



CITY OF SANTA ROSA

IMPROVEMENT PLANS FOR

Laguna Treatment Plant Emergency Generator Fuel Tank and Fleet Fueling Station Replacement

CONTRACT No. C02192

RECORD PLAN DATA

PROJECT START: _____
 PROJECT END: _____
 GEN. CONTRACTOR: _____
 SUPERINTENDENT: _____
 FOREMAN: _____
 CONSTRUCTION MANAGER: _____
 INSPECTOR: _____
 RECORD PLANS BY: _____
 ADDITIONAL INFO: _____



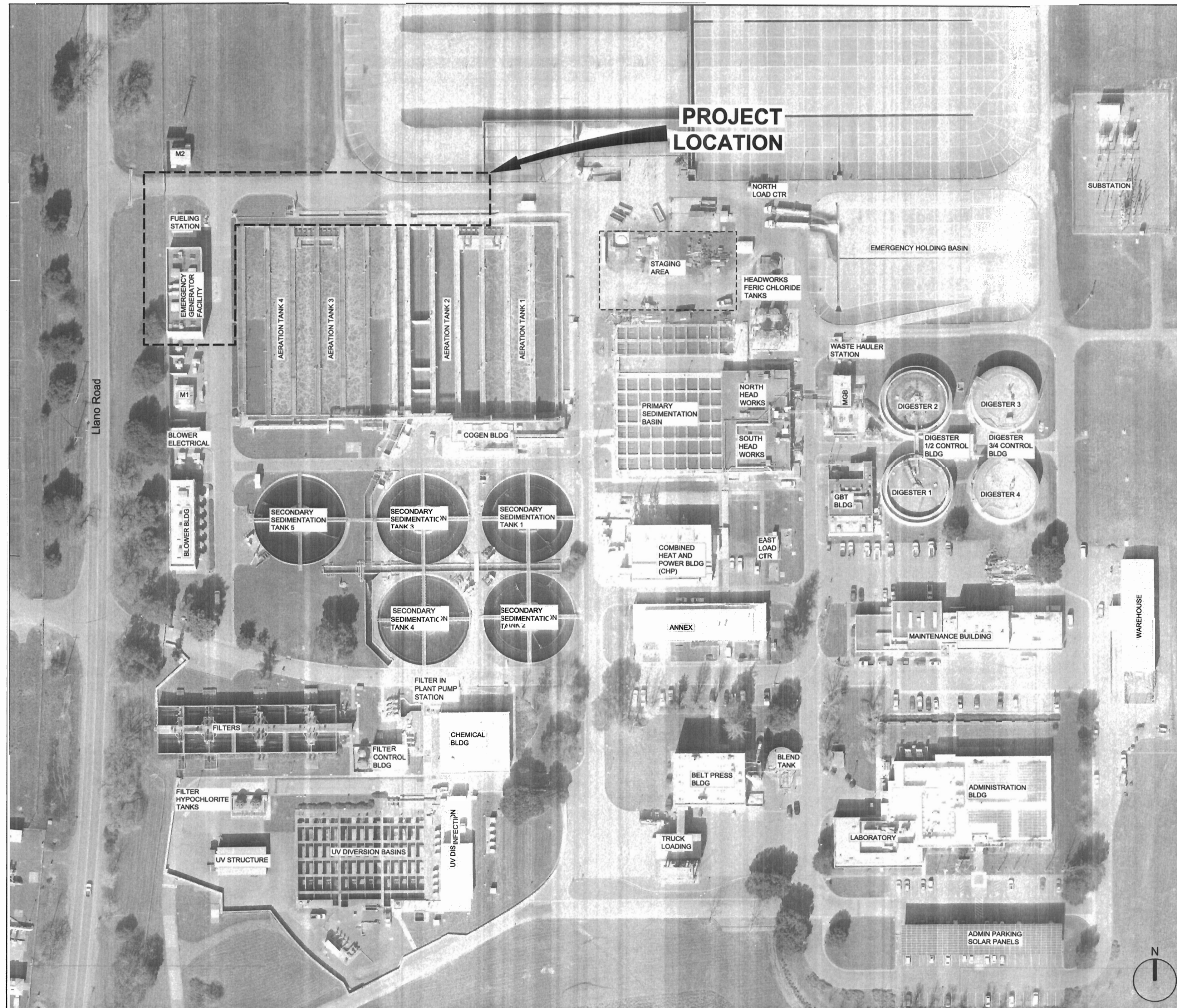
Signature: _____
 Date: _____

Design/Construc	Survey	Materials Lab	Subregional Ops	Dept

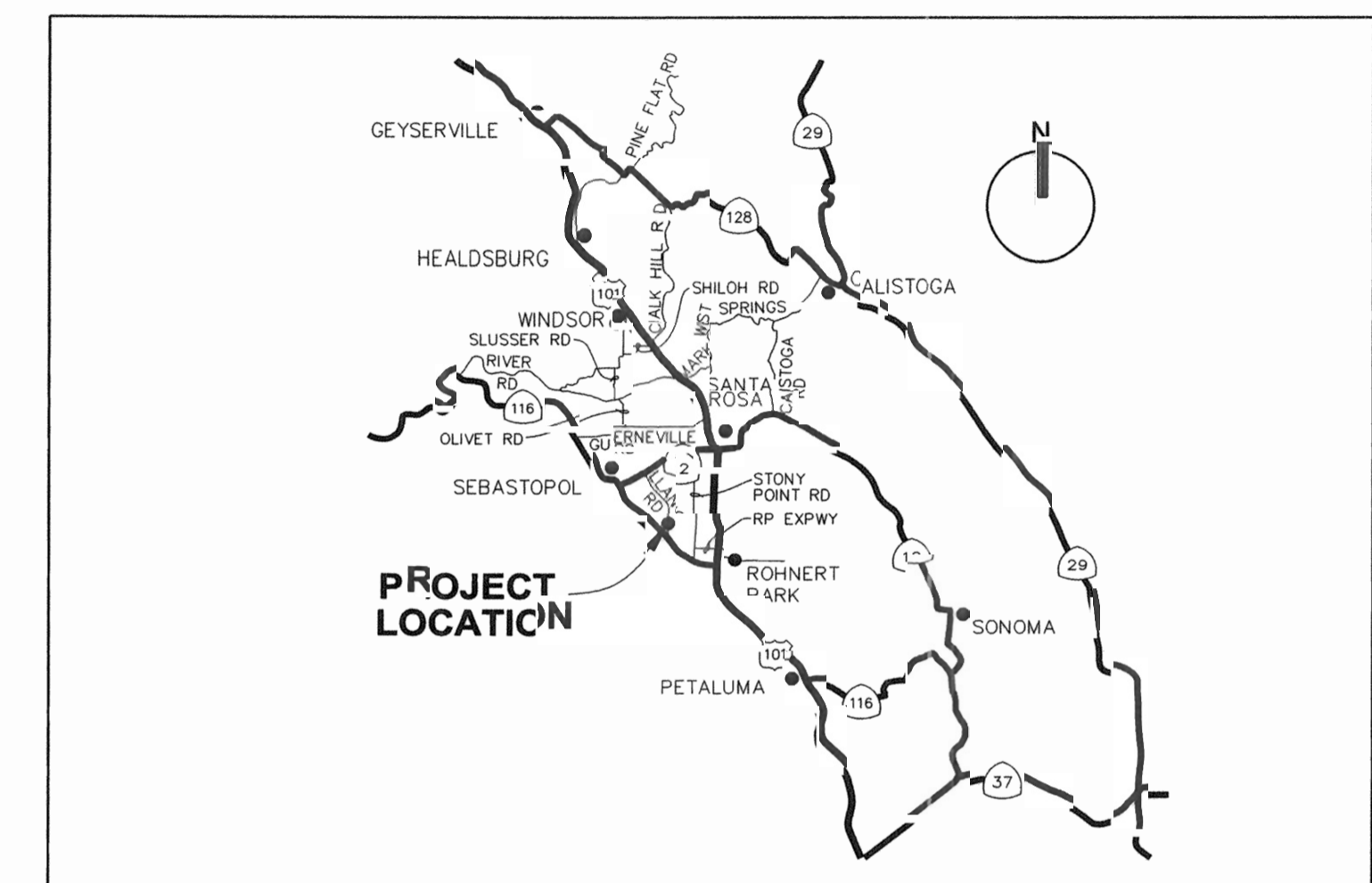
DATE: MAR 16, 2022
 CHK BY: D. ROBILLARD
 DWN BY: J. MINOR
 APPROVED: Director - Engineering
 MIKE PRINZ
 Date: 3/15/2022

City of Santa Rosa
LAGUNA TREATMENT PLANT EMERGENCY GENERATOR FUEL TANK AND FLEET FUELING STATION REPLACEMENT
GENERAL COVER SHEET AND DRAWING INDEX

CONTRACT NO. C02192
 DRAWING NO. G1
 SHEET 1 OF 22
 FILE NO. 2022-0008



LOCATION MAP NOT TO SCALE



VICINITY MAP NOT TO SCALE

DRAWING INDEX:

SHT NO.	DWG NO.	TECHNOLOGY	TITLE
1	G1	GENERAL	COVER SHEET AND DRAWING INDEX
2	G2	GENERAL	ABBREVIATIONS AND GENERAL SYMBOLS
3	G3	GENERAL	STRUCTURAL NOTES
4	G4	GENERAL	MECHANICAL LEGEND, PIPING SCHEDULE, AND NOTES
5	G5	GENERAL	INSTRUMENTATION AND CONTROLS LEGEND 1
6	G6	GENERAL	INSTRUMENTATION AND CONTROLS LEGEND 2
7	G7	GENERAL	ELECTRICAL LEGEND
8	D1	DEMOLITION	SITE PLAN
9	D2	DEMOLITION	DEMOLITION PHOTOS
10	C1	CIVIL	OVERALL SITE, PIPING AND SURVEY CONTROL PLAN
11	C2	CIVIL	SITE AND YARD PIPING PLAN
12	SM1	STRUCTURAL/MECHANICAL	FUEL SYSTEM PLAN AND SECTION
13	SM2	STRUCTURAL/MECHANICAL	FUEL STATION ISOMETRIC, SECTION AND DETAIL
14	SM3	STRUCTURAL/MECHANICAL	SECTION AND DETAILS 2
15	N1	INSTRUMENTATION & CONTROLS	FUEL STORAGE TANK P&ID
16	N2	INSTRUMENTATION & CONTROLS	FUEL DISPENSERS P&ID
17	E1	ELECTRICAL	SITE PLAN
18	E2	ELECTRICAL	FUEL STATION PLAN
19	E3	ELECTRICAL	GENERATOR BUILDING PLAN
20	E4	ELECTRICAL	ONE-LINE DIAGRAM
21	SD1	STANDARD DETAILS	STANDARD DETAILS 1
22	SD2	STANDARD DETAILS	STANDARD DETAILS 2

GENERAL NOTES:

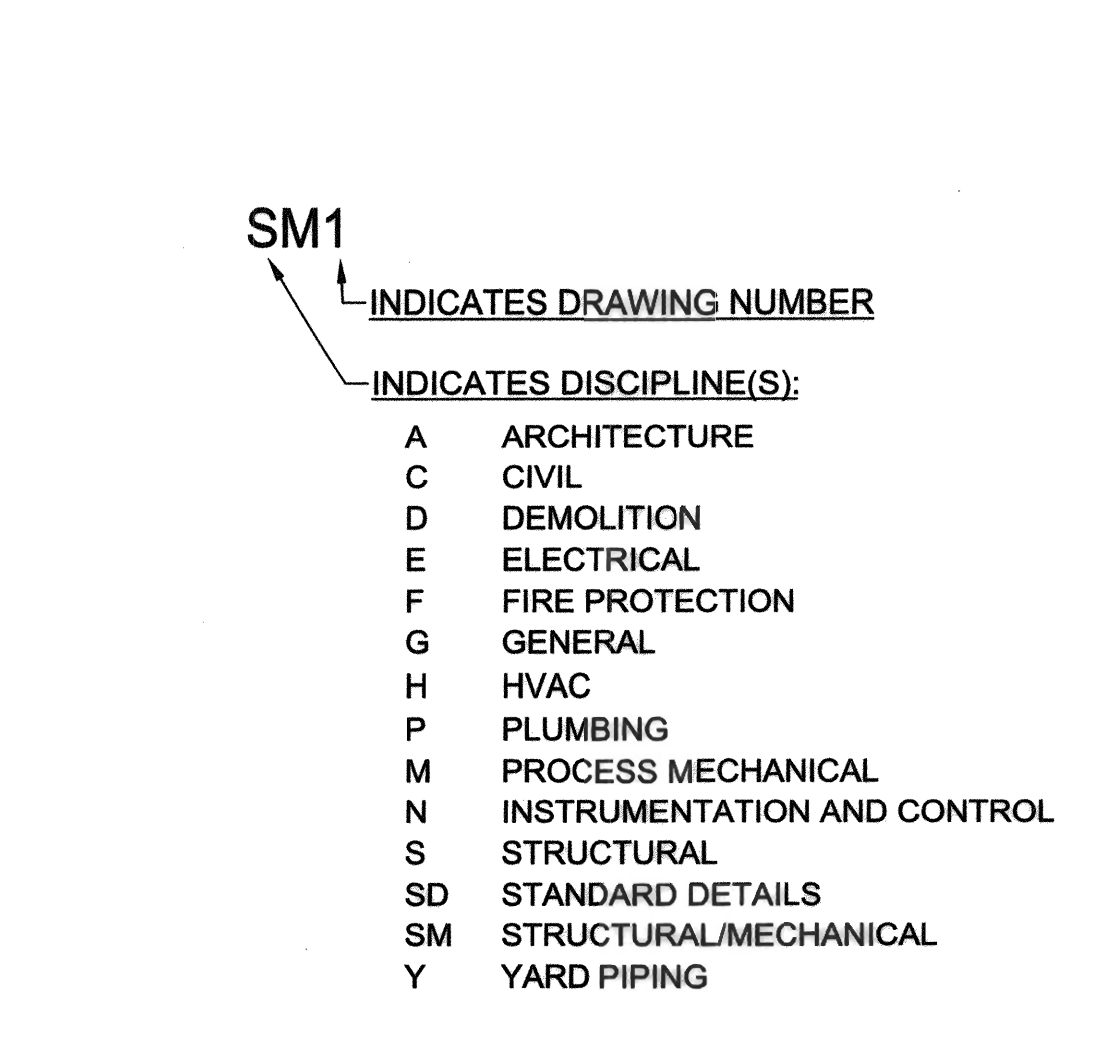
- ALL WORKMANSHIP, MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE CITY OF SANTA ROSA STANDARD PLANS, THE CONSTRUCTION SPECIFICATIONS FOR PUBLIC IMPROVEMENTS, THE SPECIAL PROVISIONS FOR THIS PROJECT AND THE STATE STANDARD SPECIFICATIONS AND STANDARD PLANS. THE CONTRACTOR IS RESPONSIBLE FOR UNDERSTANDING ALL STANDARDS PERTAINING TO THIS PROJECT.
- THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT USA NORTH AT 811 NO LESS THAN 2 WORKING DAYS PRIOR TO ANY EXCAVATION FOR MARK OUTS OF EXISTING UNDERGROUND FACILITIES IN ACCORDANCE WITH CITY OF SANTA ROSA STANDARDS FOUND IN SPECIFICATIONS.
- THE LOCATIONS OF UNDERGROUND UTILITIES AND OTHER OBSTACLES SHOWN ON THE PLANS ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL POTHOLE AND DETERMINE THE EXACT LOCATION OF ALL POTENTIAL CONFLICTS IN ACCORDANCE WITH U.S.A. LAWS AND THESE SPECIAL PROVISIONS AND THE STANDARD SPECIFICATIONS. IF ANY UNMARKED UTILITIES ARE ENCOUNTERED, OR IF UNABLE TO LOCATE A MARKED UTILITY AFTER POT HOLING, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER OF THAT UTILITY AND THE CITY ENGINEER.



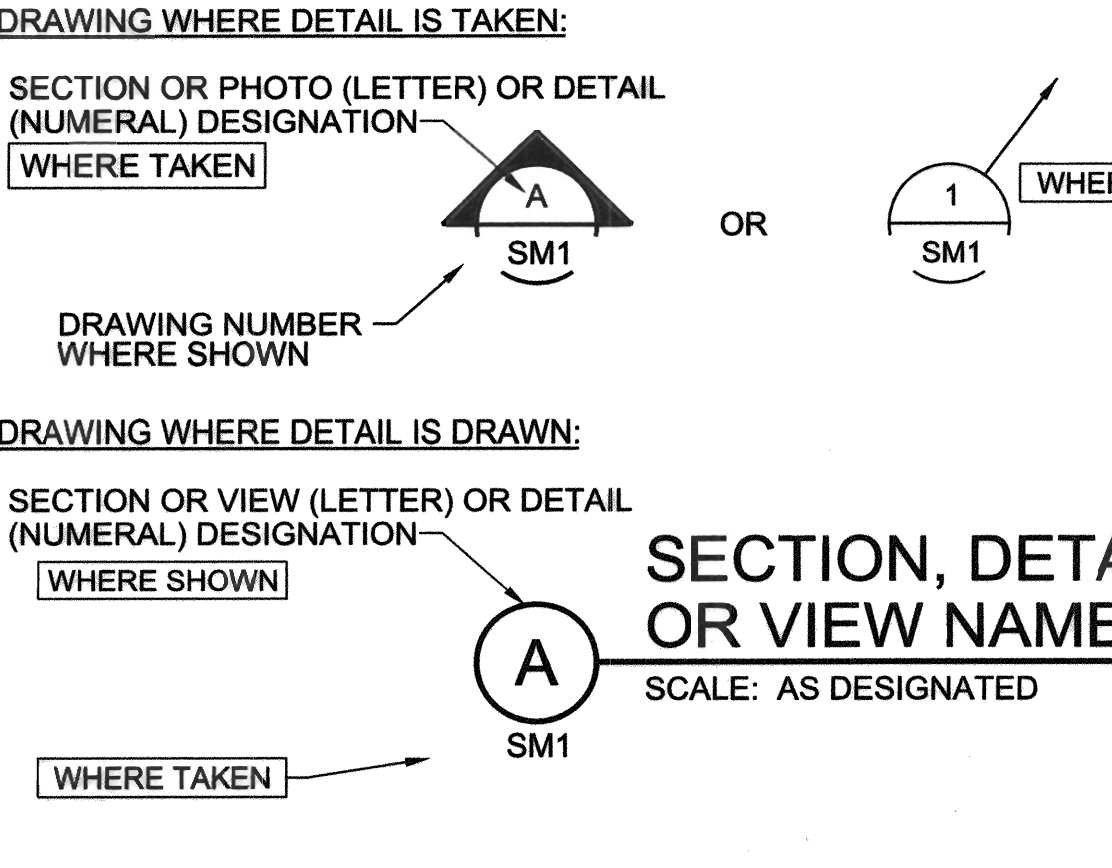
ABBREVIATIONS

Table with multiple columns listing abbreviations such as @, AB, ABS, AC, ACCU, etc., alongside their corresponding full names and other related terms.

