPS IN SLAB.
9. CURE CONCRETE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. WHERE WATER CURING IS SPECIFIED, MEMBRANE CURING IS NOT ALLOWED.
A. THE CONTRACTOR IS WARNED THAT WATER CURING IS DIFFICULT AT TIMES DUE TO WIND AND DRY CONDITIONS. STUDY SPECIFICATION REQUIREMENTS AND FURNISH ADEQUATE SYSTEMS TO PROVIDE WATER CURING WHERE REQUIRED.
B. KEEP WATER CURED SURFACES VISIBLY MOIST AT ALL TIMES. FLOOD TOPS OF WALLS NOT LESS THAN 3 TIMES DAILY.
10. DO NOT PLACE BACKFILL AGAINST WALLS UNTIL:
A. WALLS HAVE BEEN CAST TO FULL HEIGHT OF STRUCTURE AND CONCRETE HAS REACHED THE MINIMUM SPECIFIED 28-DAY COMPRESSIVE STRENGTH (f_c).
B. CONNECTING SLABS AND BEAMS HAVE BEEN CAST AND CONCRETE IN THOSE ELEMENTS HAS REACHED THE MINIMUM SPECIFIED COMPRESSIVE STRENGTH (f_c).
11. LAP SPLICES:
A. SEE TABLE 1 OF THIS DETAIL FOR LAP SPlice LENGTHS.
B. WHEN MULTIPLE BARS ARE SPICED AT THE SAME SECTION, THE "CLEAR BAR SPACING" IS DEFINED AS THE MINIMUM CLEAR DISTANCE BETWEEN THE BARS OUTSIDE THE SPlice LENGTH MINUS ONE BAR DIAMETER.

S101 REINFORCED CONCRETE NOTES
TYP S, J SHEET 2 OF 3 04/13/20

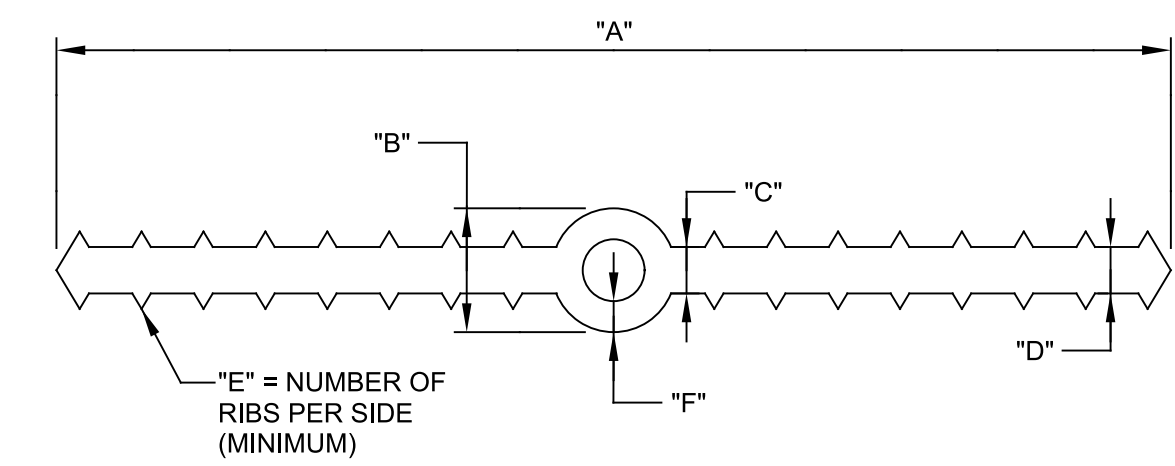
- C. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, BARS AT A LAP SPlice SHALL BE IN CONTACT WITH EACH OTHER.
D. "TOP BARS" ARE HORIZONTAL REINFORCEMENT AT LOCATIONS WHERE MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.
12. FORM EXPOSED CONCRETE CORNERS AND EDGES WITH 3/4" CHAMFER UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

TABLE 1: REINFORCING BAR LAP SPLICES: $f_c = 4000$ PSI, $F_y = 60,000$ PSI

BAR SIZE	MINIMUM COVER (BAR DIA)	MINIMUM CLEAR BAR SPACING (BAR DIA)	LAP SPlice LENGTH (INCHES)	
			TOP BARS	OTHER BARS
#4	MORE THAN 1	MORE THAN 2	32 *	25 *
	MORE THAN 2	MORE THAN 4	20	16
#5	MORE THAN 1	MORE THAN 2	40 *	31 *
	MORE THAN 2	MORE THAN 4	26	20
#6	MORE THAN 1	MORE THAN 2	48 *	37 *
	MORE THAN 2	MORE THAN 4	30	24
#7	MORE THAN 1	MORE THAN 2	70 *	54 *
	MORE THAN 2	MORE THAN 4	43	33
#8	MORE THAN 1	MORE THAN 2	81 *	62 *
	MORE THAN 2	MORE THAN 4	50	38
#9	MORE THAN 1	MORE THAN 2	90 *	70 *
	MORE THAN 2	MORE THAN 4	56	42
#10	MORE THAN 1	MORE THAN 2	104 *	81 *
	MORE THAN 2	MORE THAN 4	62	48
#11	MORE THAN 1	MORE THAN 2	114 *	88 *
	MORE THAN 2	MORE THAN 4	69	54

- REINFORCING BAR LAP SPlice TABLE NOTES:
1. TABULATED SPlice LENGTHS ARE APPLICABLE ONLY WHEN BOTH REQUIREMENTS FOR MINIMUM COVER AND FOR MINIMUM CLEAR BAR SPACING ARE SATISFIED.
2. * = IF THE CLEAR BAR SPACING IS LESS THAN OR EQUAL TO TWO BAR DIAMETERS, OR THE COVER IS LESS THAN OR EQUAL TO ONE BAR DIAMETER, THE LAP SPlice LENGTH SHALL BE INCREASED BY 50 PERCENT.

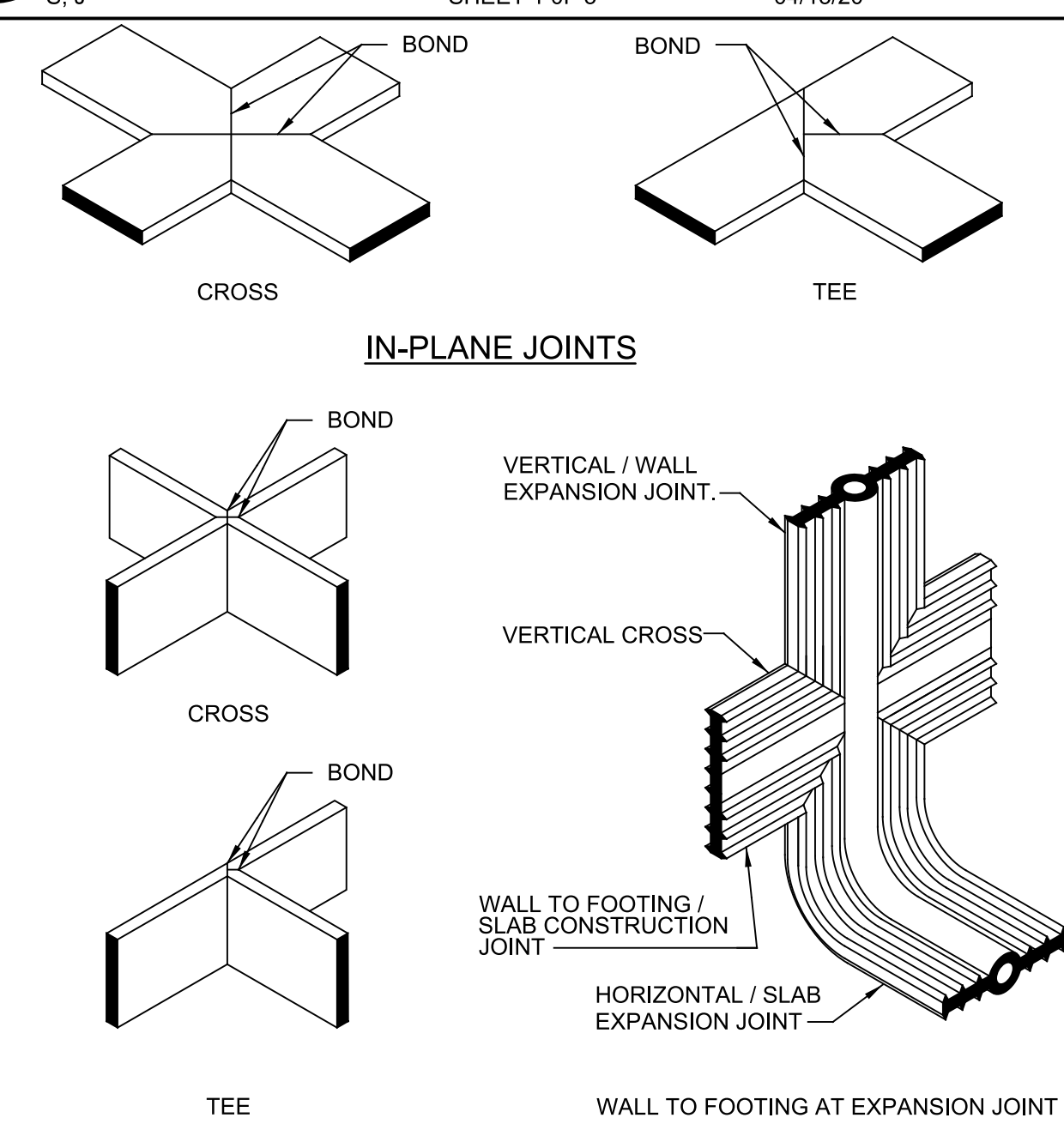
S101 REINFORCED CONCRETE NOTES
TYP S, J SHEET 3 OF 3 04/13/20



TYPE	"A"	"B"	"C"	"D"	"E"	"F"	APPLICATION
W/O CENTERBULB	6"	-	3/8"	3/8"	7	-	CONSTRUCTION AND CONTROL JOINTS

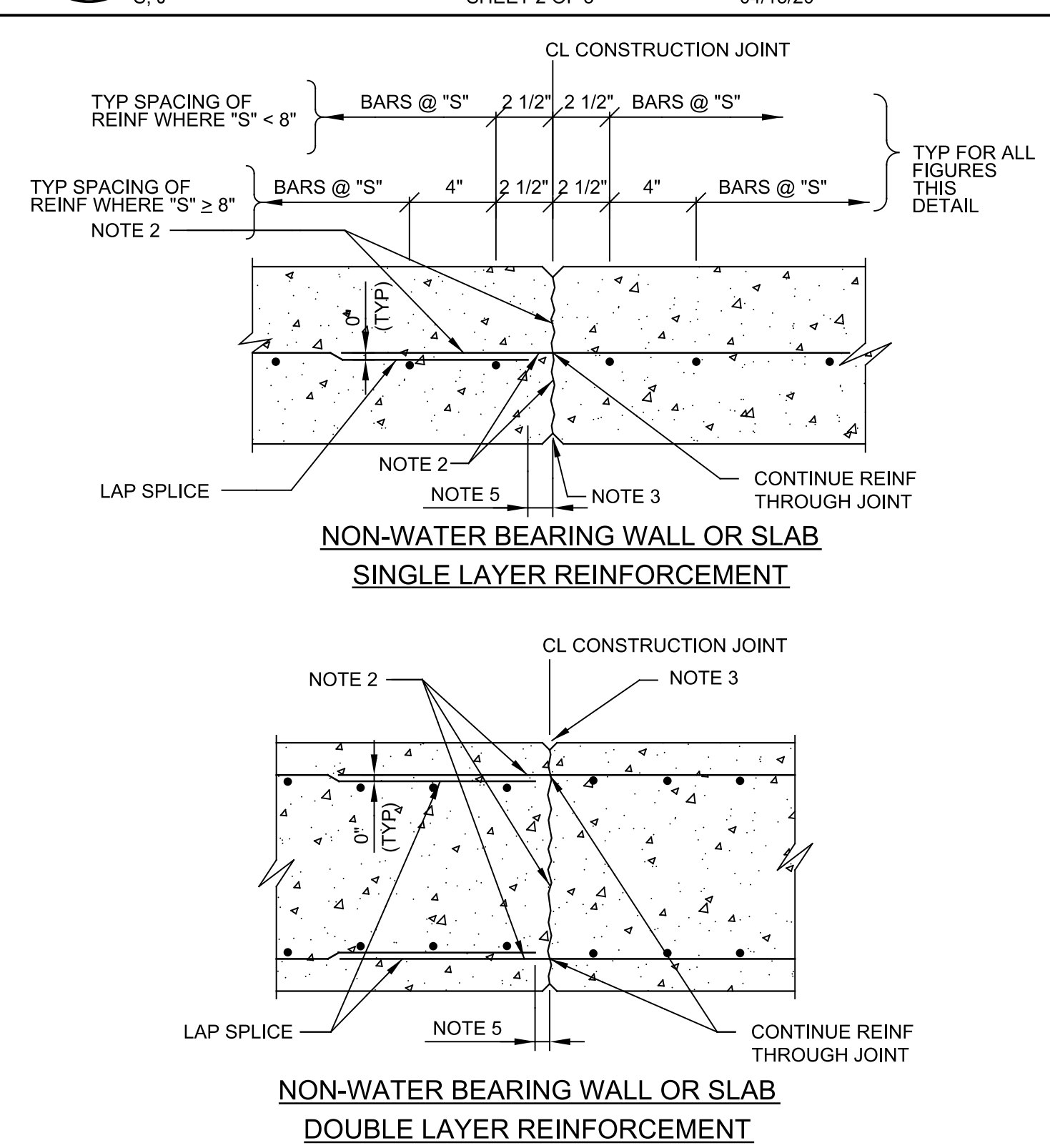
- NOTES:
1. SEE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.
2. DIMENSIONS ARE MINIMUM, UNLESS OTHERWISE NOTED.

S106 PVC WATERSTOP SCHEDULE
TYP R 02/21/20

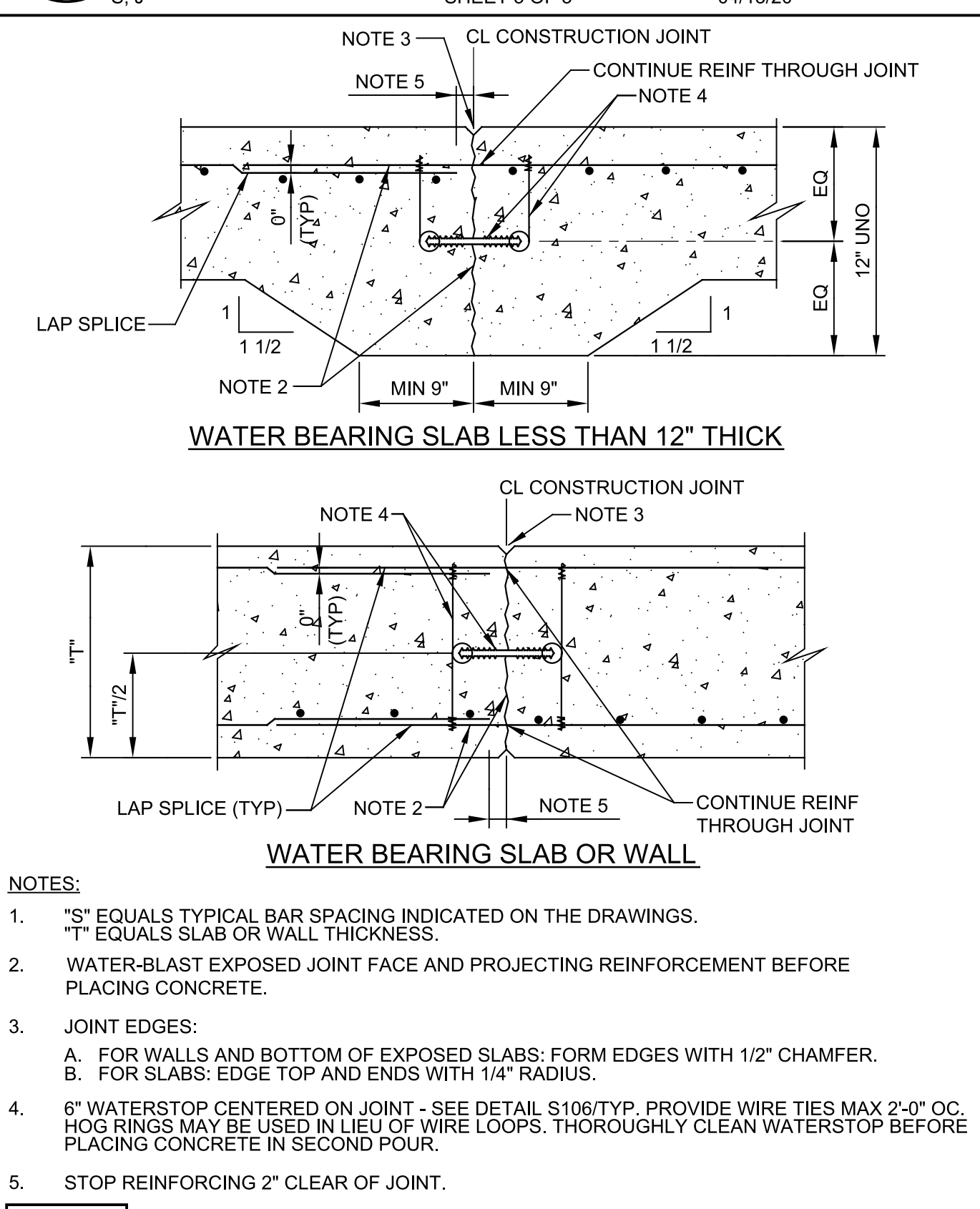


- NOTES:
1. MAKE WELDS AS SPECIFIED AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
2. CROSSES AND TEES SHALL BE FACTORY PREFABRICATED BY THE MANUFACTURER. FIELD WELDS SHALL BE BUTT WELDS ONLY.

S107 PREFABRICATED PVC WATERSTOP JOINTS
TYP 07/08/16



S110 CONSTRUCTION JOINT
TYP S SHEET 1 OF 2 07/11/16



- NOTES:
1. "S" EQUALS TYPICAL BAR SPACING INDICATED ON THE DRAWINGS. "T" EQUALS SLAB OR WALL THICKNESS.
2. WATER-BLAST EXPOSED JOINT FACE AND PROJECTING REINFORCEMENT BEFORE PLACING CONCRETE.
3. JOINT EDGES:
A. FOR WALLS AND BOTTOM OF EXPOSED SLABS: FORM EDGES WITH 1/2" CHAMFER.
B. FOR SLABS: EDGE TOP AND ENDS WITH 1/4" RADIUS.
4. 6" WATERSTOP CENTERED ON JOINT - SEE DETAIL S106/TYP. PROVIDE WIRE TIES MAX 2'-0" OC. HOG RINGS MAY BE USED IN LIEU OF WIRE LOOPS. THOROUGHLY CLEAN WATERSTOP BEFORE PLACING CONCRETE IN SECOND POUR.
5. STOP REINFORCING 2" CLEAR OF JOINT.

S110 CONSTRUCTION JOINT
TYP S SHEET 2 OF 2 07/11/16

REV	DATE	BY	DESCRIPTION
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DESIGNED
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JAD
DATE
SEPTEMBER 2022

REGISTERED PROFESSIONAL ENGINEER
ERIC J. WIERBA
No. 6370
STRUCTURAL
STATE OF CALIFORNIA
09/28/22

carollo

PETALUMA
1858

CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
TYPICALS
TYPICAL STRUCTURAL DETAILS

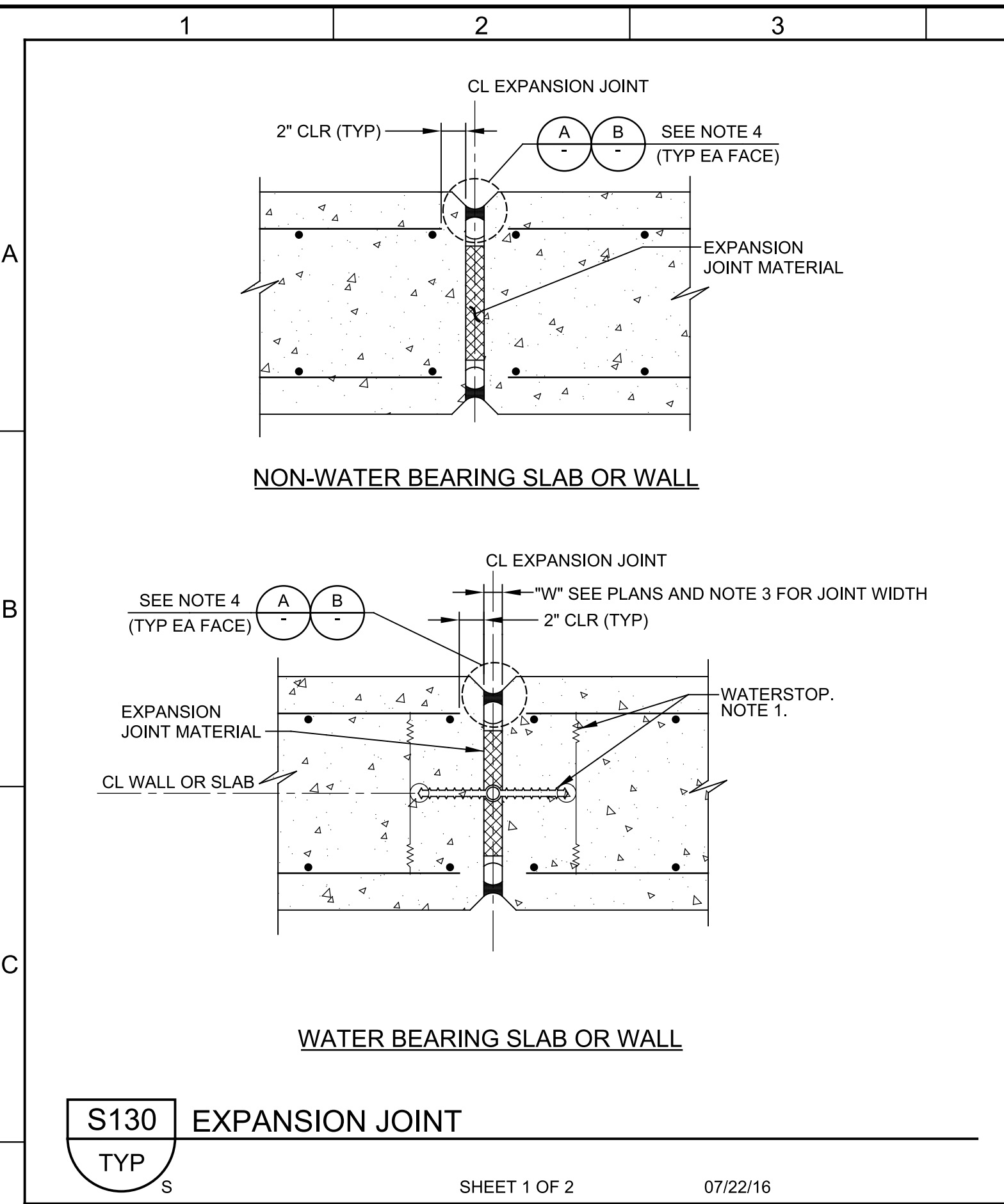
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DRAWING NO. TS01B
SHEET NO. 20 OF 56

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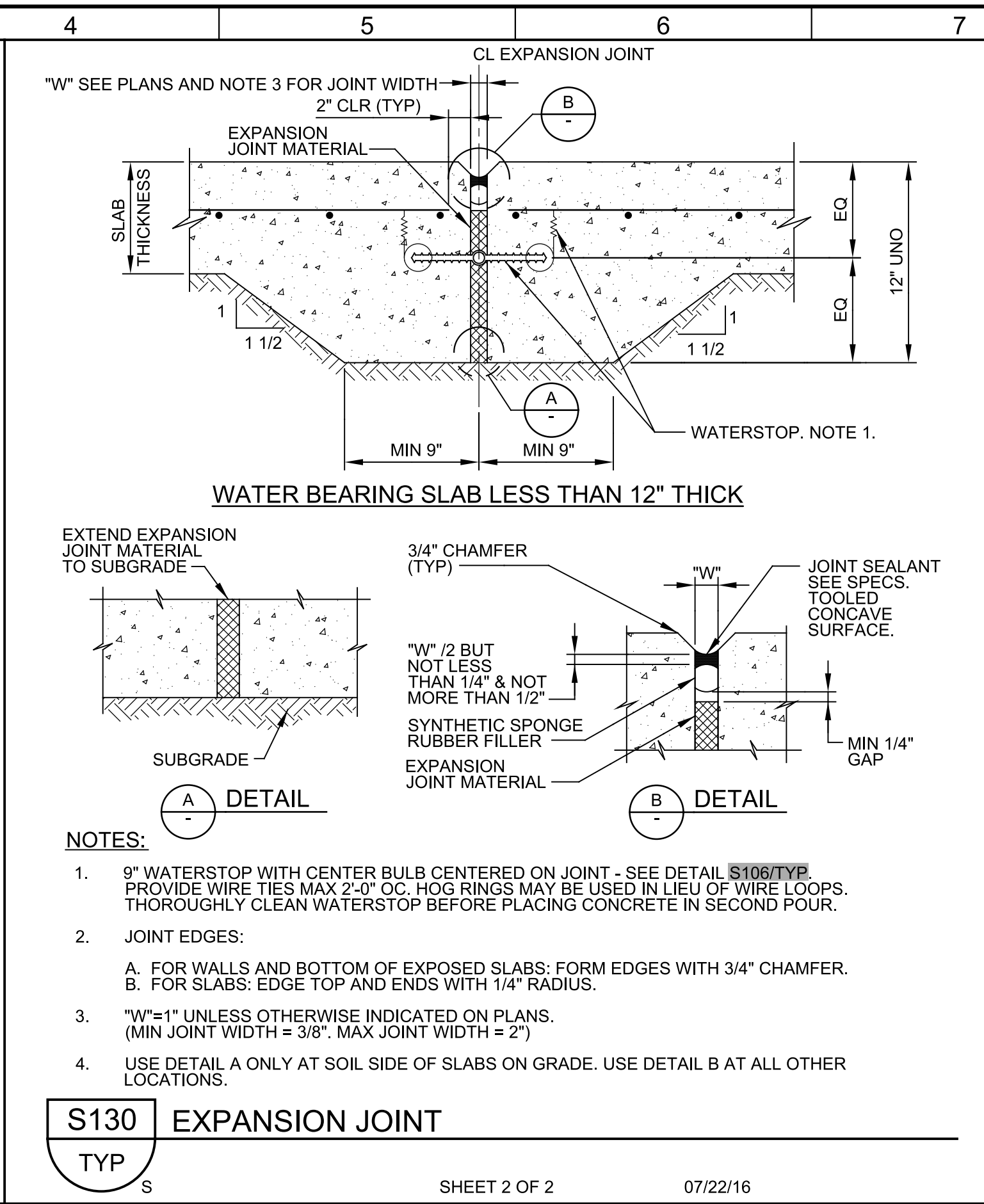
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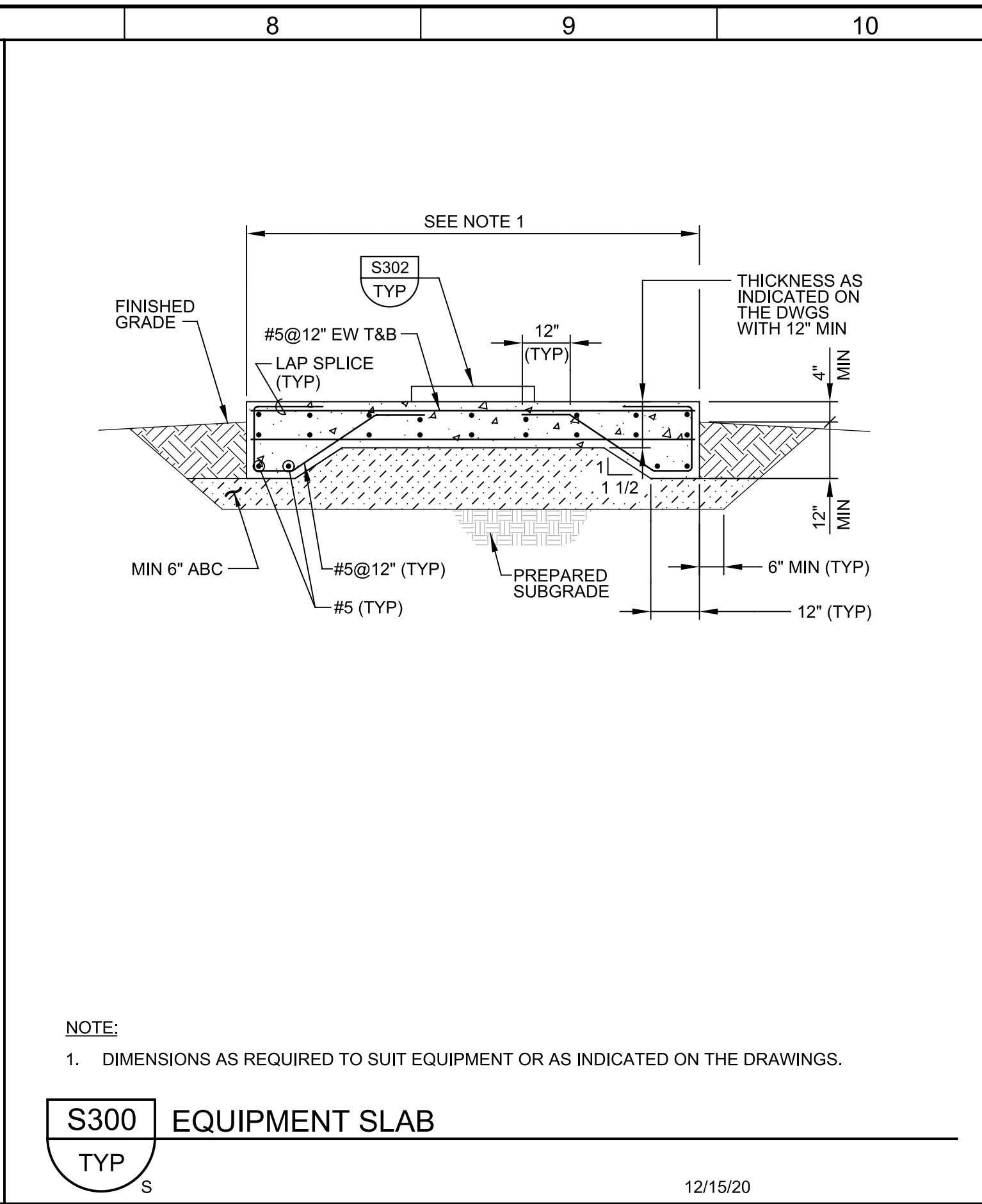
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SHEET 1 OF 2 07/22/16



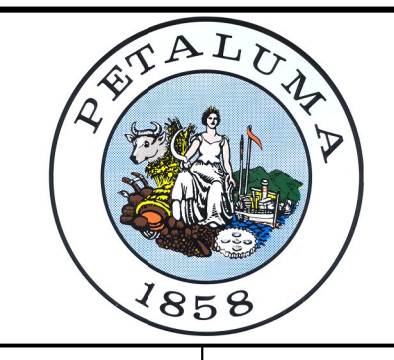
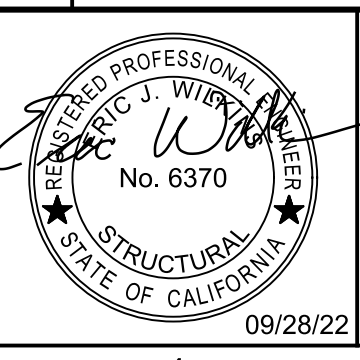
SHEET 2 OF 2 07/22/16



12/15/20

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CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
TYPICALS
TYPICAL STRUCTURAL DETAILS

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	JOB NO. 7310L.10 DRAWING NO. TS02B SHEET NO. 21 OF 56
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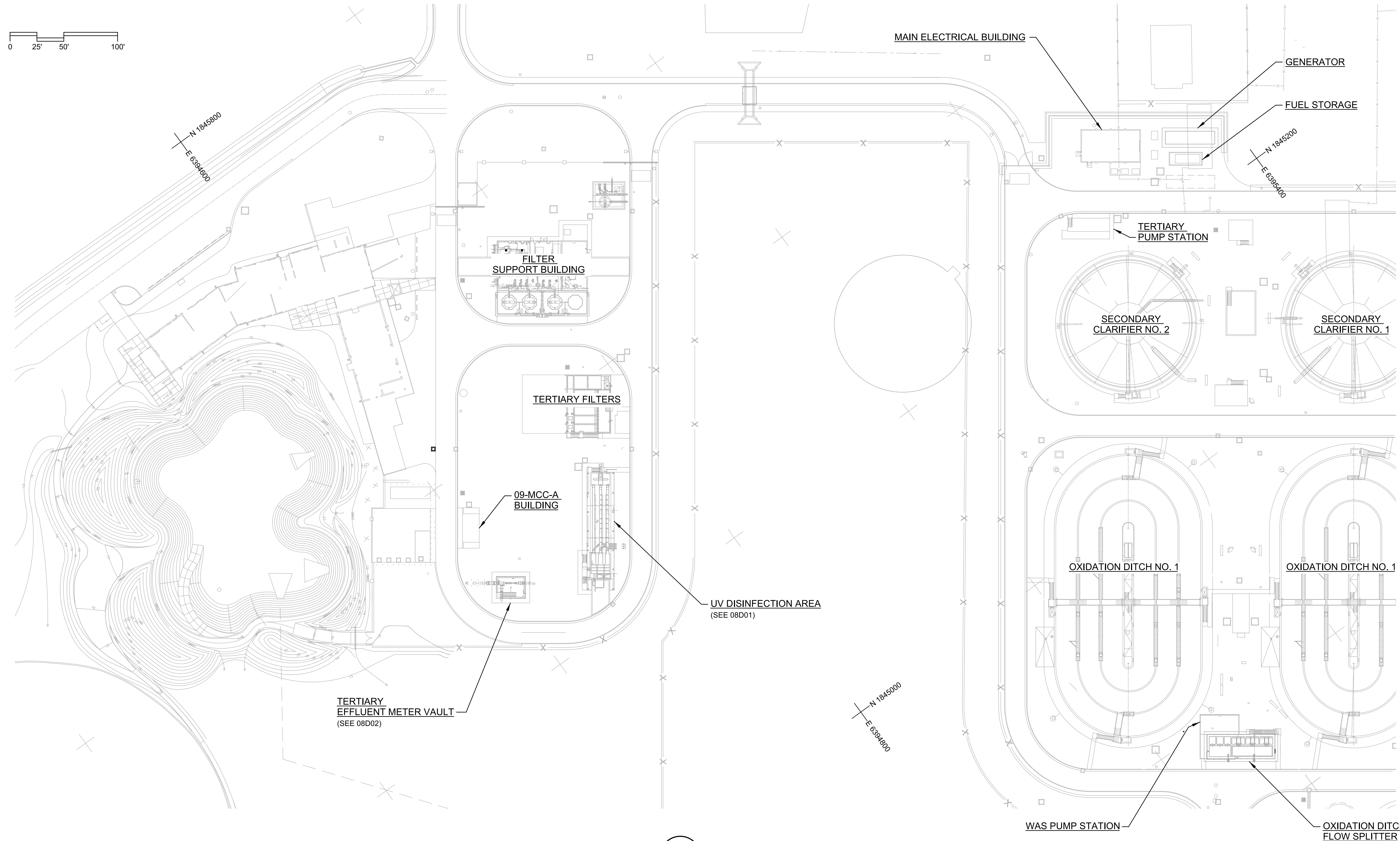
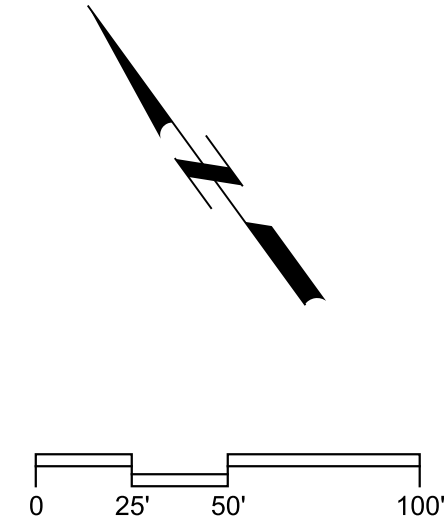
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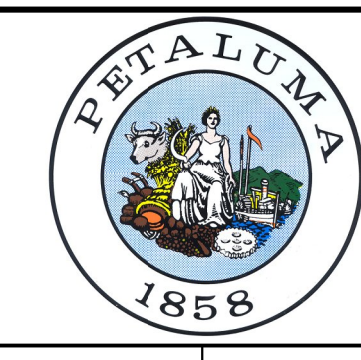
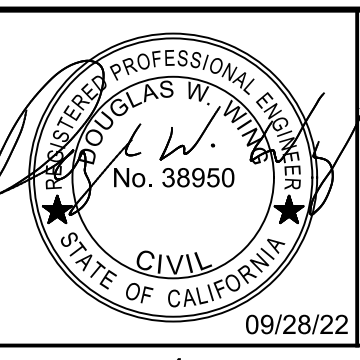


- GENERAL DEMOLITION NOTES:**
1. NOT ALL DEMOLITION WORK REQUIRED ON THIS PROJECT IS SHOWN ON THE DEMOLITION DRAWINGS. SEE OTHER CONTRACT DWGS FOR ADDITIONAL DEMOLITION WORK REQUIRED. SEE YARD PIPING DRAWINGS FOR BELOW GRADE PIPING DEMOLITION.
 2. COORDINATE DEMOLITION WORK WITH SPECIFICATION SECTIONS 01140.
 3. THE DEMOLITION DRAWINGS HEREIN ARE PROVIDED TO THE CONTRACTOR FOR REFERENCE IN DETERMINING THE SCOPE OF DEMOLITION REQUIRED. THE CONTRACTOR SHALL MAKE SUCH INVESTIGATIONS AS NECESSARY TO SATISFY HIMSELF AS TO FIELD CONDITIONS. THE USE OF THESE DRAWINGS SHALL BE AT CONTRACTOR'S DISCRETION. THE CONTRACTOR IS CAUTIONED TO REVIEW THE GENERAL CONDITIONS OUTLINED IN VOLUME.
 4. ALL AREAS WHERE CONCRETE FILL IS CALLED FOR SHALL BE SANDBLASTED AND COATED WITH EPOXY BONDING AGENT PRIOR TO PLACING CONCRETE.
 5. WHERE EQUIPMENT, BRACKETS, CLAMPS, ETC. ARE REMOVED, FASTENER SHALL BE CUT OFF 1/2-INCH BELOW SURFACE. PATCH HOLE WITH NON-SHRINK GROUT.
 6. SALVAGE EQUIPMENT PER OWNER'S INSTRUCTION.
 7. PROVIDE 30 DAYS WRITTEN NOTICE TO OWNER PRIOR TO DEMOLISHING ANY STRUCTURE OR BUILDING.
 8. DISCONNECT AND REMOVE POWER AND CONTROL WIRING BETWEEN THE DEMOLISHED EQUIPMENT AND ITS ASSOCIATED MCC OR CONTROL PANEL. PALLETIZE CONDUITS AND WIRES AND RETURN TO OWNER.
 9. REFER TO SPEC SECTION 02200 FOR CLEARING, GRUBBING, AND STRIPPING REQUIREMENTS.
 10. SITE DEMOLITION WILL IMPACT EXISTING DRAINAGE PATTERNS. MAINTAIN SITE DRAINAGE PATTERNS DURING CONSTRUCTION. REROUTE EARTHEN SWALES AND PROVIDE TEMPORARY FACILITIES AS NECESSARY.

A PLAN
FILE: 7310L1000C9100B

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SEPTEMBER 2022



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
DEMOLITION
OVERALL SITE PLAN

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"	JOB NO. 7310L.10
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	DRAWING NO. D01B
	SHEET NO. 22 OF 56

Plot Date: 28-SEP-2022 12:48:55 PM

User: sncpw

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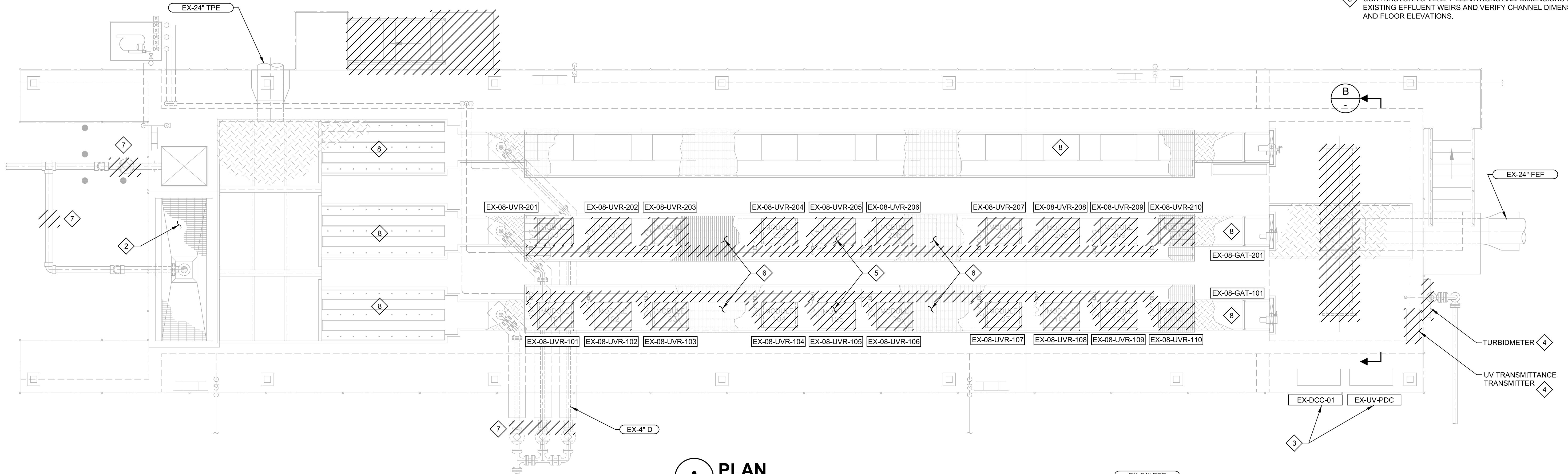
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GENERAL NOTES:

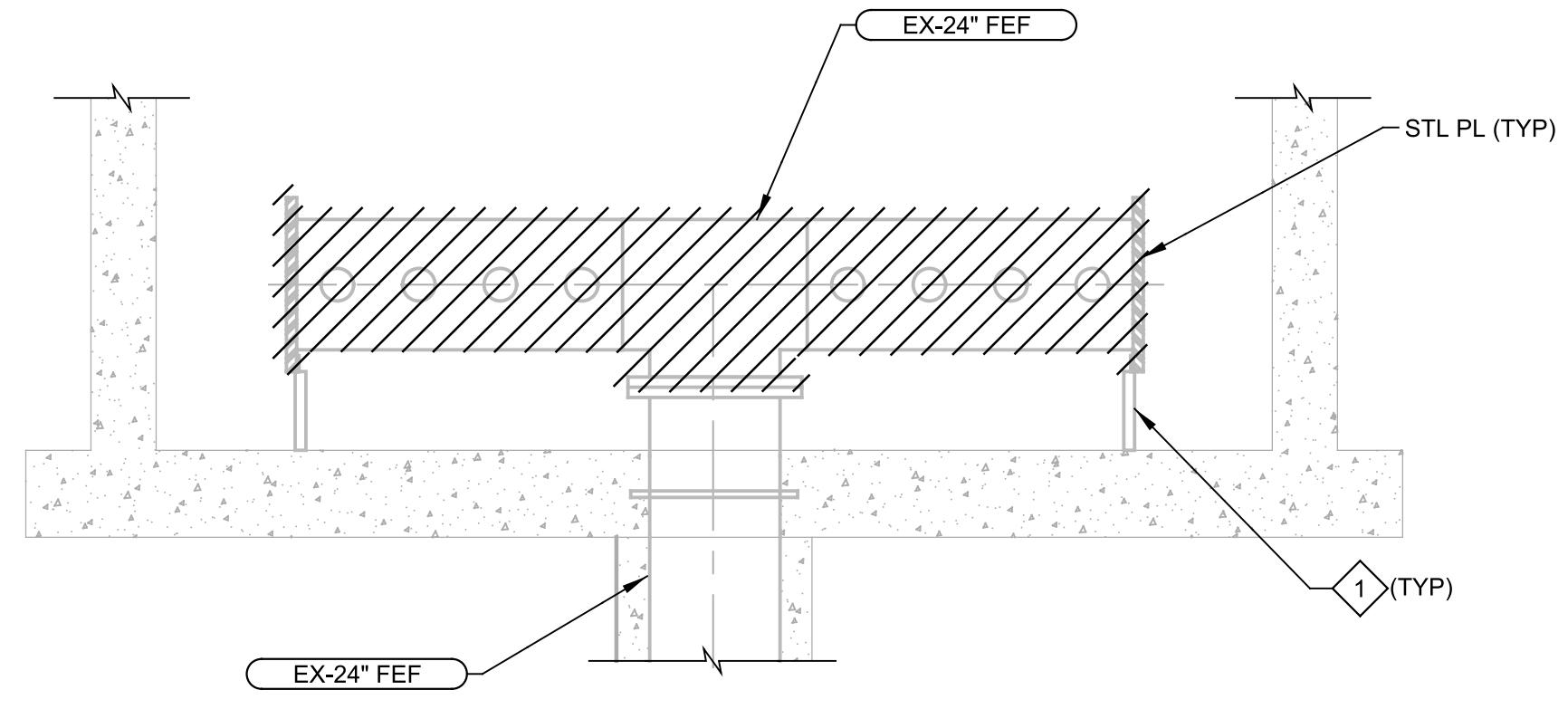
- 1. FOR GENERAL DEMOLITION NOTES, REFER TO DRAWING D01.

KEY NOTES:

- 1 REUSE PIPE SUPPORTS AS REQUIRED.
- 2 REMOVE GRATING AS REQUIRED FOR NEW DIP TANK, MODIFY AS REQUIRED.
- 3 PROTECT EXISTING PANELS, SEE ELECTRICAL DRAWINGS FOR MODIFICATIONS.
- 4 REMOVE EXISTING ANALYZER / TRANSMITTER, SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR REPLACEMENT.
- 5 REMOVE AND PRESERVE EXISTING UV MODULES FOR OWNERS USE.
- 6 CONTRACTOR TO REMOVE AND PRESERVE EXISTING GRATING, TREADPLATE AND UV LIGHT SHIELDS FOR REUSE IN NEW INSTALLATION. PROTECT GRATING REBATES.
- 7 SEE DRAWING 08M01 FOR EXTENT OF DEMOLITION.
- 8 CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS OF EXISTING EFFLUENT WEIRS AND VERIFY CHANNEL DIMENSION AND FLOOR ELEVATIONS.



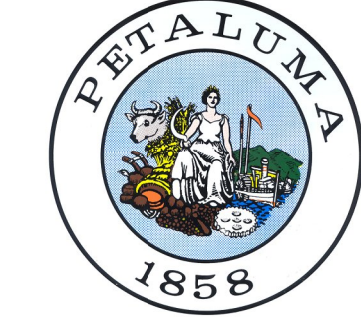
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 FILE: 7310L1008D100



B SECTION
 SCALE: 3/8" = 1'-0"
 FILE: 7310L1008D300

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SEPTEMBER 2022



CITY OF PETALUMA
 UV DISINFECTION UPGRADES PROJECT
 DEMOLITION
 UV DISINFECTION - PLAN AND SECTION

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING
 0 1"
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
7310L.10
 DRAWING NO.
08D01
 SHEET NO.
23 OF 56

Plot Date: 28-SEP-2022 12:48:31 PM

User: svcPW

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DesignScript: Carollo_Sld_Pen_v0905.pen

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Model: Layout1

LAST SAVED BY: mvelich

1 2 3 4 5 6 7 8 9 10 11 12 13

A

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C

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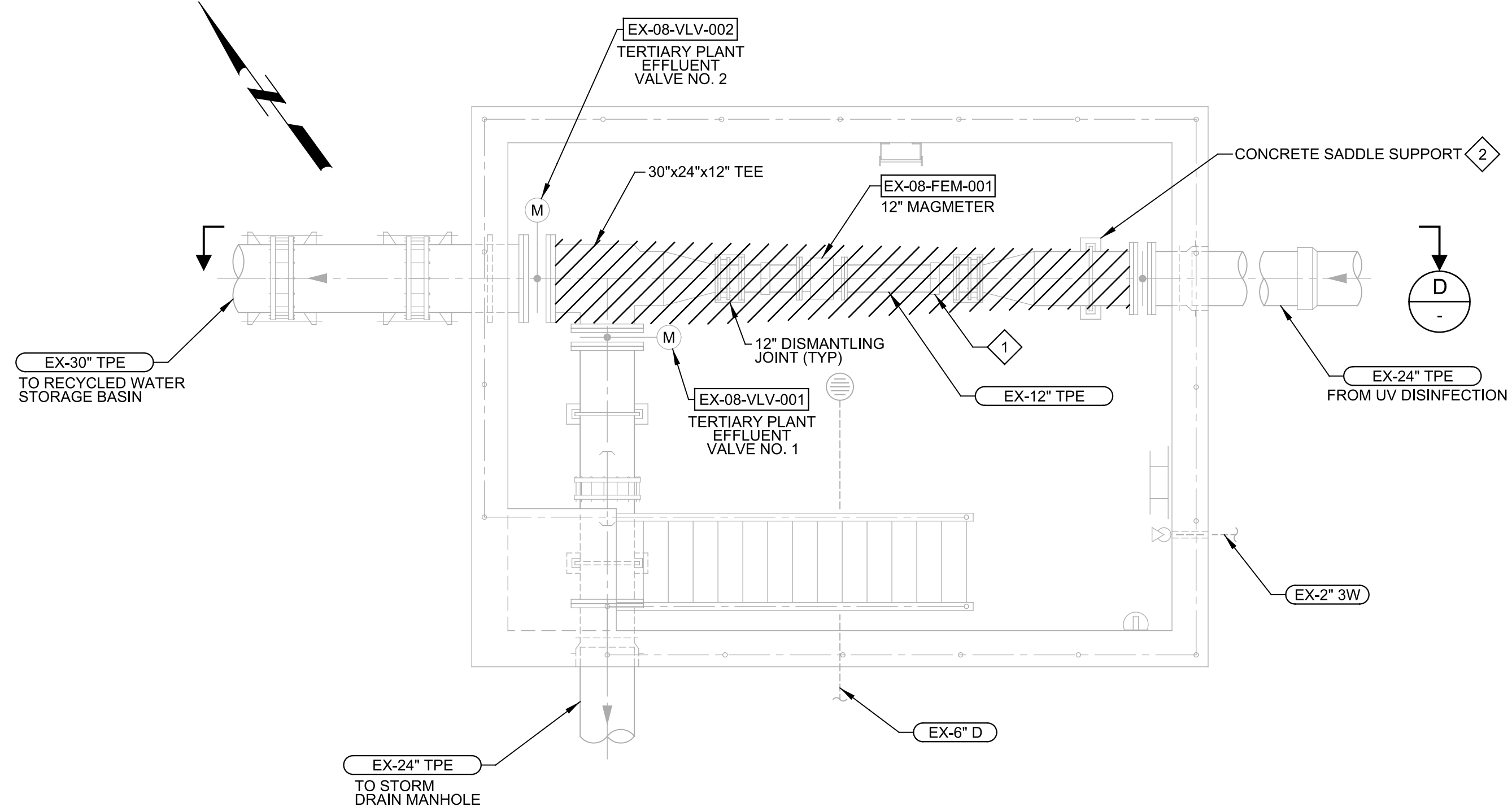
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GENERAL NOTES:

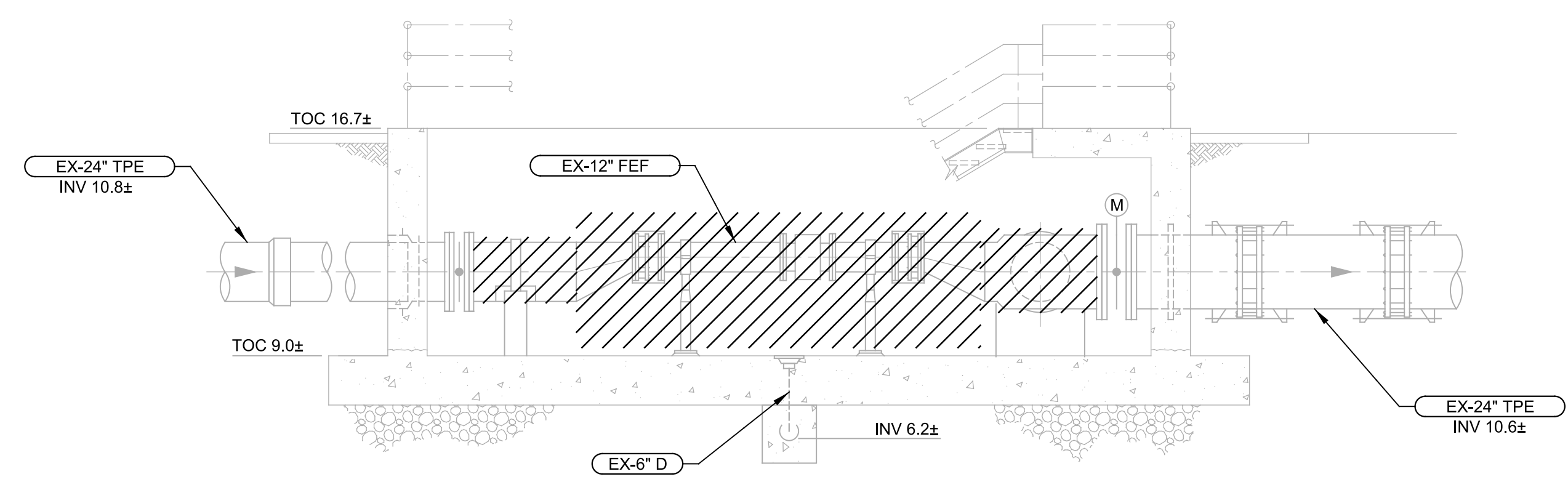
- 1. FOR GENERAL DEMOLITION NOTES, REFER TO DRAWING D01.

KEY NOTES:

- 1 DEMOLISH EXISTING ADJUSTABLE PIPE SUPPORTS.
- 2 REMOVE TOP STRAP, RETAIN STRAP AND NUTS AND PROTECT BOLTS FOR REINSTALLATION.



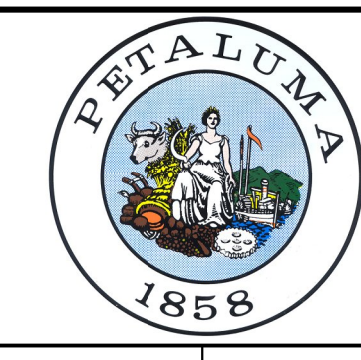
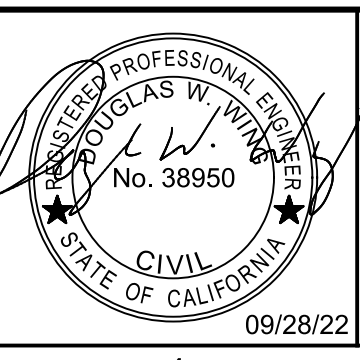
C PLAN
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SEPTEMBER 2022



CITY OF PETALUMA
 UV DISINFECTION UPGRADES PROJECT
 DEMOLITION
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 PLAN AND SECTION

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING
 0 1"
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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08D02
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24 OF 56

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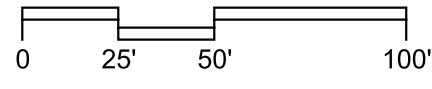
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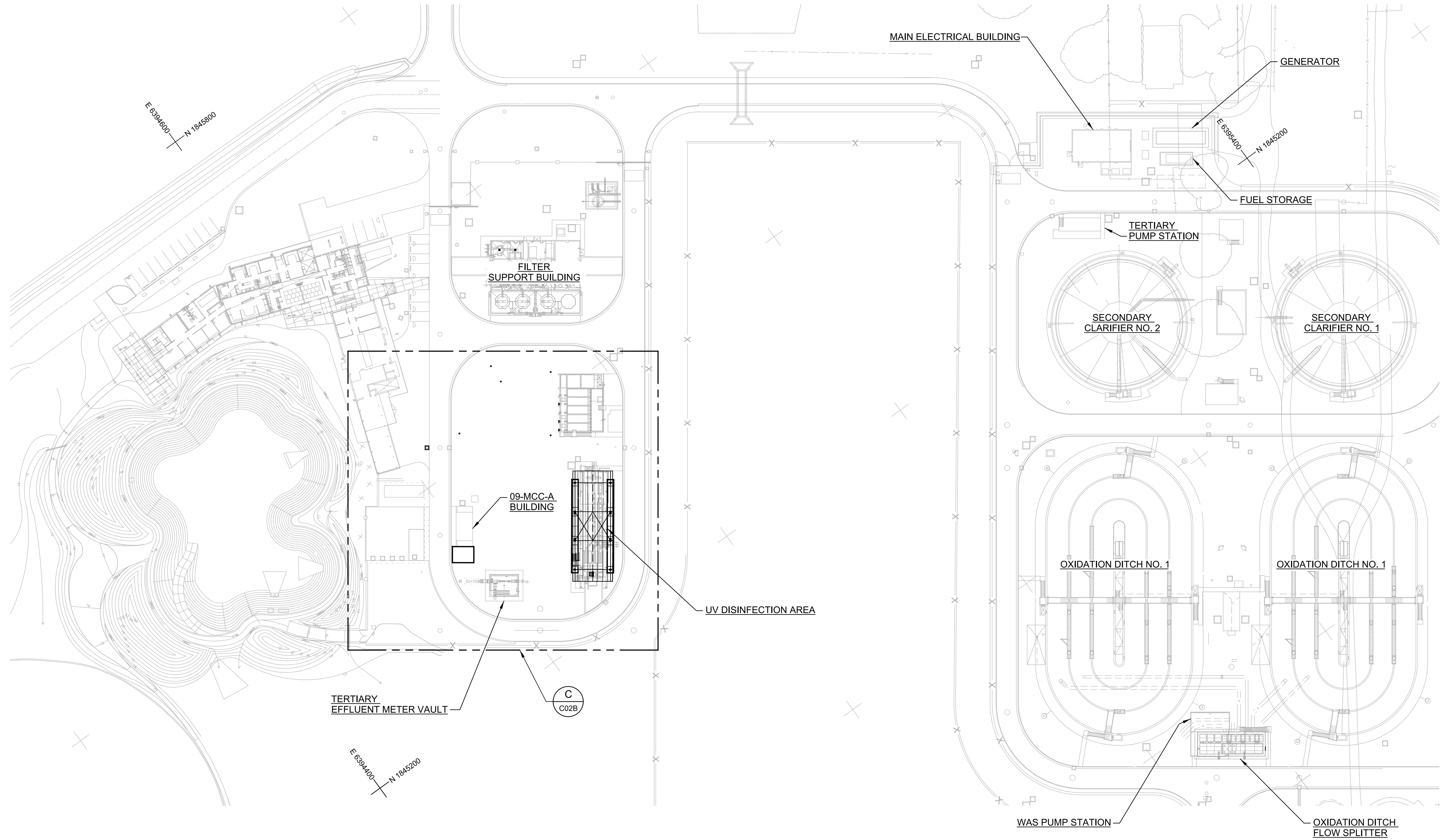
LAST SAVED BY: mvelch

GENERAL NOTES:

- 1. FOR GENERAL CIVIL NOTES, REFERENCE SHEET G13.
- 2. SEE GEOTECHNICAL REPORT FOR SITE PREPARATION AND ENGINEERED FILL RECOMMENDATIONS.



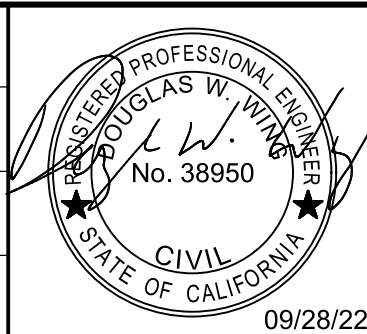
BENCHMARK
 HORIZONTAL DATUM - NAD 1983
 VERTICAL DATUM - NGVD 1929
 2005 SURVEY DATA PROVIDED BY:
 TOPOGRAPHIC SURVEYS, INC.



A PLAN
 FILE: 7310L1000C9100B

REV	DATE	BY	DESCRIPTION

DESIGNED
DWW
 DRAWN
DPF
 CHECKED
RRH
 DATE
SEPTEMBER 2022



CITY OF PETALUMA
 UV DISINFECTION UPGRADES PROJECT
 CIVIL
 OVERALL SITE PLAN

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING
 0 1"
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
7310L.10
 DRAWING NO.
C01B
 SHEET NO.
25 OF 56

Plot Date: 28-SEP-2022 12:49:07 PM

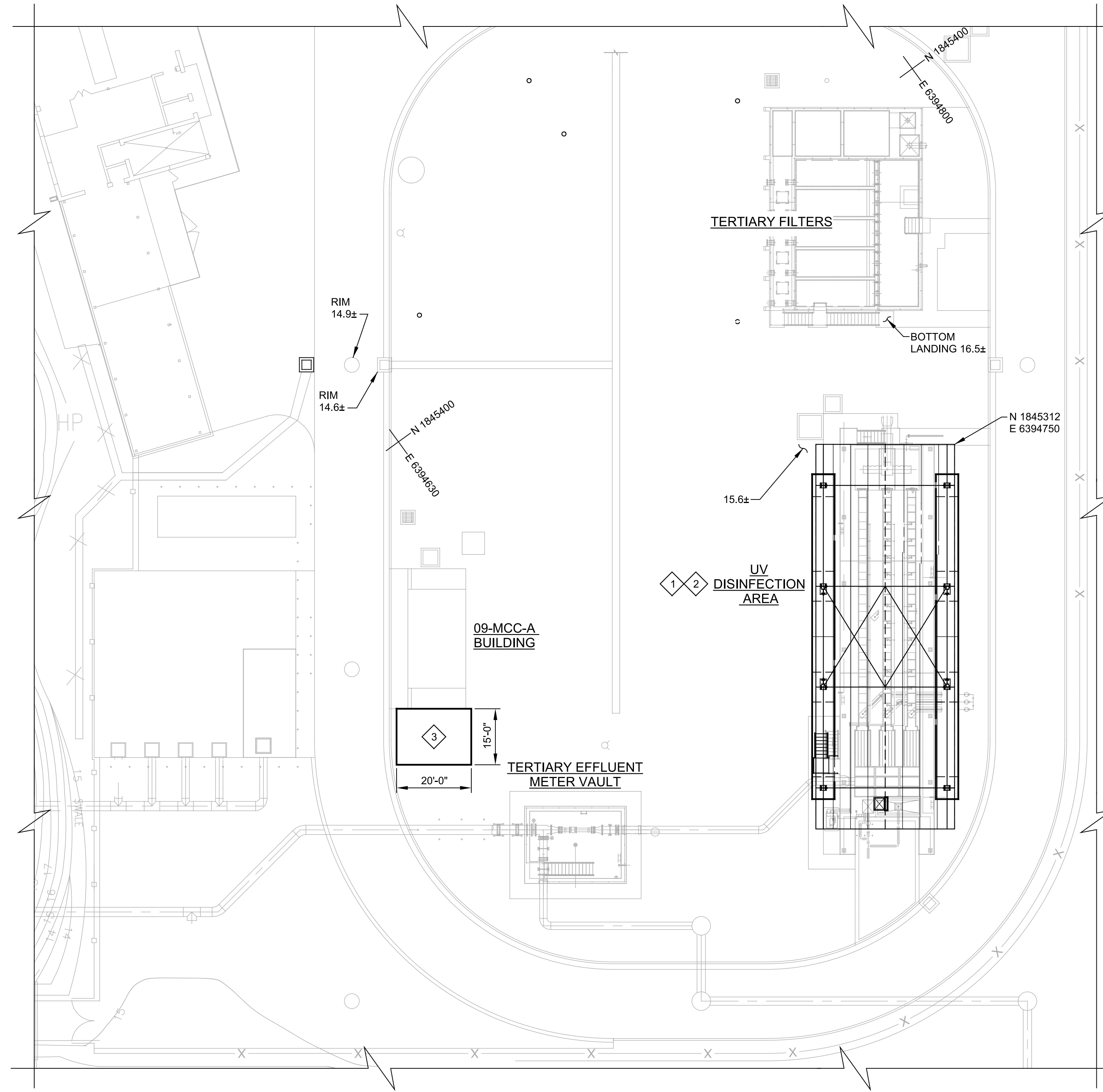
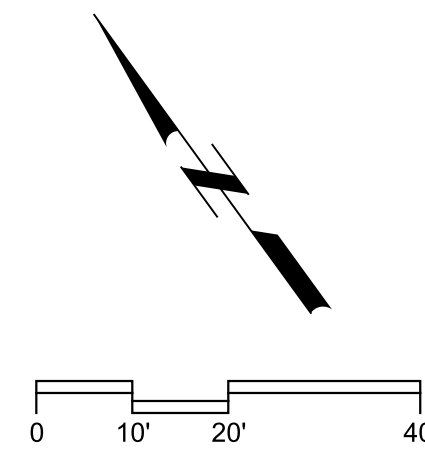
User: svcPW

PlotScale: 1:1

Model: Layout1

ColorTable: gshade.ctb DesignScript: Carollo_Sig_Pen_v0905.pen

LAST SAVED BY: DFassbinder



GENERAL NOTES:

1. FOR GENERAL CIVIL NOTES, REFERENCE SHEET G13.
2. SEE STRUCTURAL DRAWINGS FOR COORDINATE LOCATION DETAILS.
3. SEE GEOTECHNICAL REPORT FOR SITE PREPARATION AND ENGINEERED FILL RECOMMENDATIONS.

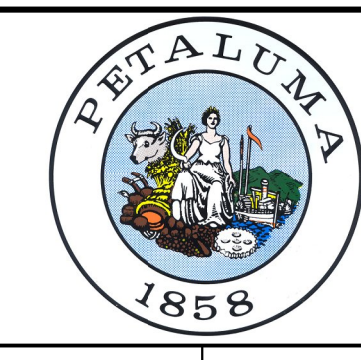
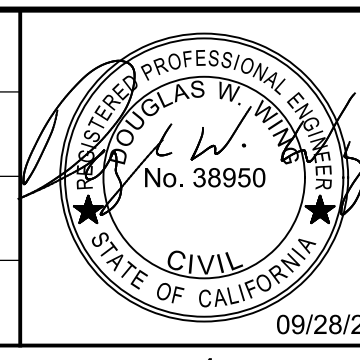
KEY NOTES:

- 1 FINISH GRADE AROUND UV SHALL MATCH EXISTING, 16.5±.
- 2 UV DISINFECTION AREA, SEE DRAWING 08S01.
- 3 CONSTRUCT 15'-0" BY 20'-0" CONCRETE PAD AS SHOWN AND PER S300/TYP. PAD SHALL BE FLUSH WITH EXISTING WALKWAY ON NORTH SIDE AND SLOPE TO THE SOUTH FOR DRAINAGE. PROVIDE EXPANSION JOINT PER S130/TYP BETWEEN NEW AND EXISTING SLABS. GRADE AROUND THE NEW PAD SHALL REMAIN PER EXISTING GRADE.