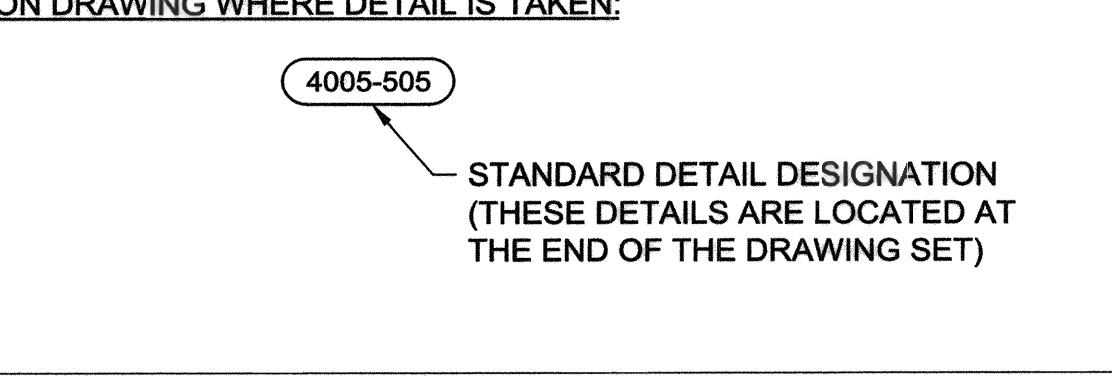
DRAWING NUMBER DESIGNATION



SECTION, DETAIL AND VIEW DESIGNATION



STANDARD DETAIL DESIGNATION



GENERAL NOTES

- 1. THIS IS A STANDARD LEGEND. THEREFORE, SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS SHEET AND MAY NOT BE USED ON THIS PROJECT.
2. FOR ADDITIONAL DISCIPLINE SPECIFIC ABBREVIATIONS, SEE OTHER LEGENDS.
3. CONTACT THE ENGINEER FOR ABBREVIATIONS NOT LISTED.



Jacobs

Table for Revision history with columns for No., Date, and Revision.

DATE: MAR 16, 2022
CHK BY: D. ROBILARD
City of Santa Rosa

LAGUNA TREATMENT PLANT EMERGENCY GENERATOR FUEL TANK AND FLEET FUELING STATION REPLACEMENT

CONTRACT NO. CO2192
DRAWING NO. G2
SHEET 2 OF 22
FILE NO. 2022-0008

DESIGN CRITERIA

- APPLICABLE CODES: 2019 CALIFORNIA BUILDING CODE (CBC).
- RISK CATEGORY IV (ASCE-7, TABLE 1.5-1)
- WIND LOAD:
CBC WIND PRESSURE
102 MPH, 3 SEC GUST WIND SPEED
EXPOSURE C
IMPORTANCE FACTOR = 1.00
- SEISMIC LOAD:
SOIL SITE CLASS D
LATITUDE 38.4N, LONGITUDE -122.8W
SEISMIC PARAMETERS (DESIGN)
S_{DS} = 1.0g
S_{D1} = 0.68g
SEISMIC DESIGN CATEGORY D (DEFAULT)
IMPORTANCE FACTOR = 1.0
IMPORTANCE FACTOR (IP) = 1.5 (FUEL TANKS)
- SOIL DESIGN PARAMETERS:
A. ALLOWABLE SOIL BEARING PRESSURES: 2000 PSF

GENERAL INFORMATION

- FOR ABBREVIATIONS NOT LISTED, SEE ASME Y14.38 "ABBREVIATIONS AND ACRONYMS" PUBLICATION AS DISTRIBUTED BY THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME).
- DESIGN DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO ALL SIMILAR SITUATIONS OCCURRING THROUGHOUT THE PROJECT, WHETHER OR NOT THEY ARE KEYED IN EACH LOCATION. CONSULT THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.
- VERIFY ALL OPENING DIMENSIONS IN WALLS, SLABS, AND DECKS WITH THE ARCHITECTURAL, MECHANICAL, HVAC AND ELECTRICAL DRAWINGS.
- FOR NUMBER, TYPE, SIZE, ARRANGEMENT, AND/OR LOCATION OF EQUIPMENT PADS SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, HVAC AND PLUMBING DRAWINGS. COORDINATE WITH EQUIPMENT SUPPLIER PRIOR TO PLACING SLABS, WALLS AND FOUNDATIONS. COORDINATE ALL MECHANICAL, ELECTRICAL AND HVAC PIPING OPENINGS WITH MECHANICAL, ELECTRICAL AND HVAC DRAWINGS.
- NO STRUCTURAL MEMBERS SHALL BE CUT FOR PIPES, DUCTS, ETC, UNLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE ENGINEER.
- VISITS TO THE JOB SITE BY THE ENGINEER TO OBSERVE THE CONSTRUCTION DO NOT IN ANY WAY MEAN THAT ENGINEER IS GUARANTORS OF THE CONSTRUCTOR'S WORK, NOR RESPONSIBLE FOR THE COMPREHENSIVE OR SPECIAL INSPECTIONS, COORDINATION, SUPERVISION, FOR SAFETY AT THE JOB SITE.

SPECIAL INSPECTION

- SPECIAL INSPECTION (OWNER FURNISHED) IS REQUIRED IN ACCORDANCE WITH 2019 CBC CHAPTER 17 ON THE FOLLOWING PORTIONS OF THE WORK:
CONCRETE PLACEMENT (PERIODIC)
REINFORCING STEEL PLACEMENT (PERIODIC)
ANCHORS, EMBEDS AND BOLTS INSTALLED IN CONCRETE OR MASONRY (CONTINUOUS)
GRADING, EXCAVATION, AND FILLING (PERIODIC)

DEFERRED SUBMITTALS

- THE FOLLOWING IS A LIST OF DEFERRED SUBMITTALS PER IBC SECTION 107.3.4.1 OF THE 2019 CBC THAT ARE EXPECTED TO CONTAIN STRUCTURAL CALCULATIONS.
SPECIFICATION SECTION 01 88 15: ANCHORAGE AND BRACING

CONCRETE REINFORCING

- CLEARANCE FOR REINFORCEMENT BARS, UNLESS SHOWN OTHERWISE, SHALL BE:
WHEN PLACED ON GROUND: 3"
ALL OTHER CONCRETE SURFACES:
#5 BAR OR SMALLER 1 1/2"
#6 BAR OR LARGER 2"
- ALL BENDS, UNLESS OTHERWISE SHOWN, SHALL BE 90 DEGREE ACI 318 STANDARD HOOKS.
- LAP SPLICES SHALL SATISFY THE FOLLOWING MINIMUM REQUIREMENTS:

CONCRETE DESIGN STRENGTH = 4,000 PSI		GRADE 60 REINFORCING STEEL									
BAR SIZE		#3	#4	#5	#6	#7	#8	#9	#10	#11	
LAP SPLICE LENGTH											
SPACING < 6"	TOP BAR *	1'-4"	2'-0"	3'-0"	4'-0"	5'-10"	6'-8"	7'-7"	8'-6"	9'-5"	
	OTHER BAR	1'-4"	1'-7"	2'-4"	3'-1"	4'-6"	5'-2"	5'-10"	6'-7"	7'-3"	
SPACING ≥ 6"	TOP BAR *	1'-4"	1'-8"	2'-0"	2'-5"	3'-6"	4'-0"	5'-0"	6'-2"	7'-5"	
	OTHER BAR	1'-4"	1'-4"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"	5'-8"	
EMBEDMENT LENGTH											
SPACING < 6"	TOP BAR *	1'-0"	1'-7"	2'-4"	3'-1"	4'-6"	5'-2"	5'-10"	6'-7"	7'-3"	
	OTHER BAR	1'-0"	1'-3"	1'-9"	2'-5"	3'-6"	4'-0"	4'-6"	5'-1"	5'-7"	
SPACING ≥ 6"	TOP BAR *	1'-0"	1'-3"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"	5'-8"	
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-5"	2'-1"	2'-5"	3'-0"	3'-8"	4'-5"	

- * TOP BARS SHALL BE DEFINED AS ANY HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR IN ANY SINGLE POUR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS.
- ** WHERE 3000 PSI CONCRETE IS USED, INCREASE ABOVE LENGTHS BY 16%.

CONCRETE

- 28-DAY CAST-IN-PLACE CONCRETE STRENGTHS:
TYPICAL CONCRETE: 4000 PSI
SECONDARY CONCRETE: 3000 PSI
SECONDARY CONCRETE INCLUDES PIPE ENCASEMENTS AND THRUST BLOCKS
- REINFORCING STEEL: ASTM A615, GRADE 60
- FABRICATION AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH CRSI "MSP-1" MANUAL OF STANDARD PRACTICE AND ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDING".
- CONSTRUCTION JOINTS INDICATED ARE SUGGESTED LOCATIONS. CONTRACTOR MAY REVISE LOCATION OF JOINTS, SUBJECT TO SPECIFIED REQUIREMENTS, AND SHALL SUBMIT ALL JOINT LOCATIONS FOR REVIEW AND APPROVAL BY THE ENGINEER. ADDITIONAL CONSTRUCTION JOINT LOCATIONS, AS REQUIRED FOR CONSTRUCTION, SHALL BE SUBMITTED FOR REVIEW AND APPROVAL.
- ROUGHEN AND CLEAN ALL CONSTRUCTION JOINTS IN WALLS AND SLABS AS SPECIFIED PRIOR TO PLACING ADJACENT CONCRETE. SANDBLASTING OR OTHER PREPARATION OF HORIZONTAL AND VERTICAL JOINTS IS REQUIRED.
- THE CONTRACTOR SHALL COORDINATE PLACEMENT OF ALL OPENINGS, CURBS, DOWELS, SLEEVES, CONDUITS, BOLTS AND INSERTS PRIOR TO PLACEMENT OF CONCRETE.
- NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER MATERIAL INJURIOUS TO THE CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.
- CONDUIT SHALL NOT BE PLACED PARALLEL WITH BEAM OR COLUMN REINFORCEMENT UNLESS SPECIFICALLY INDICATED IN DRAWINGS.

WELDING

- ALL WELDS SHALL CONFORM TO AWS D1.1 LATEST EDITION AS SPECIFIED.
- ALL WELDS FOUND DEFECTIVE SHALL BE REPAIRED IN ACCORDANCE WITH AWS D1.1, 5.26
- INTERMITTENT WELDS SHALL BE UTILIZED AT ALL FIELD WELDS AND EMBED PLATES AND ANGLES TO AVOID SPALLING OR CRACKING OF THE EXISTING CONCRETE.
- ALL BUTT JOINT WELDS SHALL BE COMPLETE JOINT PENETRATION (CJP) UNLESS INDICATED OTHERWISE.

STRUCTURAL STEEL AND METAL FABRICATIONS

- ALL STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:
W-SHAPES: A36 (36 KSI)
ROLLED PLATES, ANGLES AND BARS, ALL SHAPES, EXCEPT W-SHAPES (INCLUDING CHANNELS): A500, GRADE C (46 KSI)
SQUARE OR RECTANGULAR STEEL TUBING (HSE): A500, GRADE B (42 KSI)
ROUND STEEL TUBING (HSS): A501 OR A502, GRADE B ALLY 3061-TF
STEEL PIPE: ALUMINUM: TYPE 316 (26 KSI)
STAINLESS STEEL:
- ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN CONFORMANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION, CURRENT EDITION, AND CURRENT OSHA STANDARDS.
- ALL BOLTS SHALL BE HIGH STRENGTH BOLTS CONFORMING TO THE FOLLOWING EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE. CONNECTING SHALL BE BEARING TYPE.
UNLESS SHOWN OTHERWISE A325-N
MACHINE BOLTS (MB) AND ANCHOR BOLTS (AB) A307
CARBON STEEL A193
STAINLESS STEEL A153
GALVANIZED STEEL
- ALL ITEMS TO BE EMBEDDED IN CONCRETE SHALL BE CLEAN AND FREE OF OIL, DIRT AND PAINT.
- NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED SHALL BE ALLOWED THROUGH STRUCTURAL STEEL MEMBERS. NO CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.



Jacobs

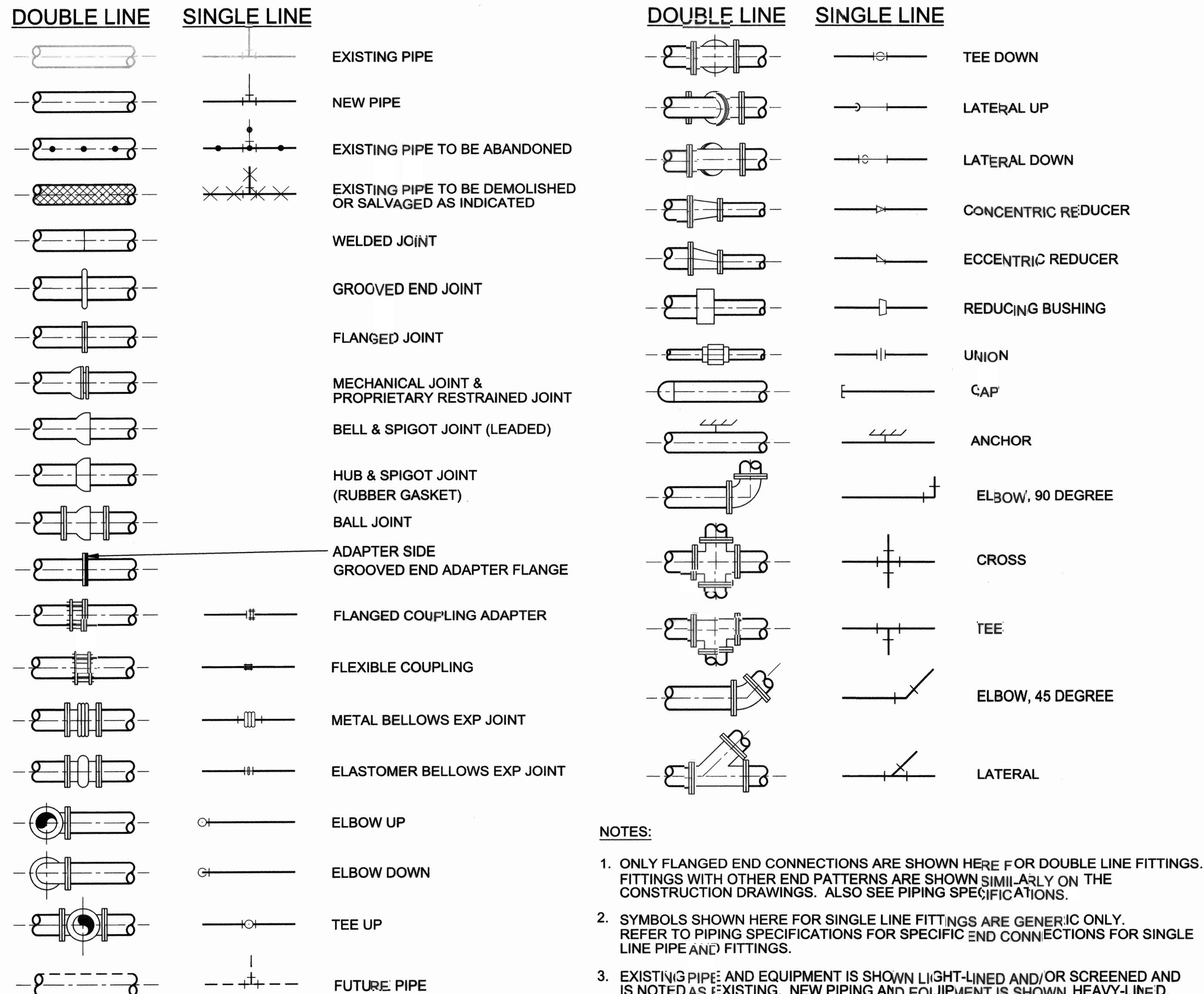
By	
Revision	
Date	
No.	