C PARTIAL PLAN
 C01B FILE: 7310L1000C9100B

REV	DATE	BY	DESCRIPTION

DESIGNED
DWW
 DRAWN
DPF
 CHECKED
RRH
 DATE
SEPTEMBER 2022



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
 CIVIL
GRADING AND DRAINAGE
PARTIAL PLAN

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING
 0 1"
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 7310L.10
 DRAWING NO. **C02B**
 SHEET NO. 26 OF 56

Plot Date: 28-SEP-2022 12:49:34 PM

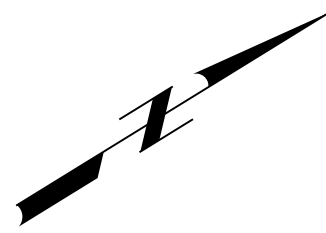
User: svcPW

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 1:1

LAST SAVED BY: DFassbinder

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A B C D E F

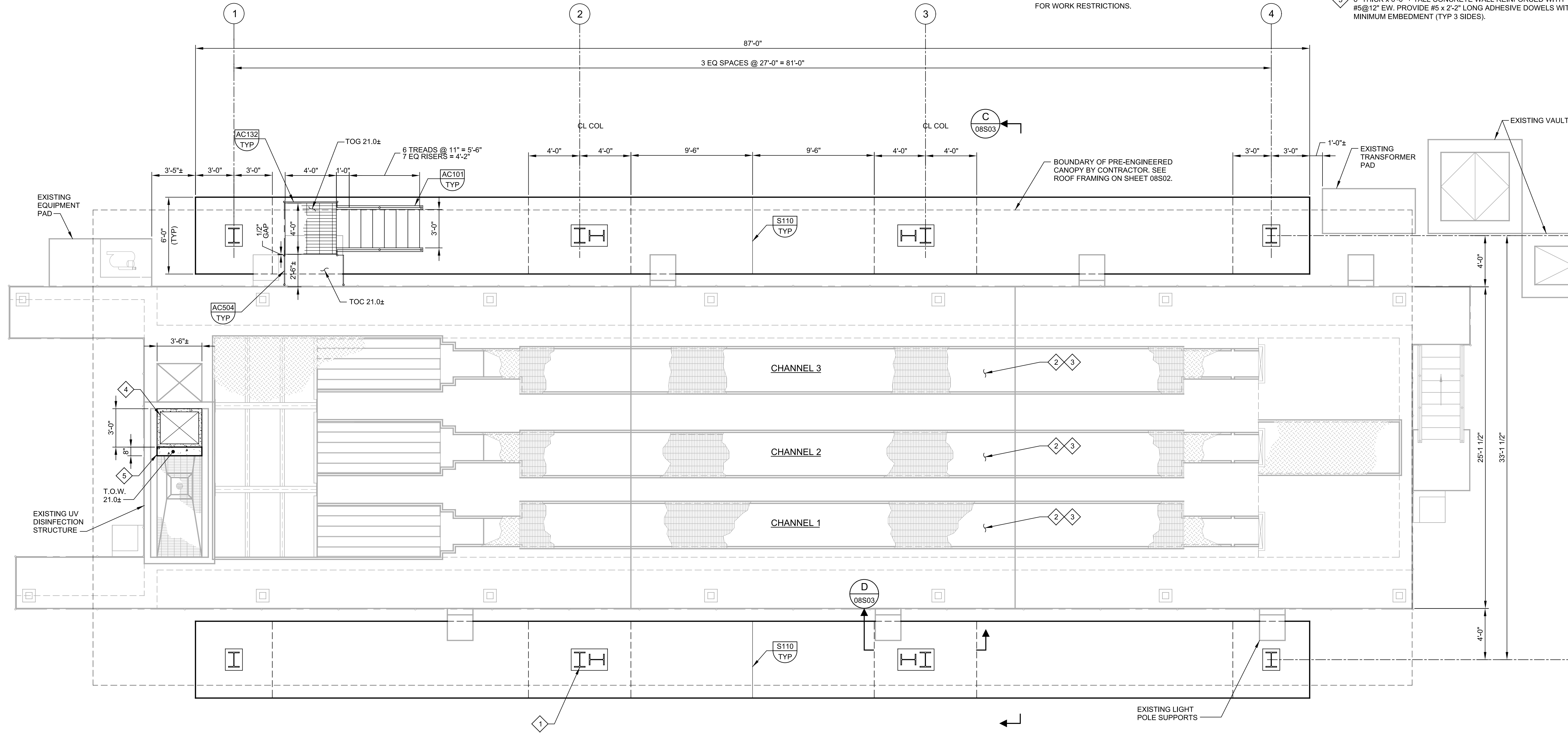


GENERAL NOTES:

- SEE SHEETS G10 & G11 FOR GENERAL STRUCTURAL NOTES.
- DIMENSIONS SHOWN ARE BASED OFF THE RECORD DRAWINGS TITLED "ELLIS CREEK WATER RECYCLING FACILITY PROJECT" BY CAROLLO ENGINEERS DATED JULY 2005. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO INITIATION OF CONSTRUCTION.
- PRELIMINARY CANOPY FOUNDATION DIMENSIONS AND REINFORCEMENT ARE SHOWN ON THIS SHEET. FINAL DIMENSIONS AND REINFORCEMENT SHALL BE COORDINATED WITH THE ACTUAL CANOPY LOADS AS DETERMINED FROM THE APPROVED PRE-ENGINEERED METAL CANOPY SUBMITTAL.
- CONTRACTOR SHALL TAKE EXTREME CARE TO PROTECT EXISTING STRUCTURES DURING CONSTRUCTION OF UV CANOPY FOUNDATION. SEE SPECIFICATION SECTION 01140 FOR WORK RESTRICTIONS.

KEY NOTES:

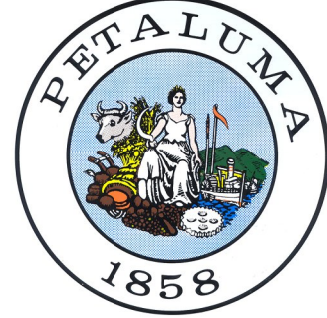
- PRE-ENGINEERED METAL CANOPY. SEE NOTE 4/08S03 AND SPECIFICATION SECTION 13122 FOR DESIGN CRITERIA.
- CONTRACTOR SHALL INSPECT CHANNELS AND CONFIRM THE DIMENSION OF CHANNEL 3 MATCHES CHANNELS 1 AND 2.
- CONTRACTOR SHALL THOROUGHLY CLEAN EXISTING UV CHANNEL WALLS AND APPLY COATING SYSTEM EPX-C-6-SC PER SPECIFICATION SECTION 09960. COATING SYSTEM SHALL BE APPLIED FOR THE ENTIRE LENGTH OF WALLS.
- NEW CHEMICAL CLEANING TANK BY CONTRACTOR. SEE SPECIFICATION SECTION 11289 AND MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION. FILL VOID BETWEEN DIP TANK AND EXISTING STRUCTURE WITH CLASS 'C' FILL.
- 8" THICK x 6'-0" + TALL CONCRETE WALL REINFORCED WITH #5@12" EW. PROVIDE #5 x 2'-2" LONG ADHESIVE DOWELS WITH 8" MINIMUM EMBEDMENT (TYP 3 SIDES).



A FOUNDATION PLAN
 SCALE: 1/4" = 1'-0"
 FILE: 7310L1008S100

REV	DATE	BY	DESCRIPTION
1			
2			
3			

DESIGNED
EJW
 DRAWN
JLG
 CHECKED
JAD
 DATE
SEPTEMBER 2022



CITY OF PETALUMA
 UV DISINFECTION UPGRADES PROJECT
 STRUCTURAL
 UV DISINFECTION CANOPY
 FOUNDATION PLAN

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING
 0 1' IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 7310L.10
 DRAWING NO. 08S01
 SHEET NO. 27 OF 56

Plot Date: 28-SEP-2022 12:48:55 PM

User: svcPW

PlotScale: 1:1

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sig_Pen_v0905.pen

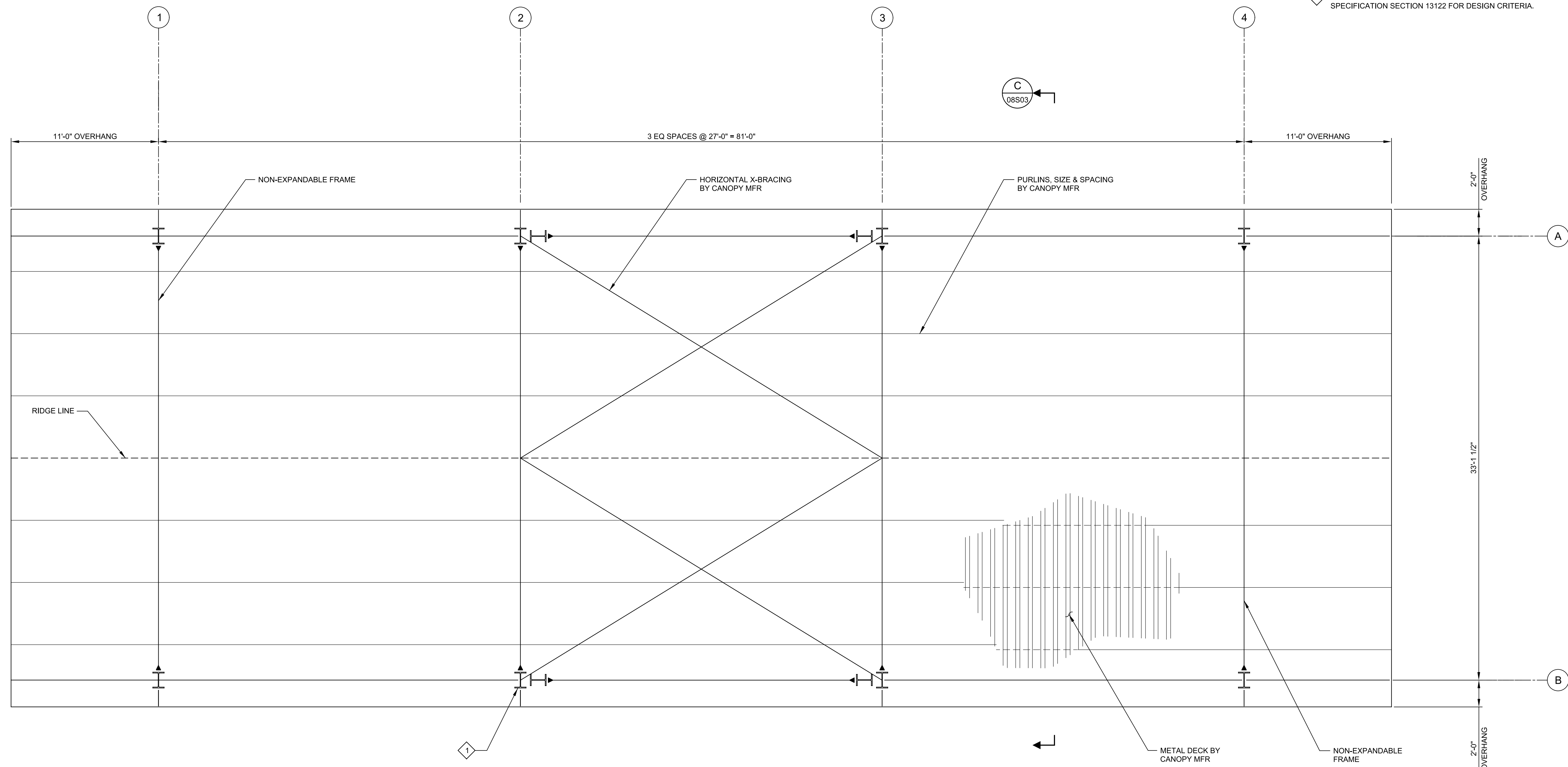
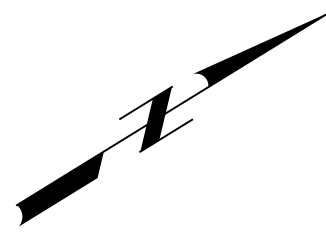
LAST SAVED BY: DFassbinder

GENERAL NOTES:

- 1. SEE SHEETS G10 & G11 FOR GENERAL STRUCTURAL NOTES.
- 2. DIMENSIONS SHOWN ARE BASED OFF THE RECORD DRAWINGS TITLED "ELLIS CREEK WATER RECYCLING FACILITY PROJECT" BY CAROLLO ENGINEERS DATED JULY 2005. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

KEY NOTES:

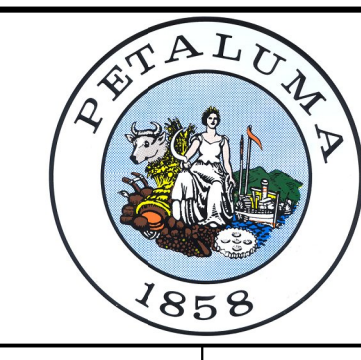
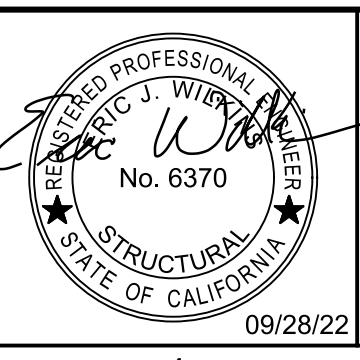
- 1 PRE-ENGINEERED METAL CANOPY. SEE NOTE 4/08S03 AND SPECIFICATION SECTION 13122 FOR DESIGN CRITERIA.



B ROOF PLAN
 SCALE: 1/4" = 1'-0"
 FILE: 7310L1008S101

REV	DATE	BY	DESCRIPTION

DESIGNED
EJW
 DRAWN
JLG
 CHECKED
JAD
 DATE
SEPTEMBER 2022



CITY OF PETALUMA
 UV DISINFECTION UPGRADES PROJECT
 STRUCTURAL
 UV DISINFECTION CANOPY
 ROOF FRAMING PLAN

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING
 0 11"
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
7310L.10
 DRAWING NO.
08S02
 SHEET NO.
28 OF 56

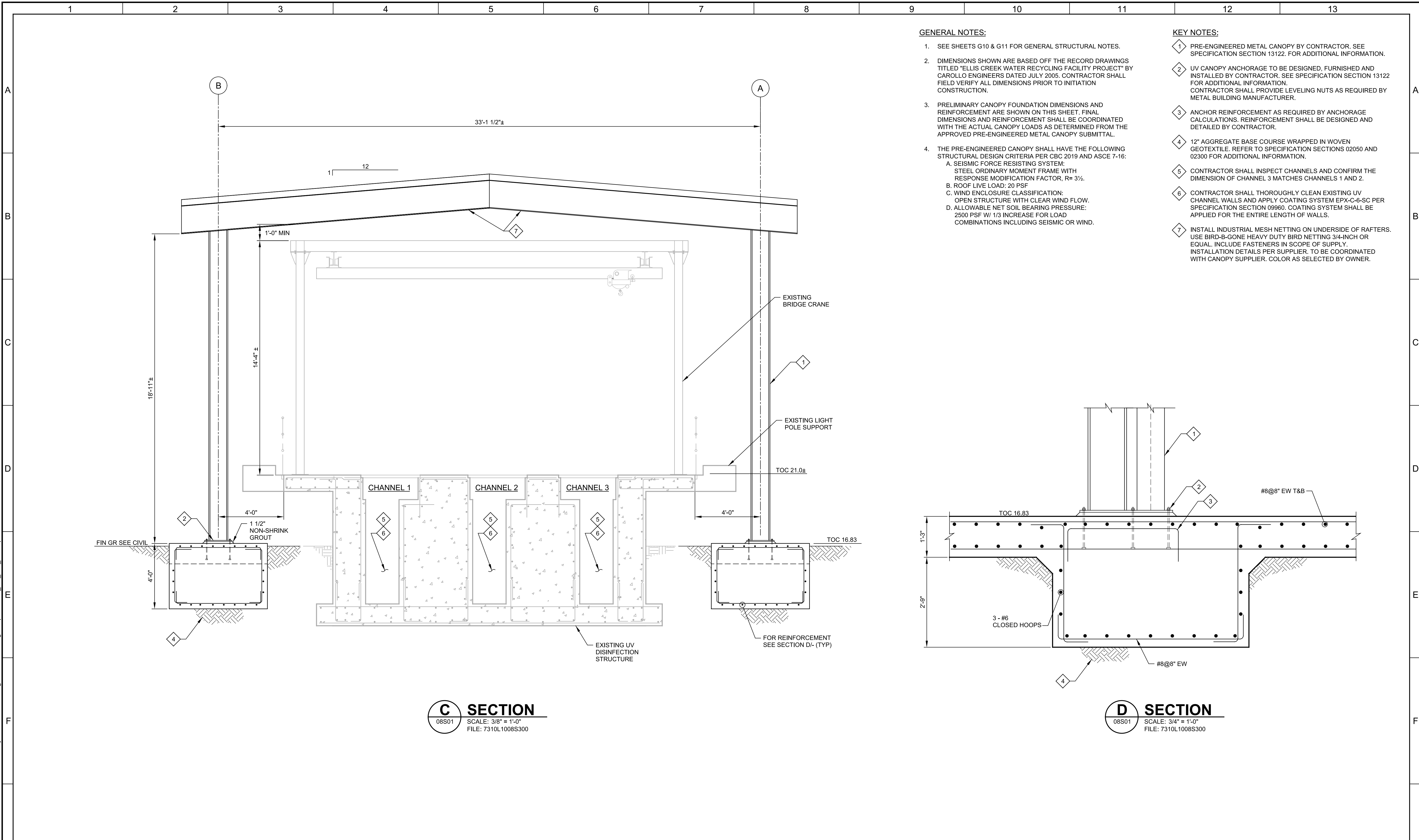
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User: svcPW

PlotScale: 1:1

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sld_Pen_v0905.pen

LAST SAVED BY: mvelch



GENERAL NOTES:

- SEE SHEETS G10 & G11 FOR GENERAL STRUCTURAL NOTES.
- DIMENSIONS SHOWN ARE BASED OFF THE RECORD DRAWINGS TITLED "ELLIS CREEK WATER RECYCLING FACILITY PROJECT" BY CAROLLO ENGINEERS DATED JULY 2005. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO INITIATION CONSTRUCTION.
- PRELIMINARY CANOPY FOUNDATION DIMENSIONS AND REINFORCEMENT ARE SHOWN ON THIS SHEET. FINAL DIMENSIONS AND REINFORCEMENT SHALL BE COORDINATED WITH THE ACTUAL CANOPY LOADS AS DETERMINED FROM THE APPROVED PRE-ENGINEERED METAL CANOPY SUBMITTAL.
- THE PRE-ENGINEERED CANOPY SHALL HAVE THE FOLLOWING STRUCTURAL DESIGN CRITERIA PER CBC 2019 AND ASCE 7-16:
 - SEISMIC FORCE RESISTING SYSTEM: STEEL ORDINARY MOMENT FRAME WITH RESPONSE MODIFICATION FACTOR, R= 3½.
 - ROOF LIVE LOAD: 20 PSF
 - WIND ENCLOSURE CLASSIFICATION: OPEN STRUCTURE WITH CLEAR WIND FLOW.
 - ALLOWABLE NET SOIL BEARING PRESSURE: 2500 PSF W/ 1/3 INCREASE FOR LOAD COMBINATIONS INCLUDING SEISMIC OR WIND.

KEY NOTES:

- PRE-ENGINEERED METAL CANOPY BY CONTRACTOR. SEE SPECIFICATION SECTION 13122. FOR ADDITIONAL INFORMATION.
- UV CANOPY ANCHORAGE TO BE DESIGNED, FURNISHED AND INSTALLED BY CONTRACTOR. SEE SPECIFICATION SECTION 13122 FOR ADDITIONAL INFORMATION. CONTRACTOR SHALL PROVIDE LEVELING NUTS AS REQUIRED BY METAL BUILDING MANUFACTURER.
- ANCHOR REINFORCEMENT AS REQUIRED BY ANCHORAGE CALCULATIONS. REINFORCEMENT SHALL BE DESIGNED AND DETAILED BY CONTRACTOR.
- 12" AGGREGATE BASE COURSE WRAPPED IN WOVEN GEOTEXTILE. REFER TO SPECIFICATION SECTIONS 02050 AND 02300 FOR ADDITIONAL INFORMATION.
- CONTRACTOR SHALL INSPECT CHANNELS AND CONFIRM THE DIMENSION OF CHANNEL 3 MATCHES CHANNELS 1 AND 2.
- CONTRACTOR SHALL THOROUGHLY CLEAN EXISTING UV CHANNEL WALLS AND APPLY COATING SYSTEM EPX-C-6-SC PER SPECIFICATION SECTION 09960. COATING SYSTEM SHALL BE APPLIED FOR THE ENTIRE LENGTH OF WALLS.
- INSTALL INDUSTRIAL MESH NETTING ON UNDERSIDE OF RAFTERS. USE BIRD-B-GONE HEAVY DUTY BIRD NETTING 3/4-INCH OR EQUAL. INCLUDE FASTENERS IN SCOPE OF SUPPLY. INSTALLATION DETAILS PER SUPPLIER. TO BE COORDINATED WITH CANOPY SUPPLIER. COLOR AS SELECTED BY OWNER.

C SECTION
08S01 SCALE: 3/8" = 1'-0"
FILE: 7310L1008S300

D SECTION
08S01 SCALE: 3/4" = 1'-0"
FILE: 7310L1008S300

REV	DATE	BY	DESCRIPTION

DESIGNED
EJW

DRAWN
JLG

CHECKED
JAD

DATE
SEPTEMBER 2022

CITY OF PETALUMA

UV DISINFECTION UPGRADES PROJECT

STRUCTURAL

UV DISINFECTION CANOPY SECTIONS

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
7310L.10

DRAWING NO.
08S03

SHEET NO.
29 OF 56

Plot Date: 28-SEP-2022 12:49:42 PM

User: svcPW

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 1:1

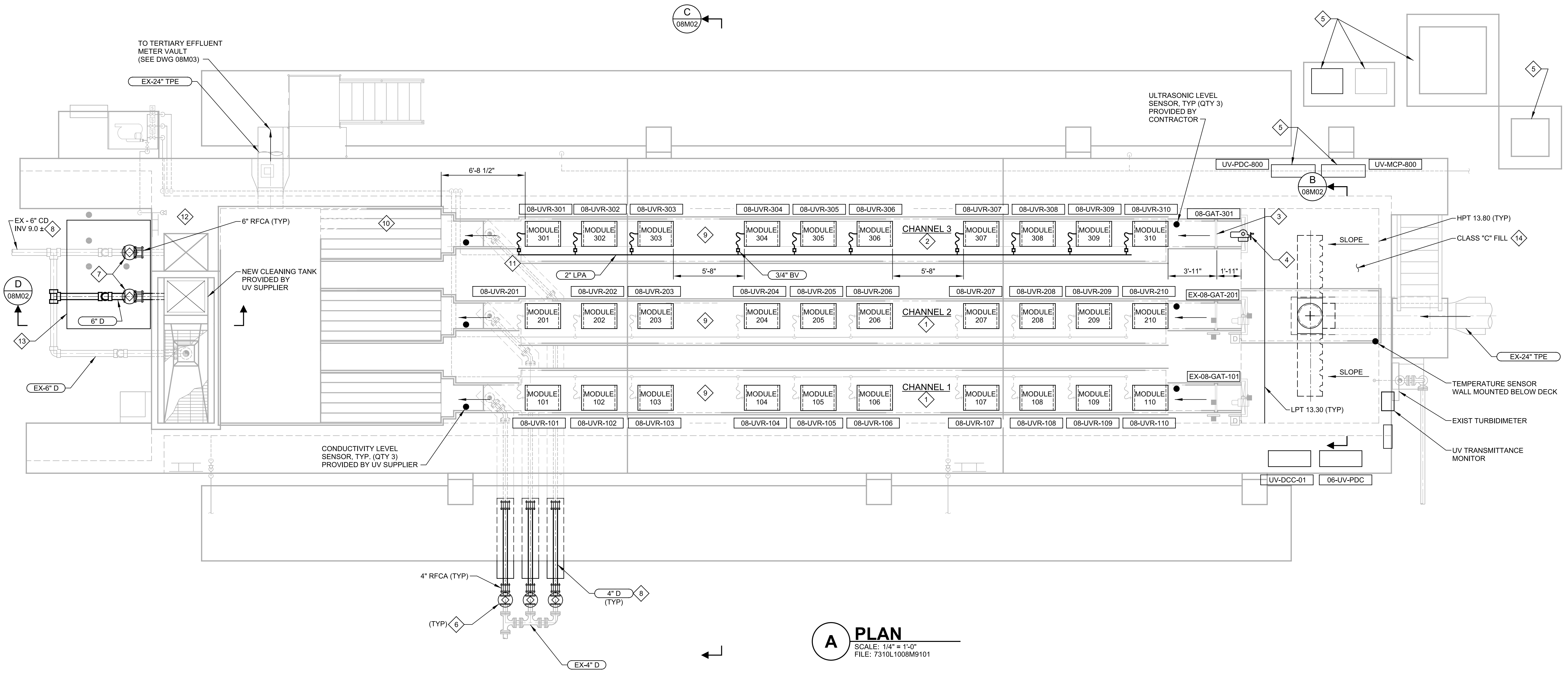
LAST SAVED BY: DFassbinder

GENERAL NOTES:

- FOR GENERAL MECHANICAL NOTES AND SYMBOLS, REFER TO DRAWINGS G12 AND G13.
- UV EQUIPMENT LOCATION AND DIMENSIONS BASED ON THE OZONIA AQUARAY 40 HO GENERATION 2 SYSTEM.
- SEE SPECIFICATION SECTION 11289 FOR COMPLETE LIST OF ELEMENTS PROVIDED BY THE UV SUPPLIER.
- GENERAL CONTRACTOR TO INSTALL UV EQUIPMENT PROVIDED BY SUPPLIER. SEE SPECIFICATION SECTION 11289.

KEY NOTES:

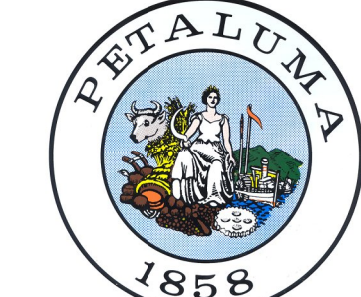
- REPLACE EXISTING MODULES IN CHANNELS 1 & 2 WITH NEW AQUARAY 40 HO GENERATION 2 UV MODULES.
- INSTALL NEW AQUARAY 40 HO GENERATION 2 UV MODULES IN CHANNEL 3.
- BAFFLE PLATE FOR ALL THREE CHANNELS WILL BE PROVIDED BY UV SUPPLIER AND MUST MATCH EXISTING BAFFLE PLATES.
- REPLACE EXISTING MANUAL OPERATOR WITH MOTORIZED ACTUATOR AS SHOWN.
- SEE ELECTRICAL DRAWING 08E01.
- CONTRACTOR TO REPLACE EXISTING PLUG VALVES. CONTRACTOR SHALL POTHOLE AND VERIFY LOCATION AND DEPTH OF EXISTING VALVES. INSTALL PER DETAIL CP716/TYP.
- REPLACE EXISTING 6" PLUG VALVE WITH CHEMICAL RESISTANT VALVE. INSTALL CHEMICAL RESISTANT VALVE IN NEW INSTALLATION.
- CONTRACTOR SHALL POTHOLE AND CONFIRM PIPE ELEVATION, LOCATION, PIPE MATERIAL, TYPE OF JOINT AND LOCATION. DEMOLITION OF CONCRETE PAD MAY BE REQUIRED TO MODIFY PIPE. CONCRETE ENCASE PER DETAIL MP 140/TYP.
- REUSE EYE PROTECTION PLATES FROM CHANNELS 1 AND 2. NEW EYE PROTECTION PLATES FOR CHANNEL 3 WILL BE PROVIDED BY UV SUPPLIER.
- LEVEL CONTROL WEIR FOR CHANNEL 3 IS NEW AND WILL BE PROVIDED BY UV SUPPLIER.
- CONNECT 3/4" LPA TO EXISTING FLANGE, AND PROVIDE AIR HOSE CONNECTIONS TO MATCH EXISTING.
- ADD 3/4" LPA TEE AND AIR HOSE CONNECTION (MATCH EXISTING) FOR LPA FEED TO SECOND UV MODULE AT NEW CLEANING TANKS.
- FURNISH AND INSTALL 6' BY 8' BY 2' DEEP PRE-CAST CONCRETE VALVE VAULT PER REQUIREMENTS OF SPECIFICATION SECTION 02085. CONCRETE ENCASE BURIED 6" D AND 6" CD PER DETAIL MP140/TYP.
- SLOPE AS SHOWN.



A PLAN
 SCALE: 1/4" = 1'-0"
 FILE: 7310L1008M9101

REV	DATE	BY	DESCRIPTION
1			
2			
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DESIGNED
DWW
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DPF
 CHECKED
LB
 DATE
SEPTEMBER 2022



CITY OF PETALUMA
 UV DISINFECTION UPGRADES PROJECT
 MECHANICAL/STRUCTURAL
 UV DISINFECTION - PLAN

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 11' IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	JOB NO. 7310L.10 DRAWING NO. 08M01 SHEET NO. 30 OF 56
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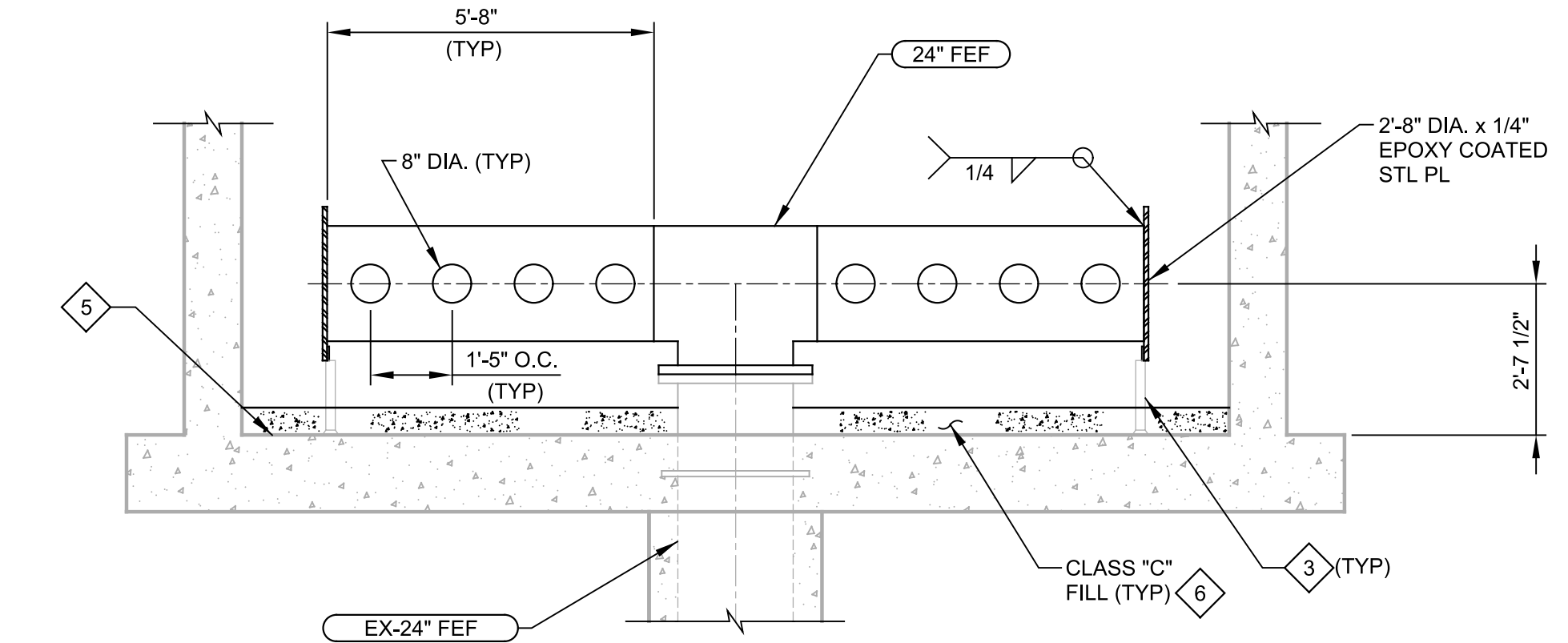
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User: svcPW

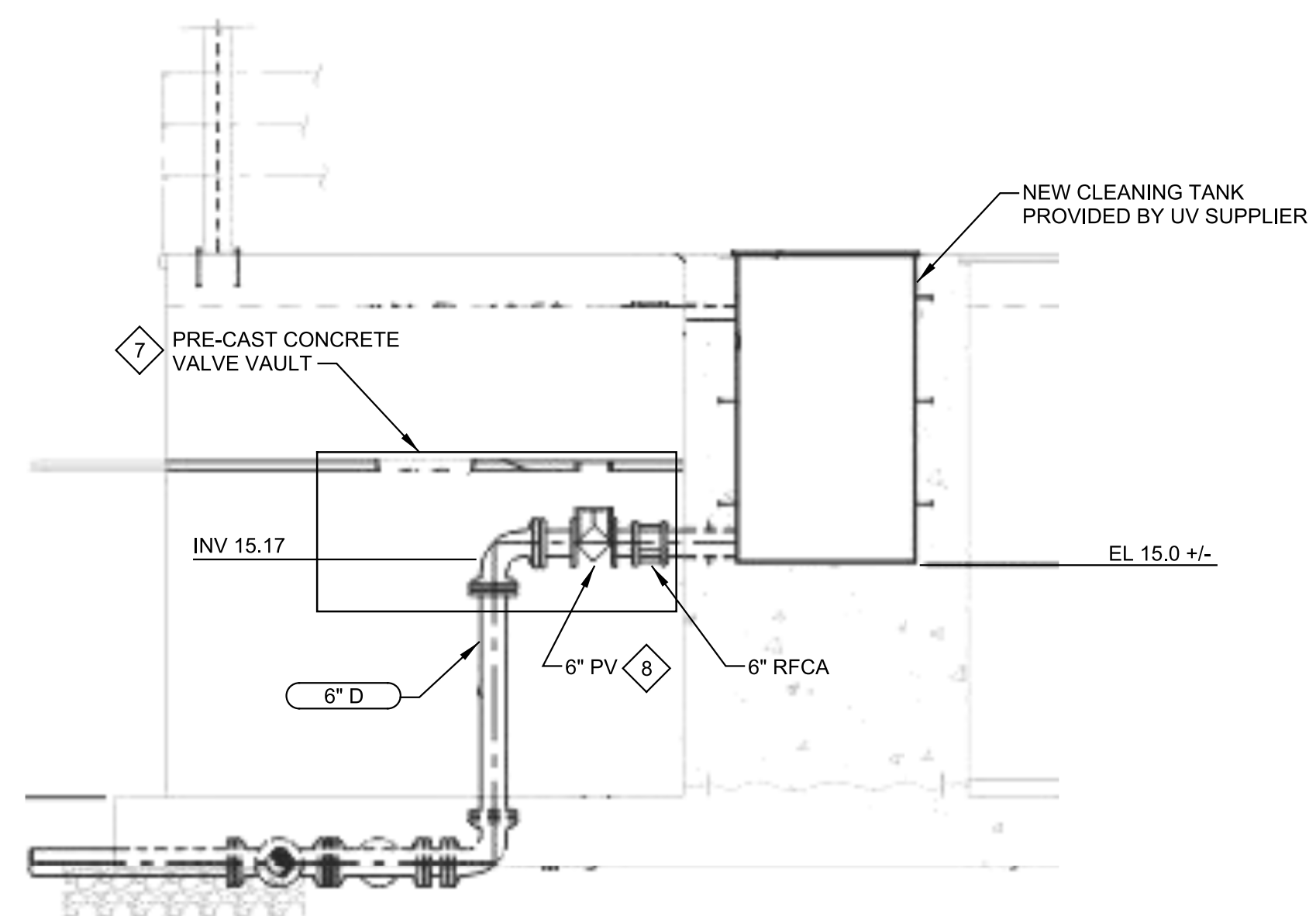
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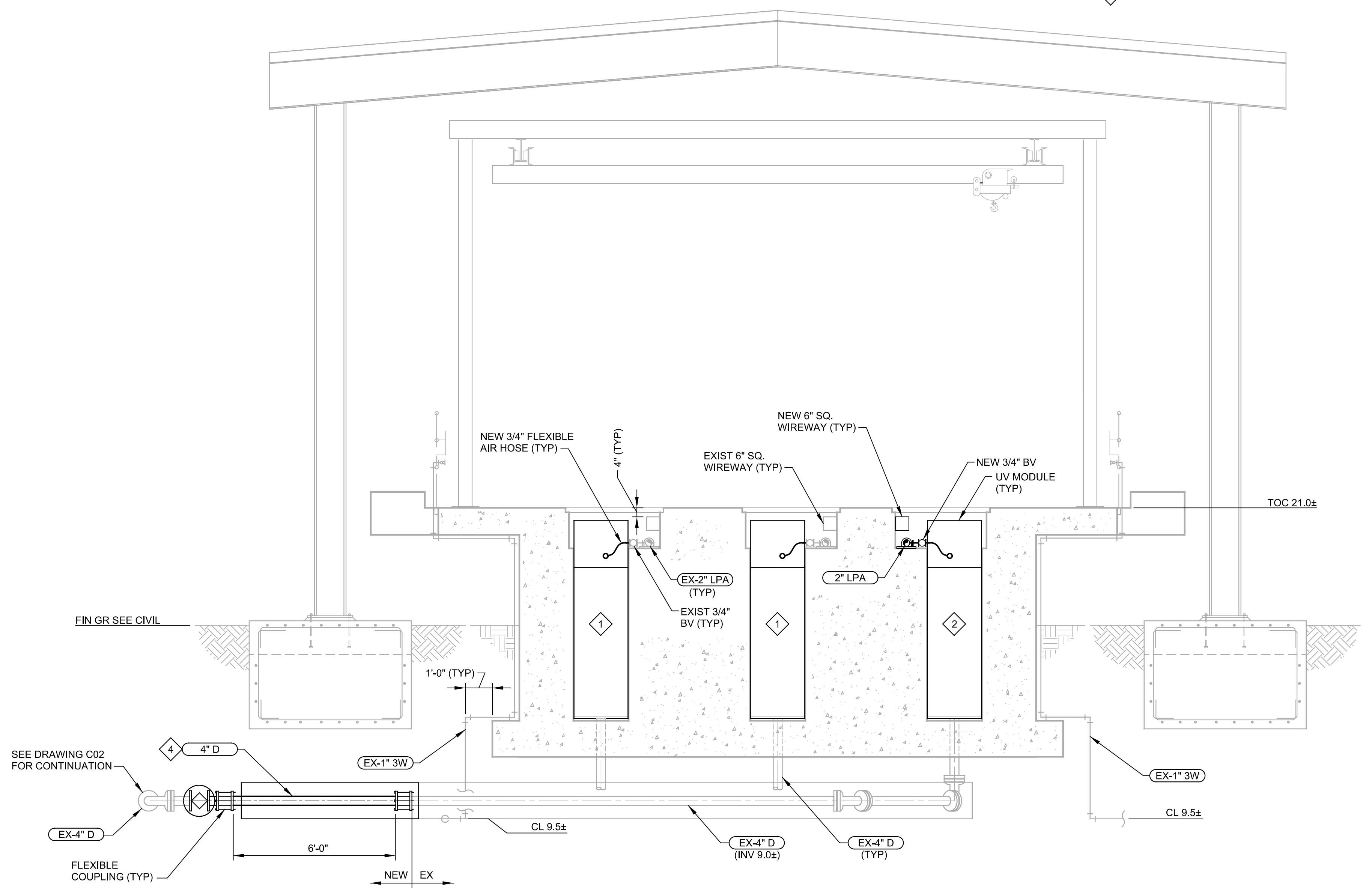
LAST SAVED BY: DFassbinder



B SECTION
08M01 SCALE: 3/8" = 1'-0"
FILE: 7310L1008M302



D SECTION
08M01 SCALE: NO SCALE
FILE: 7310L1008M02A



C SECTION
08M01 SCALE: 3/8" = 1'-0"
FILE: 7310L1008M302

GENERAL NOTES:

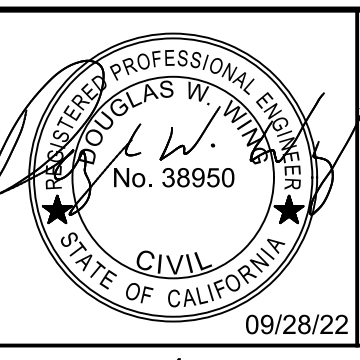
1. FOR GENERAL MECHANICAL NOTES AND SYMBOLS, REFER TO DRAWINGS G12 AND G13.
2. SEE SPECIFICATION SECTION 11289 FOR COMPLETE LIST OF ELEMENTS PROVIDED BY THE UV SUPPLIER.

KEY NOTES:

1. REPLACE EXISTING MODULES IN CHANNELS 1 & 2 WITH AQUARAY 40 HO GEN 2 UV MODULES.
2. INSTALL NEW AQUARAY 40 HO GEN 2 UV MODULES IN CHANNEL 3.
3. REUSE EXISTING PIPE SUPPORTS.
4. CONTRACTOR SHALL POTHOLE AND CONFIRM PIPE ELEVATION, LOCATION, PIPE MATERIAL, AND TYPE OF JOINT AND LOCATION. DEMOLITION OF CONCRETE PAD MAY BE REQUIRED TO MODIFY PIPE.
5. ROUGHEN SURFACE TO 1/4" AMPLITUDE. REMOVE ALL SIGNS OF OIL, DIRT AND LAITANCE AND APPLY EPOXY BONDING COMPOUND PRIOR TO PLACING CLASS 'C' CONCRETE FILL. EPOXY BONDING COMPOUND SHALL BE APPLIED IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS.
6. SEE PLAN FOR ELEVATION DETAILS.
7. REFERENCE DRAWING 08M01B FOR DETAILS.
8. CHEMICAL RESISTANT PLUG VALVE.

REV	DATE	BY	DESCRIPTION
1			
2			
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DESIGNED
DWW
DRAWN
DPF
CHECKED
LB
DATE
SEPTEMBER 2022



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
MECHANICAL/STRUCTURAL
UV DISINFECTION - SECTIONS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
7310L.10
DRAWING NO.
08M02
SHEET NO.
31 OF 56

Plot Date: 28-SEP-2022 12:49:42 PM

User: svcPW

PlotScale: 1:1

DesignScript: Carollo_Sld_Pen_v0905.pen

ColorTable: gshade.ctb

Model: Layout1

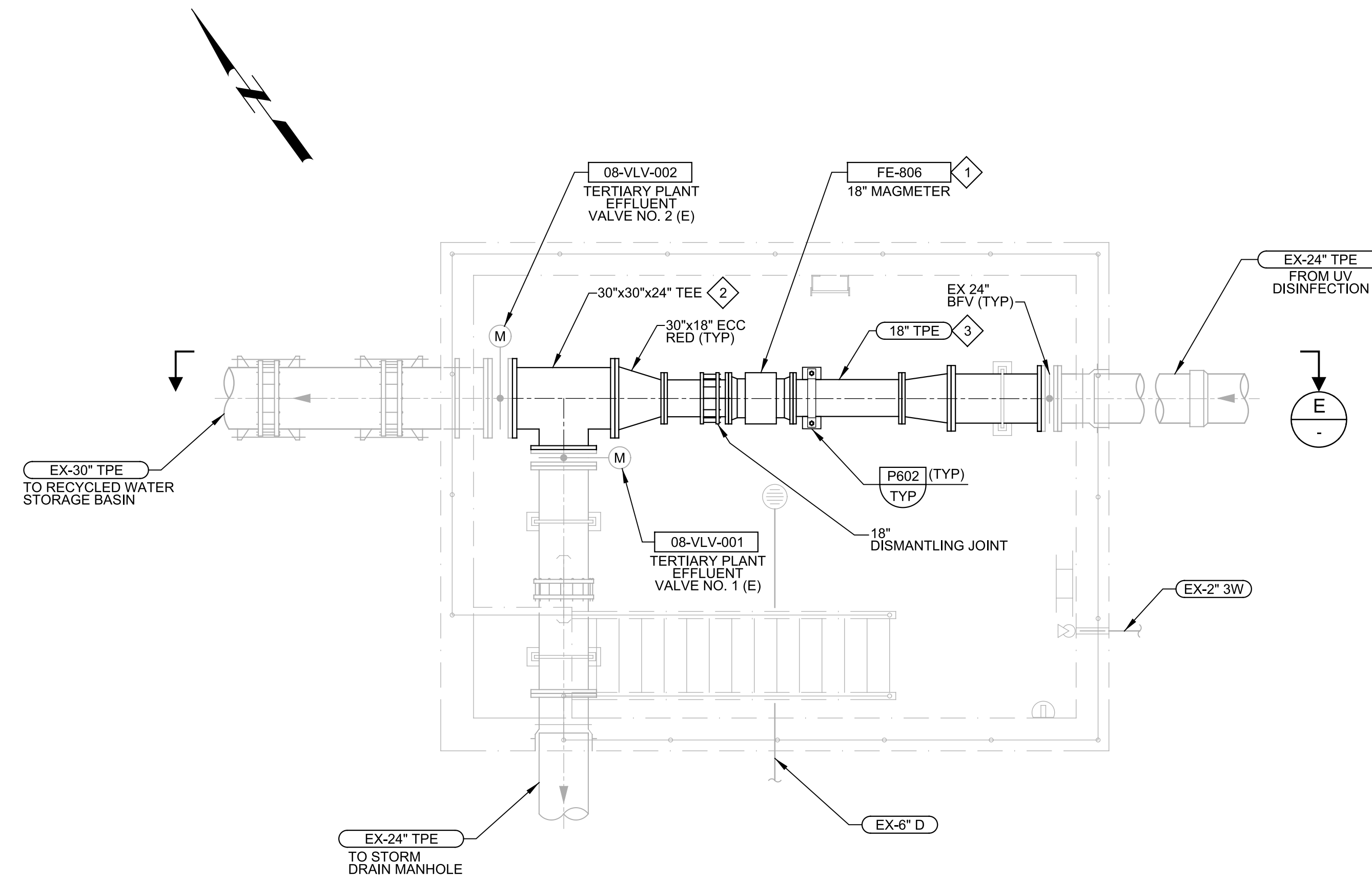
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GENERAL NOTES:

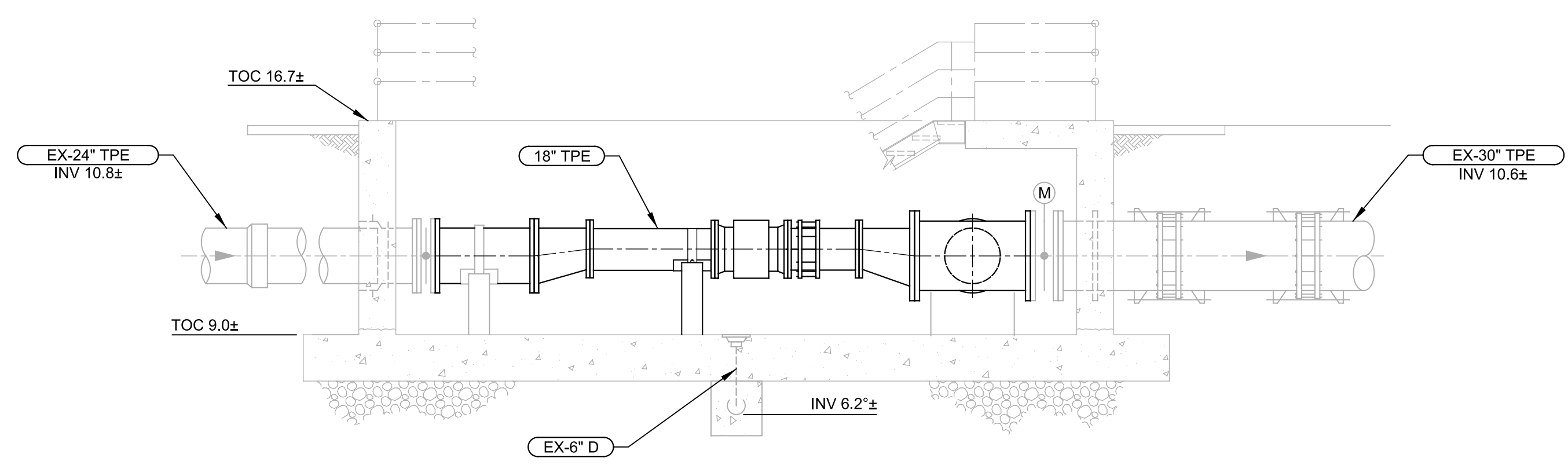
- 1. FOR GENERAL MECHANICAL SYMBOLS AND NOTES, REFER TO DRAWINGS G12 AND G13.

KEY NOTES:

- 1. CONTRACTOR SHALL VERIFY LAY LENGTH OF THE NEW FLOW METER PRIOR TO PIPING FABRICATION.
- 2. CONTRACTOR SHALL VERIFY EXISTING FITTING DIMENSIONS PRIOR TO PIPING FABRICATION.
- 3. CONTRACTOR SHALL VERIFY OVERALL PIPING AND FITTING DIMENSIONS PRIOR TO PIPING FABRICATION.



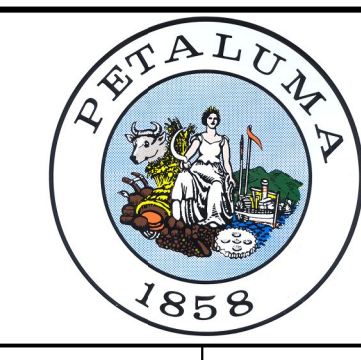
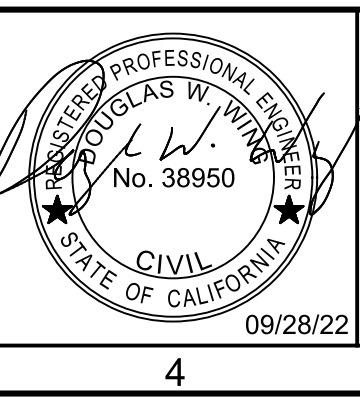
D PLAN
 SCALE: 1/4" = 1'-0"
 FILE: 7310L1008M103



E SECTION
 SCALE: 1/4" = 1'-0"
 FILE: 7310L1008M301

REV	DATE	BY	DESCRIPTION
1			
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DESIGNED
DWW
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DPF
 CHECKED
LB
 DATE
SEPTEMBER 2022



CITY OF PETALUMA
 UV DISINFECTION UPGRADES PROJECT
 MECHANICAL
 TERTIARY EFFLUENT METER VAULT
 PLAN AND SECTION

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	JOB NO. 7310L.10 DRAWING NO. 08M03 SHEET NO. 32 OF 56
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Plot Date: 29-SEP-2022 11:08:46 AM

User: svcPW

PlotScale: 1:1

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sld_Pen_v0905.pen

LAST SAVED BY: lbordelon

ELECTRICAL PLAN SYMBOLS

ELECTRICAL ONE-LINE SYMBOLS

IDENTIFICATION SYMBOLS

- EQUIP #** EQUIPMENT AND INSTRUMENT IDENTIFICATION
- EQUIPMENT/INSTRUMENT LOCATOR**
- LUMINAIRE IDENTIFICATION**
a = CIRCUIT DESIGNATION
b = DEVICE SWITCHED FROM
c = MOUNTING HEIGHT IN FEET TO BOTTOM OF FIXTURE
- CONDUIT IDENTIFICATION**
XXXX = CONDUIT NUMBER, REFER TO CONDUIT SCHEDULE UNLESS OTHERWISE NOTED, GROUPED CONDUITS ARE LABELED LEFT TO RIGHT OR TOP TO BOTTOM.
- INDICATES KEYNOTE X** (PERTAINS ONLY TO SHEET WHERE NOTE IS FOUND)
- DISCONNECT SWITCH**
A = TYPE, REFER TO DISCONNECT SCHEDULE

LUMINAIRES

- LINEAR FIXTURE**
- 2' X 2' LAY-IN TROFFER**
- 2' X 4' LAY-IN TROFFER**
- LUMINAIRE POLE MOUNTED**
- GO/NO-GO PANEL - STROBE AND HORN**
R = RED LIGHT
G = GREEN LIGHT
H = HORN
- GO/NO-GO PANEL - SOLID**
- GO/NO-GO PANEL - STROBE**
- LUMINAIRE, EMERGENCY BATTERY-POWERED**
- LUMINAIRE, EMERGENCY/EXIT BATTERY-POWERED**
- LUMINAIRE, EMERGENCY BATTERY-POWERED REMOTE**
- LUMINAIRE, SURFACE OR PENDANT MOUNTED**
- LUMINAIRE, WALL MOUNTED**
- LUMINAIRE, FLOOD/SPOT**
- LUMINAIRE, EXIT ONE OR TWO FACES AS INDICATED, ARROW POINTS IN DIRECTION OF EGRESS.**
- LUMINAIRE, WALL WASHER**

SWITCHES/RECEPTACLES

- SINGLE POLE SWITCH**
a = CIRCUIT DESIGNATION
b = DEVICE SWITCHED DESIGNATION
c = TYPE
2 = DOUBLE POLE SWITCH
3 = THREE-WAY SWITCH
3P = THREE POSITION SWITCH
4 = FOUR-WAY SWITCH
K = KEY OPERATED SWITCH
F = SWITCH AND FUSE/STAT HOLDER
P = SWITCH AND PILOT LIGHT
T = THERMOSTAT
D = DIMMER SWITCH
L = LOW VOLTAGE LIGHT SWITCH
M = MANUAL MOTOR STARTER
N = NETWORKED SINGLE OR MULTIPLE SWITCH LOCATIONS
- REFER TO ABBREVIATIONS LEGEND FOR ALL OTHER DESIGNATIONS.**
- OCCUPANCY SENSOR**
X = REFERENCE LIGHTING CONTROL COMPONENT SCHEDULE
a = CIRCUIT DESIGNATION
b = DEVICE SWITCHED DESIGNATION
c = MOUNTING HEIGHT IN FEET TO BOTTOM OF SENSOR
- PHOTOCELL**
- SWITCH AND SINGLE RECEPTACLE**
a = CIRCUIT DESIGNATION
b = DEVICE TYPE DESIGNATION
- DUPLEX RECEPTACLE**
- QUADRUPLER RECEPTACLE**
- IN FLOOR DUPLEX RECEPTACLE**
- IN FLOOR QUADRUPLER RECEPTACLE**
- DUPLEX RECEPTACLE w/SPLIT WIRE**
- APPLIANCE RECEPTACLE**
- SPECIAL PURPOSE RECEPTACLE**
- WELDING RECEPTACLE**
a = CIRCUIT DESIGNATION
b = DISCONNECT TYPE
- TWIST LOCK RECEPTACLE**
a = AMP RATING
- TELEPHONE OUTLET**
a = CIRCUIT DESIGNATION
b = MOUNTING HEIGHT
- DATA COMMUNICATIONS OUTLET**
a = CIRCUIT DESIGNATION
b = MOUNTING HEIGHT

FIRE ALARM

- SMOKE DETECTOR**
a = TYPE
I = IONIZATION
P = PHOTOELECTRIC
d = DUCT DETECTOR
- FIRE ALARM CONTROL PANEL**
- FIRE ALARM PULL STATION**
- FIRE ALARM HORN/STROBE COMBINATION**
- FIRE ALARM STROBE**
- FIRE SPRINKLER**
F = FLOW SWITCH
T = TAMPER SWITCH

RACEWAY

- EXPOSED CONDUIT**
- BREAK AND CONTINUATION IN CONDUIT RUN**
- EXPOSED CONDUIT HIDDEN BEHIND WALLS, FLOORS OR OTHER STRUCTURES**
- UNDERGROUND CONDUIT, DIRECT BURIED OR IN DUCT BANK**
- CONDUIT IN SLAB**
- CONDUIT VERTICAL CHANGE IN DIRECTION**
- CONDUIT CAP**
- JUNCTION BOX**
- CONDUIT SEAL**
- CONDUIT TEE**
- DUCT BANK APPROXIMATE DIMENSIONS SHOWN ON DUCT BANK SECTIONS**

CONDUIT SIZE AND CONDUCTORS

- INDIVIDUAL CONDUCTORS**
W³C-(3-X (Ø), 1-Y (N) & 1-Z (G))
W³C (WHERE INDICATED): W = CONDUIT TRADE SIZE
- 3-X (Ø):**
3 = QUANTITY
X = SIZE OF CONDUCTORS
(Ø) = DESIGNATES PHASE CONDUCTORS
- 1-Y (N)(WHERE INDICATED):**
1 = QUANTITY
Y = SIZE OF CONDUCTORS
(N) = DESIGNATES NEUTRAL CONDUCTORS
- 1-Z (G)(WHERE INDICATED):**
1 = QUANTITY
Z = SIZE OF CONDUCTORS
(G) = DESIGNATES GROUND CONDUCTORS
- U(3-X (Ø) & 1-X (G))**
U = NUMBER OF PARALLEL RUNS
- MULTI CONDUCTOR CABLES**
K/2/C#16S
K (WHERE INDICATED) = NUMBER OF PAIRS
2/C#16S = TWO CONDUCTOR, 16 GAUGE, TWISTED SHIELDED PAIR
- K/3/C#16S
K (WHERE INDICATED) = NUMBER OF TRIPLETS
3/C#16S = THREE CONDUCTOR, 16 GAUGE, TWISTED SHIELDED TRIPLETS
- N/CX**
N = NUMBER OF CONDUCTORS IN THE CABLE
X = SIZE OF CONDUCTORS

FIBER OPTIC CABLES

- FO/N**
N = NUMBER OF INDIVIDUAL FIBERS

GROUNDING

- UNDERGROUND GROUND CABLE #4/0 SDBC UNLESS OTHERWISE NOTED**
- GROUND ROD**
- GROUND ROD AND GROUND WELL**

MEDIUM VOLTAGE

- CIRCUIT BREAKER, MEDIUM VOLTAGE**
a = CIRCUIT BREAKER NUMBER
b = FRAME SIZE
- ANSI RELAY DEVICE**
a = ANSI DEVICE FUNCTION
b = QUANTITY
- MEDIUM VOLTAGE DISCONNECT SWITCH NON-FUSED CUT OUT**
- MEDIUM VOLTAGE DISCONNECTING FUSE SINGLE FUSE CUT OUT**
- MEDIUM VOLTAGE DISCONNECTING FUSE DOUBLE FUSE CUT OUT**
- MEDIUM VOLTAGE SINGLE FUSE**
- MEDIUM VOLTAGE DOUBLE FUSE**
- MEDIUM VOLTAGE LIVE FRONT TERMINATOR**
- MEDIUM VOLTAGE ELBOW**
- MEDIUM VOLTAGE TEE**
- MEDIUM VOLTAGE CONTACTOR**
- MEDIUM VOLTAGE STARTER**
- MOV-ELBOW ARRESTER**

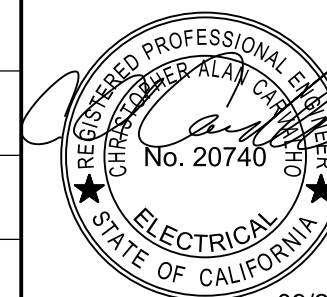
LOW VOLTAGE

- LOW VOLTAGE CIRCUIT BREAKER**
a = TYPE
MCP = MOTOR CIRCUIT PROTECTOR
TM = THERMAL MAGNETIC
SS = SOLID STATE
b = FRAME SIZE (MANUFACTURER TO DETERMINE FRAME SIZE UNLESS INDICATED)
c = NUMBER OF POLES
d = TRIP SETTING (AT = AMP TRIP) (AC = MCP CONTINUOUS RATING)
e = DESIGNATION
f = INTERRUPTING RATING
- LOW VOLTAGE CIRCUIT BREAKER AUXILIARY OPERATOR**
S = SHUNT TRIP
G = GROUND FAULT INTERRUPTER
V = SOLENOID KEY RELEASE
- DISCONNECT SWITCH**
A = TYPE, REFER TO DISCONNECT SCHEDULE
- FUSED DISCONNECT SWITCH**
B = TYPE, REFER TO DISCONNECT SCHEDULE
b = FUSE RATING
- FUSE**
- COMBINATION STARTER WITH CONTROL POWER TRANSFORMER**
a = CIRCUIT BREAKER DISCONNECT, TYPE AS NOTED
b = STARTER TYPE
c = NEMA STARTER SIZE
d = OVERLOAD
- MOTOR STARTER/DRIVES:**
a = DEVICE TYPE
VFD-6 = 6-PULSE VFD
VFD-18 = 18-PULSE VFD
RVSS = REDUCED VOLTAGE SOLID STATE STARTER
RVAT = REDUCED VOLTAGE AUTO TRANSFORMER
a/b = DEVICE WITH BYPASS STARTER. REFER TO THE SPECIFICATIONS
- b = INPUT OPTIONS**
LL = LINE REACTOR
PHF = PASSIVE HARMONIC FILTER
- c = OUTPUT OPTIONS**
LR = LOAD REACTOR
DV/DT = Dv/dt FILTER
SWF = SINE WAVE FILTER
- EQUIPMENT ENCLOSURE**

MISCELLANEOUS

- MOTOR**
HP = HORSEPOWER RATING
FULL LOAD AMPS AS NOTED
- PACKAGED EQUIPMENT LOAD RATING AS INDICATED**
a = RATED LOAD
b = UNIT(HP, KW, KVA) AS INDICATED
- TRANSFORMER**
a = DEVICE I.D.
b = KVA RATING
c = NUMBER OF PHASES
d = PRIMARY VOLTAGE
e = SECONDARY VOLTAGE
f,g = CONNECTION TYPE SYMBOL
h = IMPEDANCE
- GROUNDING WYE CONNECTION**
- DELTA CONNECTION**
- ENGINE-GENERATOR RATINGS AS INDICATED ON THE DRAWINGS**
a = KVA/KW
b = VOLTAGE/CONNECTION
c = PHASE
d = WIRE
e = PF
- CURRENT TRANSFORMER WITH SHORTING TERMINAL BLOCK**
a = QUANTITY
b = RATIO
- POTENTIAL TRANSFORMER**
a = QUANTITY
b = RATIO
c,d = CONNECTION TYPE SYMBOL
- SOLID STATE MULTIFUNCTION METER**
- AMPERE TEST POINT**
- VOLTAGE TEST POINT**
- UTILITY METER**
- LIGHTNING ARRESTER**
- SURGE PROTECTIVE DEVICE**
- DRAWOUT CONNECTION**
- GROUND**
- CAPACITOR**
- BATTERY**
- KIRK KEY INTERLOCK**
- LOAD BANK**

REV	DATE	BY	DESCRIPTION

DESIGNED CAC	
DRAWN EYP	
CHECKED JGB	
DATE SEPTEMBER 2022	
DATE 09/28/22	



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
ELECTRICAL
LEGEND

VERIFY SCALES	JOB NO. 7310L.10
BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. GE01B
0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	SHEET NO. 33 OF 56

Plot Date: 29-SEP-2022 11:06:19 AM User: svcPW Model: Layout1 ColorTable: gshade.ctb DesignScript: Carroll_Sld_Pen_v0905.pen PlotScale: 1:1 LAST SAVED BY: lbordeon

ABBREVIATIONS

Table of abbreviations with columns for letter (A-F), symbol, and description. Includes items like AMP, ABSOLUTE, ALTERNATING CURRENT, etc.

POWER DEVICE FUNCTION NUMBERS

Table of power device function numbers with columns for number (1-82) and description. Includes items like MASTER ELEMENT, TIME-DELAY STARTING OR CLOSING RELAY, etc.

COMMONLY USED SUFFIX LETTERS APPLIED TO POWER DEVICE FUNCTION NUMBERS

Table of commonly used suffix letters (A-P) and their meanings, such as ALARM ONLY, BUS PROTECTION, etc.

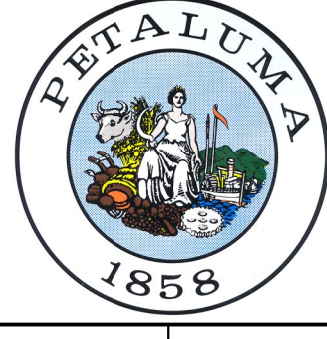
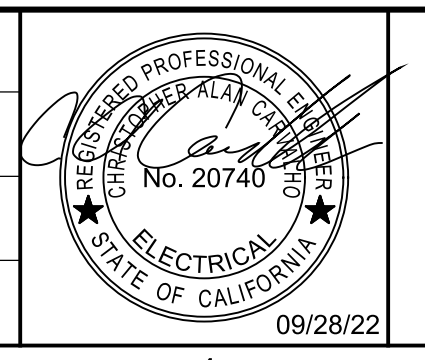
ABBREVIATIONS

Table of additional abbreviations (AFD-TCM) and their meanings, such as ARC FLASH DETECTOR, CLOCK OR TIMING SOURCE, etc.

NOTES: 1. REFER TO SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL ABBREVIATIONS.

Revision table with columns for REV, DATE, BY, and DESCRIPTION.

Design and drawing information table including DESIGNED, DRAWN, CHECKED, and DATE.



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
ELECTRICAL
ABBREVIATIONS

Verify Scales and Job No. information table.