SCALE: AS SHOWN
DATE: MAR 16, 2022
DWN BY: J. MINOR
CHK BY: C. BURKE
City of Santa Rosa

City of Santa Rosa
LAGUNA TREATMENT PLANT EMERGENCY GENERATOR FUEL TANK AND FLEET FUELING STATION REPLACEMENT
GENERAL STRUCTURAL NOTES

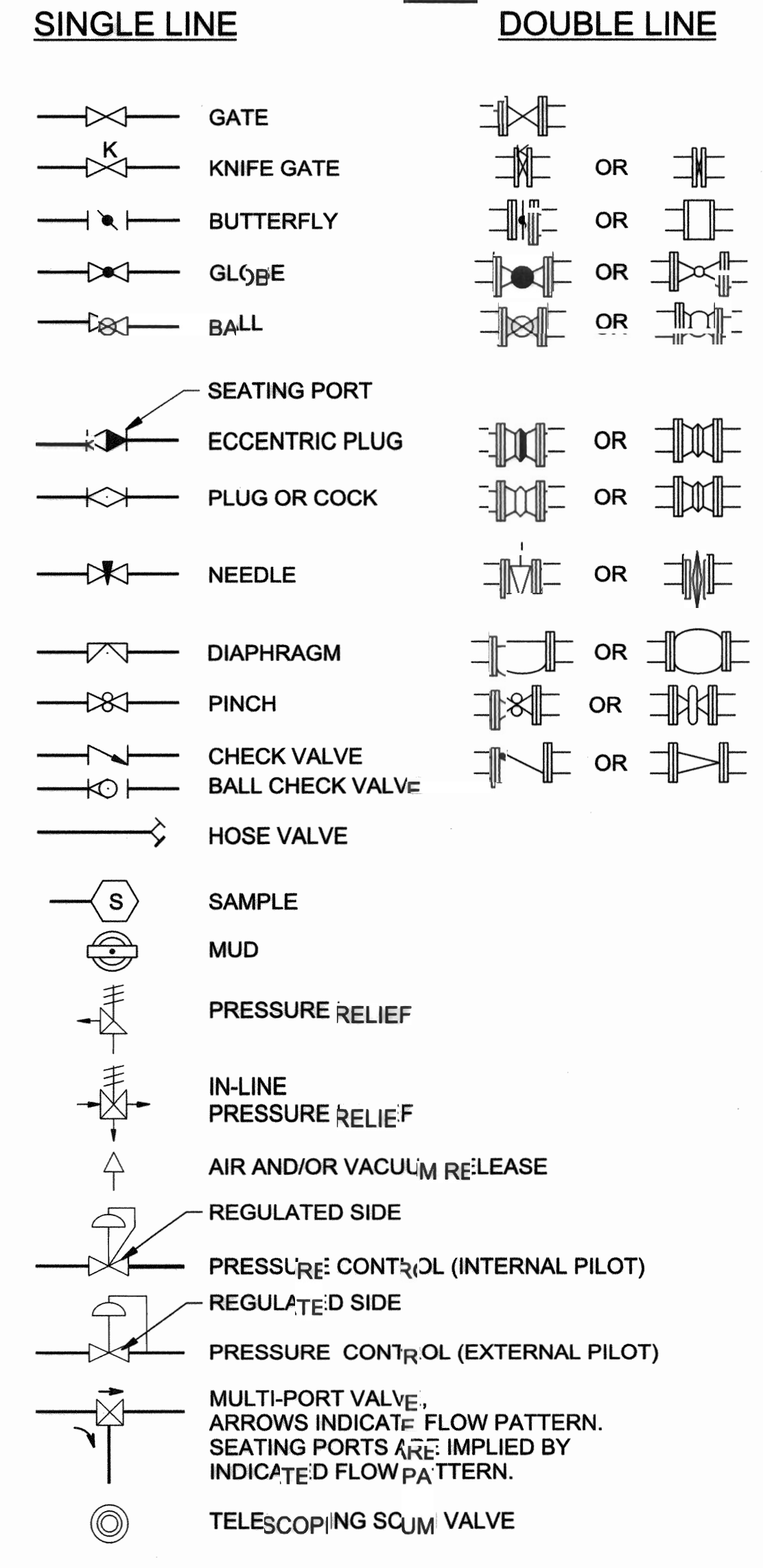
CONTRACT NO. C02192
DRAWING NO. G3
SHEET 3 OF 22
FILE NO. 2022-0008

PIPE AND FITTING SYMBOLS



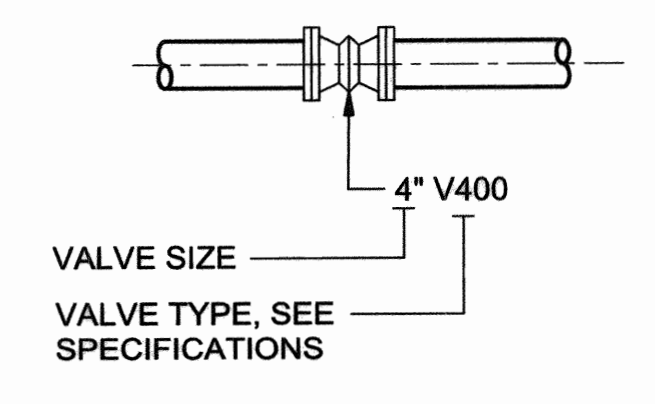
- NOTES:**
- ONLY FLANGED END CONNECTIONS ARE SHOWN HERE FOR DOUBLE LINE FITTINGS. FITTINGS WITH OTHER END PATTERNS ARE SHOWN SIMILARLY ON THE CONSTRUCTION DRAWINGS. ALSO SEE PIPING SPECIFICATIONS.
 - SYMBOLS SHOWN HERE FOR SINGLE LINE FITTINGS ARE GENERIC ONLY. REFER TO PIPING SPECIFICATIONS FOR SPECIFIC END CONNECTIONS FOR SINGLE LINE PIPE AND FITTINGS.
 - EXISTING PIPE AND EQUIPMENT IS SHOWN LIGHT-LINED AND/OR SCREENED AND IS NOTED AS EXISTING. NEW PIPING AND EQUIPMENT IS SHOWN HEAVY-LINED.

VALVE SYMBOLS

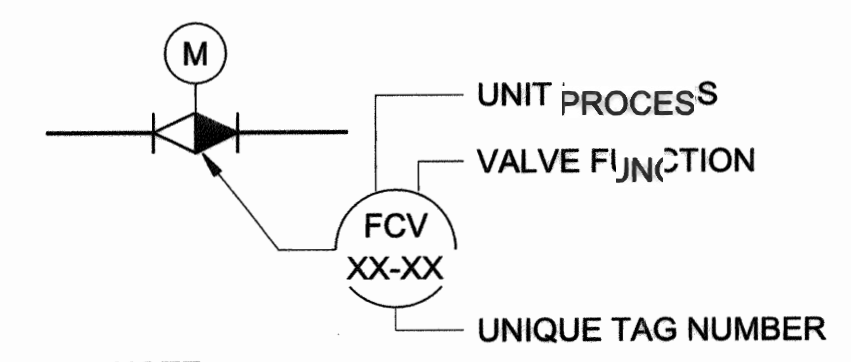


VALVE DESIGNATIONS

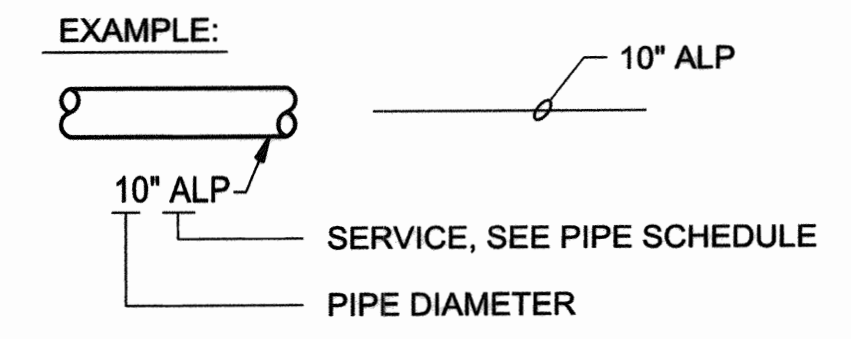
MANUAL VALVES AND CHECK VALVES



CONTROL VALVES



PIPING DESIGNATION



MECHANICAL AND NOTES

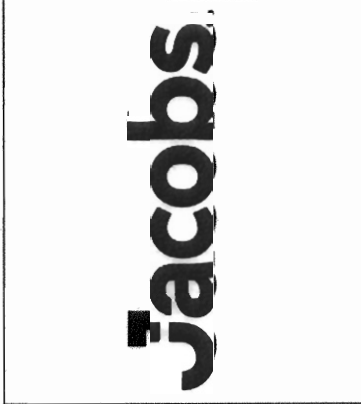
GENERAL PIPING NOTES

- LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.
- SIZE OF FITTINGS SHOWN ON DRAWINGS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
- CONTRACTOR SHALL DESIGN PIPE SUPPORTS AS SPECIFIED IN PROCESS PIPING.
- ALL JOINTS SHALL BE WATERTIGHT. WALL PIPES SHALL BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL.
- SYMBOLS, LEGENDS, AND PIPE USE IDENTIFICATIONS SHOWN SHALL BE FOLLOWED THROUGHOUT THE DRAWINGS, WHEREVER APPLICABLE. NOT ALL OF THE VARIOUS PIPING COMPONENTS ARE NECESSARILY USED IN THE PROJECT.
- NUMBER AND LOCATION OF UNIONS SHOWN ON DRAWINGS IS ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.

PIPING SCHEDULE

LEGEND, NOTE 1	SERVICE	INSTALLATION NOTE 3	MATERIAL NOTE 4	SPECIFICATION SECTION	JOINT TYPE NOTE 5	PIPE COLOR CODE, PER ASME A13.1, NOTE 6	PIPE IDENTIFICATION ARROW & TEXT COLOR, NOTE 6	TEST PRESSURE AND TYPE, PSIG-X NOTE 7	REMARKS NOTE 1
DFS	DIESEL FUEL SUPPLY	EXP (OUTDOOR)	STL	40 27 00.02	S	BROWN	WHITE	50-H	SCH 40
		BUR	FRP	40 27 00.15	SW	BROWN	WHITE	PRIMARY 50-H, SECONDARY 25-P	BELOW GRADE FUEL SERVICE PIPING SHALL BE DOUBLE CONTAINED.
GFS	GASOLINE FUEL SUPPLY	EXP (OUTDOOR)	STL	40 27 00.02	S	SAFETY YELLOW	BLACK	50-H	SCH 140
VR	GASOLINE VAPOR RETURN	EXP (OUTDOOR)	STL	40 27 00.02	S	SAFETY YELLOW	BLACK	50-H	SCH 140
DRAIN	DRAIN	EXP (INDOOR)	STL	40 27 00.02	S	SAFETY YELLOW	BLACK	N/A	SCH 40

- NOTES:**
- SEE FLOW STREAM IDENTIFICATION LIST ON DRAWING G6. WHERE PIPING IS NOT DEFINED ON DRAWINGS REFER TO PIPE SCHEDULE.
 - PIPING MATERIALS SHOWN PERTAIN ONLY TO NEW PIPING. WHERE EXISTING PIPING IS CALLED OUT ON DRAWINGS, THE FLOWSTREAM IDENTIFICATION INDICATES TYPE OF SERVICE BUT NOT PIPING MATERIALS.
 - INSTALLATIONS:
BUR: BURIED
EXP: EXPOSED (INDOOR OR OUTDOOR)
SUB: SUBMERGED
 - PIPE MATERIALS:
STL: CARBON STEEL
FRP: FIBER REINFORCED PLASTIC
 - JOINTS (UNLESS OTHERWISE SHOWN ON DRAWINGS):
FL: FLANGED
S: SCREWED
SW: SOCKET WELDED
W: WELDED
 - INTERIOR LININGS AND EXTERIOR COATINGS:
FOR COATING SYSTEM NO. REFER TO PIPING DATA SHEET AND ASME A13.1.
PROVIDE OWNER WITH MANUFACTURER'S STANDARD COLOR SELECTIONS. OWNER SHALL SELECT PIPE COLOR TO MEET THE RECOMMENDED PAINT COLOR STANDARDS FOR WASTEWATER FACILITIES.
 - PIPE LEAKAGE TESTING PER SECTION 40 80 01.
H: HYDROSTATIC TEST
P: PNEUMATIC TEST



No.	Date	Revision	By

DATE: MAR 16, 2022
 SCALE: AS SHOWN
 DWN BY: J. MINOR
 CHK BY: D. ROBILARD
 City of Santa Rosa

CONTRACT NO. C02192
 DRAWING NO. G4
 SHEET 4 OF 22
 FILE NO. 2022-0008

LAGUNA TREATMENT PLANT #1 TBM REGENCY GENERATOR FUEL TANK AND FLEET FUELING STATION REPLACEMENT
 MECHANICAL LEGEND, PIPING SCHEDULE, AND NOTES

INSTRUMENT IDENTIFICATION

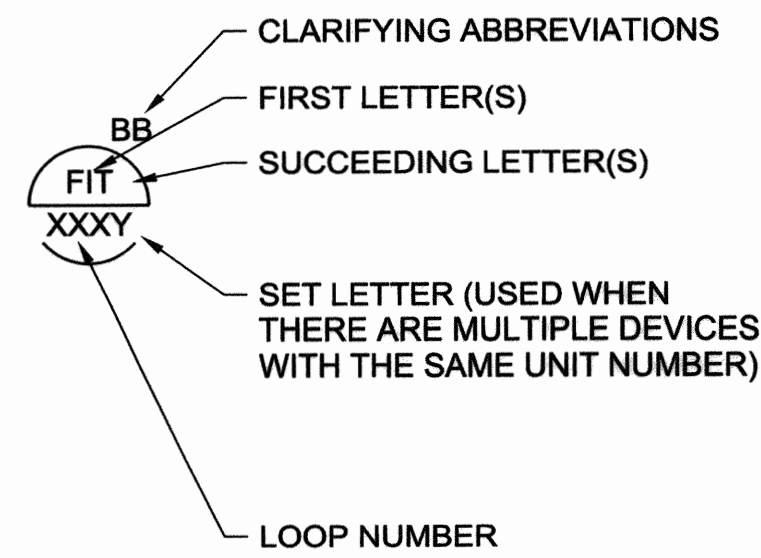
INSTRUMENT IDENTIFICATION LETTERS TABLE

LETTER	FIRST-LETTER		SUCCEEDING-LETTERS		
	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	READOUT OR PASSIVE FUNCTION	READOUT OR PASSIVE FUNCTION
A	ANALYSIS (+)		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
C	USER'S CHOICE (*)		COMMAND	CONTROL	
D	DENSITY (S.G.)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT, SENSOR		
F	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE (*)		GLASS, GAUGE VIEWING DEVICE	GATE	
H	HAND (MANUAL)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOTION	MOMENTARY			MIDDLE, INTERMEDIATE
N	TORQUE		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
O	USER'S CHOICE (*)		ORIFICE, RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD OR PRINT		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTI VARIABLE		MULTI FUNCTION	MULTI FUNCTION	MULTI FUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED (*)	X AXIS	UNCLASSIFIED (*)	UNCLASSIFIED (*)	UNCLASSIFIED (*)
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION	Z AXIS		DRIVE, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

TABLE BASED ON THE INSTRUMENTATION, SYSTEMS, AND AUTOMATION SOCIETY (ISA) STANDARD.

(+) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL. SEE ABBREVIATIONS AND LETTER SYMBOLS. (*) WHEN USED, DEFINE THE MEANING HERE FOR THE PROJECT.

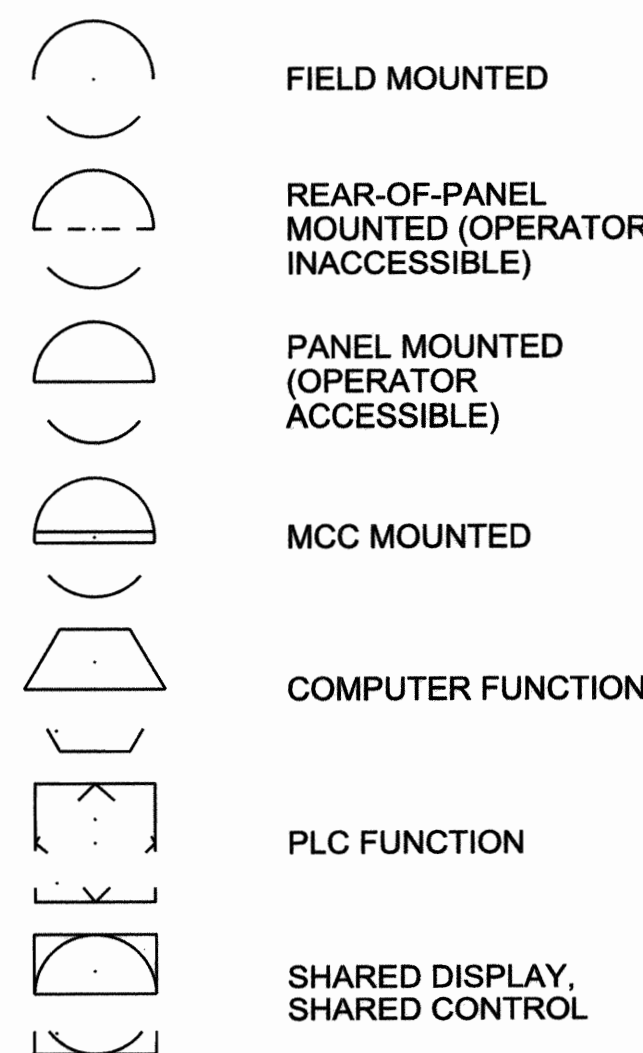
EXAMPLE SYMBOLS



DIGITAL SYSTEM INTERFACES

- ▲ ANALOG INPUT
- ▼ ANALOG OUTPUT
- △x DISCRETE INPUT
- ▽x DISCRETE OUTPUT

GENERAL INSTRUMENT OR FUNCTIONAL SYMBOLS



TRANSDUCERS

A	ANALOG	I	CURRENT
D	DIGITAL	P	PNEUMATIC
E	VOLTAGE	PF	PULSE FREQUENCY
F	FREQUENCY	PD	PULSE DURATION
H	HYDRAULIC	R	RESISTANCE

EXAMPLE

CURRENT TO PNEUMATIC TRANSDUCER (BACK OF PANEL, IN A FLOW LOOP)