1	2	3	4	5	6	7	8	9	10	11	12	13	
PROCESS SWITCHES		HAND SWITCHES			RELAYS		TERMINAL BLOCKS		I/O		MISC		
<p>FLOAT SWITCH CLOSE ON RISING LEVEL</p> <p>FLOAT SWITCH OPEN ON RISING LEVEL</p> <p>PRESSURE SWITCH CLOSE ON RISING PRESSURE</p> <p>PRESSURE SWITCH OPEN ON RISING PRESSURE</p> <p>TEMPERATURE SWITCH CLOSE ON RISING TEMPERATURE</p> <p>TEMPERATURE SWITCH OPEN ON RISING TEMPERATURE</p> <p>FLOW SWITCH CLOSE ON INCREASE IN FLOW</p> <p>FLOW SWITCH OPEN ON INCREASE IN FLOW</p> <p>VIBRATION SWITCH OPEN ON RISING VIBRATION</p> <p>VIBRATION SWITCH CLOSE ON RISING VIBRATION</p> <p>TORQUE SWITCH OPEN ON HIGH TORQUE</p> <p>TORQUE SWITCH CLOSE ON HIGH TORQUE</p> <p>NORMALLY CLOSED LIMIT SWITCH</p> <p>NORMALLY CLOSED HELD OPEN LIMIT SWITCH</p> <p>NORMALLY OPEN LIMIT SWITCH</p> <p>NORMALLY OPEN HELD CLOSED LIMIT SWITCH</p>		<p>NORMALLY OPEN MOMENTARY PUSHBUTTON</p> <p>NORMALLY CLOSED MOMENTARY PUSHBUTTON</p> <p>THREE POSITION SELECTOR SWITCH x - DENOTES POSITION CONTACTS CLOSED IN</p> <p>TWO POSITION SELECTOR SWITCH x - DENOTES POSITION CONTACTS CLOSED IN</p> <p>MUSHROOM HEAD PUSHBUTTON</p> <p>PUSH-PULL PUSHBUTTON MAINTAINED CONTACT</p> <p>PADLOCK SWITCH x - DENOTES POSITION CONTACTS CLOSED IN</p> <p>PULL CORD SWITCH</p> <p>STOP-LOCKOUT PUSHBUTTON</p> <p>SPRING-RETURN x - DENOTES POSITION CONTACTS CLOSED IN</p>			<p>RELAY COIL a = TYPE CR - CONTROL RELAY TD - TIME DELAY RELAY M - MOTOR STARTER COIL L - MOTOR STARTER COIL - LOW SPEED H - MOTOR STARTER COIL - HIGH SPEED F - MOTOR STARTER COIL - FORWARD R - MOTOR STARTER COIL - REVERSE</p> <p>b = TDON - TIME DELAY ON ENERGIZATION TDOFF - TIME DELAY ON DEENERGIZATION</p> <p>c = TIMING RANGE/SETTING d = DESCRIPTION</p> <p>NORMALLY OPEN CONTROL CONTACT</p> <p>NORMALLY CLOSED CONTROL CONTACT</p> <p>TIME DELAY CONTACT NORMALLY OPEN TIMED CLOSING</p> <p>TIME DELAY CONTACT NORMALLY CLOSED TIMED OPENING</p> <p>TIME DELAY CONTACT NORMALLY OPEN TIMED OPENING</p> <p>TIME DELAY CONTACT NORMALLY CLOSED TIMED CLOSING</p>		<p>TERMINAL IN PLC/PCM PANEL</p> <p>TERMINAL IN MOTOR CONTROL CENTER</p> <p>TERMINAL IN LOCAL STARTER CONTROL PANEL</p> <p>TERMINAL AT FIELD DEVICE</p> <p>TERMINAL IN RTU</p> <p>TERMINAL IN FIELD PANEL</p> <p>TERMINAL IN (USER CHOICE)</p> <p>DIGITAL BUS CONNECTOR * = D - DEVICENET * = PA - PROFIBUS PA * = DP - PROFIBUS DP * = H1 - FOUNDATION FIELDBUS H1 * = H2 - FOUNDATION FIELDBUS H2</p>		<p>PLC DISCRETE a = INPUT OR OUTPUT AS INDICATED</p> <p>PLC ANALOG a = INPUT OR OUTPUT AS INDICATED</p> <p>DIGITAL BUS</p>		<p>SOLENOID</p> <p>METER UNIT M = TYPE</p> <p>MOTOR</p> <p>CIRCUIT BREAKER</p> <p>DISCONNECT</p> <p>FUSE</p> <p>TRANSIENT SURGE PROTECTION</p> <p>MWH* MOTOR WINDING HEATER * - MOTOR TAG I.D.</p> <p>SPACE HEATER</p> <p>VARISTOR</p> <p>CAPACITOR</p> <p>RESISTOR</p> <p>BATTERY</p> <p>DIODE</p> <p>MOTOR OVERLOAD HEATERS</p> <p>OVERLOAD CONTACT</p> <p>DRAWOUT CONNECTION</p> <p>GROUND</p> <p>LIGHTNING ARRESTOR</p> <p>CONTROL POWER TRANSFORMER</p> <p>ELAPSED TIME METER</p>		
			PILOT LIGHTS										
			<p>PILOT LIGHT a = LENS COLOR R = RED G = GREEN W = WHITE A = AMBER</p>										

REV	DATE	BY	DESCRIPTION

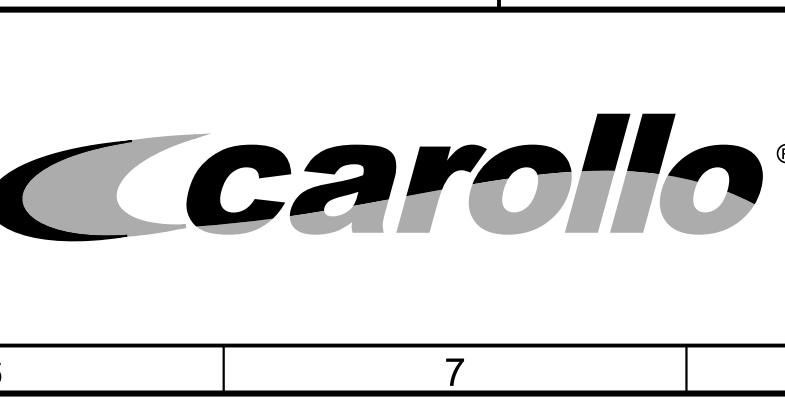
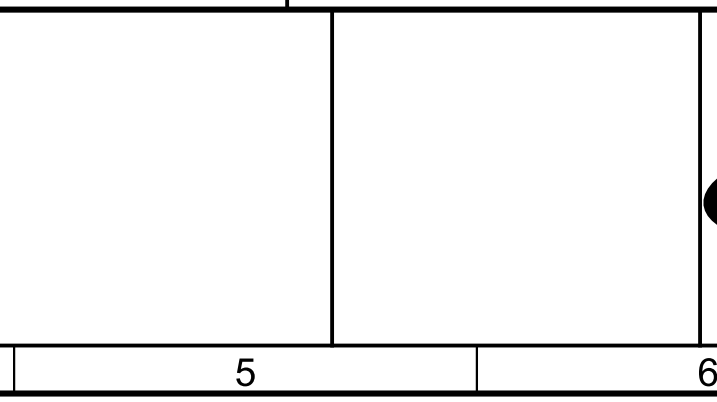
DESIGNED
CAC

DRAWN
EYP

CHECKED
JGB

DATE
SEPTEMBER 2022

09/28/22



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
ELECTRICAL
SCHEMATIC SYMBOLS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
7310L.10

DRAWING NO.
GE03B

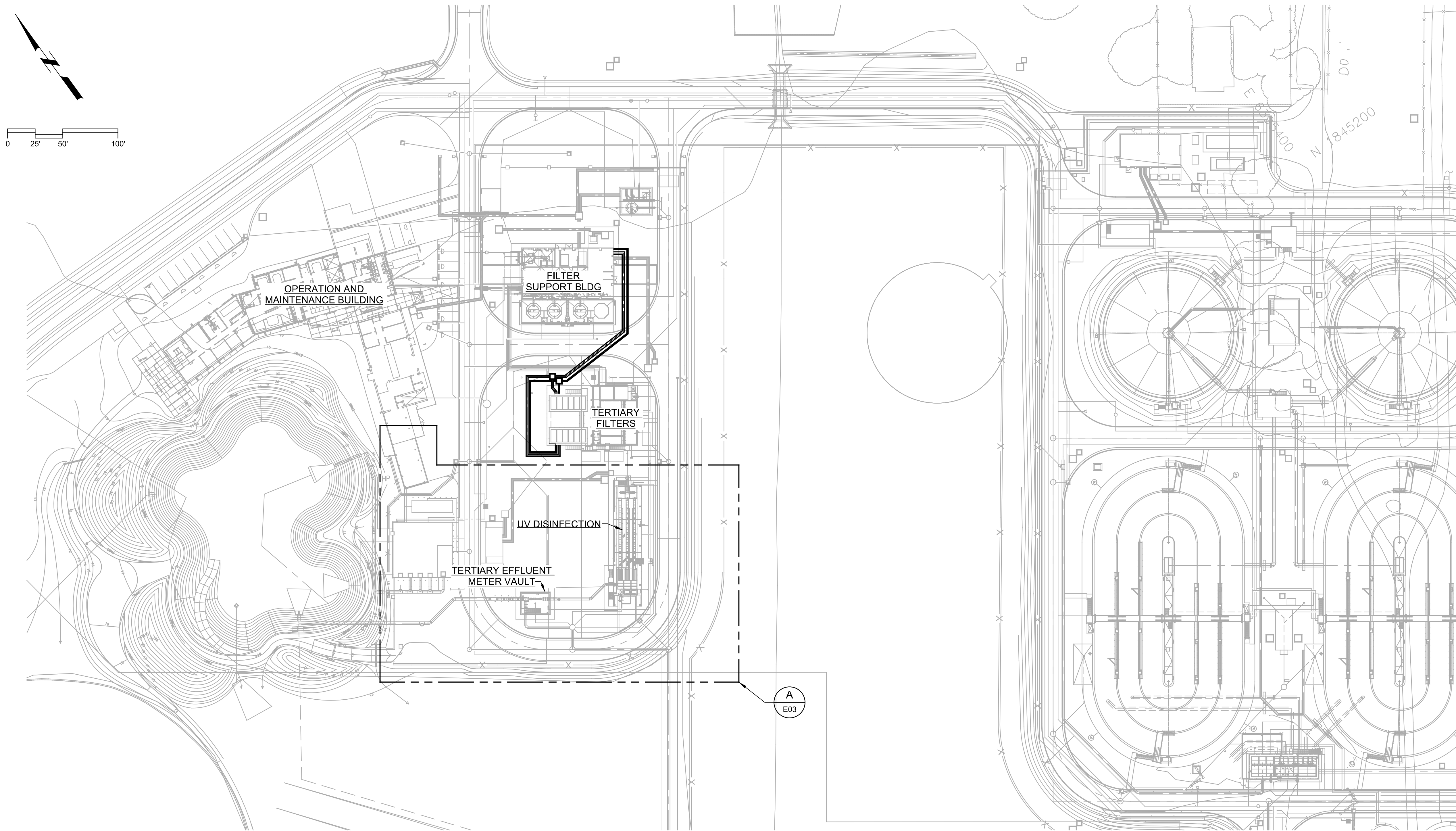
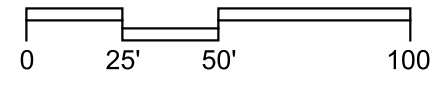
SHEET NO.
35 OF 56

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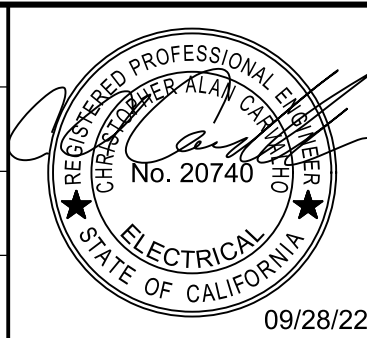
LAST SAVED BY: jstiepard



A SITE PLAN
FILE: 7310L1001E101

REV	DATE	BY	DESCRIPTION

DESIGNED
CAC
DRAWN
CGR
CHECKED
JGB
DATE
SEPTEMBER 2022



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
ELECTRICAL
OVERALL SITE PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
7310L.10
DRAWING NO.
E01B
SHEET NO.
36 OF 56

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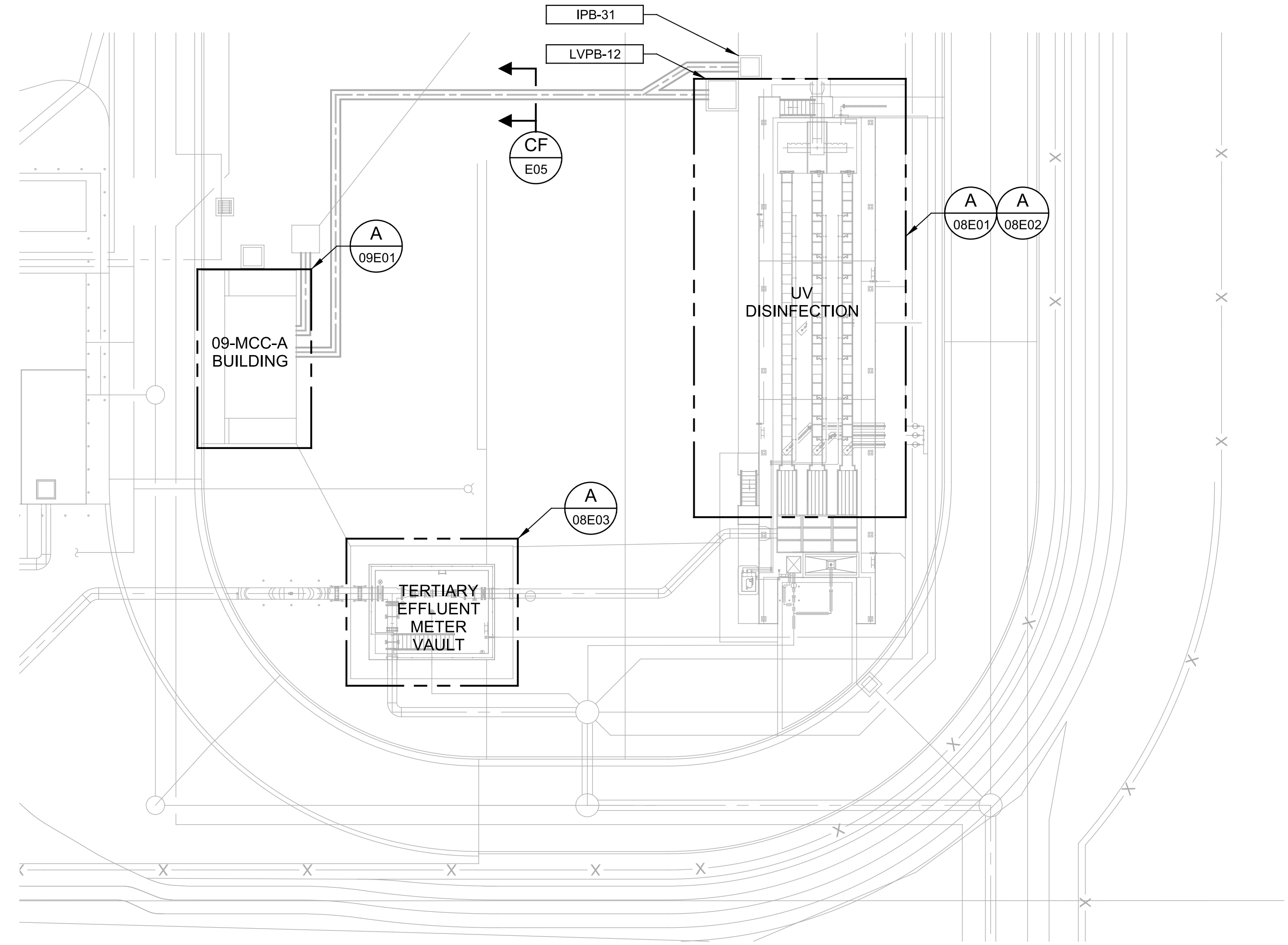
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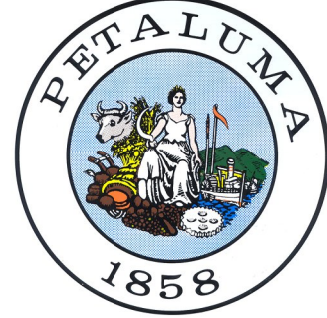
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A PARTIAL SITE PLAN
 E01 SCALE: 1"=20'-0"
 FILE: 7310L1001E101

REV	DATE	BY	DESCRIPTION

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CGR
 CHECKED
JGB
 DATE
SEPTEMBER 2022



CITY OF PETALUMA
 UV DISINFECTION UPGRADES PROJECT
 ELECTRICAL
 PARTIAL SITE PLAN - II

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING
 0 1"
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
7310L.10
 DRAWING NO.
E03B
 SHEET NO.
37 OF 56

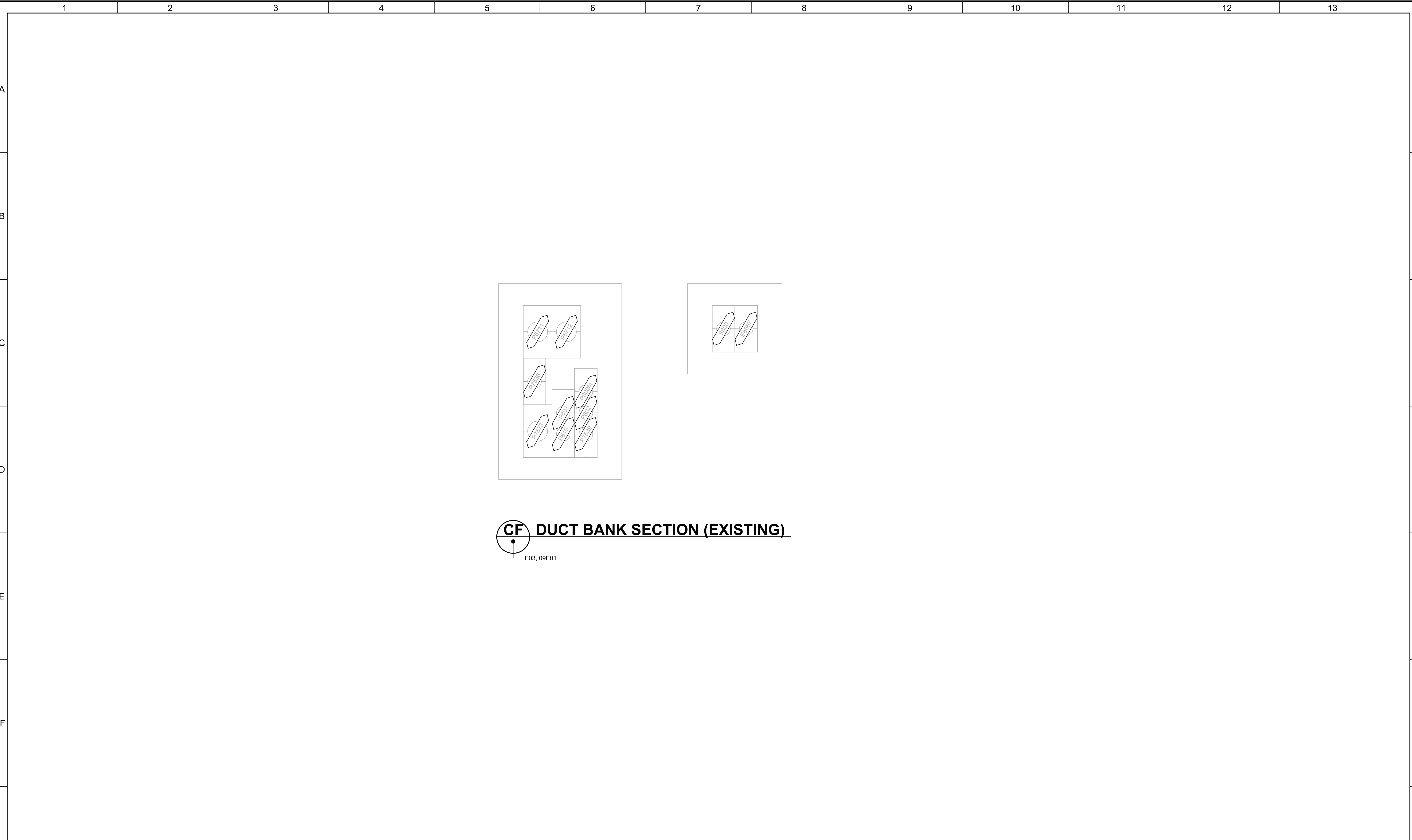
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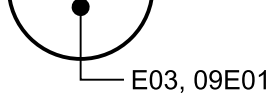
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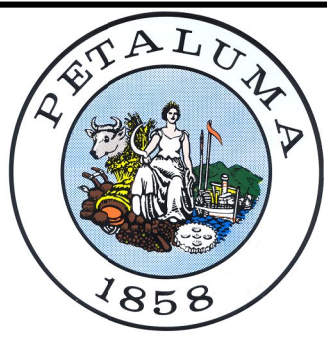
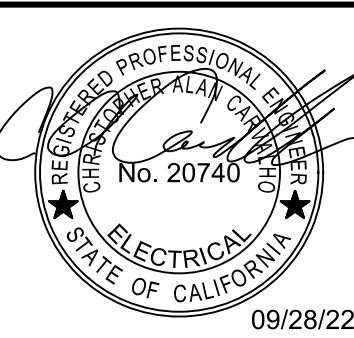
CF DUCT BANK SECTION (EXISTING)



E03, 09E01

REV	DATE	BY	DESCRIPTION

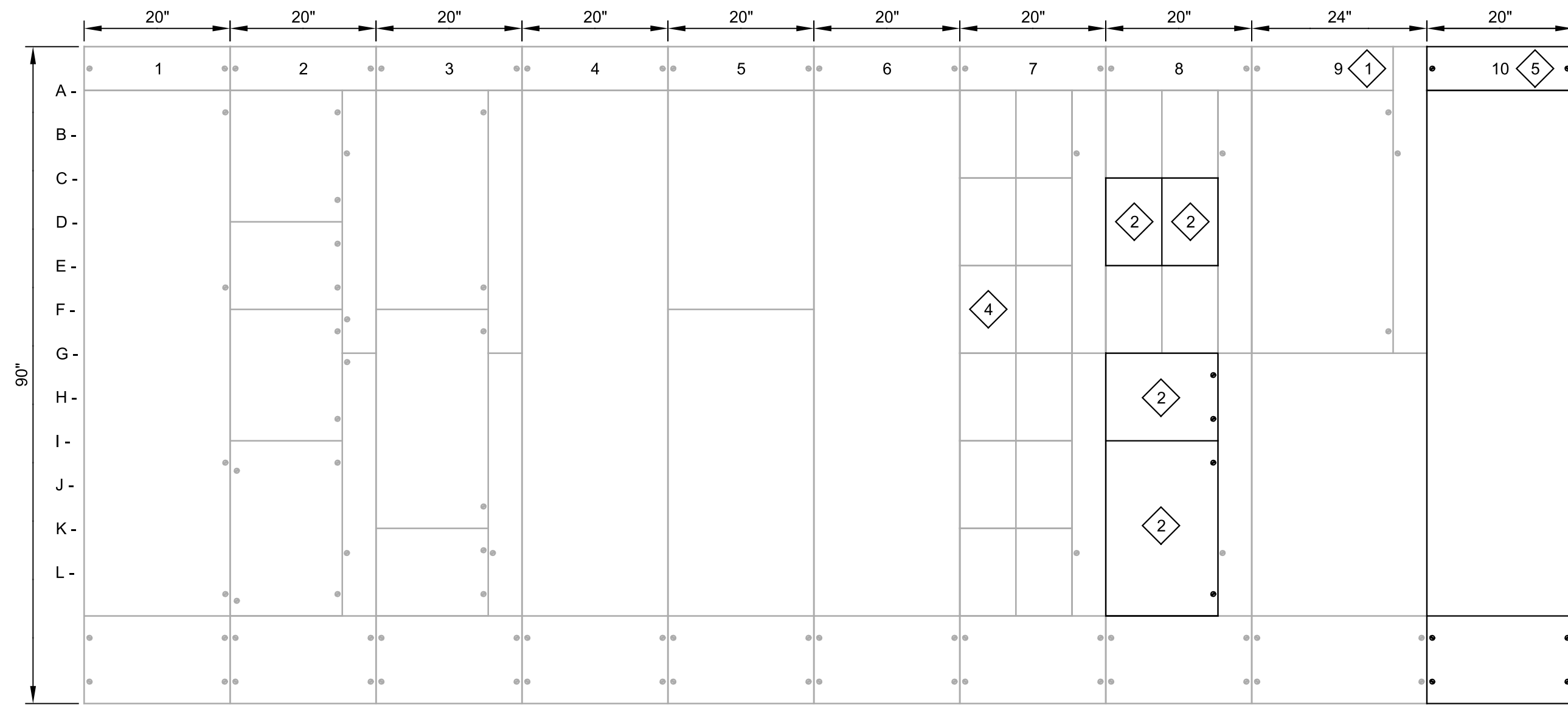
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JJS
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CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
ELECTRICAL
DUCT BANK SECTIONS - I

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
7310L.10
DRAWING NO.
E05B
SHEET NO.
38 OF 56



FRONT VIEW

SCALE: 3/4"=1'-0"
FILE: 7310L1003E623



SIDE VIEW

SCALE: 3/4"=1'-0"
FILE: 7310L1003E623

KEY NOTES:

- 1 EXISTING MCC: EATON/CUTLER-HAMMER FREEDOM SERIES 2100 MCC, CAT NO.: MLA01487.
- 2 REMOVE EXISTING COVER PLATE. INSTALL NEW COVER PLATE AND NAMEPLATE AS INDICATED ON THIS DRAWING.
- 3 REMOVE EXISTING COVER PLATE. INSTALL BLANK COVER PLATE.
- 4 PULL POWER CONDUCTORS THROUGH EXISTING CONDUIT FROM FEEDER BREAKER TO INFLUENT CHANNEL GATE NO. 3 DISCONNECT SWITCH. REFER TO DRAWING 08E01 THE LOCATION OF INFLUENT CHANNEL GATE NO. 3 DISCONNECT SWITCH.
- 5 NEW MCC SECTION: EATON/CUTLER-HAMMER FREEDOM SERIES 2100 MCC SECTION.

1A- MAIN BREAKER	2A- TVSS	3A- RW/3W PUMP NO. 2 09-PMP-002	4A- SPACE	5A- RW/3W PUMP NO. 3 09-PMP-003	6A- RW/3W PUMP NO. 4 09-PMP-004	7AL- OVERHEAD CRANE 08-CRN-001	8AL- AUTOMATED 1W VALVE 09-VLV-002	9A- LIGHTING PANEL 09-LPA	10A- GENERATOR CONNECTION BREAKER
	2D- SSM	3F- RW/3W PUMP NO. 1 09-PMP-001		5F- RW BASIN LOLO LOCKOUT		7AR- SANITARY SEWER LIFT PUMPS 19-LCPPMP	8AR- AUTOMATIC STRAINER 09-STR-004	9G- 30 KVA 480-208Y/120V 09-XFMR-B	
	2F- SPARE	3K- SPARE				7CL- INFLUENT CHANNEL GATE NO. 1 08-GAT-101	8CL- FUTURE STORAGE BLDG.		
	2J- UV DISINFECTION POWER DISTRIBUTION CENTER 06-UV-PDC					7CR- INFLUENT CHANNEL GATE NO. 2 08-GAT-201	8CR- SPARE		
						7EL- INFLUENT CHANNEL GATE NO. 3 08-GAT-301	8EL- AIR HANDLING 09-ACU-001		
						7ER- AIR COMPRESSOR NO. 1 09-ACP-001	8ER- UV SYSTEM AIR BLOWER 08-BLW-001		
						7GL- AUTOMATIC STRAINER 09-STR-001	8G- SPACE		
						7GR- AUTOMATIC STRAINER 09-STR-002	8I- UV DISINFECTION POWER DISTRIBUTION CENTER UV-PDC-800		
						7IL- AUTOMATIC STRAINER 09-STR-003			
						7IR- FIRE WATER PUMP PACKAGED SYSTEM 09-PMP-005			
						7KL- TERTIARY PLANT EFFLUENT VALVE 08-VLV-001			
						7KR- TERTIARY PLANT EFFLUENT VALVE 08-VLV-002			

REV	DATE	BY	DESCRIPTION

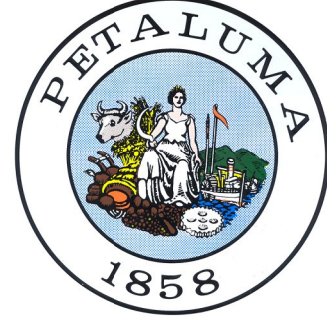
DESIGNED
CAC

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BS

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DATE
SEPTEMBER 2022

09/28/22



CITY OF PETALUMA

UV DISINFECTION UPGRADES PROJECT

ELECTRICAL

09-MCC-A ELEVATION MODIFICATION

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

0 1"

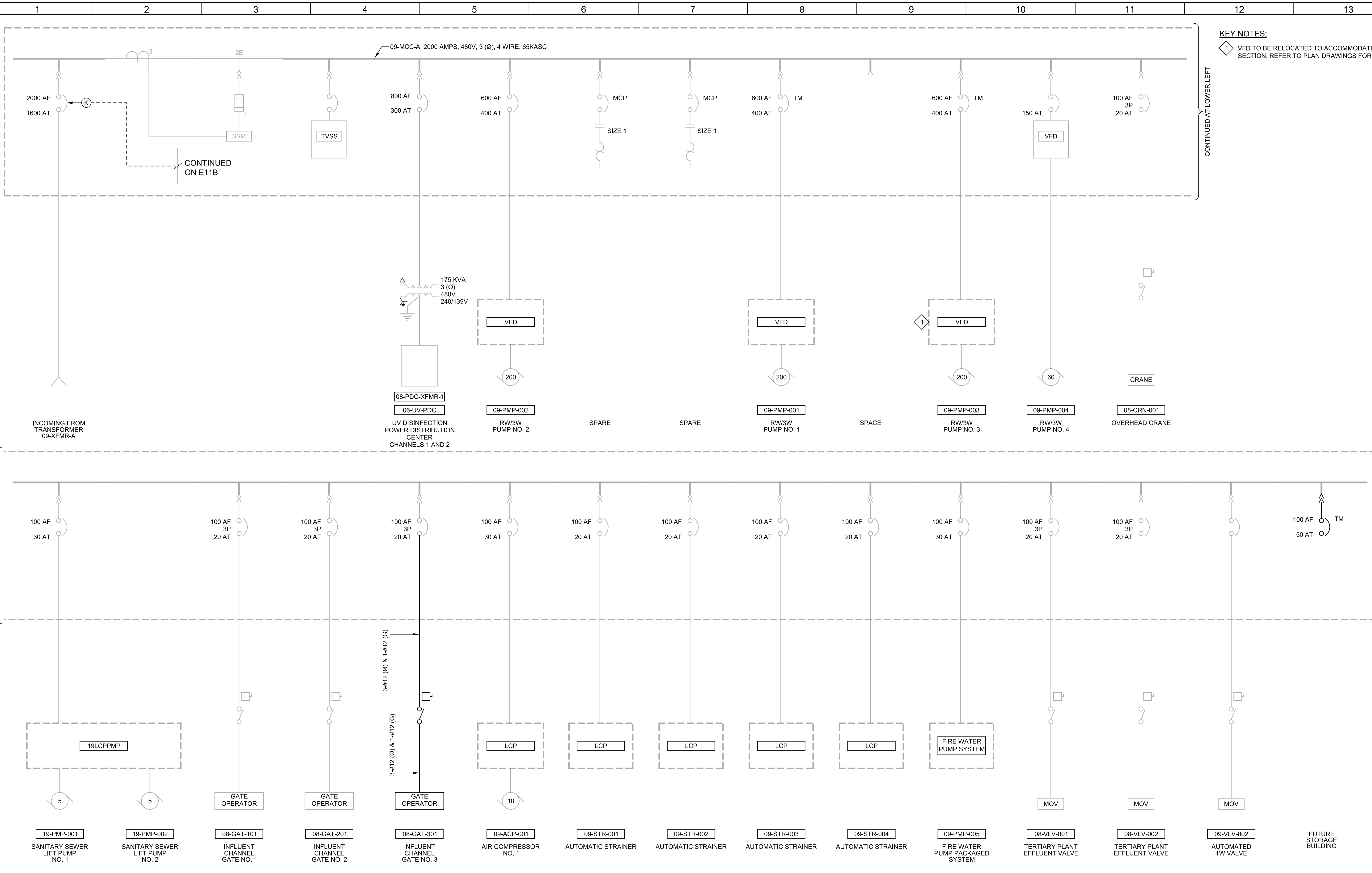
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JOB NO. 7310L.10

DRAWING NO. E09B

SHEET NO. 39 OF 56

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 Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sig_Pen_v0905.pen PlotScale: 1:1
 LAST SAVED BY: jstephens



KEY NOTES:
 1 VFD TO BE RELOCATED TO ACCOMMODATE NEW MCC SECTION. REFER TO PLAN DRAWINGS FOR DETAILS.