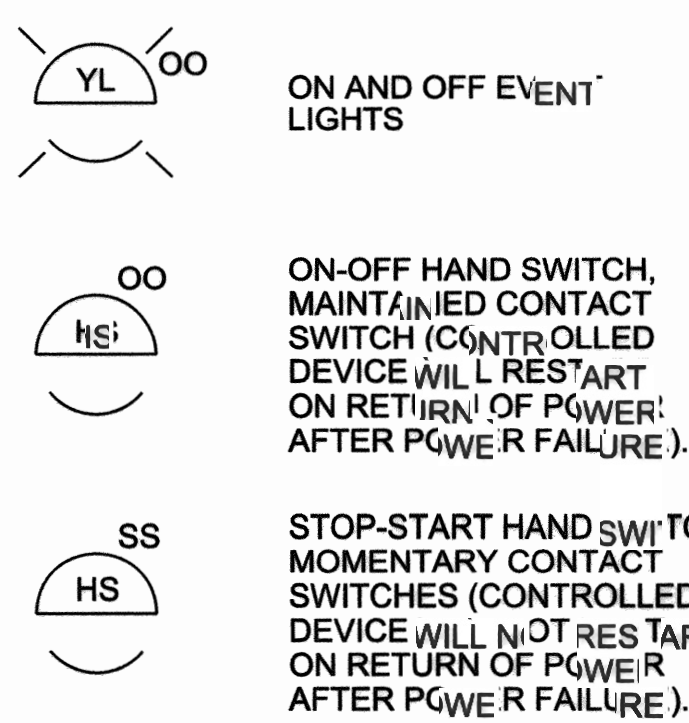
ACCESSORY DEVICES

A	ALARM
C	CONTROLLER
I	INDICATOR
R	RECORDER
S	SWITCH
T	TRANSMITTER
X	UNCLASSIFIED

EXAMPLE

TRANSMITTER AS AN ACCESSORY TO A FLOW ELEMENT

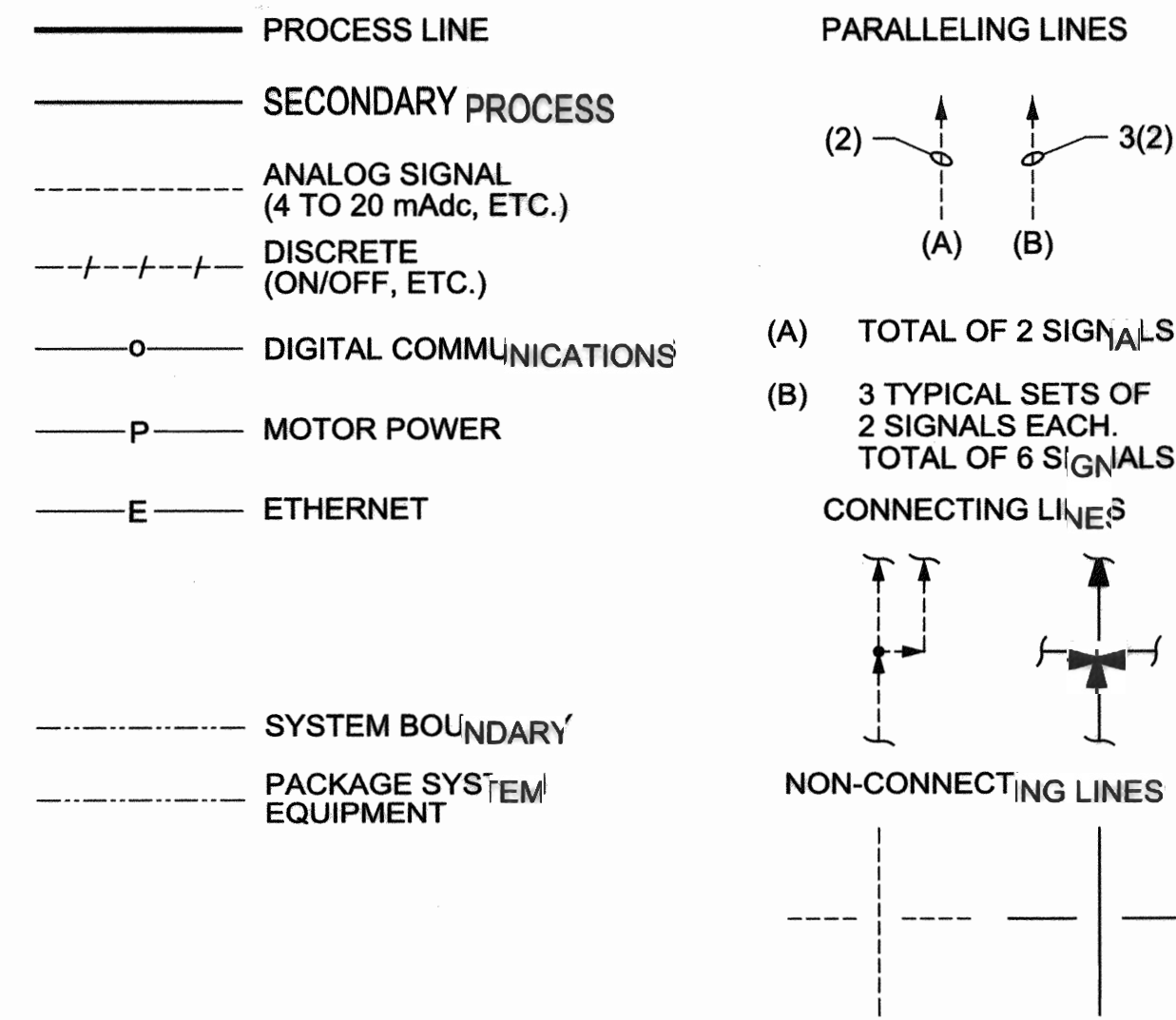
SPECIAL CASES



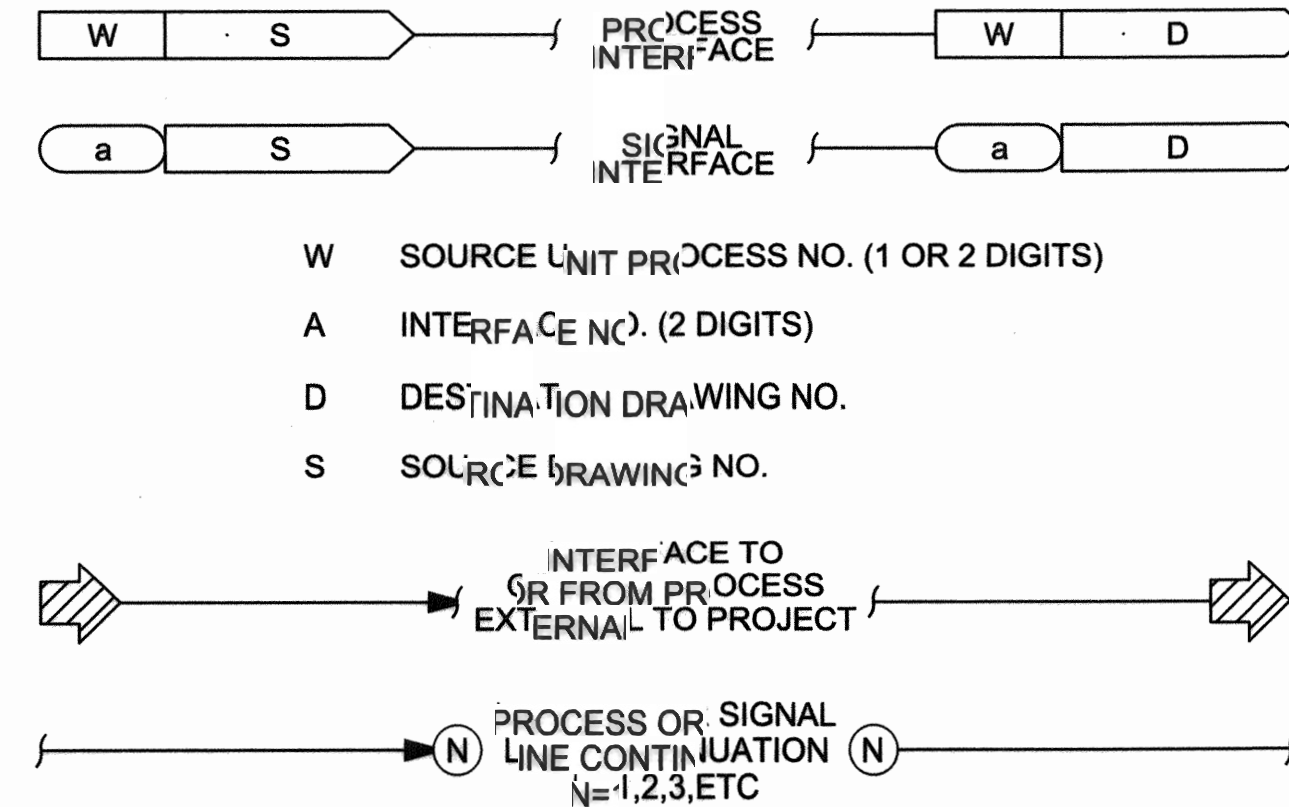
GENERAL NOTES

- COMPONENTS AND PANELS SHOWN WITH A DOUBLE ASTERISK (***) ARE TO BE PROVIDED AS PART OF A PACKAGE SYSTEM.
- COMPONENTS AND PANELS SHOWN WITH A SINGLE ASTERISK (*) ARE TO BE PROVIDED UNDER DIVISION 26, ELECTRICAL.
- THIS IS A STANDARD LEGEND. THEREFORE, NOT ALL OF THIS INFORMATION MAY BE USED ON THE PROJECT.

LINE LEGEND



INTERFACE SYMBOLS



SELF CONTAINED VALVE & EQUIPMENT TAG NUMBERS

D-X	
AHE	AUXILIARY HEAT EXCHANGER
ARV	AIR RELEASE VALVE
AVRV	AIR AND VACUUM RELEASE VALVE
ASV	ANTI-SIPHON VALVE
BL	BLOWER
BOL	BOILER
BWR	BURNER BLOWER
CHL	CHILLER
DFP	DIESEL FUEL PUMP
DHE	DIESEL HEAT EXCHANGER
DT	DAY TANK
EXE	EXHAUST TEMPERATURE EXCHANGER
FCV	FLOW CONTROL VALVE
FILT	FILTER
FV	FLOW VALVE OR FIRE SHUTOFF VALVE
HSS	HYDROGEN SULFIDE & SILOXANE
HTE	HIGH TEMPERATURE EXCHANGER
HTP	HIGH TEMPERATURE PUMP
HP	HAND PUMP
HX	HEAT EXCHANGER
JWE	JACKET WATER EXCHANGER
JWP	JACKET WATER PUMP
LTE	LOW TEMPERATURE EXCHANGER
LTP	LOW TEMPERATURE PUMP
PMP	PUMP
PRV	PRESSURE RELIEF VALVE
SIL	ENGINE EXHAUST SILENCER
ST	STORAGE TANK
SV	STEER-OFF VALVE
X	EQUIPMENT NUMBER

ABBREVIATIONS & LETTER SYMBOLS

AC	ALTERNATING CURRENT
ALR	ALARM RELAY
AM	AUTO-MANUAL, AMMETER
AS	AMMETER PHASE SELECTOR SWITCH
ATM	ATMOSPHERIC
BCP	BATTERY CHARGER PANEL, BOILER CONTROL PANEL
CBS	CIRCUIT BREAKER SWITCH
CCS	CENTRAL CONTROL SYSTEM
CM	COMPUTER-MANUAL
COD	CHEMICAL OXYGEN DEMAND
CP-X	CONTROL PANEL NO. X
D	DRAIN
DBR	DEAD BUS RELAY
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DCU	DISTRIBUTED CONTROL UNIT
DO	DISSOLVED OXYGEN
ECR	ECLIPSE RELAY
ECS	ENGINE CONTROL SWITCH
ECP	ENGINE CONTROL PANEL
ESCR	ENGINE START RELAY
FCL ₂	FREE CHLORINE RESIDUAL
FOS	FAST-OFF-SLOW
FOSA	FAST-OFF-SLOW-AUTO
FOSR	FAST-OFF-SLOW-REMOTE
FP-W-X	FIELD PANEL NO. WX (W=UNIT PROCESS NUMBER, X=PANEL NUMBER)
FR	FORWARD-REVERSE
GCP	GENERATOR CONTROL PANEL
GSG	GENERATOR SWITCHGEAR
GPR	GENERATOR PROTECTION RELAY
HRR	HEAT RECOVERY RETURN
HRS	HEAT RECOVERY SUPPLY
ISR	INTRINSICALLY SAFE RELAY
KWH	KILOWATT HOURMETER
LAR	LOAD ADJUSTMENT RHEOSTAT
LAS	LOAD ADJUSTMENT SWITCH
LCP	LOCAL CONTROL PANEL
LEL	LOWER EXPLOSIVE LIMIT
LOS	LOCKOUT STOP
LR	LOCAL-REMOTE
LSG	LOW PRESSURE SLUDGE GAS
MA	MANUAL-AUTO
MC	MODULATE-CLOSE
MCC-X	MOTOR CONTROL CENTER NO. X
MSC	MANUFACTURER SUPPLIED CABLE
MSG	MEDIUM PRESSURE SLUDGE GAS
NG	NATURAL GAS
OC	OPEN-CLOSE(D)
OCA	OPEN-CLOSE-AUTO
OCR	OPEN-CLOSE-REMOTE
OO	ON-OFF
OOA	ON-OFF-AUTO
OOR	ON-OFF-REMOTE
OSC	OPEN-STOP-CLOSE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PT	PULSE TRANSMITTER (VOLUME FLOW)
RIO	REMOTE I/O UNIT
RM-X	REMOTE MULTIPLEXING MODULE NO. X
RTU-X	REMOTE TELEMETRY UNIT NO. X
SAR	SPEED ADJUST RHEOSTAT
SAS	SET POINT ADJUST SWITCH
SCDR	SPEED CONTROL RELAY
SS	START-STOP
SSC	SUPERVISORY SET POINT CONTROL
SSW	SYNCHRONIZING SELECTOR SWITCH
TCL ₂	TOTAL CHLORINE RESIDUAL
UPS	UNINTERRUPTABLE POWER SUPPLY
V	VENT
VAR	VOLTAGE ADJUST RHEOSTAT
VARH	REACTIVE POWER (VAR) HOURMETER
VAS	VOLTAGE ADJUST SWITCH
VHC	VOLATILE HYDROCARBONS
VRS	VOLTAGE REGULATOR SWITCH
VVP	VOLTAGE VAR/POWER FACTOR SWITCH
W1	POTABLE WATER
W2	PROTECTED POTABLE WATER
W3	PLANT RE-USE WATER
DFP	DIESEL FUEL PUMP
DFD	DIESEL FUEL DISPENSER
FMU	FUEL MANAGEMENT UNIT
GFP	GASOLINE FUEL PUMP
GFD	GASOLINE FUEL DISPENSER



Jacobs

No.	Date	By

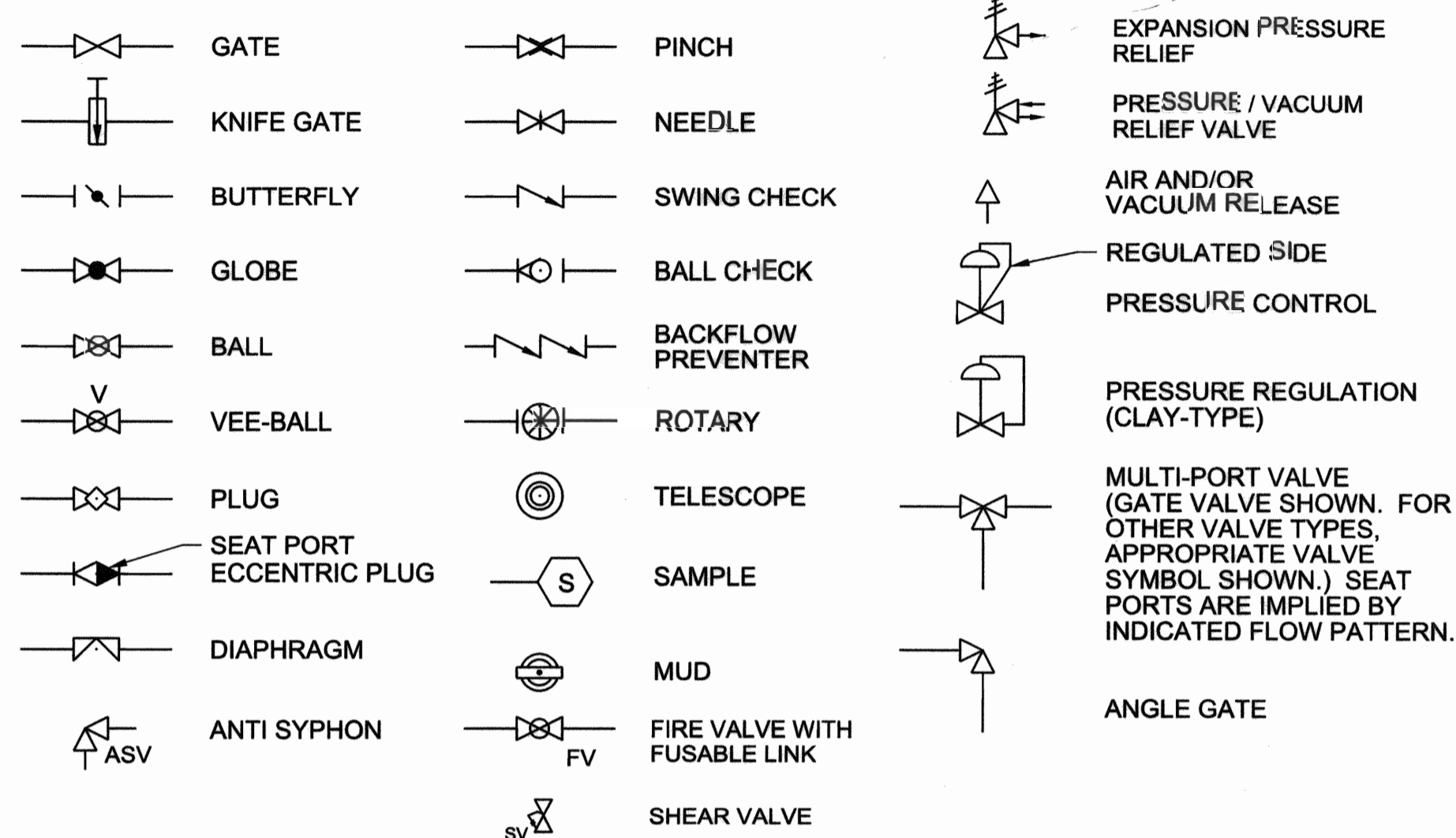
DATE: MAR 16, 2022	CHK BY: S. PARKER
SCALE: AS SHOWN	DWN BY: J. MINOR



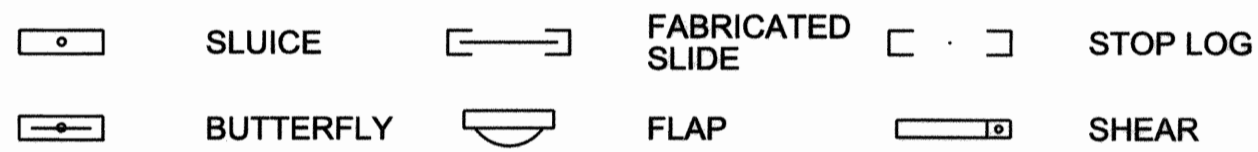
City of Santa Rosa
LAGUNA TREATMENT PLANT EMERGENCY GENERATOR FUEL TANK AND FLEET FUELING STATION REPLACEMENT
GENERAL INSTRUMENTATION & CONTROLS LEGEND 1

CONTRACT NO.	C02192
DRAWING NO.	G5
SHEET	5 OF 22
FILE NO.	2022-0008

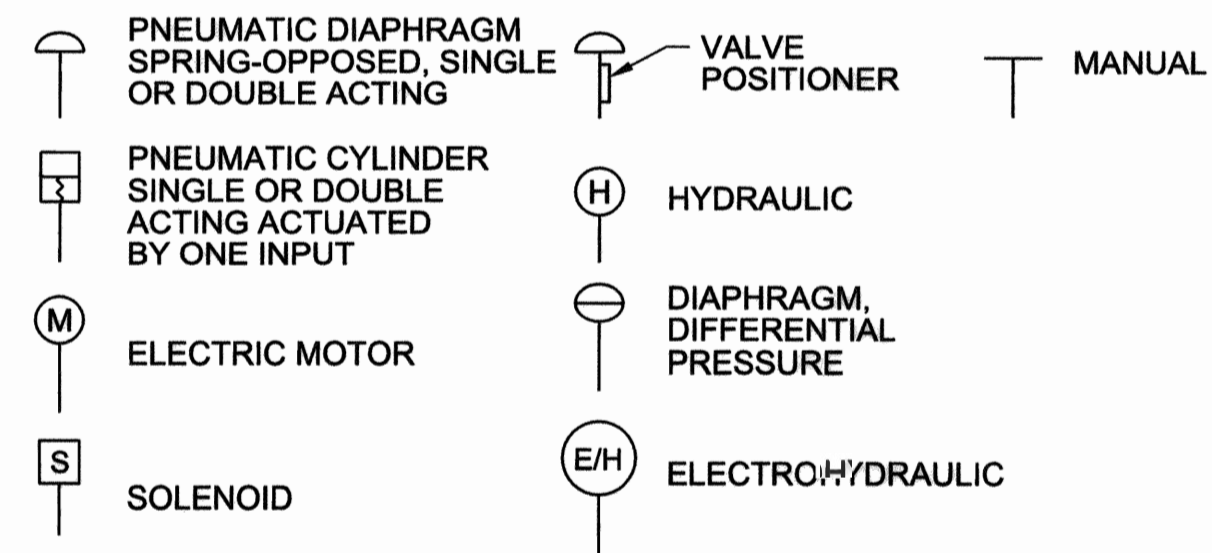
VALVE SYMBOLS



GATE SYMBOLS



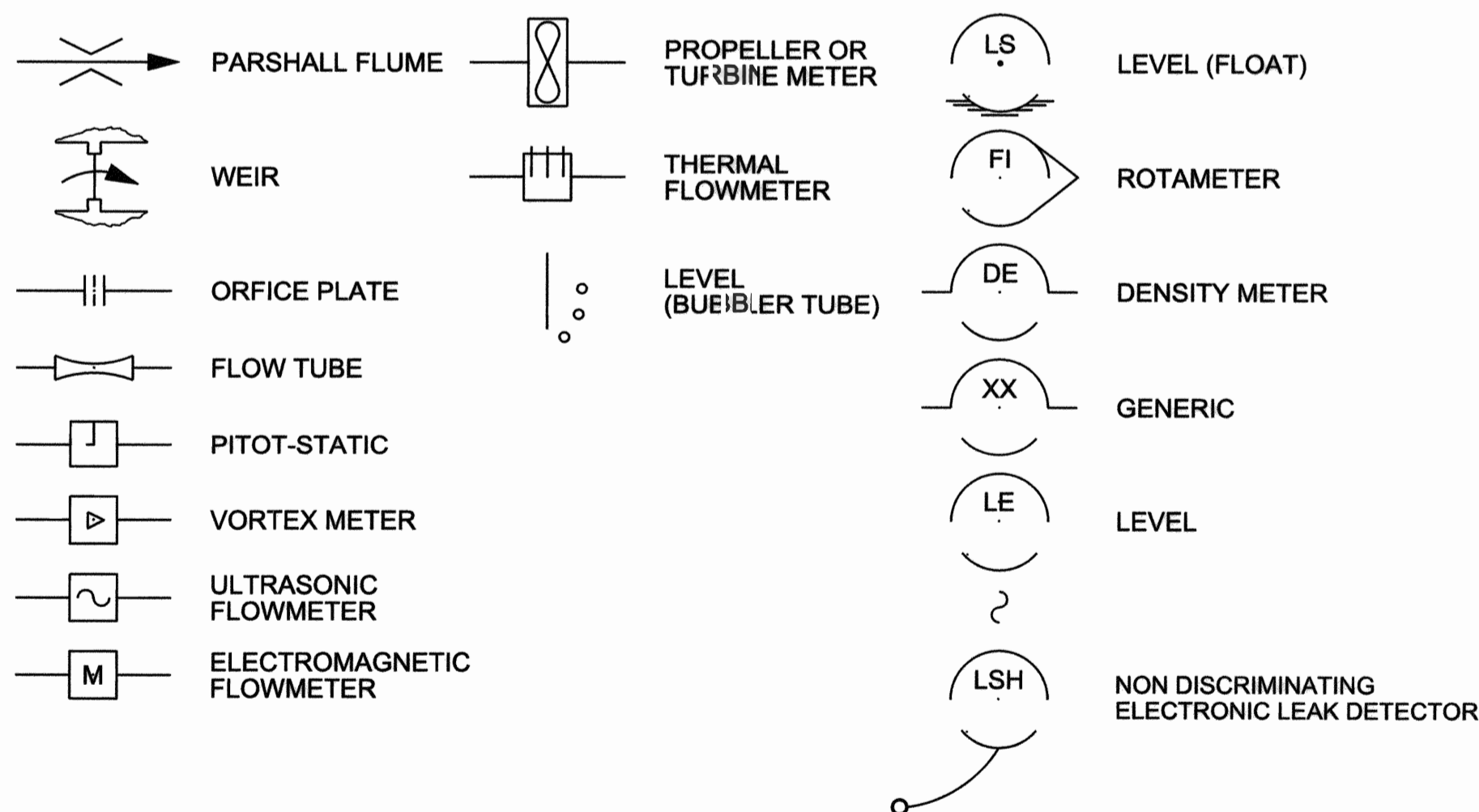
ACTUATOR SYMBOLS



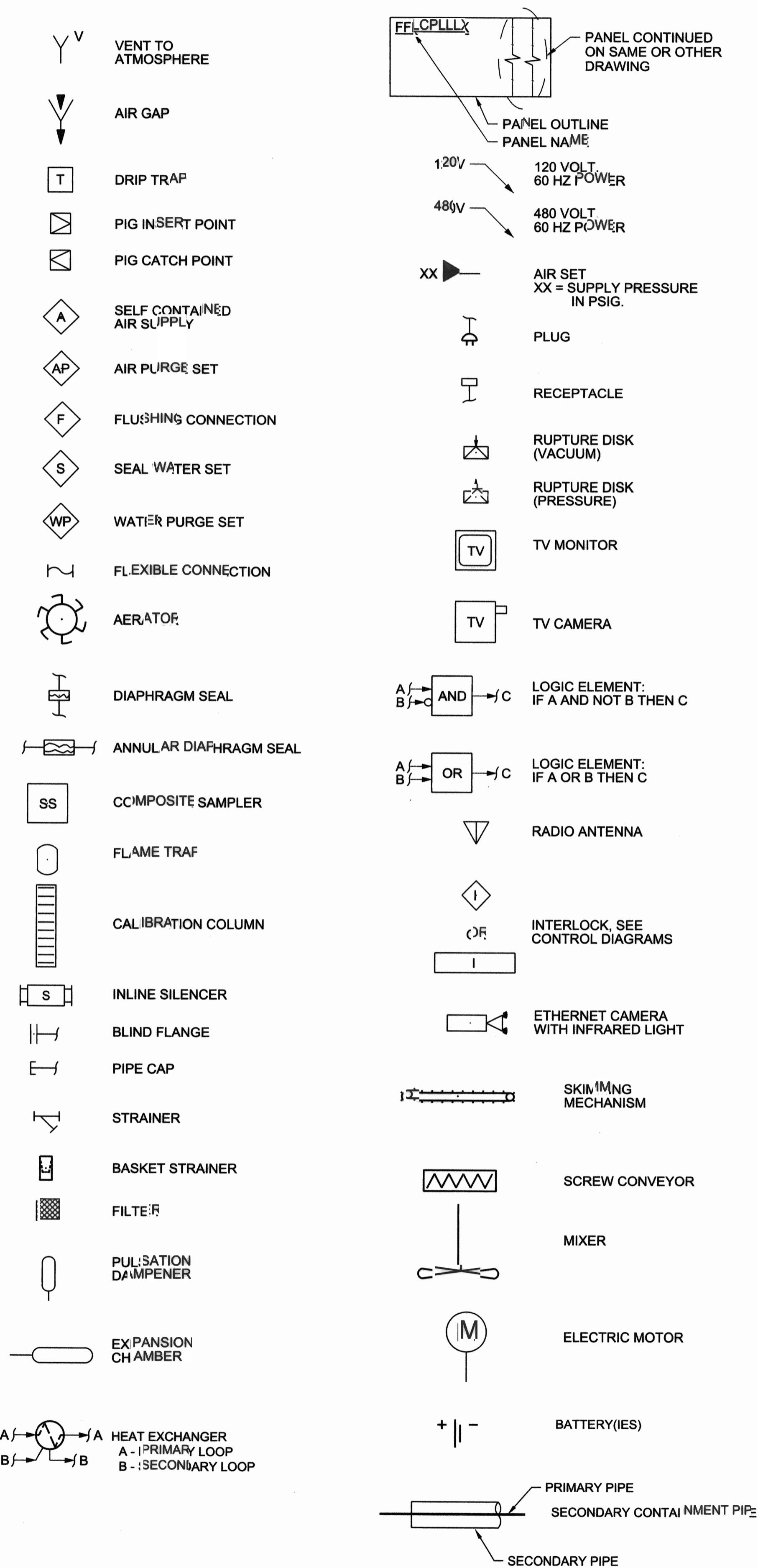
NOTE: ON LOSS OF PRIMARY POWER (PNEUMATIC, ELECTRICAL, OR HYDRAULIC)