REV	DATE	BY	DESCRIPTION
1			
2			
3			

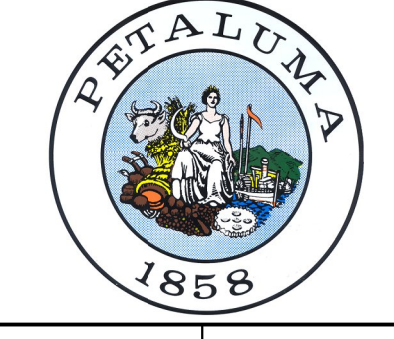
DESIGNED
CAC

DRAWN
BS

CHECKED
JGB

DATE
SEPTEMBER 2022

09/28/22



CITY OF PETALUMA

UV DISINFECTION UPGRADES PROJECT

ELECTRICAL

09-MCC-A ONE-LINE DIAGRAM - I
MODIFICATION

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING
 0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
7310L.10

DRAWING NO.
E10B

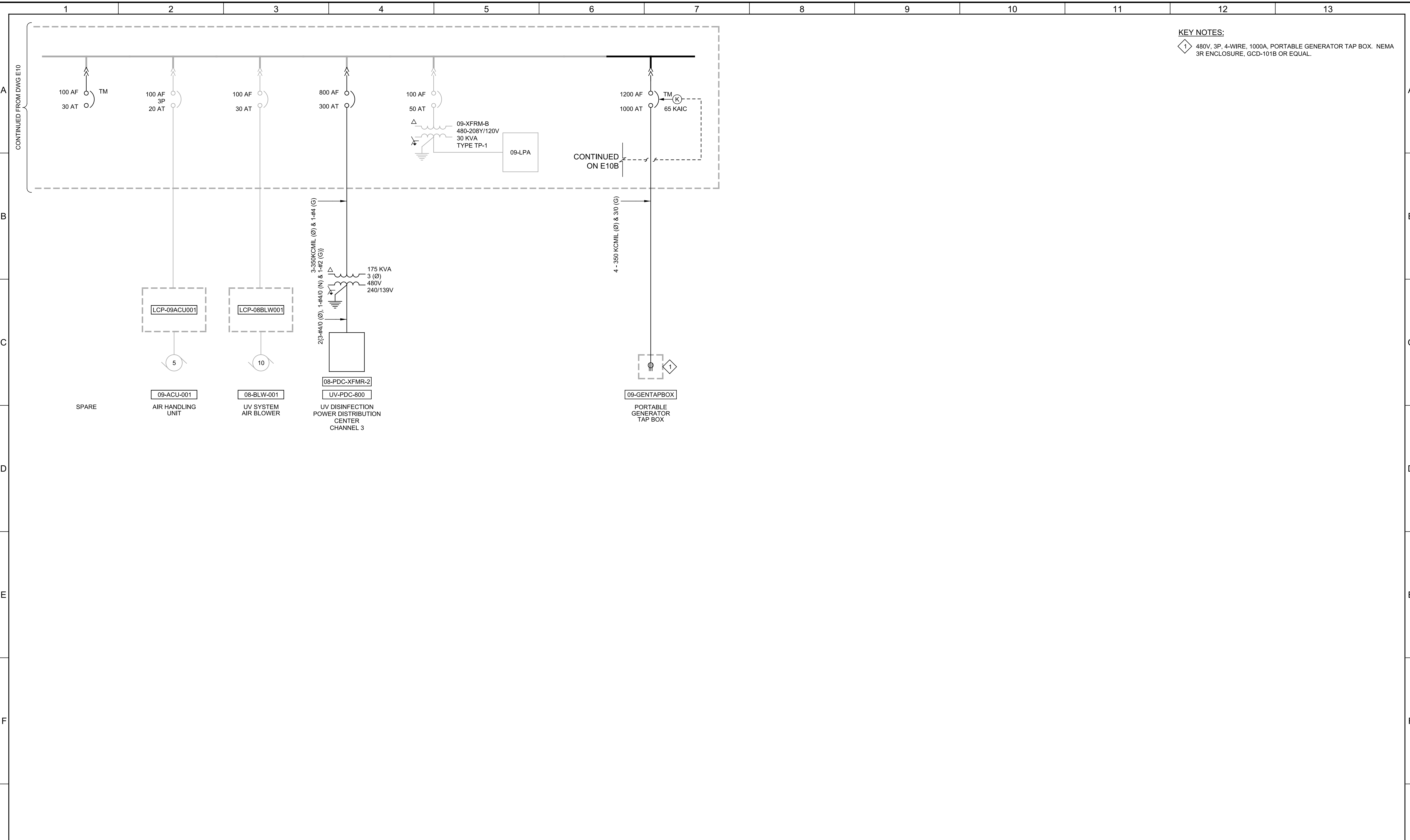
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40 OF 56

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User: svcPW

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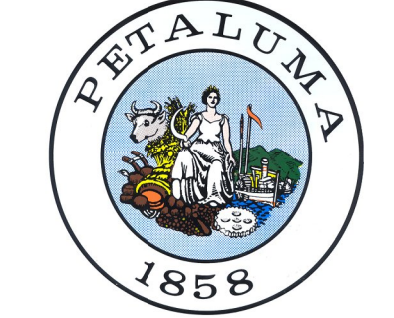
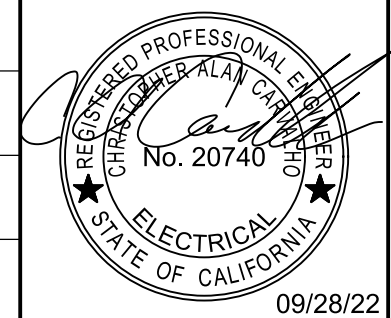
LAST SAVED BY: jsthepard



KEY NOTES:
 1 480V, 3P, 4-WIRE, 1000A, PORTABLE GENERATOR TAP BOX. NEMA 3R ENCLOSURE, GCD-101B OR EQUAL.

REV	DATE	BY	DESCRIPTION

DESIGNED
CAC
 DRAWN
BS
 CHECKED
JGB
 DATE
SEPTEMBER 2022
 09/28/22



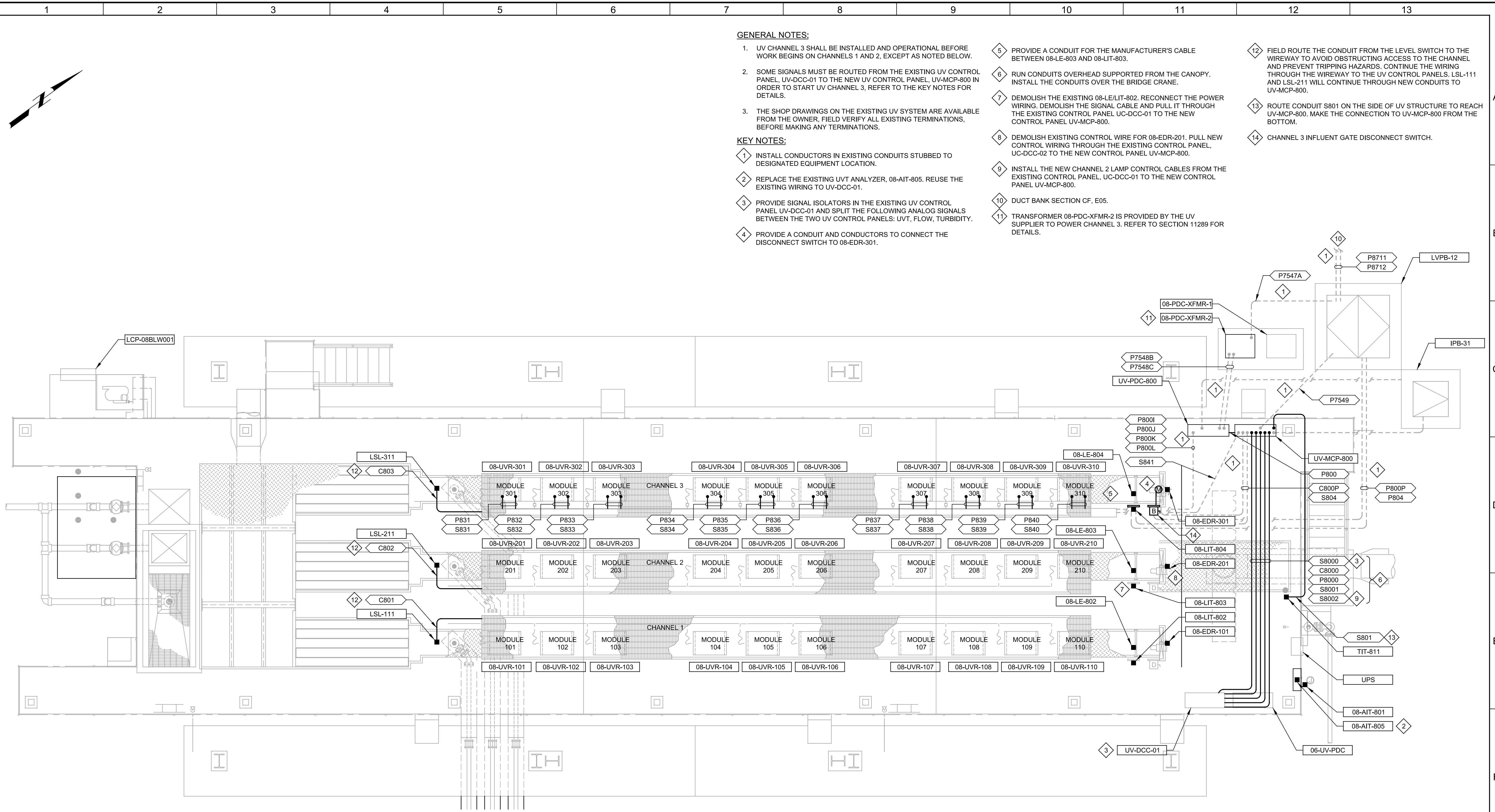
CITY OF PETALUMA		VERIFY SCALES	JOB NO. 7310L.10
UV DISINFECTION UPGRADES PROJECT		BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. E11B
ELECTRICAL		0 1"	SHEET NO. 41 OF 56
09-MCC-A ONE-LINE DIAGRAM - II MODIFICATION		IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	

Plot Date: 29-SEP-2022 11:10:02 AM

User: svcPW

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 1:1

LAST SAVED BY: lbordeon



GENERAL NOTES:

- UV CHANNEL 3 SHALL BE INSTALLED AND OPERATIONAL BEFORE WORK BEGINS ON CHANNELS 1 AND 2, EXCEPT AS NOTED BELOW.
- SOME SIGNALS MUST BE ROUTED FROM THE EXISTING UV CONTROL PANEL, UV-DCC-01 TO THE NEW UV CONTROL PANEL, UV-MCP-800 IN ORDER TO START UV CHANNEL 3, REFER TO THE KEY NOTES FOR DETAILS.
- THE SHOP DRAWINGS ON THE EXISTING UV SYSTEM ARE AVAILABLE FROM THE OWNER. FIELD VERIFY ALL EXISTING TERMINATIONS, BEFORE MAKING ANY TERMINATIONS.

KEY NOTES:

- INSTALL CONDUCTORS IN EXISTING CONDUITS STUBBED TO DESIGNATED EQUIPMENT LOCATION.
- REPLACE THE EXISTING UV ANALYZER, 08-AIT-805. REUSE THE EXISTING WIRING TO UV-DCC-01.
- PROVIDE SIGNAL ISOLATORS IN THE EXISTING UV CONTROL PANEL UV-DCC-01 AND SPLIT THE FOLLOWING ANALOG SIGNALS BETWEEN THE TWO UV CONTROL PANELS: UV-T, FLOW, TURBIDITY.
- PROVIDE A CONDUIT AND CONDUCTORS TO CONNECT THE DISCONNECT SWITCH TO 08-EDR-301.

- PROVIDE A CONDUIT FOR THE MANUFACTURER'S CABLE BETWEEN 08-LE-803 AND 08-LIT-803.
- RUN CONDUITS OVERHEAD SUPPORTED FROM THE CANOPY. INSTALL THE CONDUITS OVER THE BRIDGE CRANE.
- DEMOLISH THE EXISTING 08-LE/LIT-802. RECONNECT THE POWER WIRING. DEMOLISH THE SIGNAL CABLE AND PULL IT THROUGH THE EXISTING CONTROL PANEL UC-DCC-01 TO THE NEW CONTROL PANEL UV-MCP-800.
- DEMOLISH EXISTING CONTROL WIRE FOR 08-EDR-201. PULL NEW CONTROL WIRING THROUGH THE EXISTING CONTROL PANEL, UC-DCC-02 TO THE NEW CONTROL PANEL UV-MCP-800.
- INSTALL THE NEW CHANNEL 2 LAMP CONTROL CABLES FROM THE EXISTING CONTROL PANEL, UC-DCC-01 TO THE NEW CONTROL PANEL UV-MCP-800.
- DUCT BANK SECTION CF, E05.
- TRANSFORMER 08-PDC-XFMR-2 IS PROVIDED BY THE UV SUPPLIER TO POWER CHANNEL 3. REFER TO SECTION 11289 FOR DETAILS.

- FIELD ROUTE THE CONDUIT FROM THE LEVEL SWITCH TO THE WIREWAY TO AVOID OBSTRUCTING ACCESS TO THE CHANNEL AND PREVENT TRIPPING HAZARDS. CONTINUE THE WIRING THROUGH THE WIREWAY TO THE UV CONTROL PANELS. LSL-111 AND LSL-211 WILL CONTINUE THROUGH NEW CONDUITS TO UV-MCP-800.
- ROUTE CONDUIT S801 ON THE SIDE OF UV STRUCTURE TO REACH UV-MCP-800. MAKE THE CONNECTION TO UV-MCP-800 FROM THE BOTTOM.
- CHANNEL 3 INFLUENT GATE DISCONNECT SWITCH.

A PLAN
 E03 SCALE: 1/4"=1'-0"
 FILE: 7310L1008E101

REV	DATE	BY	DESCRIPTION
1			
2			

DESIGNED
JHA

DRAWN
JJS

CHECKED
JGB

DATE
SEPTEMBER 2022

CITY OF PETALUMA

UV DISINFECTION UPGRADES PROJECT

ELECTRICAL

UV DISINFECTION POWER PLAN - I

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 7310L.10

DRAWING NO. 08E01B

SHEET NO. 43 OF 56

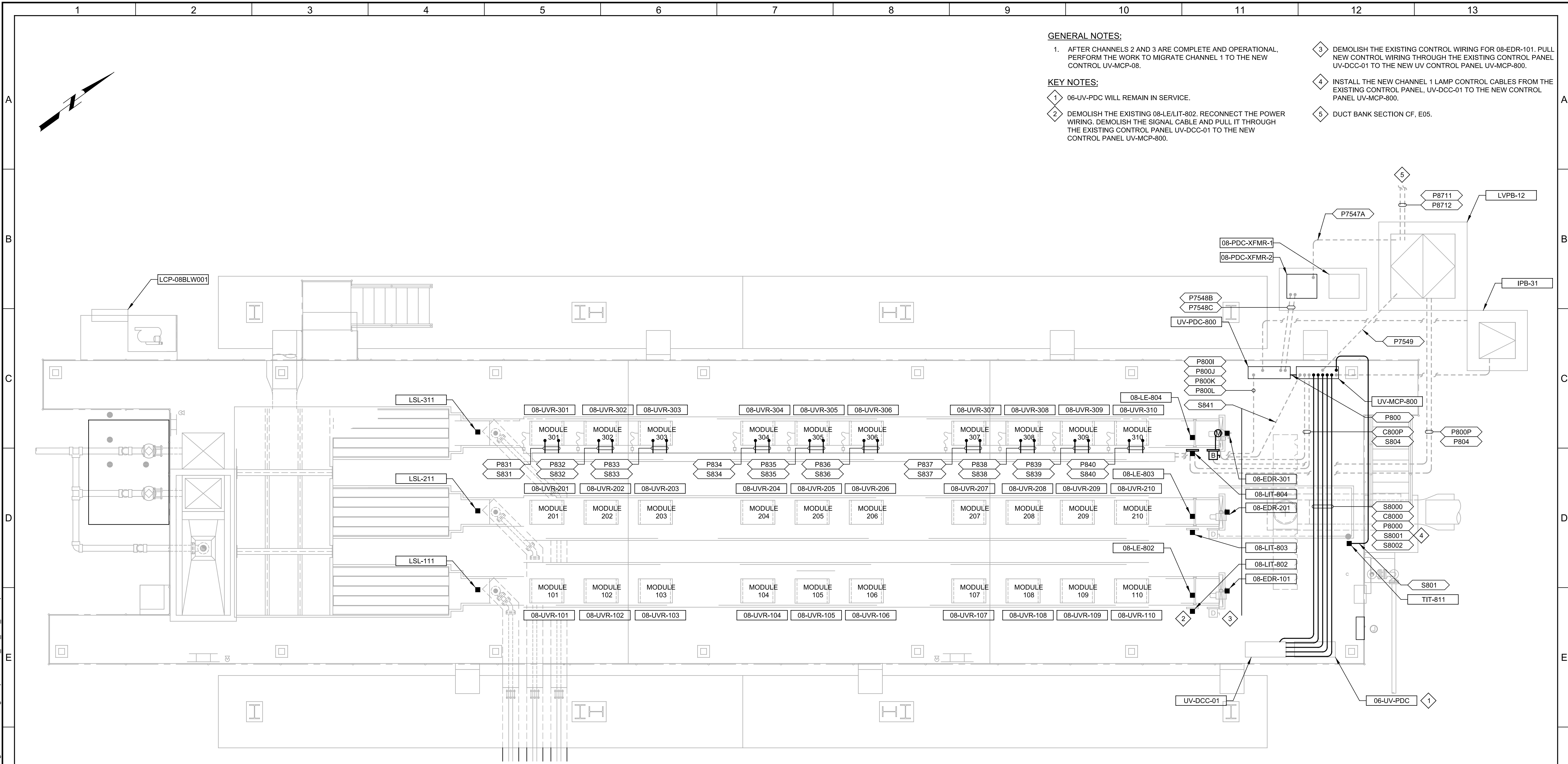
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User: svcPW

PlotScale: 1:1

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sld_Pen_v0905.pen

LAST SAVED BY: jlbriiones



GENERAL NOTES:

1. AFTER CHANNELS 2 AND 3 ARE COMPLETE AND OPERATIONAL, PERFORM THE WORK TO MIGRATE CHANNEL 1 TO THE NEW CONTROL UV-MCP-800.
2. DEMOLISH THE EXISTING 08-LE/LIT-802. RECONNECT THE POWER WIRING. DEMOLISH THE SIGNAL CABLE AND PULL IT THROUGH THE EXISTING CONTROL PANEL UV-DCC-01 TO THE NEW CONTROL PANEL UV-MCP-800.
3. DEMOLISH THE EXISTING CONTROL WIRING FOR 08-EDR-101. PULL NEW CONTROL WIRING THROUGH THE EXISTING CONTROL PANEL UV-DCC-01 TO THE NEW UV CONTROL PANEL UV-MCP-800.
4. INSTALL THE NEW CHANNEL 1 LAMP CONTROL CABLES FROM THE EXISTING CONTROL PANEL, UV-DCC-01 TO THE NEW CONTROL PANEL UV-MCP-800.
5. DUCT BANK SECTION CF, E05.

KEY NOTES:

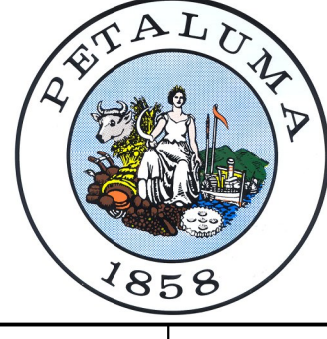
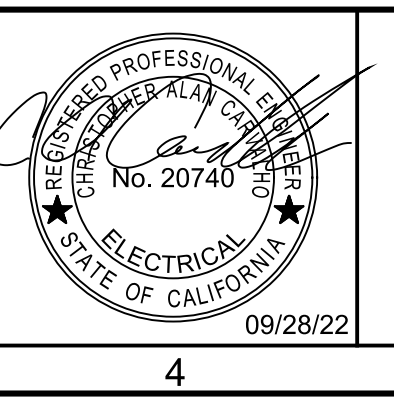
1 06-UV-PDC WILL REMAIN IN SERVICE.

2 DEMOLISH THE EXISTING 08-LE/LIT-802. RECONNECT THE POWER WIRING. DEMOLISH THE SIGNAL CABLE AND PULL IT THROUGH THE EXISTING CONTROL PANEL UV-DCC-01 TO THE NEW CONTROL PANEL UV-MCP-800.

A PLAN
 E03 SCALE: 1/4"=1'-0"
 FILE: 7310L1008E101

REV	DATE	BY	DESCRIPTION
1			
2			
3			

DESIGNED
JHA
 DRAWN
JJS
 CHECKED
JGB
 DATE
SEPTEMBER 2022



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
 ELECTRICAL
UV DISINFECTION POWER PLAN - II

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING
 0 1"
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 7310L.10
 DRAWING NO. **08E02B**
 SHEET NO. 44 OF 56

Plot Date: 29-SEP-2022 11:10:14 AM

User: svcPW

PlotScale: 1:1

Model: Layout1

ColorTable: gshade.ctb

DesignScript: Carollo_Sid_Pen_v0905.pen

ColorTable: gshade.ctb

DesignScript: Carollo_Sid_Pen_v0905.pen

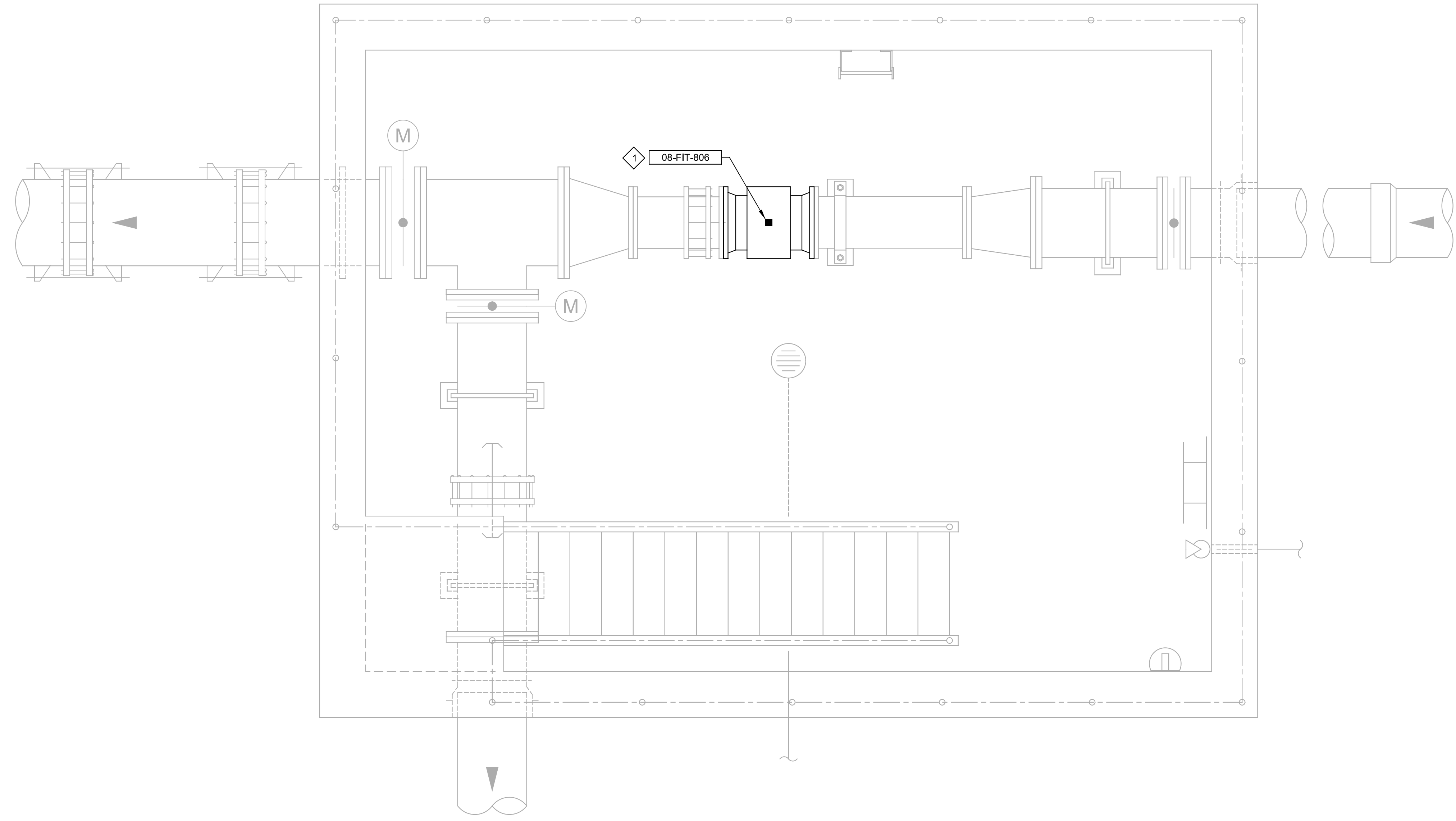
PlotScale: 1:1

User: svcPW

Plot Date: 29-SEP-2022 11:10:14 AM

KEY NOTES:

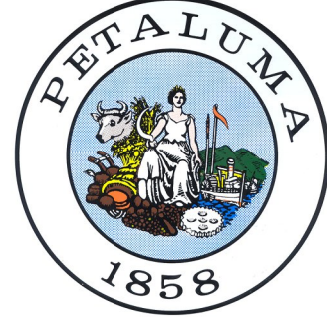
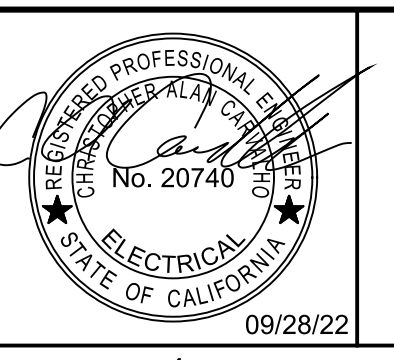
1. CONNECT THE NEW FLOW METER TO THE EXISTING WIRING. PROVIDE NEW FLEXIBLE CONDUIT AS REQUIRED TO REMAKE THE CONNECTIONS.



A PLAN
 E03 SCALE: 1/2"=1'-0"
 FILE: 7310L1008E102

REV	DATE	BY	DESCRIPTION

DESIGNED
JHA
 DRAWN
EYJ
 CHECKED
JGB
 DATE
SEPTEMBER 2022

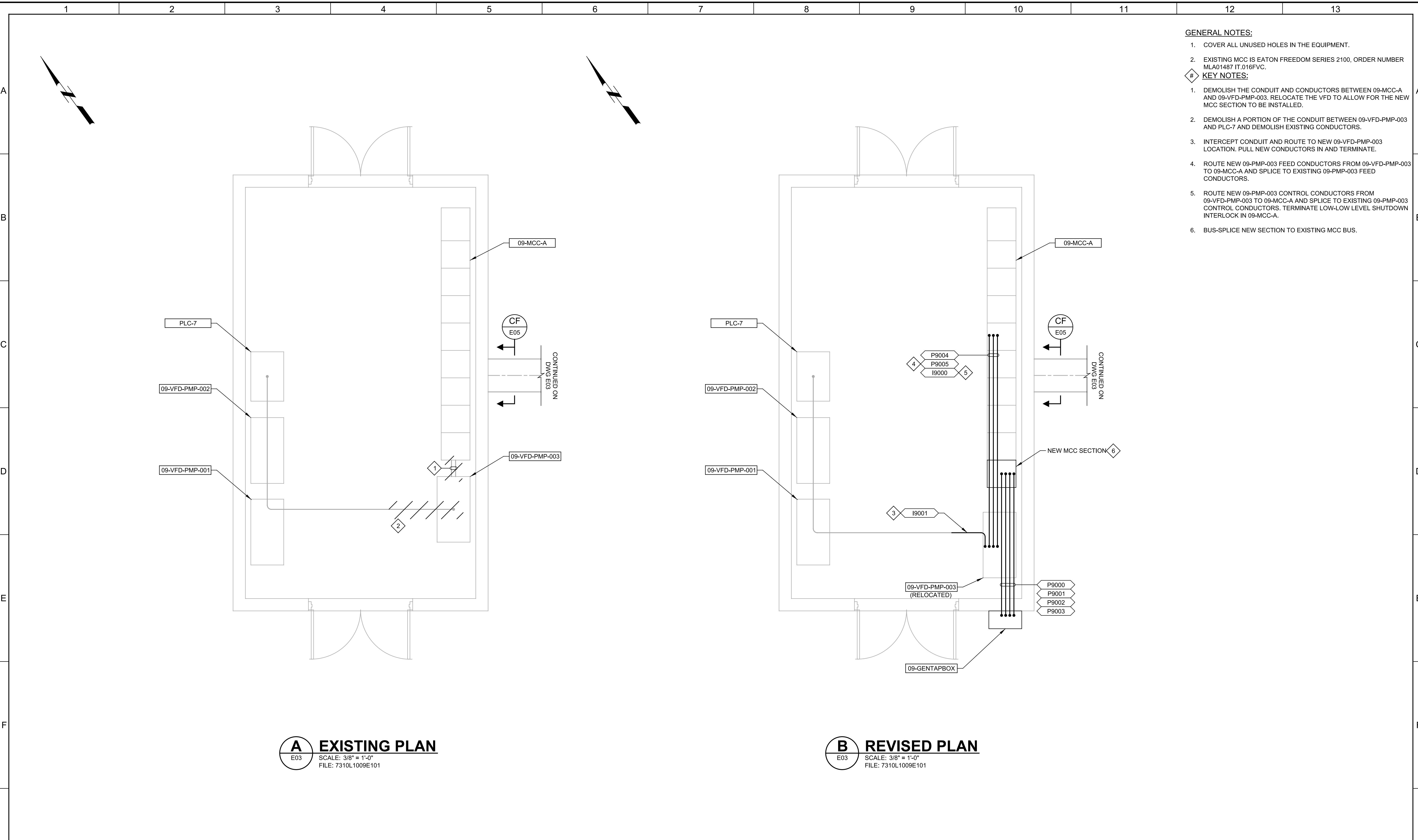


CITY OF PETALUMA
 UV DISINFECTION UPGRADES PROJECT
 ELECTRICAL
 TERTIARY EFFLUENT METER VAULT
 POWER PLAN

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING
 0 1"
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
7310L.10
 DRAWING NO.
08E03B
 SHEET NO.
45 OF 56

Plot Date: 30-SEP-2022 8:11:30 AM
 User: svcPW
 Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sld_Pen_v0905.pen PlotScale: 1:1
 LAST_SAVED BY: jstiepard



- GENERAL NOTES:**
- COVER ALL UNUSED HOLES IN THE EQUIPMENT.
 - EXISTING MCC IS EATON FREEDOM SERIES 2100, ORDER NUMBER MLA01487 IT.016FVC.
- KEY NOTES:**
- DEMOLISH THE CONDUIT AND CONDUCTORS BETWEEN 09-MCC-A AND 09-VFD-PMP-003. RELOCATE THE VFD TO ALLOW FOR THE NEW MCC SECTION TO BE INSTALLED.
 - DEMOLISH A PORTION OF THE CONDUIT BETWEEN 09-VFD-PMP-003 AND PLC-7 AND DEMOLISH EXISTING CONDUCTORS.
 - INTERCEPT CONDUIT AND ROUTE TO NEW 09-VFD-PMP-003 LOCATION. PULL NEW CONDUCTORS IN AND TERMINATE.
 - ROUTE NEW 09-PMP-003 FEED CONDUCTORS FROM 09-VFD-PMP-003 TO 09-MCC-A AND SPLICE TO EXISTING 09-PMP-003 FEED CONDUCTORS.
 - ROUTE NEW 09-PMP-003 CONTROL CONDUCTORS FROM 09-VFD-PMP-003 TO 09-MCC-A AND SPLICE TO EXISTING 09-PMP-003 CONTROL CONDUCTORS. TERMINATE LOW-LOW LEVEL SHUTDOWN INTERLOCK IN 09-MCC-A.
 - BUS-SPLICE NEW SECTION TO EXISTING MCC BUS.

A EXISTING PLAN
 E03 SCALE: 3/8" = 1'-0"
 FILE: 7310L1009E101

B REVISED PLAN
 E03 SCALE: 3/8" = 1'-0"
 FILE: 7310L1009E101

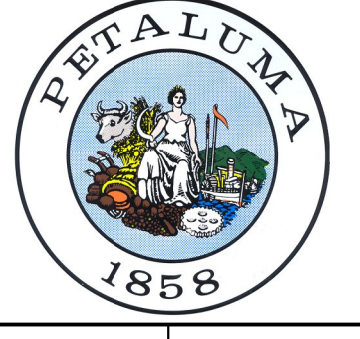
REV	DATE	BY	DESCRIPTION
1			
2			
3			

DESIGNED
CAC

DRAWN
DPF

CHECKED
JGB

DATE
SEPTEMBER 2022



CITY OF PETALUMA
 UV DISINFECTION UPGRADES PROJECT
 ELECTRICAL
09-MCC-A BUILDING
 POWER, GROUNDING AND LIGHTING PLANS

VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	JOB NO. 7310L.10 DRAWING NO. 09E01B SHEET NO. 46 OF 56
--	--

1	2	3	4	5	6	7	8	9	10	11	12	13			
SYMBOL	DRAWING VISIBLE FIELDS	FIELD - 1	FIELD - 2	FIELD - 3	FIELD - 4	FIELD - 5	FIELD - 6	SYMBOL	DRAWING VISIBLE FIELDS	FIELD - 1	FIELD - 2	FIELD - 3	FIELD - 4	FIELD - 5	FIELD - 6
HMI/SCADA SYSTEM OPERATOR INTERFACE TERMINAL	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - DESCRIPTION 6 - EXISTING/FUTURE	REFER 1 2	REFER 3	ACTION ALARM NUM - NUMERIC SP - SET POINT STATUS TREND	DESCRIPTION 2 5	DESCRIPTION	E - EXISTING F - FUTURE	INSTRUMENT PRIMARY ELEMENT	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1	REFER 3	DESCRIPTION 5	DESCRIPTION 6	AREA NO. BUILDING NO. ROOM NO.	E - EXISTING F - FUTURE
HARDWIRED I/O POINT	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1 2 4	REFER 3	AI - ANALOG INPUT AO - ANALOG OUTPUT DI - DISCRETE INPUT DO - DISCRETE OUTPUT HSC - HIGH SPEED COUNTER INPUT RTD - RTD INPUT	DESCRIPTION	PAC - PROGRAMMABLE AUTOMATION CONTROLLER NO. PLC - PROGRAMMABLE LOGIC CONTROLLER NO. RIO - REMOTE I/O VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE	INSTRUMENT/CONTROL ELEMENT PRIMARY FUNCTION OPERATOR ACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - DESCRIPTION 6 - EXISTING/FUTURE	REFER 1	REFER 3	DESCRIPTION 5	DESCRIPTION 6	DESCRIPTION	E - EXISTING F - FUTURE
NETWORK / SOFT I/O	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE 7 - DIGITAL NETWORK TABLE	REFER 1 2	REFER 3	BUS ID CNET - CONTROLNET ENET - DEVICENET ENET - ETHERNET/IP FF - FOUNDATION FIELDBUS MB - MODBUS RTU MB+ - MODBUS PLUS MBTCP - MODBUS TCP DP - PROFIBUS DP PA - PROFIBUS PA PNET - PROFINET SERIAL - PROPRIETARY PROTOCOL	DESCRIPTION	PAC - PROGRAMMABLE AUTOMATION CONTROLLER NO. PLC - PROGRAMMABLE LOGIC CONTROLLER NO. RIO - REMOTE I/O VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE	INSTRUMENT/CONTROL ELEMENT PRIMARY FUNCTION OPERATOR INACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1 3 XR - PROTECTION RELAY CR - CONTROL RELAY IR - INTERPOSING RELAY	REFER 3	DESCRIPTION	DESCRIPTION 6	LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE
LOCAL OPERATOR INTERFACE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1 2	REFER 3	ACTION ALARM NUM - NUMERIC SP - SET POINT STATUS	DESCRIPTION 2 5	LOI - LOCAL OPERATOR INTERFACE NO. LCP - LOCAL CONTROL PANEL NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE	INSTRUMENT/CONTROL ELEMENT AUXILIARY FUNCTION OPERATOR INACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1 3 XR - PROTECTION RELAY CR - CONTROL RELAY IR - INTERPOSING RELAY	REFER 3	DESCRIPTION	DESCRIPTION 6	LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE
PILOT DEVICE OPERATOR INTERFACE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1 2	REFER 3	AM - AUTO/MANUAL BYPASS - BYPASS CL - CLOSE E-STOP - EMERGENCY STOP FRLR - FIXED RATE/LEVEL RATE HOA - HAND /OFF/AUTO JOHC - JOG OPEN/HOLD/CLOSE JOUJ - JOG OPEN/JOG CLOSE LH - LOW/HIGH LOR - LOCAL/OFF/REMOTE LOS - LOCK OUT STOP LS - LEAD/STANDBY LSR - LOCAL/STOP/REMOTE NOOT - NO OFFLINE/OFFLINE TRANSITION OC - OPEN/CLOSE OLOL - ON LINE/OFF LINE OO - OFF/ON OP - OPEN OSC - OPEN/STOP/CLOSE RST - RESET SAAM - SEMI AUTO/AUTO/MANUAL SEL - SELECT SP - STOP SPD - SPEED SS - START/STOP ST - START	DESCRIPTION	LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. RVSS - REDUCED VOLTAGE SOLID STARTER NO. VCP - VENDOR CONTROL PANEL NO. VFD - VARIABLE FREQUENCY DRIVE NO.	E - EXISTING F - FUTURE	FIELD EQUIPMENT NON-POWERED	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION/SIZE 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 3	REFER 3	DESCRIPTION	DESCRIPTION 6	AREA NO. BUILDING NO. ROOM NO.	E - EXISTING F - FUTURE
POWER DEVICE PRIMARY FUNCTION OPERATOR ACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - VOLTAGE-POLE 5 - LOCATION 6 - EXISTING/FUTURE	CB - CIRCUIT BREAKER DISC - DISCONNECT FU - FUSE	REFER 3	TM - THERMAL MAGNETIC CIRCUIT BREAKER	24VDC - 1P 120VAC - 1P 208VAC - 2P 208VAC - 3P 240VAC - 3P 240VAC - 2P 480VAC - 3P 2400VAC - 3P 4160VAC - 3P	DP - DISTRIBUTION PANEL NO. LCP - LOCAL CONTROL PANEL NO. LP - LIGHTING PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. PP - POWER PANEL NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE	FIELD EQUIPMENT PRIMARY FUNCTION POWERED	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 3	REFER 3	DESCRIPTION	DESCRIPTION 6	AREA NO. BUILDING NO. ROOM NO.	E - EXISTING F - FUTURE
POWER DEVICE AUXILIARY FUNCTION FOR OPERATOR ACCESSIBLE DEVICES	1 - TAG 2 - LOOP NUMBER 3 - DESCRIPTION 4 - DESCRIPTION 5 - DESCRIPTION 6 - EXISTING/FUTURE	DISC - DISCONNECT	REFER 3	DESCRIPTION	DESCRIPTION	DESCRIPTION	E - EXISTING F - FUTURE	FIELD EQUIPMENT AUXILIARY FUNCTION POWERED	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - DESCRIPTION 6 - EXISTING/FUTURE	MWH - MOTOR WINDING HEATER TSH - TEMPERATURE SWITCH XSH - TORQUE SWITCH	REFER 3	DESCRIPTION	DESCRIPTION 6	DESCRIPTION	E - EXISTING F - FUTURE
POWER DEVICE PRIMARY FUNCTION OPERATOR INACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - VOLTAGE-POLE 5 - LOCATION 6 - EXISTING/FUTURE	CB - CIRCUIT BREAKER FU - FUSE	REFER 3	MCP - MOTOR CIRCUIT PROTECTOR SS - SOLID STATE CIRCUIT BREAKER TM - THERMAL MAGNETIC CIRCUIT BREAKER	24VDC - 1P 120VAC - 1P 208VAC - 2P 208VAC - 3P 240VAC - 2P 240VAC - 3P 480VAC - 3P 2400VAC - 3P 4160VAC - 3P	DP - DISTRIBUTION PANEL NO. LCP - LOCAL CONTROL PANEL NO. LP - LIGHTING PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. PP - POWER PANEL NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE	FIELD EQUIPMENT STARTER/DRIVE CUBICLE/CABINET	1 - TAG 2 - LOOP NUMBER 3 - TYPE 4 - VOLTAGE-POLE 5 - POWER SOURCE 6 - EXISTING/FUTURE	MS - MOTOR STARTER RVAT - REDUCED VOLTAGE AUTO TRANSFORMER STARTER RVSS - REDUCED VOLTAGE SOLID STATE STARTER VFD - VARIABLE FREQUENCY DRIVE	REFER 3	FVNR - FULL VOLTAGE NON-REVERSING STARTER FVR - FULL VOLTAGE REVERSING STARTER PWS - PART-WINDING STARTER RVAT - REDUCED VOLTAGE AUTO TRANSFORMER STARTER RVSS - REDUCED VOLTAGE SOLID STATE STARTER TS1W - TWO SPEED SINGLE WINDING TS2W - TWO SPEED TWO WINDINGS VFD - VARIABLE FREQUENCY DRIVE	120VAC - 1P 208VAC - 2P 208VAC - 3P 240VAC - 2P 240VAC - 3P 480VAC - 3P 2400VAC - 3P 4160VAC - 3P	LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE

INSTRUMENT BUBBLE LOCATIONS		NOTES
PCS		1 INSTRUMENT TAG IDENTIFICATION LETTERS TABLE 2 OPERATOR PILOT DEVICE LEGEND 3 EQUIPMENT TAGGING TABLE 4 I/O TYPE DESIGNATIONS TABLE 5 INSTRUMENT TYPE DESIGNATIONS TABLE 6 FURNISHED BY: FBO FURNISHED BY OWNER FBV FURNISHED BY VENDOR
CONTROL PANEL I/O		
CONTROL PANEL OPERATOR INTERFACE CONTROL DEVICES		
POWER SOURCE		
FIELD		

INSTRUMENT TAG IDENTIFICATION LETTERS

MEASURED VARIABLE	INSTRUMENT FUNCTION																								
	ELEMENT	TRANSMITTER	INDICATING TRANSMITTER	CONVERTER TRANSDUCER, RELAY SPECIAL DEVICES	INDICATOR	RECORDER	CONTROLLER	INDICATING CONTROLLER	RECORDING CONTROLLER	SWITCH	SWITCH LOW LOW	SWITCH LOW	SWITCH HIGH	SWITCH HIGH HIGH	SWITCH COMBINATION HIGH LOW	ACTION	ALARM LOW LOW	ALARM LOW	ALARM HIGH	ALARM HIGH HIGH	TOTALIZE INDICATOR TRANSMITTER	VALVE	GAUGE	LIGHT	SPEED SETTING
A	ANALYSIS	AE	AT	AIT	AY	AI	AR	AC	AIC	ARC	AS	ASLL	ASL	ASH	ASHH	ASHL	AALL	AAL	AAH	AAHH					AL
B	BURNER FLAME	BE	BT	BIT	BY	BI	BR	BC	BIC	BRC	BS	BSLL	BSL	BSH	BSHH	BSHL	BALL	BAL	BAH	BAHH					BL
C	CONDUCTIVITY	CE	CT	CIT	CY	CI	CR	CC	CIC	CRC	CS	CSLL	CSL	CSH	CSHH	CSHL	CALL	CAL	CAH	CAHH					CL
D	DENSITY	DE	DT	DIT	DY	DI	DR	DC	DIC	DRC	DS	DSLL	DSL	DSH	DSHH	DSHL	DALL	DAL	DAH	DAHH					DL
E																									
F	FLOW	FE	FT	FIT	FY	FI	FR	FC	FIC	FRC	FS	FSL	FSL	FSH	FSHH	FSHL	FALL	FAL	FAH	FAHH	FQI	FCV	FG	FL	
FF	FLOW RATIO				FFY	FFI		FFC	FFIC																FFL
G	GAUGING (DIMENSION)																								
H	HAND (MANUAL)*								HC												HS*		HV	HL	HSS
I	CURRENT		IT	IIT	IY	II	IR	IC	IIC	IRC	IS	ISLL	ISL	ISH	ISHH		IALL	IAL	IAH	IAHH					IL
J	POWER																								
K	TIME				KY	KI	KR	KC	KIC	KRC	KS	KSL	KSL	KSH	KSHH		KALL	KAL	KAH	KAHH			KV	KL	
L	LEVEL	LE	LT	LIT	LY	LI	LR	LC	LIC	LRC	LS	LSLL	LSL	LSH	LSHH	LSHL	LALL	LAL	LAH	LAHH			LCV	LG	LL
M	MOISTURE OR HUMIDITY	ME	MT	MIT	MY	MI	MR	MC	MIC	MRC	MS	MSLL	MSL	MSH	MSHH		MALL	MAL	MAH	MAHH					ML
N	EMERGENCY SHUTDOWN																								
O																									
P	PRESSURE OR VACUUM	PE	PT	PIT	PY	PI***	PR	PC	PIC	PRC	PS****	PSLL	PSL	PSH	PSHH	PSHL	PALL	PAL	PAH	PAHH			PCV	PL	
PD	DIFFERENTIAL PRESSURE		PDT	PDIT	PDY	PDI	PDR	PDC	PDIC	PDRC	PDS	PDSLL	PDSL	PDSH	PDSHH		PDALL	PDAL	PDAH	PDAHH			PDCV	PDL	
Q	QUANTITY	QE	QT	QIT	QY	QI	QR				QS	QSLL	QSL	QSH	QSHH		QALL	QAL	QAH	QAAH					
R	RADIOACTIVITY																								
S	SPEED	SE	ST	SIT	SY	SI	SR	SC	SIC	SRC	SS	SSLL	SSL	SSH	SSHH		SALL	SAL	SAH	SAHH					
T	TEMPERATURE	TE	TT	TIT	TY	TI	TR	TC	TIC	TRC	TS	TSLL	TSL	TSH	TSHH	TSHL	TALL	TAL	TAH	TAHH			TCV	TL	
TD	DIFFERENTIAL TEMPERATURE		TDT	TDIT	TDY	TDI	TDR	TDC	TDIC	TDRC	TDS	TDSLL	TDSL	TDSH	TDSHH		TDALL	TDAL	TDAH	TDAHH			TDCV	TDL	
U	MULTIVARIABLE					UI	UR	UC	UIC	URC	US														UL
V	VISCOSITY	VE	VT	VIT	VY	VI	VR	VC	VIC	VRC	VS	VSL	VSL	VSH	VSHH		VALL	VAL	VAH	VAHH					VL
W	WEIGHT	WE	WT	WIT	WY	WI	WR				WS	WSLL	WSL	WSH	WSHH		WALL	WAL	WAH	WAHH					
X	UNCLASSIFIED	XE	XT	XIT	XY	XI	XR	XC	XIC	XRC	XS	XSL	XSL	XSH	XSHH		XALL	XAL	XAH	XAAH			XCV	XG	XL
XV	VIBRATION	XVE	XVT		XVY	XVI	XVR				XVS			XVSH	XVSHH				XVAH	XVAHH					XVL
Y	STATUS***																								YL
Z	POSITION	ZE	ZT	ZIT	ZY	ZI					ZS**														ZL**

* REFER TO OPERATOR PILOT DEVICE LEGEND
 ** LETTER INDICATES POSITION (O=OPEN, C=CLOSED, R=RAISE, L=LOWER, ETC)
 *** PI# # = 1,2,3 ETC. AND REPRESENTS A UNIQUE IDENTIFIER AND IS APPLICABLE TO ALL ITEMS IN THE TABLE ABOVE
 **** COULD ALSO BE PIS - FOR PRESSURE INDICATING SWITCH

OPERATOR PILOT DEVICE LEGEND

PILOT DEVICE FUNCTION	DEVICE TYPE	PILOT DEVICE FUNCTION																											
		LOCAL-OFF-REMOTE (LOR) OR LOCAL-STOP-REMOTE (LSR)	STOP (SP)	START (ST)	HAND-OFF-AUTO (HOA)	OFF-ON (OO)	SELECT (SEL)	OPEN-STOP-CLOSE (OSC)	JOG OPEN-HOLD-CLOSE (JOHC)	SEMI-AUTO-MANUAL (SAAM)	LEAD-LAG-STANDBY (LGS)	JOG OPEN-JOG CLOSE (JOJC)	ONLINE-OFFLINE (OLOF)	AUTO-MANUAL (AM)	FIXED RATE-LEVEL-RATE (FRLR)	OPEN-CLOSE (OC)	NO OFFLINE- OFFLINE TRANSITION (NOOT)	LOW-HIGH (LH)	RESET (RST)	SPEED (SPD)	START-STOP (STSP)	E-STOP (E-SP)	BYPASS (BYP)	SILENCE	POSITION (POS)				
PILOT DEVICE TAG (HAND SWITCHES)		HSA*	HSB	HSC	HSD*	HSE	HSF	HSG*	HSH*	HSI	HSJ*	HSK*	HSL*	HSM*	HSN	HSO*	HSP	HSQ*	HSR	HSS	HST*	HSU	HSV	HSW	HSX	HSY	HSZ		
SCADA/HMI TAG (HAND ACTION)		HAA	HAB	HAC	HAD	HAE	HAF	HAG	HAH	HAI	HAJ	HAK	HAL	HAM	HAN	HAO	HAP	HAQ	HAR	HAS	HAT	HAU	HAV	HAW	HAX	HAY	HAZ		

HSA* SELECTOR SWITCH POSITION EG: HSA(R) R = REMOTE, HSD(A) A = AUTO, ETC

INSTRUMENT LINE SYMBOLS

INSTRUMENT OR CONNECTION TO PROCESS	—————
PNEUMATIC SIGNAL	— # — # — # — # — # — # — # —
ELECTRIC SIGNAL	— — — — —
HYDRAULIC SIGNAL	— L — L — L — L — L —
CAPILLARY TUBE	— X — X — X — X — X —
ELECTROMAGNETIC OR SONIC SIGNAL (GUIDED)	— S — S — S — S — S —
ELECTROMAGNETIC OR SONIC SIGNAL (NOT GUIDED)	— S — S — S — S — S —
INTERNAL SYSTEM LINK (SOFTWARE OR DATA LINK)	— o — o — o — o — o —
COPPER ETHERNET	— C — C — C — C — C —
FIBER OPTIC ETHERNET	— F — F — F — F — F —
WIRELESS ETHERNET	— W — W — W — W — W —
PROFIBUS DP	— PBD — PBD — PBD — PBD — PBD —
PROFIBUS PA	— PBA — PBA — PBA — PBA — PBA —
DEVICENET	— DN — DN — DN — DN — DN —
FOUNDATION FIELDBUS	— FF — FF — FF — FF — FF —

PROCESS LINE SYMBOLS

PRIMARY PROCESS FLOW IN PIPE	—————
SECONDARY PROCESS FLOW IN PIPE	—————
PRIMARY PROCESS FLOW IN CHANNEL	— · · · —
SECONDARY PROCESS FLOW IN CHANNEL	— · · · —

DESIGNATIONS

EQUIPMENT ENCLOSURE	— · · · —
EXISTING	—————
FUTURE	— · · · — FUTURE

MISCELLANEOUS P&ID SYMBOLS

CHEMICAL INJECTION POINT	↓ CHEMICAL SHEET NO.
CONTINUATION TAG	A B C CONTINUATION FROM SHEET CONTINUATION TO SHEET
PIPE CALLOUT	— PIPE SIZE —
SIGNAL CONTINUATION	→ TO DRAWING FROM DRAWING →

I/O TYPE DESIGNATIONS

AUX1	RUNNING	MSL	MOTOR START LOW
AUX2	FAILED/FAULT	MSM	VALVE MODULATE
AUXF1	RUNNING FORWARD	MSP	MOTOR STOP
AUXH1	RUNNING HIGH	MSR	MOTOR START REVERSE
AUXL1	RUNNING LOW	MST	MOTOR START
AUXR1	RUNNING REVERSE	SS	SPEED SIGNAL
SVC	SOLENOID VALVE CLOSE	ZC	POSITION COMMAND
SVO	SOLENOID VALVE OPEN	ZCC	POSITION COMMAND CLOSE
MS	RUN	ZCO	POSITION COMMAND OPEN
MSF	MOTOR START FORWARD		
MSH	MOTOR START HIGH		

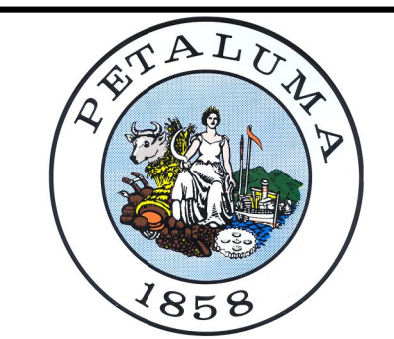
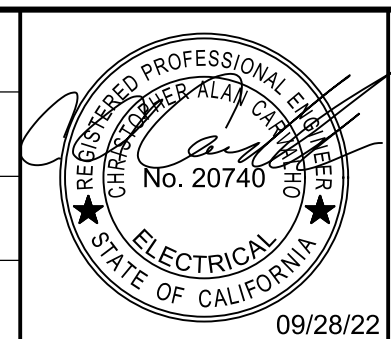
INSTRUMENT TYPE DESIGNATIONS

AM	AMMONIA	O3	OZONE	SH	SODIUM HYPOCHLORITE
CAP	CAPACITANCE	ORP	OXIDATION REDUCTION POTENTIAL	TDR	TIME DOMAIN REFLECTOMETRY
CGD	COMBUSTIBLE GAS DETECTOR	P	PRESSURE	TH	THERMAL
CL	CHLORINE	P-SUB	PRESSURE SUBMERSIBLE	TSS	TOTAL SUSPENDED SOLIDS
COND	CONDUCTIVITY	PC	PARTICLE COUNTER	TURB	TURBIDITY
DO	DISSOLVED OXYGEN	PO	PHOSPHOROUS	US	ULTRASONIC
FMCW	FREQ. MODULATED CONT. WAVE	PTOF	PULSE TIME OF FLIGHT	UVI	UV INTENSITY
HSF	FLUORIDE	R/I	RESISTANCE TO CURRENT	UVT	UV TRANSMITTANCE
IS	INTRINSIC SAFETY BARRIER	ROT	ROTAMETER	VAC	VACUUM
LEL	LOWER EXPLOSIVE LIMIT	RTD	RESISTANCE TEMP DETECTOR		
MAG	MAGNETIC	SC	STREAMING CURRENT		

SPECIFIC ABBREVIATIONS

APH	A PHASE	MWH	MOTOR WINDING HEATER
BPH	B PHASE	SSG	SECONDARY SWITCHGEAR
BRB	BEARING BOTTOM	SV*	SOLENOID VALVE
BRT	BEARING TOP	SPD	SURGE PROTECTIVE DEVICE
BTFLY	BUTTERFLY	UPS	UNINTERRUPTIBLE POWER SUPPLY
CPH	C PHASE	YA	STATUS AUTO
CC*	CALIBRATION COLUMN	YR	STATUS REMOTE
HTR	HEATER	Y1	STATUS RUNNING
HTU	HEAT TRACE UNIT	Y2	ALARM FAILED/FAULT

* OC# AND SV# # = 1, 2, 3 ETC. AND REPRESENTS A UNIQUE IDENTIFIER



CITY OF PETALUMA
 UV DISINFECTION UPGRADES PROJECT
 INSTRUMENTATION
 SYMBOLS & ABBREVIATIONS - II

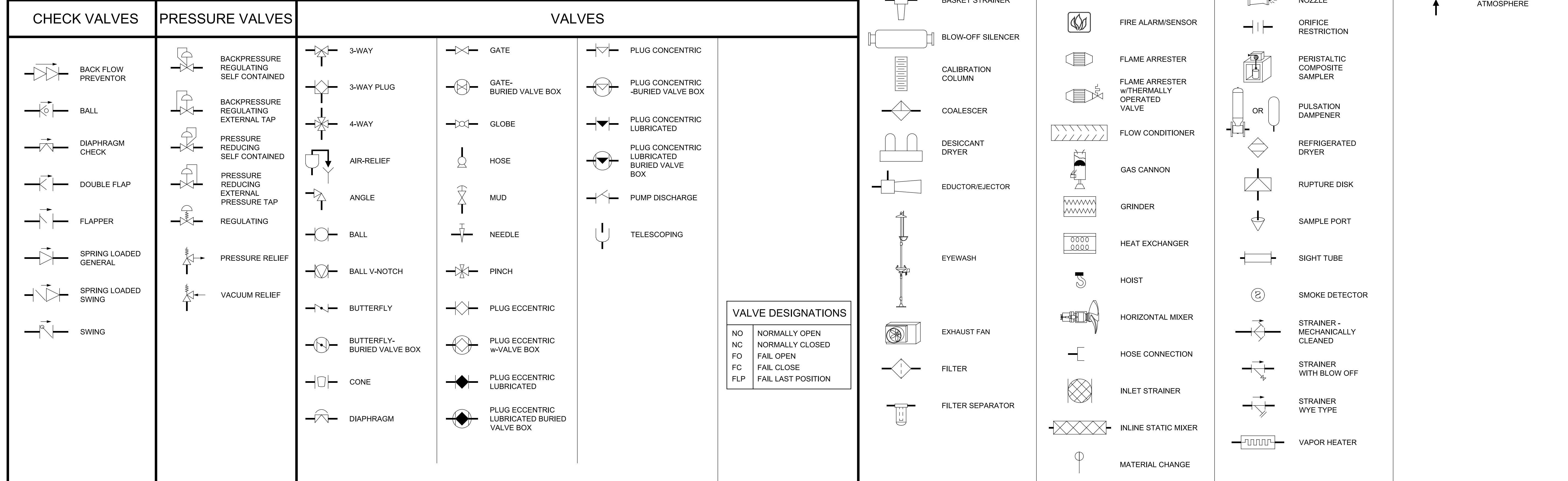
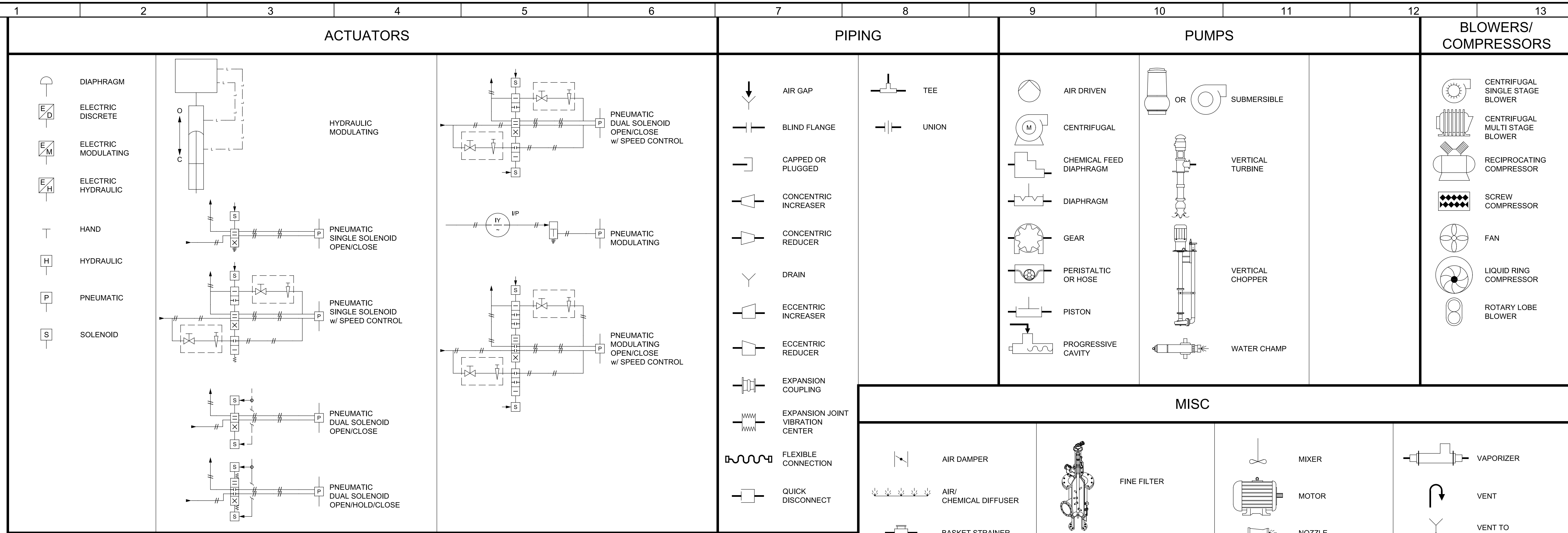
VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING
 0 1"
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY
 JOB NO. 7310L.10
 DRAWING NO. GN02B
 SHEET NO. 48 OF 56

Plot Date: 29-SEP-2022 11:13:24 AM

User: svcPW

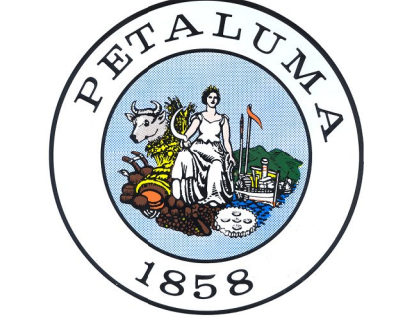
Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sld_Pen_v0905.pen PlotScale: 1:1

LAST SAVED BY: lbordeon



VALVE DESIGNATIONS	
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
FO	FAIL OPEN
FC	FAIL CLOSE
FLP	FAIL LAST POSITION

DESIGNED
CDS
DRAWN
MNH
CHECKED
DJC
DATE
SEPTEMBER 2022



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
INSTRUMENTATION
SYMBOLS & ABBREVIATIONS - III

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 7310L.10
DRAWING NO. GN03B
SHEET NO. 49 OF 56

Plot Date: 29-SEP-2022 11:13:06 AM

User: svcPW

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sig_Pen_v0905.pen PlotScale: 1:1

LAST SAVED BY: lbordeon

GATES		FLUMES		FLOW		LEVEL		TEMPERATURE		WEIGHT	
SIDE VIEW	PLAN VIEW										
	FLAP		LEOPOLD-LAGCO		BATCH		BUBBLER		TEMPERATURE w/THERMOWELL		HYDRAULIC
	KNIFE		PALMER-BOWLUS		CORIOLIS		CAPACITANCE		TEMPERATURE GAUGE		STRAIN GAUGE
	SLIDE		PARSHALL		MAGNETIC		DIFFERENTIAL PRESSURE		THERMOMETER		
	SLUICE		REGULAR CUTTHROAT		ORIFICE		ELECTRODE				
	STOP		TRAPEZOIDAL		PADDLE WHEEL		FLOAT				
					PITOT TUBE AVERAGING		INVERTED COLUMN				
					PITOT TUBE/ANNUBAR		RADAR PTOF				
					POSITIVE-DISPLACEMENT		RADAR TDR				
					PROPELLER-TURBINE		SUSPENDED/SUBMERSIBLE				
					ROTAMETER		TUNING FORK				
					THERMAL		ULTRASONIC				
					ULTRASONIC DOPPLER						
					ULTRA-SONIC TRANSIT TIME						

WEIRS

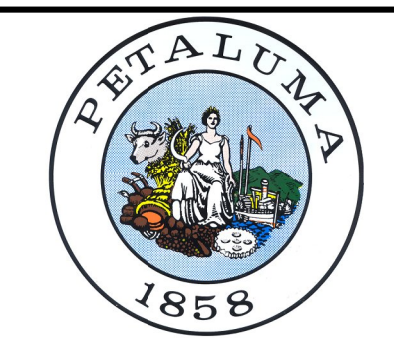
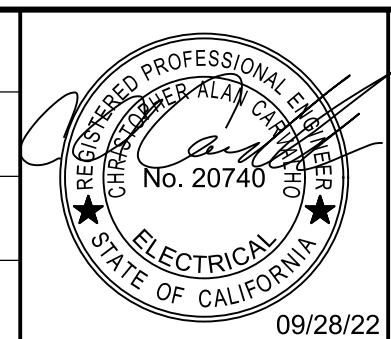
	RECTANGULAR w/o END CONTRACTIONS
	RECTANGULAR w/ END CONTRACTIONS
	V-NOTCH (TRIANGULAR)
	TRAPEZOIDAL (CIPOLLETTI)

PRESSURE/VACUUM

PRESSURE	DIFFERENTIAL PRESSURE	PRESSURE SEALS
		EXAMPLE

REV	DATE	BY	DESCRIPTION

DESIGNED CDS
DRAWN MNH
CHECKED DJC
DATE SEPTEMBER 2022



CITY OF PETALUMA		VERIFY SCALES	JOB NO. 7310L.10
UV DISINFECTION UPGRADES PROJECT		BAR IS ONE INCH ON ORIGINAL DRAWING	DRAWING NO. GN04B
INSTRUMENTATION		0 1"	SHEET NO.
SYMBOLS & ABBREVIATIONS - IV		IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	50 OF 56

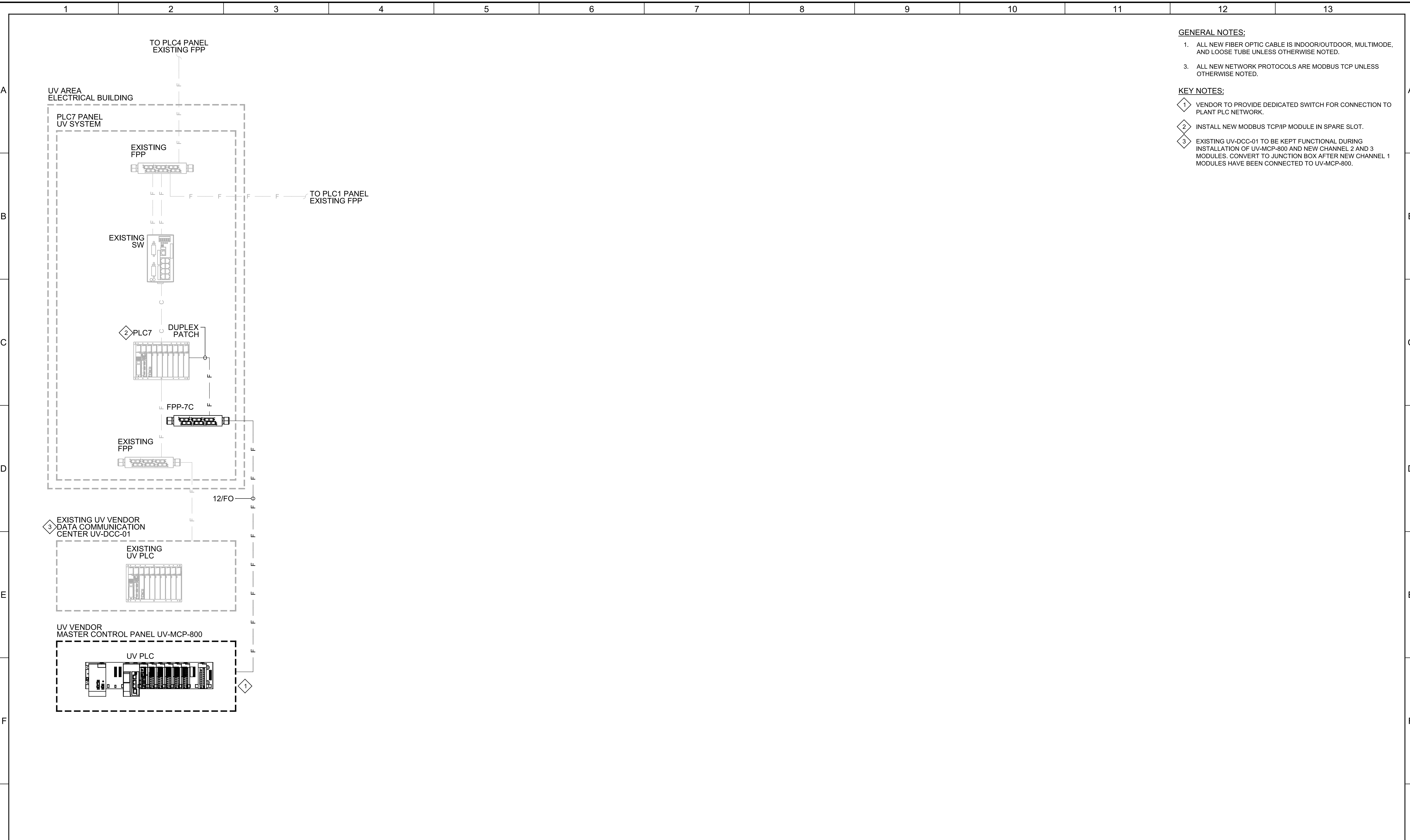
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User: svcPW

PlotScale: 1:1

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sig_Pen_v0905.pen

LAST SAVED BY: T.Davidson



- GENERAL NOTES:**
- ALL NEW FIBER OPTIC CABLE IS INDOOR/OUTDOOR, MULTIMODE, AND LOOSE TUBE UNLESS OTHERWISE NOTED.
 - ALL NEW NETWORK PROTOCOLS ARE MODBUS TCP UNLESS OTHERWISE NOTED.
- KEY NOTES:**
- VENDOR TO PROVIDE DEDICATED SWITCH FOR CONNECTION TO PLANT PLC NETWORK.
 - INSTALL NEW MODBUS TCP/IP MODULE IN SPARE SLOT.
 - EXISTING UV-DCC-01 TO BE KEPT FUNCTIONAL DURING INSTALLATION OF UV-MCP-800 AND NEW CHANNEL 2 AND 3 MODULES. CONVERT TO JUNCTION BOX AFTER NEW CHANNEL 1 MODULES HAVE BEEN CONNECTED TO UV-MCP-800.