XX: FO FAIL OPEN
FC FAIL CLOSED
FLP FAIL TO LAST POSITION

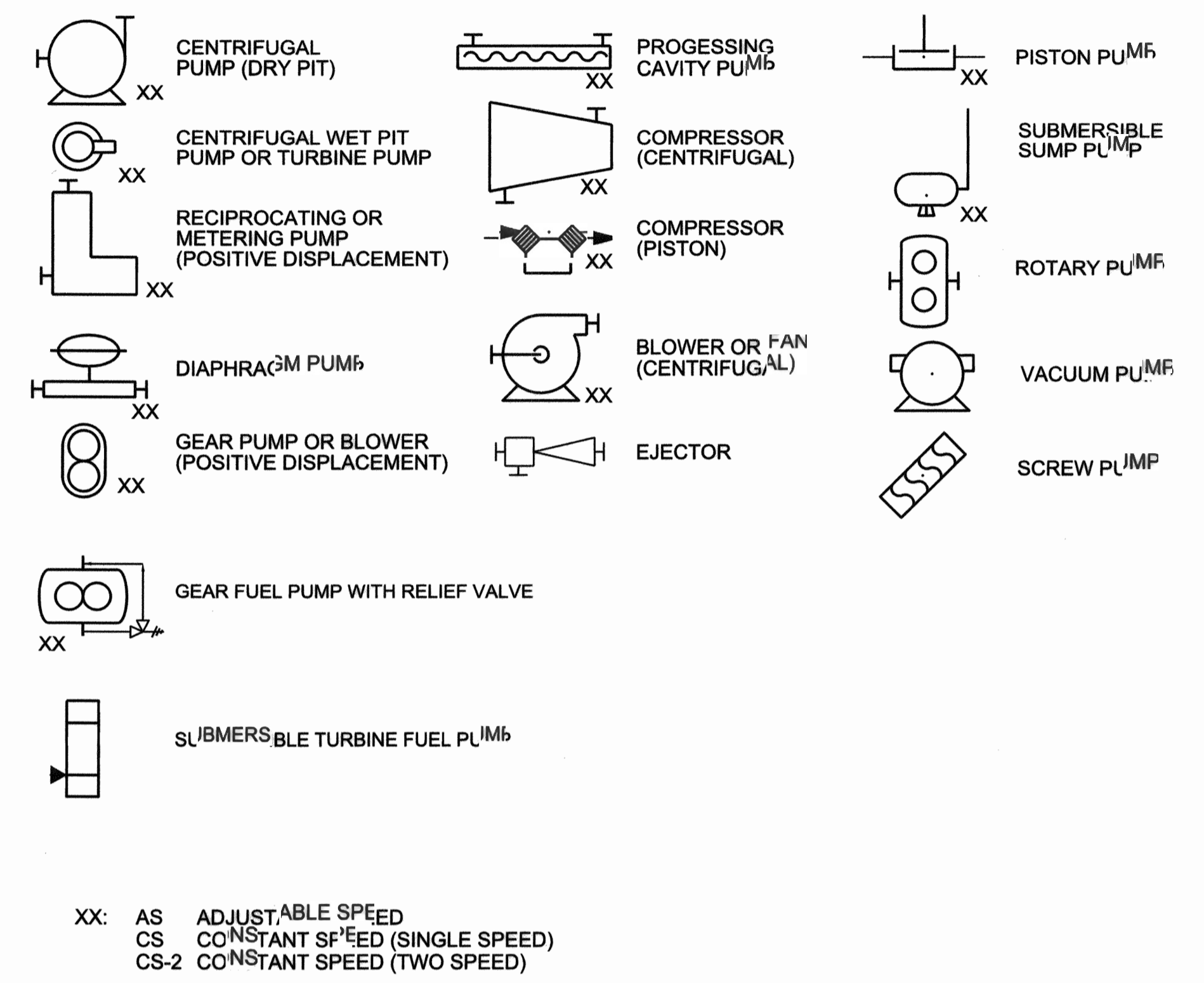
PRIMARY ELEMENT SYMBOLS



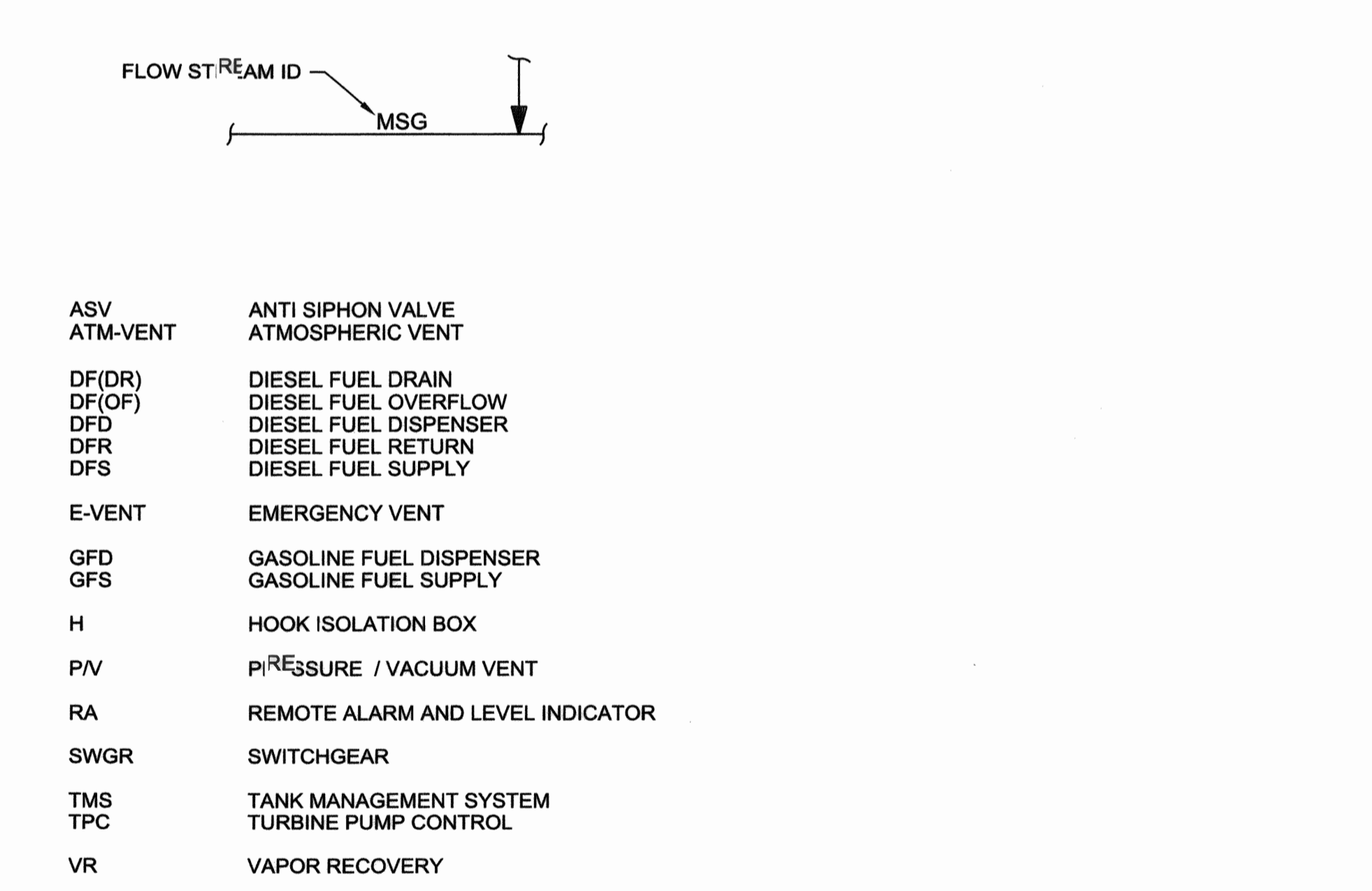
MISCELLANEOUS SYMBOLS



PUMP AND COMPRESSOR SYMBOLS



FLOW STREAM IDENTIFICATION AND SPECIAL IDENTIFIERS



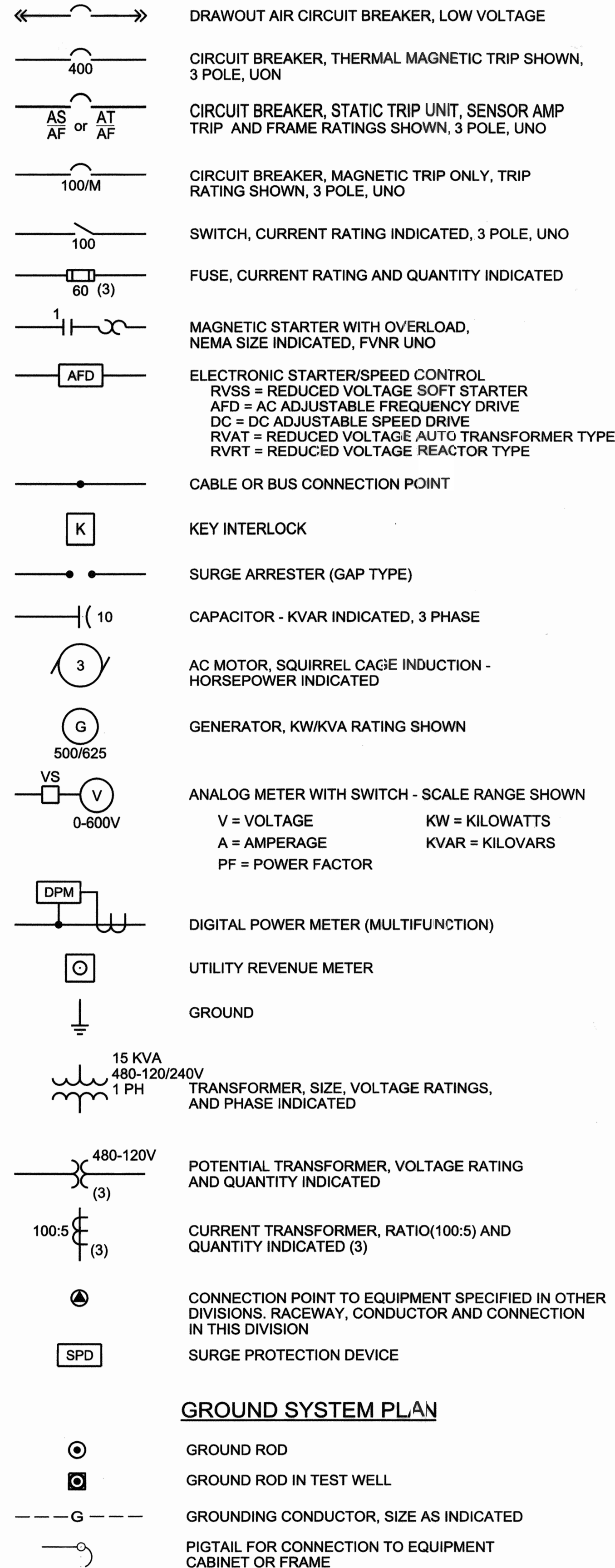
No.	Date	Revision	By

DATE: MAR 16, 2022
CHK BY: S. PARKER
SCALE: AS SHOWN
DWN BY: J. MINOR

City of Santa Rosa
LAGUNA TREATMENT PLANT EMERGENCY GENERATOR FUEL TANK AND FLEET FUELING STATION REPLACE MENT
GENERAL INSTRUMENTATION & CONTROLS LEGEND 2

CONTRACT NO. C02192
DRAWING NO. G6
SHEET 6 OF 22
FILE NO. 2022-0008

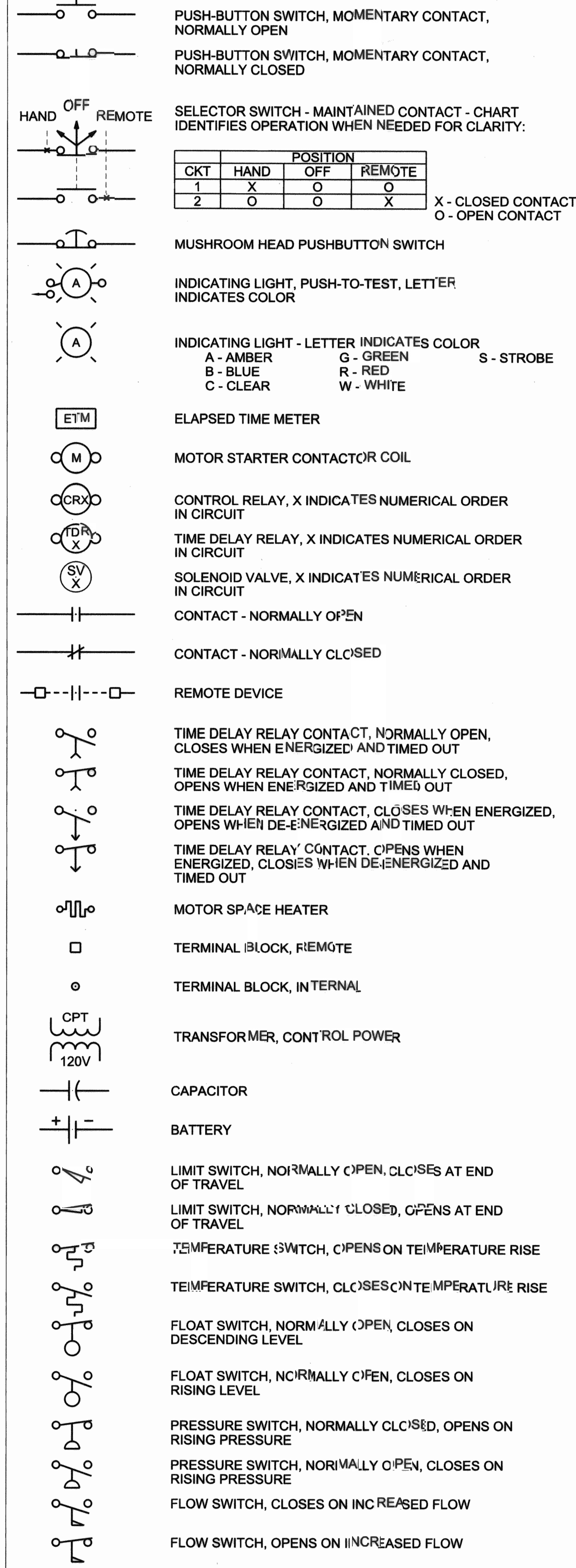
ONE LINE DIAGRAMS



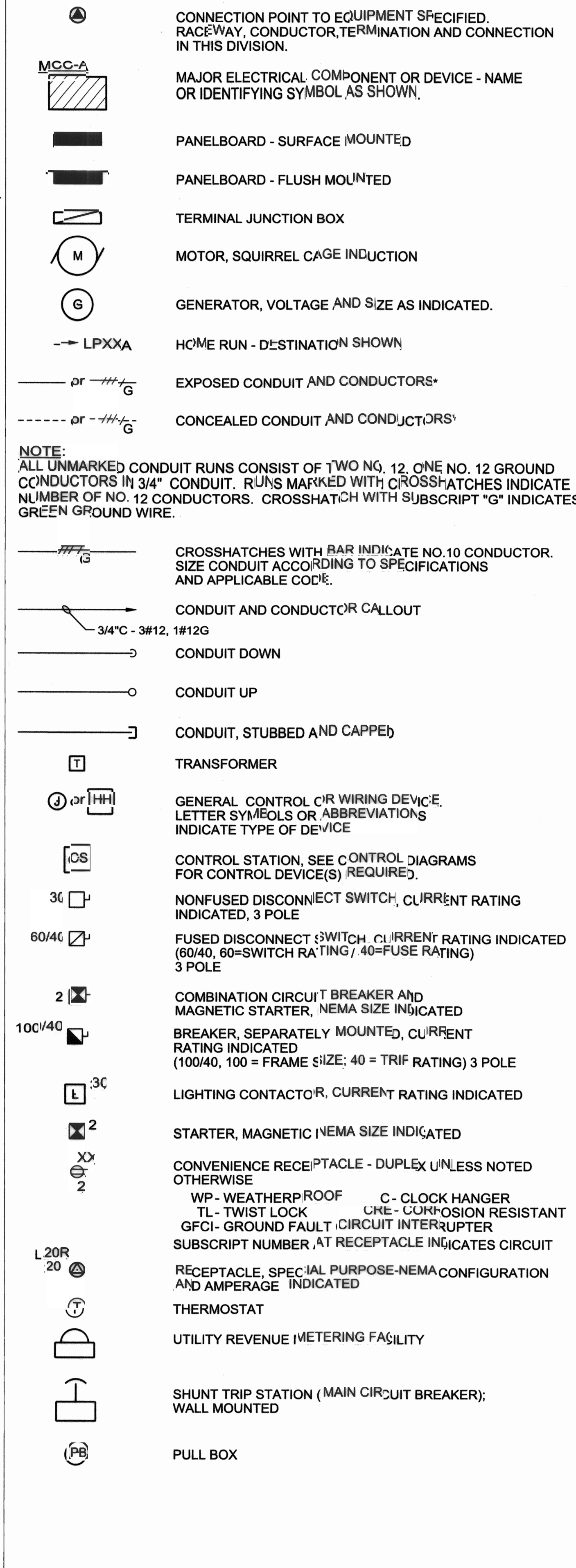
NOTES:

- THESE ARE STANDARD LEGEND SHEETS. SOME SYMBOLS AND ABBREVIATIONS MAY APPEAR ON THE LEGEND AND NOT ON THE DRAWINGS.
- FOR ADDITIONAL ABBREVIATIONS OF OTHER DIVISIONS (HVAC, MECHANICAL, AND STRUCTURAL/ARCHITECTURAL) SEE OTHER LEGENDS.

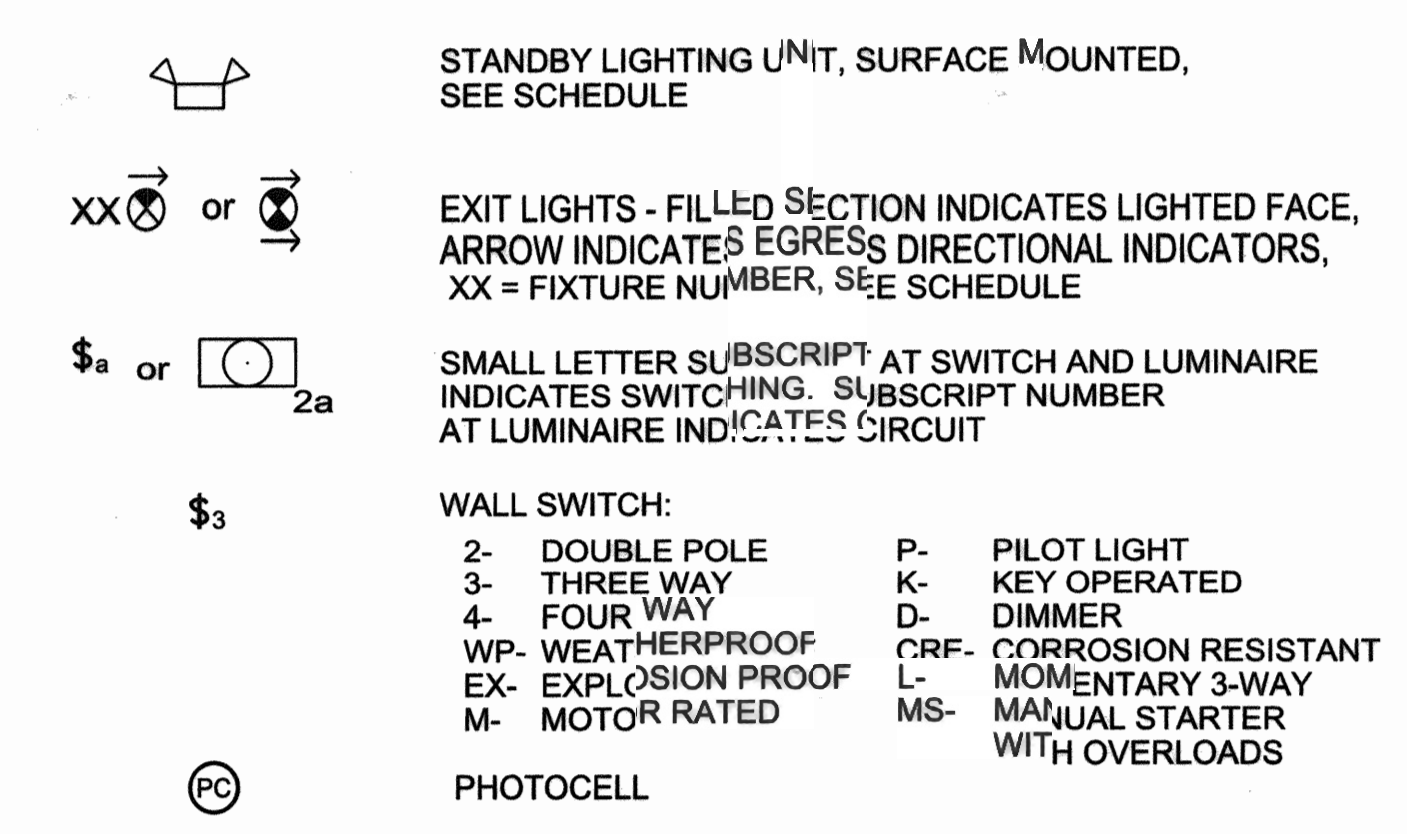
CONTROL DIAGRAMS



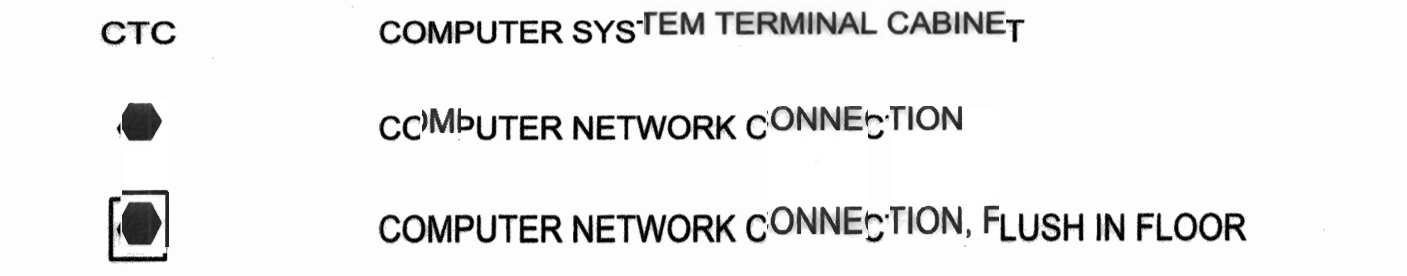
POWER SYSTEM PLAN



LIGHTING SYSTEM PLAN



COMPUTER SYSTEM (DATA) PLAN AND RISER



COMBINED TELEPHONE/COMPUTER SYSTEM PLAN & RISER



ABBREVIATIONS

A	AMPERE, AUTOMATIC	M	MAGNETIC CONTACTOR
AC	ALTERNATING CURRENT	MBA	COIL MOTOR, MANUAL MAIN BUS 'A'
AFF	ABOVE FINISHED FLOOR	MBC	MAIN BUS 'B'
ATS	AUTOMATIC TRANSFER SWITCH	MCC	MOTOR CONTROL CENTER
AR	AS REQUIRED	MD	MOTOR DAMPER
AS	AMP SWITCH	MGB	MAIN GENERATOR BUS
BF	BEAKER	MH	MANHOLE, METAL HALIDE, MOUNTING HEIGHT
BP	BATTERY CHARGER PANEL OR CONDUIT, CONTACTOR, CONDUCTOR, CLOSE	NC	NORMALLY CLOSED
C	CONTROL POWER TRANSFORMER	N.O.	NORMALLY OPEN
CPT	CONTROL RELAY	NTS	NOT TO SCALE
CR	CURRENT TRANSFORMER, CONSTANT TORQUE	OL	OVERLOAD RELAY
CT	CHARGER	PB	PULL BOX, PUSH BUTTON
CHGR	DIRECT CURRENT	PDP	POWER DISTRIBUTION PANEL
DC	DISTRIBUTION PANEL	PT	POWER TRANSFORMER
DP	DRAWING	RGS	RIGID GALVANIZED STEEL CONDUIT
DWG	EMPTY	SS	START STOP
E	EXPLOSION PROOF	SST	STAINLESS STEEL
EX	FUSE	SV	SOLENOID VALVE
F	FREQUENCY	SWBD	SWITCHBOARD
FREQ	FIBER OPTIC	TS	TIME SWITCH
FO	GROUND	TSP	TWISTED SHIELDED PAIR TYPICAL
G	GENERATOR	TYP	TYPICAL
GEN	GROUND FAULT CIRCUIT INTERRUPTER	UON	UNLESS OTHERWISE NOTED
GFCI	GROUND	V	VOLTAGE, VOLTS
GND	GROUND	VFD	VARIABLE FREQUENCY DRIVE
HH	HANDHOLE	W	WATTS
HOA	HAND-OFF-AUTO	WP	WEATHERPROOF
HP	HORSEPOWER	XTR	TRANSFORMER
HS	HAND SWITCH		
HTR	HEATER		
HZ	HERTZ		
IC	INTERRUPTING CAPACITY		
J, JB	JUNCTION BOX		
JW	JACKET WATER		
KA	KILOAMPERES		
KV	KILOVOLT		
KVA	KILOVOLT AMPERES		
KW	KILOWATTS		
LSIG	CIRCUIT BREAKER TRIP FUNCTION		
	L - LONG TIME		
	S - SHORT TIME		
	I - INSTANTANEOUS		
	G - GROUND FAULT		
LP	LIGHTING PANEL		