REV	DATE	BY	DESCRIPTION
1			
2			
3			

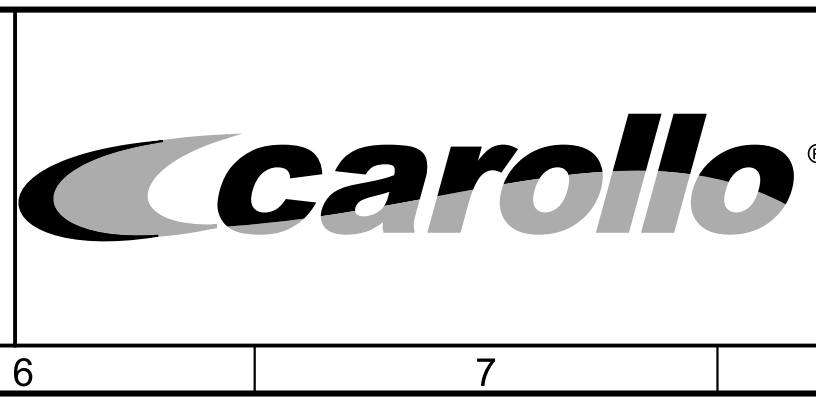
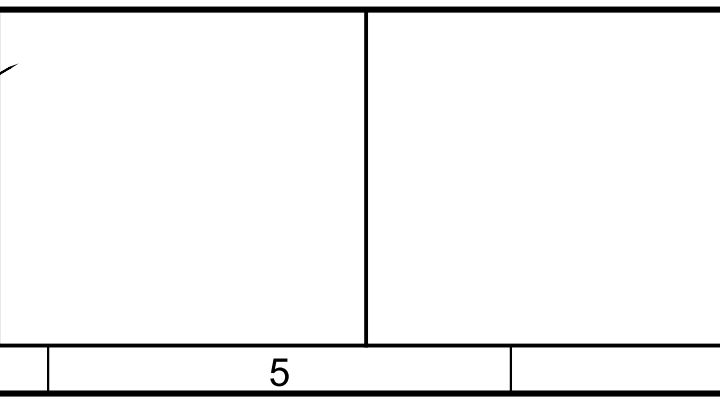
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CDS

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ESW

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DJC

DATE
SEPTEMBER 2022

09/28/22



CITY OF PETALUMA

UV DISINFECTION UPGRADES PROJECT

INSTRUMENTATION

NETWORK DIAGRAM

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
7310L.10

DRAWING NO.
00N01B

SHEET NO.
51 OF 56

Plot Date: 29-SEP-2022 11:56:08 AM

User: svcPW

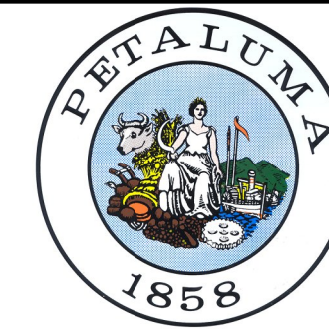
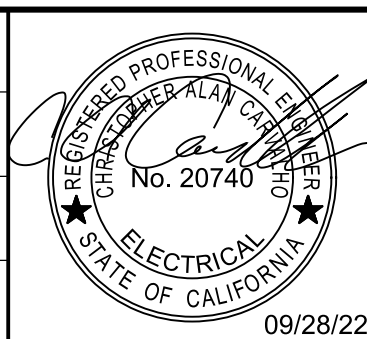
Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sig_Pen_v0905.pen PlotScale: 1:1

LAST SAVED BY: jstiepard

UV1					
UV DISINFECTION CHANNELS - MCP					
PROTOCOL: MODBUS TCP					
DESCRIPTION	CONTROL	INDICATE	ALARM	TREND	INTERLOCK
INFLUENT CHANNEL UV TRANSMITTANCE		X			
INFLUENT CHANNEL TEMPERATURE		X			
PER DISINFECTION CHANNEL					
DESCRIPTION	CONTROL	INDICATE	ALARM	TREND	INTERLOCK
INFLUENT GATE OPENED		X			
INFLUENT GATE CLOSED		X			
UV MODULE 1 ON		X		X	
UV MODULE 1 OFF		X			
UV MODULE 1 OPENED		X			
UV MODULE 1 UV INTENSITY		X			
UV MODULE 2 ON		X		X	
UV MODULE 2 OFF		X			
UV MODULE 2 OPENED		X			
UV MODULE 2 UV INTENSITY		X			
UV MODULE 3 ON		X		X	
UV MODULE 3 OFF		X			
UV MODULE 3 OPENED		X			
UV MODULE 3 UV INTENSITY		X			
UV MODULE 4 ON		X		X	
UV MODULE 4 OFF		X			
UV MODULE 4 OPENED		X			
UV MODULE 4 UV INTENSITY		X			
UV MODULE 5 ON		X		X	
UV MODULE 5 OFF		X			
UV MODULE 5 OPENED		X			
UV MODULE 5 UV INTENSITY		X			
UV MODULE 6 ON		X		X	
UV MODULE 6 OFF		X			
UV MODULE 6 OPENED		X			
UV MODULE 6 UV INTENSITY		X			
UV MODULE 7 ON		X		X	
UV MODULE 7 OFF		X			
UV MODULE 7 OPENED		X			
UV MODULE 7 UV INTENSITY		X			
UV MODULE 8 ON		X		X	
UV MODULE 8 OFF		X			
UV MODULE 8 OPENED		X			
UV MODULE 8 UV INTENSITY		X			
UV MODULE 9 ON		X		X	
UV MODULE 9 OFF		X			
UV MODULE 9 OPENED		X			
UV MODULE 9 UV INTENSITY		X			
UV MODULE 10 ON		X		X	
UV MODULE 10 OFF		X			
UV MODULE 10 OPENED		X			
UV MODULE 10 UV INTENSITY		X			
CHANNEL LEVEL		X			
CHANNEL LEVEL LOW		X	X		
CHANNEL LEVEL HIGH		X	X		
COMMON TROUBLE ALARM		X	X		X
INTERLOCKS					
DESCRIPTION	CONTROL	INDICATE	ALARM	TREND	INTERLOCK
EFFLUENT CHANNEL FLOW		X	X		X
INFLUENT CHANNEL TURBIDITY		X	X		X

REV	DATE	BY	DESCRIPTION

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CDS
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SGS
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DJC
DATE
SEPTEMBER 2022



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
INSTRUMENTATION
NETWORK I/O TABLES

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

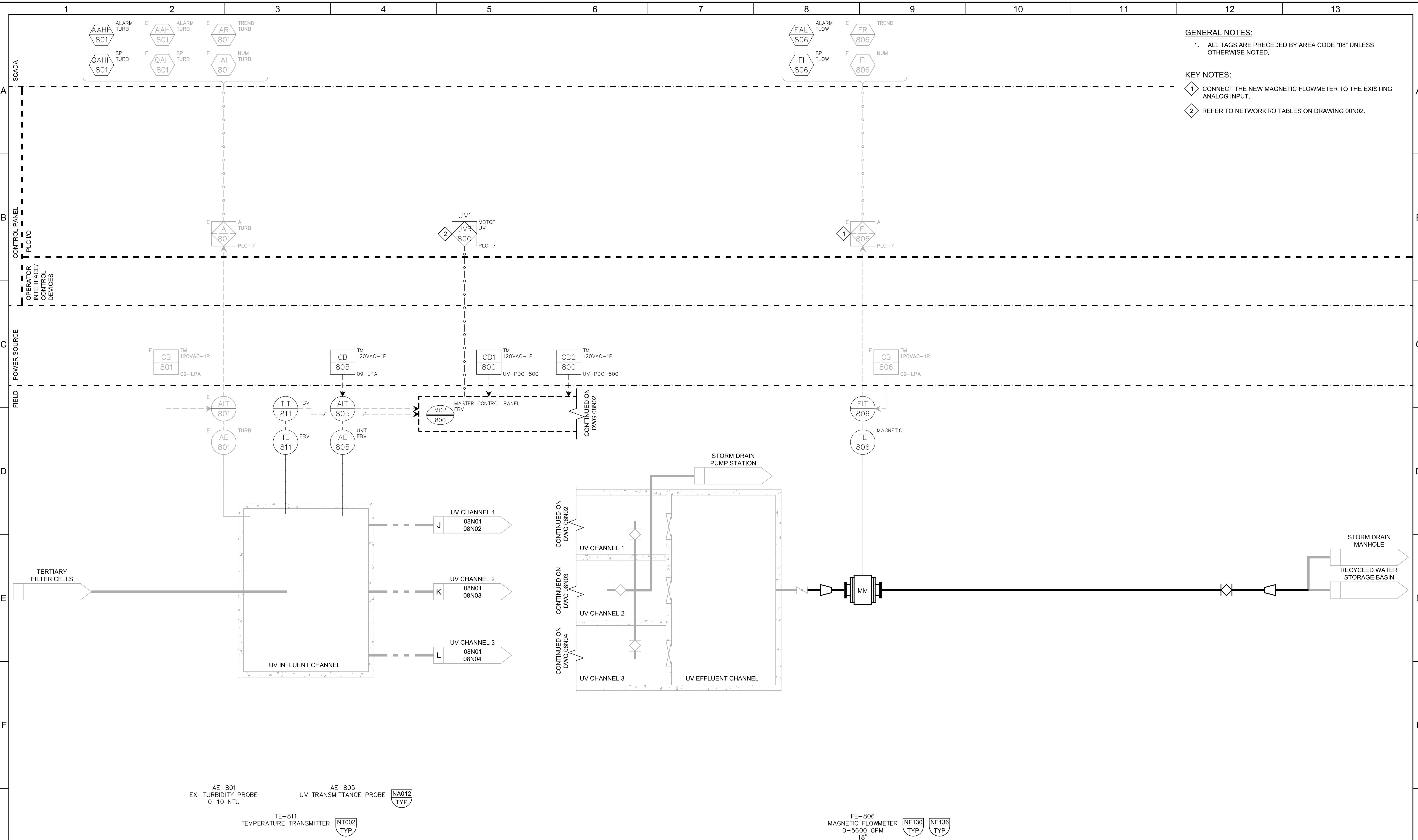
JOB NO.
7310L.10
DRAWING NO.
00N02B
SHEET NO.
52 OF 56

Plot Date: 29-SEP-2022 11:13:50 AM

User: svcpw

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sld_Pen_v0905.pen PlotScale: 1:1

lbordeon



- GENERAL NOTES:**
- ALL TAGS ARE PRECEDED BY AREA CODE "08" UNLESS OTHERWISE NOTED.
- KEY NOTES:**
- CONNECT THE NEW MAGNETIC FLOWMETER TO THE EXISTING ANALOG INPUT.
 - REFER TO NETWORK I/O TABLES ON DRAWING 00N02.

AE-801
EX. TURBIDITY PROBE
0-10 NTU

AE-805
UV TRANSMITTANCE PROBE
NA012
TYP

TE-811
TEMPERATURE TRANSMITTER
NT002
TYP

FE-806
MAGNETIC FLOWMETER
0-5600 GPM
18"

NF130
TYP

NF136
TYP

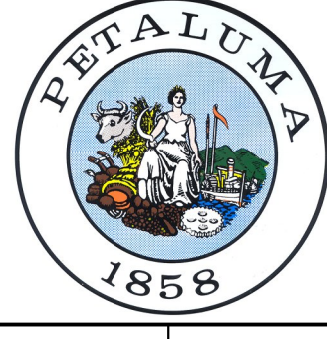
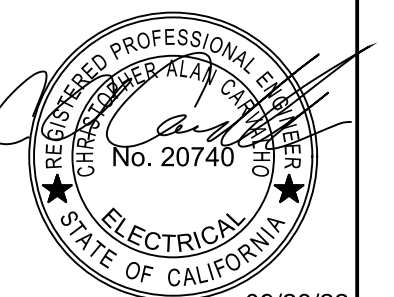
REV	DATE	BY	DESCRIPTION

DESIGNED
CDS

DRAWN
ESW

CHECKED
DJC

DATE
SEPTEMBER 2022



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
INSTRUMENTATION
UV DISINFECTION

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
7310L.10

DRAWING NO.
08N01

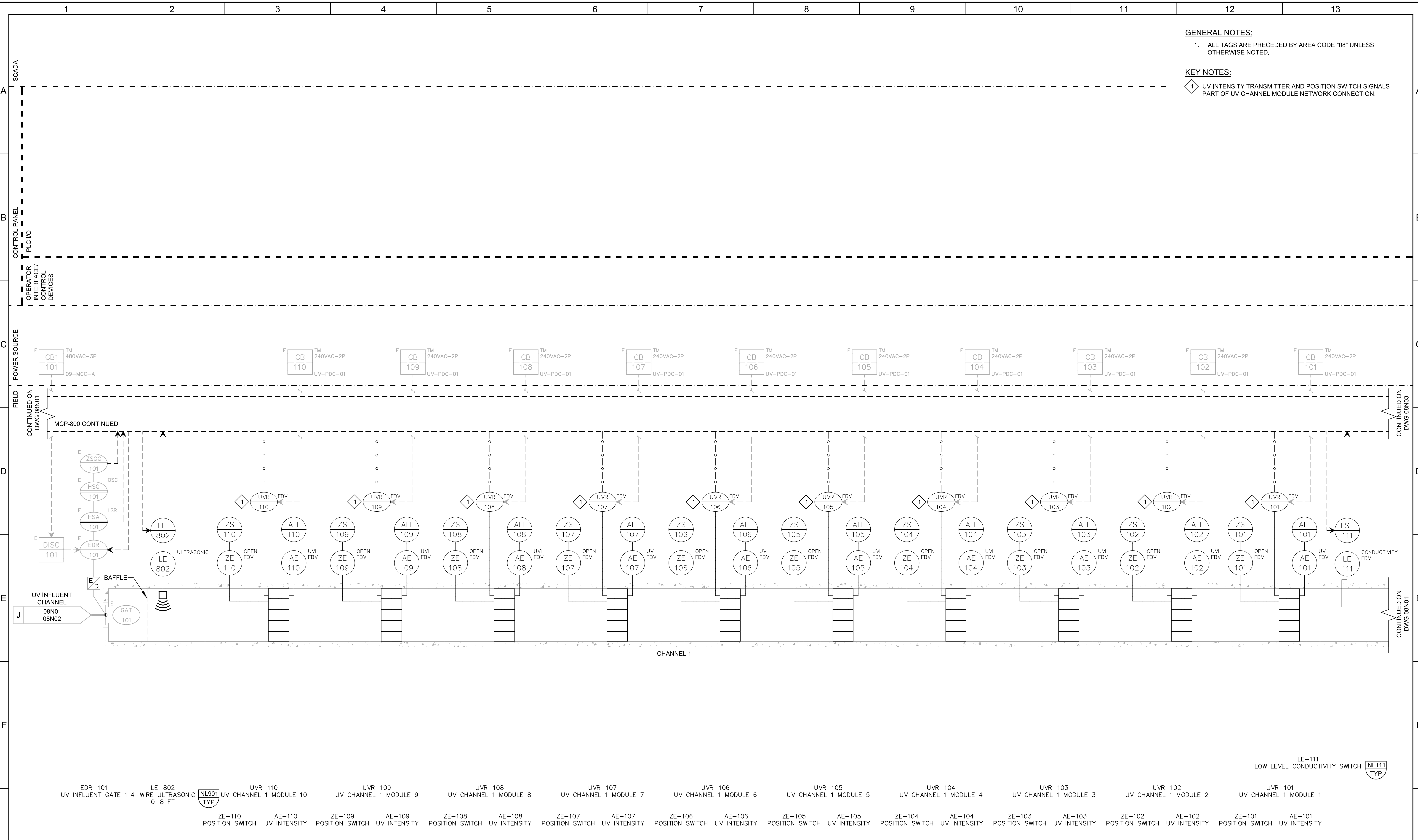
SHEET NO.
53 OF 56

Plot Date: 29-SEP-2022 11:14:03 AM

User: svcPW

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sld_Pen_v0905.pen PlotScale: 1:1

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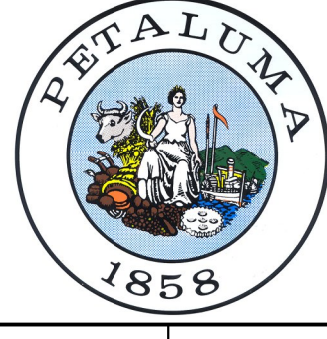
GENERAL NOTES:
 1. ALL TAGS ARE PRECEDED BY AREA CODE "08" UNLESS OTHERWISE NOTED.

KEY NOTES:
 1. UV INTENSITY TRANSMITTER AND POSITION SWITCH SIGNALS PART OF UV CHANNEL MODULE NETWORK CONNECTION.

EDR-101 UV INFLUENT GATE 1 4-WIRE ULTRASONIC 0-8 FT
 LE-802 ULTRASONIC 0-8 FT
 NL901 TYP
 UVR-110 UV CHANNEL 1 MODULE 10
 UVR-109 UV CHANNEL 1 MODULE 9
 UVR-108 UV CHANNEL 1 MODULE 8
 UVR-107 UV CHANNEL 1 MODULE 7
 UVR-106 UV CHANNEL 1 MODULE 6
 UVR-105 UV CHANNEL 1 MODULE 5
 UVR-104 UV CHANNEL 1 MODULE 4
 UVR-103 UV CHANNEL 1 MODULE 3
 UVR-102 UV CHANNEL 1 MODULE 2
 UVR-101 UV CHANNEL 1 MODULE 1
 ZE-110 POSITION SWITCH
 AE-110 UV INTENSITY
 ZE-109 POSITION SWITCH
 AE-109 UV INTENSITY
 ZE-108 POSITION SWITCH
 AE-108 UV INTENSITY
 ZE-107 POSITION SWITCH
 AE-107 UV INTENSITY
 ZE-106 POSITION SWITCH
 AE-106 UV INTENSITY
 ZE-105 POSITION SWITCH
 AE-105 UV INTENSITY
 ZE-104 POSITION SWITCH
 AE-104 UV INTENSITY
 ZE-103 POSITION SWITCH
 AE-103 UV INTENSITY
 ZE-102 POSITION SWITCH
 AE-102 UV INTENSITY
 ZE-101 POSITION SWITCH
 AE-101 UV INTENSITY
 LE-111 LOW LEVEL CONDUCTIVITY SWITCH NL111 TYP

REV	DATE	BY	DESCRIPTION
1			
2			

DESIGNED CDS
 DRAWN ESW
 CHECKED DJC
 DATE SEPTEMBER 2022
 09/28/22



CITY OF PETALUMA
 UV DISINFECTION UPGRADES PROJECT
 INSTRUMENTATION
 UV DISINFECTION CHANNEL 1

VERIFY SCALES
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 0 1"
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

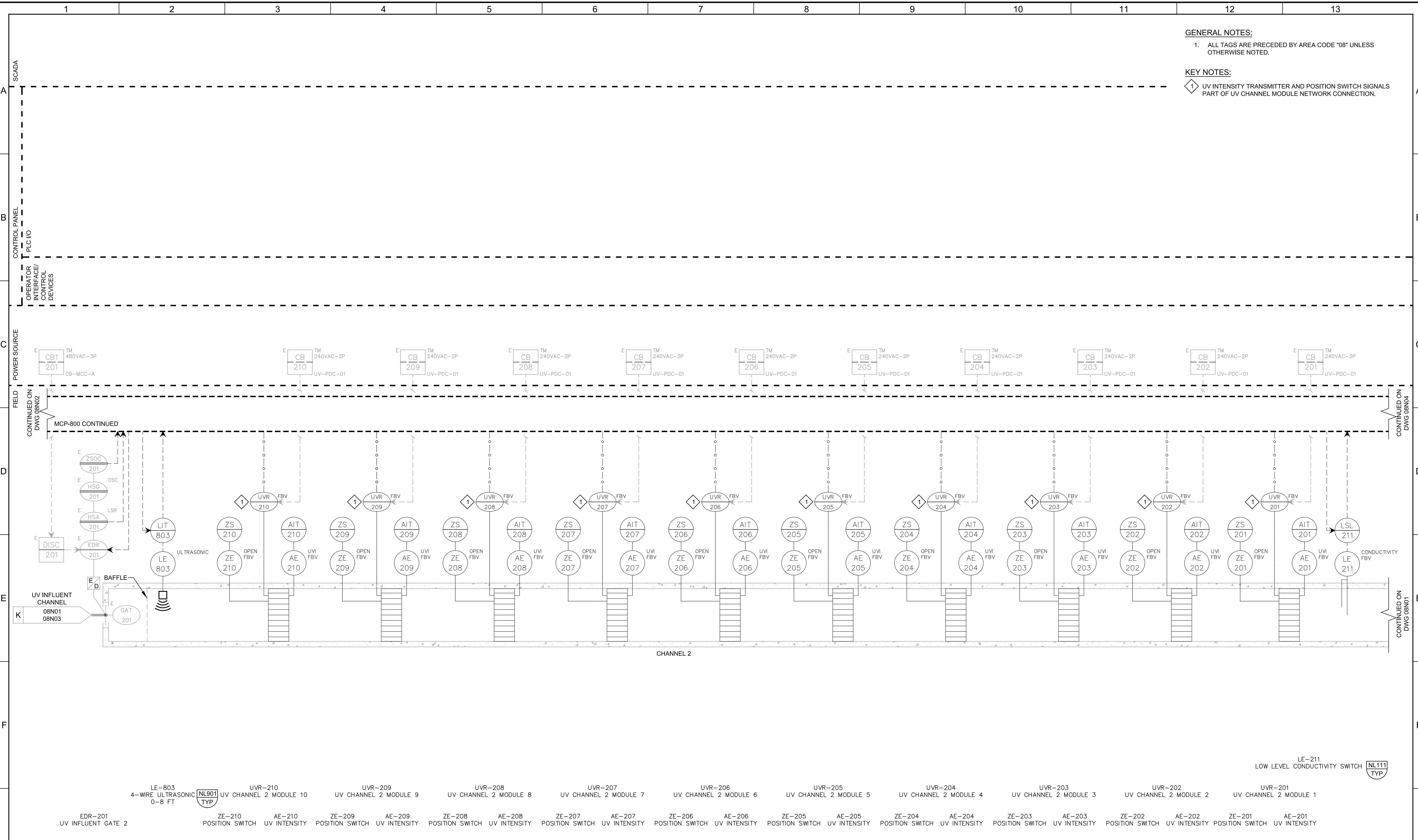
JOB NO. 7310L.10
 DRAWING NO. 08N02
 SHEET NO. 54 OF 56

Plot Date: 29-SEP-2022 11:13:54 AM

User: svcPW

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sld_Pen_v0905.pen PlotScale: 1:1

lbordeon

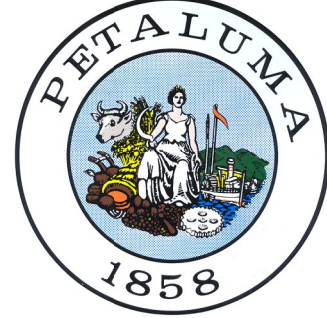
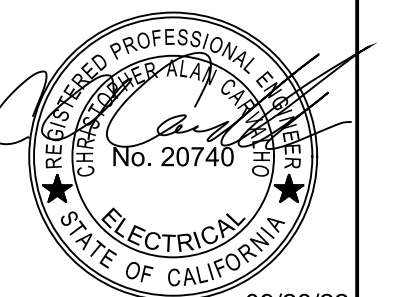


- GENERAL NOTES:**
1. ALL TAGS ARE PRECEDED BY AREA CODE "08" UNLESS OTHERWISE NOTED.
- KEY NOTES:**
1. UV INTENSITY TRANSMITTER AND POSITION SWITCH SIGNALS PART OF UV CHANNEL MODULE NETWORK CONNECTION.

- LE-803 4-WIRE ULTRASONIC 0-8 FT
- EDR-201 UV INFLUENT GATE 2
- ZS-210 POSITION SWITCH
- ZE-210 POSITION SWITCH
- AE-210 UV INTENSITY
- UVR-210 UV CHANNEL 2 MODULE 10
- UVR-209 UV CHANNEL 2 MODULE 9
- UVR-208 UV CHANNEL 2 MODULE 8
- UVR-207 UV CHANNEL 2 MODULE 7
- UVR-206 UV CHANNEL 2 MODULE 6
- UVR-205 UV CHANNEL 2 MODULE 5
- UVR-204 UV CHANNEL 2 MODULE 4
- UVR-203 UV CHANNEL 2 MODULE 3
- UVR-202 UV CHANNEL 2 MODULE 2
- UVR-201 UV CHANNEL 2 MODULE 1
- LE-211 LOW LEVEL CONDUCTIVITY SWITCH
- ZE-209 POSITION SWITCH
- AE-209 UV INTENSITY
- ZE-208 POSITION SWITCH
- AE-208 UV INTENSITY
- ZE-207 POSITION SWITCH
- AE-207 UV INTENSITY
- ZE-206 POSITION SWITCH
- AE-206 UV INTENSITY
- ZE-205 POSITION SWITCH
- AE-205 UV INTENSITY
- ZE-204 POSITION SWITCH
- AE-204 UV INTENSITY
- ZE-203 POSITION SWITCH
- AE-203 UV INTENSITY
- ZE-202 POSITION SWITCH
- AE-202 UV INTENSITY
- ZE-201 POSITION SWITCH
- AE-201 UV INTENSITY

REV	DATE	BY	DESCRIPTION
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			

DESIGNED CDS
 DRAWN ESW
 CHECKED DJC
 DATE SEPTEMBER 2022

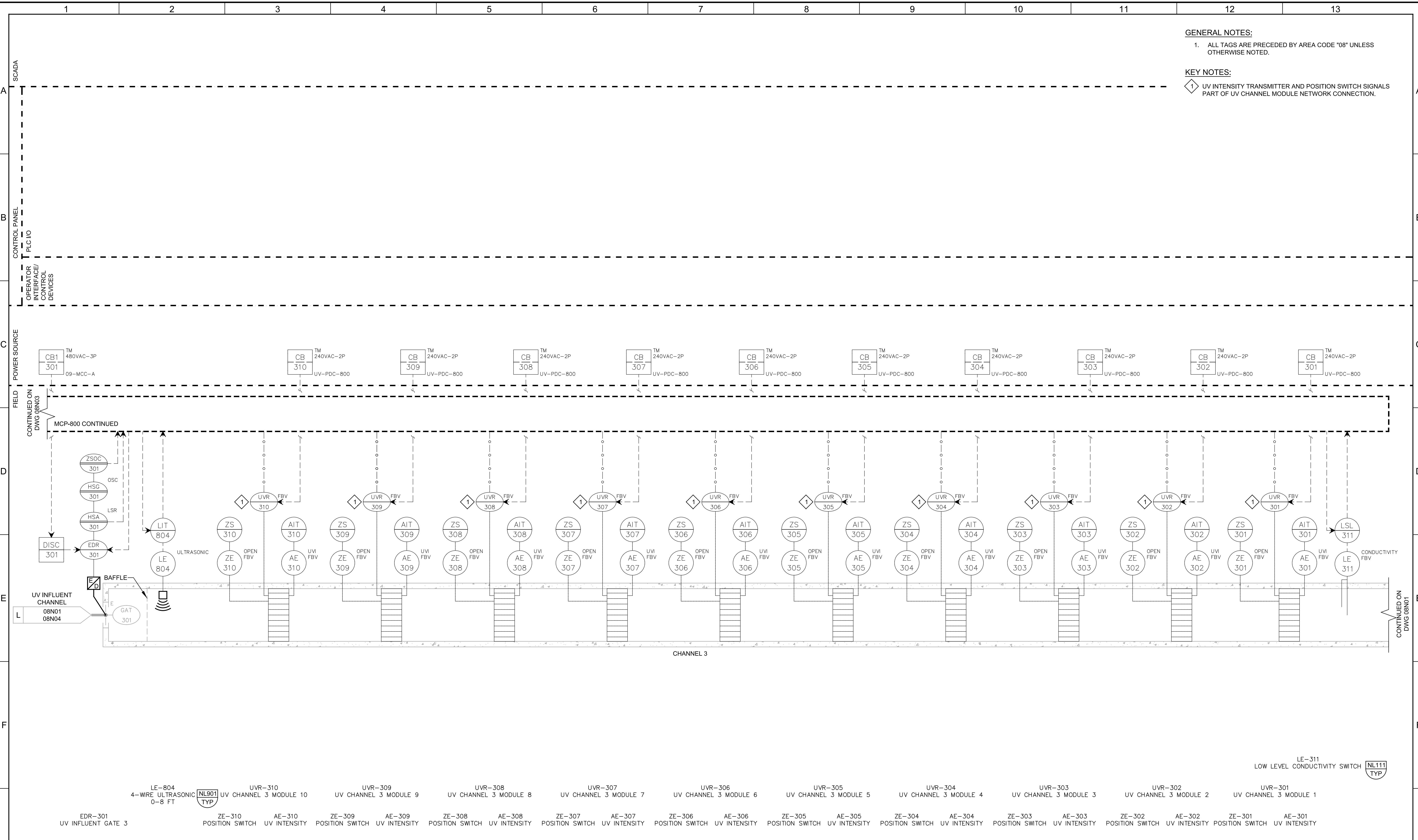


CITY OF PETALUMA
 UV DISINFECTION UPGRADES PROJECT
 INSTRUMENTATION
 UV DISINFECTION CHANNEL 2

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING
 0 1"
 IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 7310L.10
 DRAWING NO. 08N03
 SHEET NO. 55 OF 56

User: svcPW
 Plot Date: 29-SEP-2022 11:13:58 AM
 Model: Layout1
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 PlotScale: 1:1
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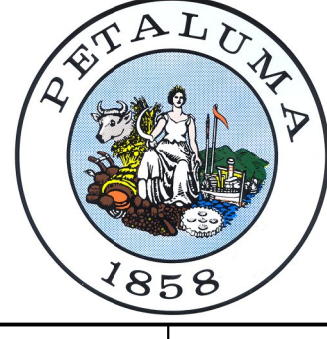
GENERAL NOTES:
 1. ALL TAGS ARE PRECEDED BY AREA CODE "08" UNLESS OTHERWISE NOTED.

KEY NOTES:
 1. UV INTENSITY TRANSMITTER AND POSITION SWITCH SIGNALS PART OF UV CHANNEL MODULE NETWORK CONNECTION.

- LE-804 4-WIRE ULTRASONIC 0-8 FT
- UVR-310 UV CHANNEL 3 MODULE 10
- UVR-309 UV CHANNEL 3 MODULE 9
- UVR-308 UV CHANNEL 3 MODULE 8
- UVR-307 UV CHANNEL 3 MODULE 7
- UVR-306 UV CHANNEL 3 MODULE 6
- UVR-305 UV CHANNEL 3 MODULE 5
- UVR-304 UV CHANNEL 3 MODULE 4
- UVR-303 UV CHANNEL 3 MODULE 3
- UVR-302 UV CHANNEL 3 MODULE 2
- UVR-301 UV CHANNEL 3 MODULE 1
- LE-311 LOW LEVEL CONDUCTIVITY SWITCH
- EDR-301 UV INFLUENT GATE 3
- ZE-310 POSITION SWITCH
- AE-310 UV INTENSITY
- ZE-309 POSITION SWITCH
- AE-309 UV INTENSITY
- ZE-308 POSITION SWITCH
- AE-308 UV INTENSITY
- ZE-307 POSITION SWITCH
- AE-307 UV INTENSITY
- ZE-306 POSITION SWITCH
- AE-306 UV INTENSITY
- ZE-305 POSITION SWITCH
- AE-305 UV INTENSITY
- ZE-304 POSITION SWITCH
- AE-304 UV INTENSITY
- ZE-303 POSITION SWITCH
- AE-303 UV INTENSITY
- ZE-302 POSITION SWITCH
- AE-302 UV INTENSITY
- ZE-301 POSITION SWITCH
- AE-301 UV INTENSITY

REV	DATE	BY	DESCRIPTION
1			

DESIGNED CDS
 DRAWN ESW
 CHECKED DJC
 DATE SEPTEMBER 2022



CITY OF PETALUMA
UV DISINFECTION UPGRADES PROJECT
 INSTRUMENTATION
UV DISINFECTION CHANNEL 3

VERIFY SCALES
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JOB NO. 7310L.10
 DRAWING NO. **08N04**
 SHEET NO. 56 OF 56