REFERENCE INSTRUMENTATION LEGEND FOR ABBREVIATIONS NOT LISTED HERE



Jacobs

No.	Date	Revision	By

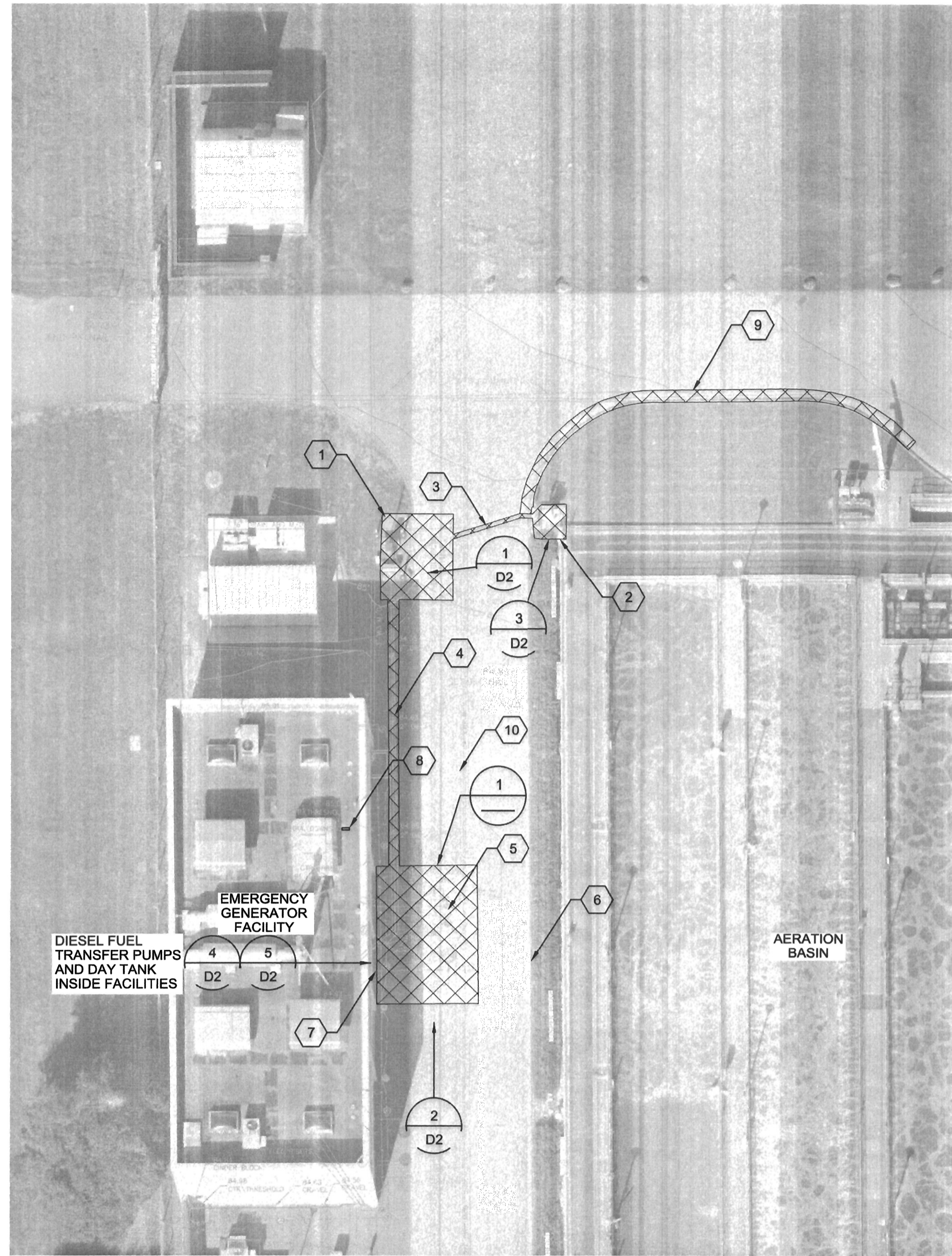
SCALE: AS SHOWN DATE: MAR 16, 2022
DWN BY: J. MINOR CHK BY: S. PARKER

City of Santa Rosa

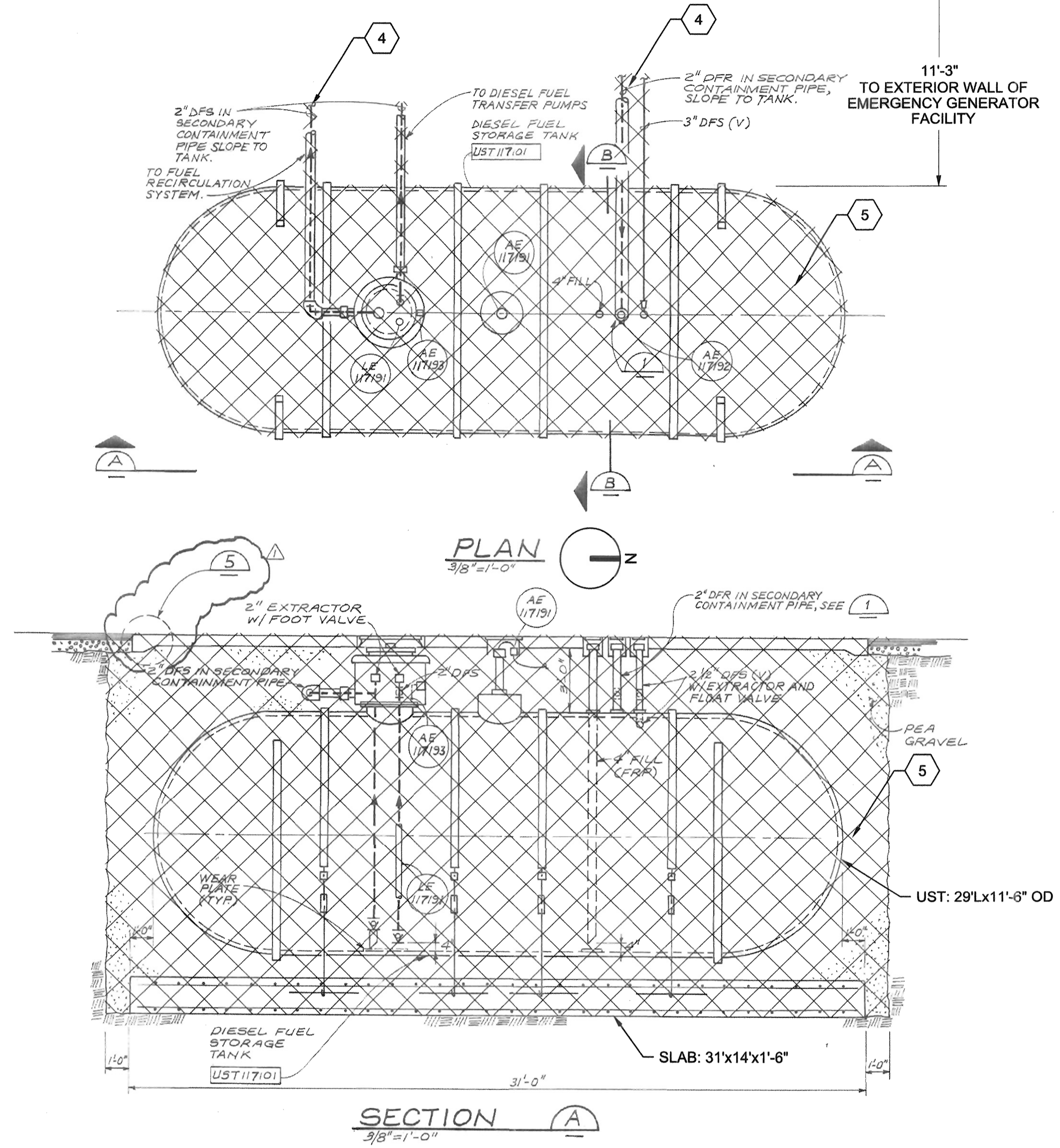
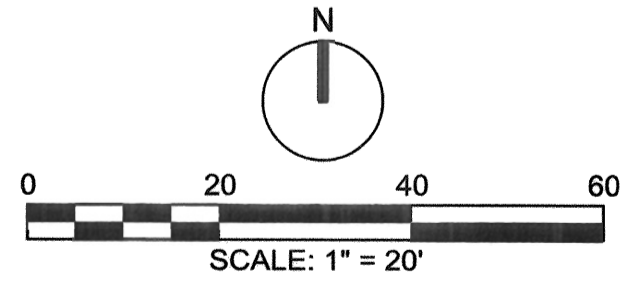
LAGUNA TREATMENT PLANT EMERGENCY GENERATOR FUEL TANK AND FLEET FUELING STATION REPLACEMENT

GENERAL ELECTRICAL LEGEND

CONTRACT NO. C02192
DRAWING NO. G7
SHEET 7 OF 22
FILE NO. 2022-0008



PLAN
1"=20'



1 DIESEL FUEL STORAGE DEMOLITION PLAN
NTS

SHEET KEYNOTES

1. DEMOLISH EXISTING DIESEL FUEL DISPENSING UNIT.
2. PRESERVE IN PLACE ELECTRICAL PANEL LVP-6I-2. DEMOLISH EXISTING DIESEL PUMP DISCONNECT SWITCH AND EMERGENCY STOP SWITCH, CONDUIT AND CONDUCTORS BACK TO LVP-6I-2. SEE NOTE 2 ON DRAWING D2.
3. DEMOLISH EXISTING BELOW-GRADE ELECTRICAL CONDUIT.
4. DEMOLISH EXISTING BELOW-GRADE DIESEL FUEL PIPING.
5. DEMOLISH EXISTING FUEL STORAGE TANK AND APPURTENANCES PER SECTION 02 65 00 - UNDERGROUND STORAGE TANK REMOVAL.
6. DEMOLISH ASPHALT WITHIN LIMITS OF WORK SHOWN ON DRAWING C2. ADJUST AS NEEDED BASED ON IMPACTS ASSOCIATED WITH DEMOLITION OF UNDERGROUND DIESEL FUEL STORAGE TANK.
7. PROVIDE SHORING AS REQUIRED TO PROTECT EXISTING BUILDINGS DURING FUEL STORAGE TANK DEMOLITION.
8. DEMOLISH TANK MONITORING UNIT AND CONDUCTORS INSIDE BUILDING ALONG GENERATOR ROOM NORTH WALL. PRESERVE CONDUIT AND WIRE WAY FOR FUTURE USE. APPROXIMATE LOCATION SHOWN.
9. DEMOLISH CURB ALONG ROAD AND INTERSECTION AS SHOWN.
10. PROTECT EXISTING UTILITIES SHOWN ON DRAWING C2, INCLUDING TELECOM AND DFS IN THE DEMOLITION AREA.



Jacobs

No.	Date	Revision	By

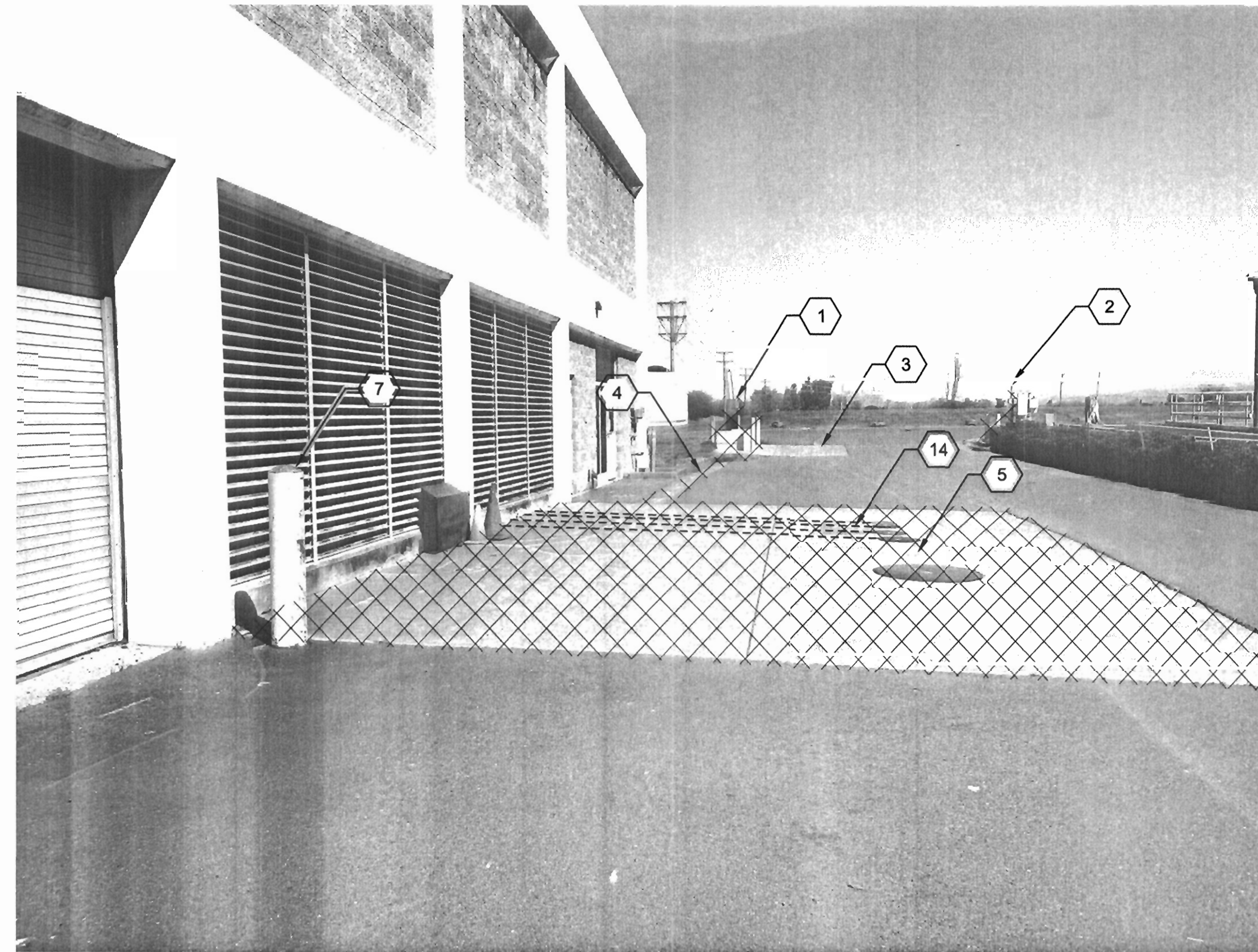
DATE: MAR 16, 2022
 CHK BY: D. ROBILLARD
 SCALE: AS SHOWN
 DWN BY: K. BISHOP
 City of Santa Rosa

City of Santa Rosa
LAGUNA TREATMENT PLANT EMERGENCY GENERATOR FUEL TANK AND FLEET FUELING STATION REPLACEMENT DEMOLITION SITE PLAN

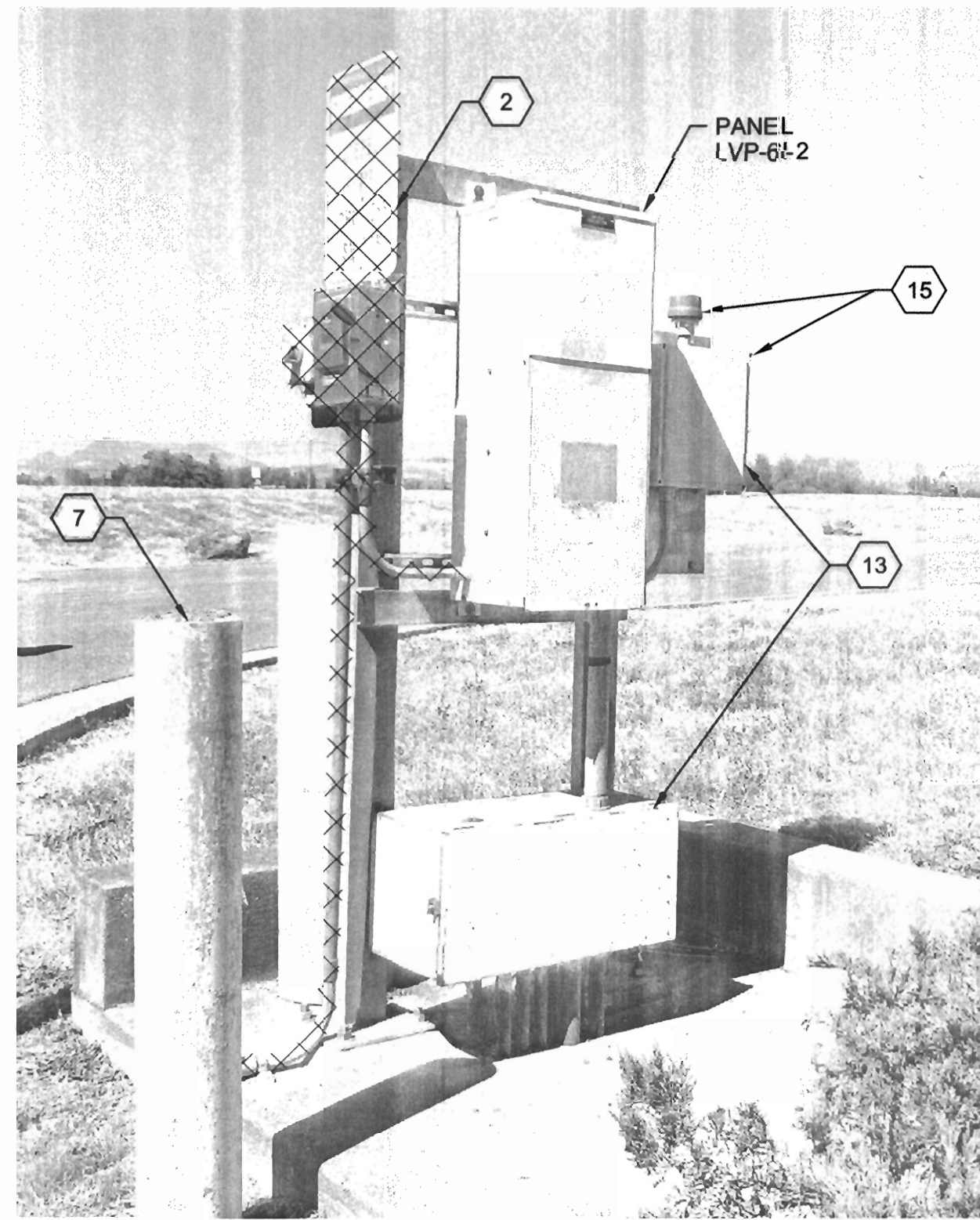
CONTRACT NO. C02192
 DRAWING NO. D1
 SHEET 8 OF 22
 FILE NO. 2022-0008



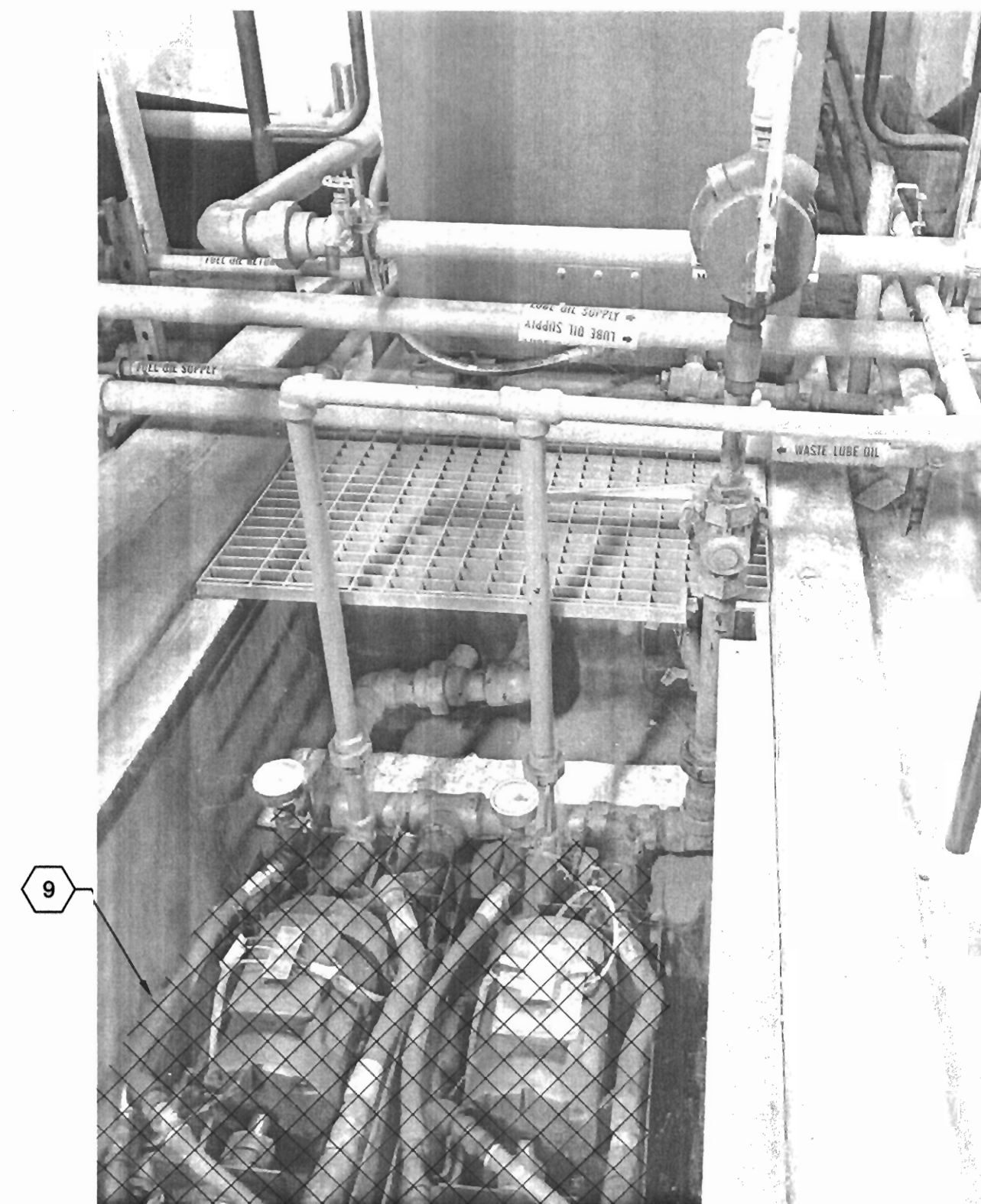
1 PHOTO
NTS
D1



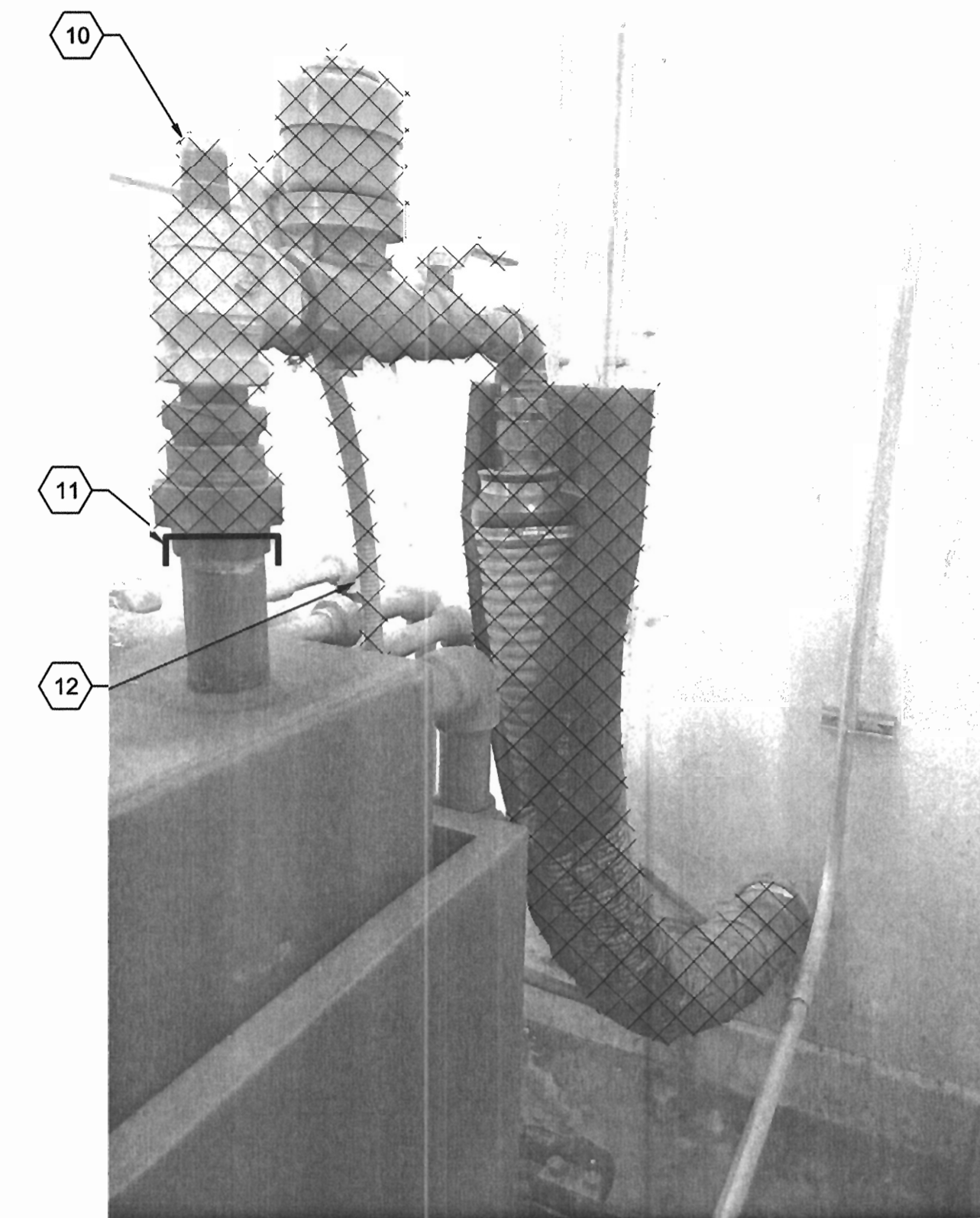
2 PHOTO
NTS
D1



3 PHOTO
NTS
D1



4 PHOTO
NTS
D1



5 PHOTO
NTS
D1

SHEET KEYNOTES

1. DEMOLISH EXISTING DIESEL FUEL DISPENSING UNIT AND APPURTENANCES.
2. PRESERVE IN PLACE ELECTRICAL PANEL LVP-6-2. DEMOLISH CONDUIT AND CONDUCTORS FOR - EXISTING DIESEL PUMP DISCONNECT SWITCH, EMERGENCY STOP SWITCH, BACKING PLATE, AND CONDUIT SUPPORT. PROVIDE BLANKING PLUGS WHERE CONDUIT IS REMOVED FROM ELECTRICAL PANEL.
3. DEMOLISH EXISTING BELOW-GRADE ELECTRICAL CONDUIT. DEMOLITION OF CONDUIT AND ASPHALT PAVING LIMITS NOT SHOWN IN PHOTO FOR CLARITY.
4. DEMOLISH EXISTING BELOW-GRADE DIESEL FUEL PIPING.
5. REMOVE EXISTING FUEL STORAGE TANK AND APPURTENANCES. SEE NOTE 6 ON DWG D1.
6. DEMOLISH EXISTING BOLLARDS IN-PLACE.
7. PROTECT EXISTING BOLLARD IN-PLACE.
8. DEMOLISH ABOVE GROUND 3/4" HORIZONTAL CONDUIT FROM GASBOY INCLUDING GAS SEAL, TO UNDERGROUND, CAP UNDERGROUND CONDUIT AND PRESERVE FOR FUTURE USE, AS SHOWN ON ELECTRICAL DRAWINGS.
9. DEMOLISH DIESEL FUEL PUMPS AND PUMP COMPONENTS UP TO BALL VALVES.
10. DEMOLISH UNION, ANTI SYPHON VALVE, SOLENOID VALVE, ISOLATION BALL VALVE, PIPE, FLEXIBLE PIPE, AND CONTAINMENT PIPE WITH INSULATION FROM FUEL DAY TANK TO JUST OUTSIDE OF EXTERIOR BUILDING.
11. PROVIDE CAP TO SUCTION PIPE ON FUEL DAY TANK.
12. DEMOLISH FLEX CONDUIT TO WALL MOUNTED JOCK AND CAP CONDUIT ENTRY, DEMOLISH ELECTRICAL CONDUCTORS FROM SOLENOID VALVE TO SOURCE.
13. PRESERVE IN PLACE.
14. DEMOLISH TANK MONITORING CABLES TO TANK MONITORING UNIT INSIDE BUILDING SEE DWG D1. SAW CUT CONDUITS THAT ENTERS BUILDING FOR FUTURE CONDUIT EXTENSION, SEE DWG E3.
15. SEE NOTE 10 ON DWG E2.



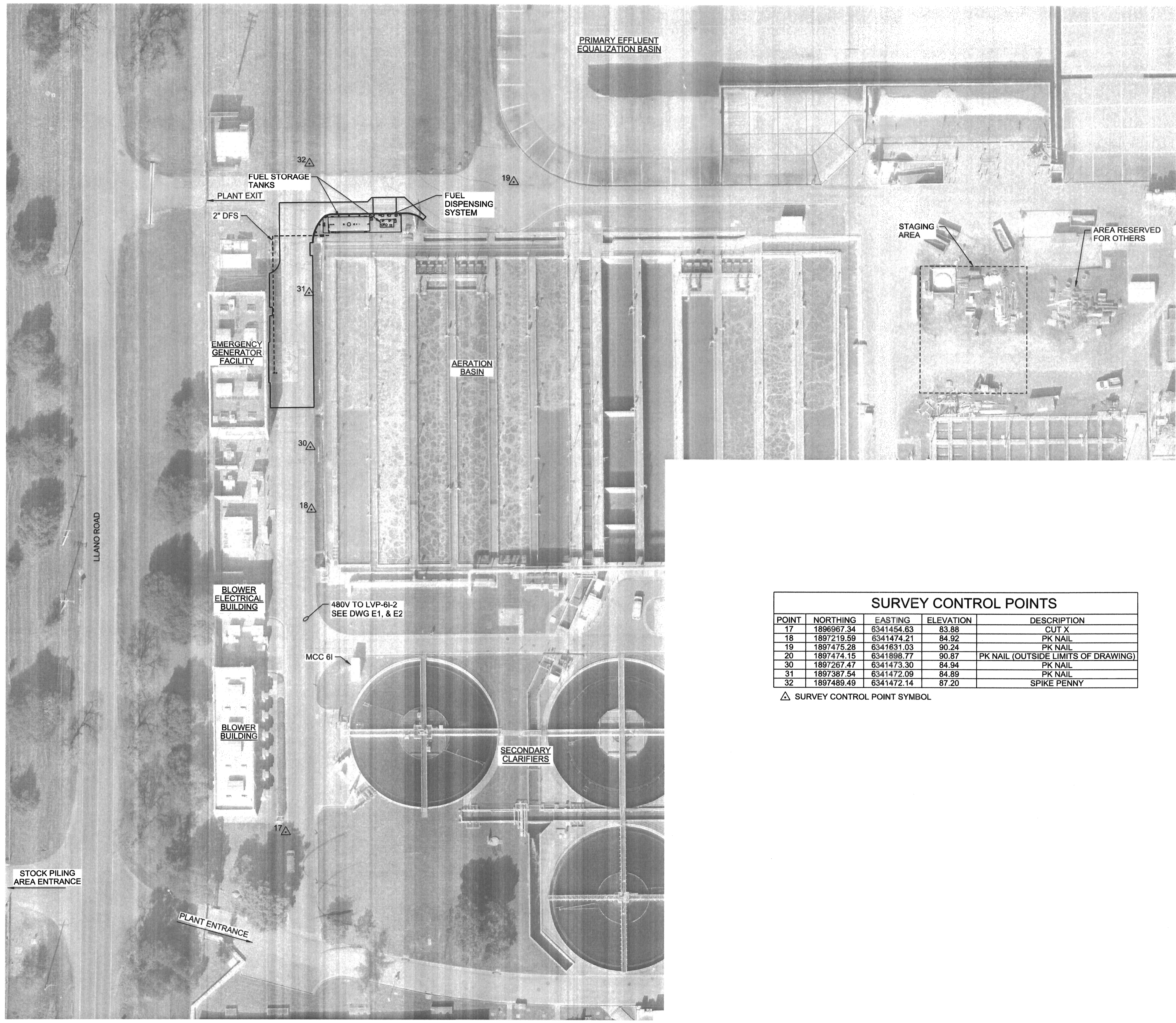
Jacobs

DATE: MAR 16, 2022
CHK BY: D. ROBILLARD



City of Santa Rosa
LAGUNA TREATMENT PLANT EMERGENCY GENERATOR FUEL TANK AND FLEET FUELING STATION REPLACEMENT DEMOLITION PHOTOS

CONTRACT NO. C02192
DRAWING NO. D2
SHEET 9 OF 22
FILE NO. 2022-0008



POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
17	1896967.34	6341454.63	83.88	CUT X
18	1897219.59	6341474.21	84.92	PK NAIL
19	1897475.28	6341631.03	90.24	PK NAIL
20	1897474.15	6341896.77	90.87	PK NAIL (OUTSIDE LIMITS OF DRAWING)
30	1897267.47	6341473.30	84.94	PK NAIL
31	1897387.54	6341472.09	84.89	PK NAIL
32	1897489.49	6341472.14	87.20	SPIKE PENNY

△ SURVEY CONTROL POINT SYMBOL

SURVEY CONTROL NOTES:

1. SITE TOPOGRAPHIC SURVEY PERFORMED BY CITY OF SANTA ROSA ON AUGUST 12, 2020.
2. BASIS OF BEARINGS: CITY OF SANTA ROSA HORIZONTAL CONTROL NETWORK: NAD83 - ZONE 2 - EPOCH 1991.35 UNITS: SURVEY FEET.
3. BASIS OF ELEVATIONS: ELEVATIONS BASED ON BENCHMARK "BM", ELEVATION 90.58 FEET, NGVD 29. SEE CITY FILE NUMBER 1994-0060.
4. MAINTAIN, RELOCATE, OR REPLACE EXISTING SURVEY CONTROL MONUMENTS, CONTROL POINTS, AND STAKES WHICH ARE DISTURBED OR DESTROYED. PERFORM THE WORK TO PRODUCE THE SAME LEVEL OF ACCURACY AS THE ORIGINAL MONUMENT(S) IN A TIMELY MANNER, AND AT THE CONTRACTOR'S EXPENSE.



Jacobs

GENERAL SITE NOTES:

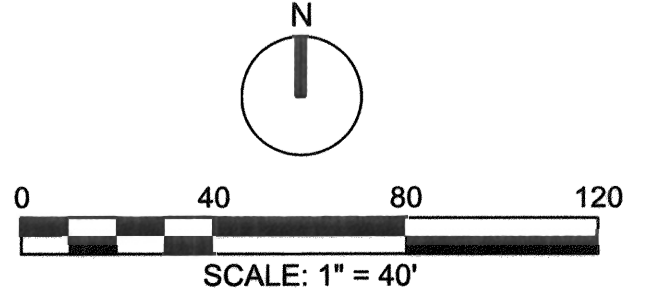
1. STAGING AREA SHALL BE FOR CONTRACTOR'S EMPLOYEE PARKING, CONTRACTOR'S TRAILERS AND ON-SITE STORAGE OF MATERIALS. STAGING BEYOND LIMITS DEPICTED REQUIRES CITY APPROVAL.
2. ELEVATIONS GIVEN ARE TO FINISH GRADE UNLESS OTHERWISE SHOWN.
3. SLOPE UNIFORMLY BETWEEN CONTOURS AND SPOT ELEVATIONS SHOWN.
4. ALL DISTURBED AREAS NOT RECEIVING A HARD SURFACE SHALL BE COVERED WITH GRASS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION CONTROL DEVICES DURING CONSTRUCTION.
6. CONTRACTOR SHALL TAKE ALL OTHER MEASURES TO POSITIVELY PRECLUDE EROSION MATERIALS FROM LEAVING THE SITE. CONTRACTOR TO SUBMIT EROSION CONTROL PLAN.
7. ALL STOCKPILES OF CONTAMINATED/SUSPECT SOIL SHALL BE STORED ON BERMED PLASTIC AND COVERED AT THE COMPOST FACILITY ACROSS THE STREET FROM THE LTP. CONTRACTOR TO COORDINATE WITH THE CITY AND REFER TO SECTION 01 31 13, PROJECT COORDINATION.

PIPING AND UTILITY NOTES:

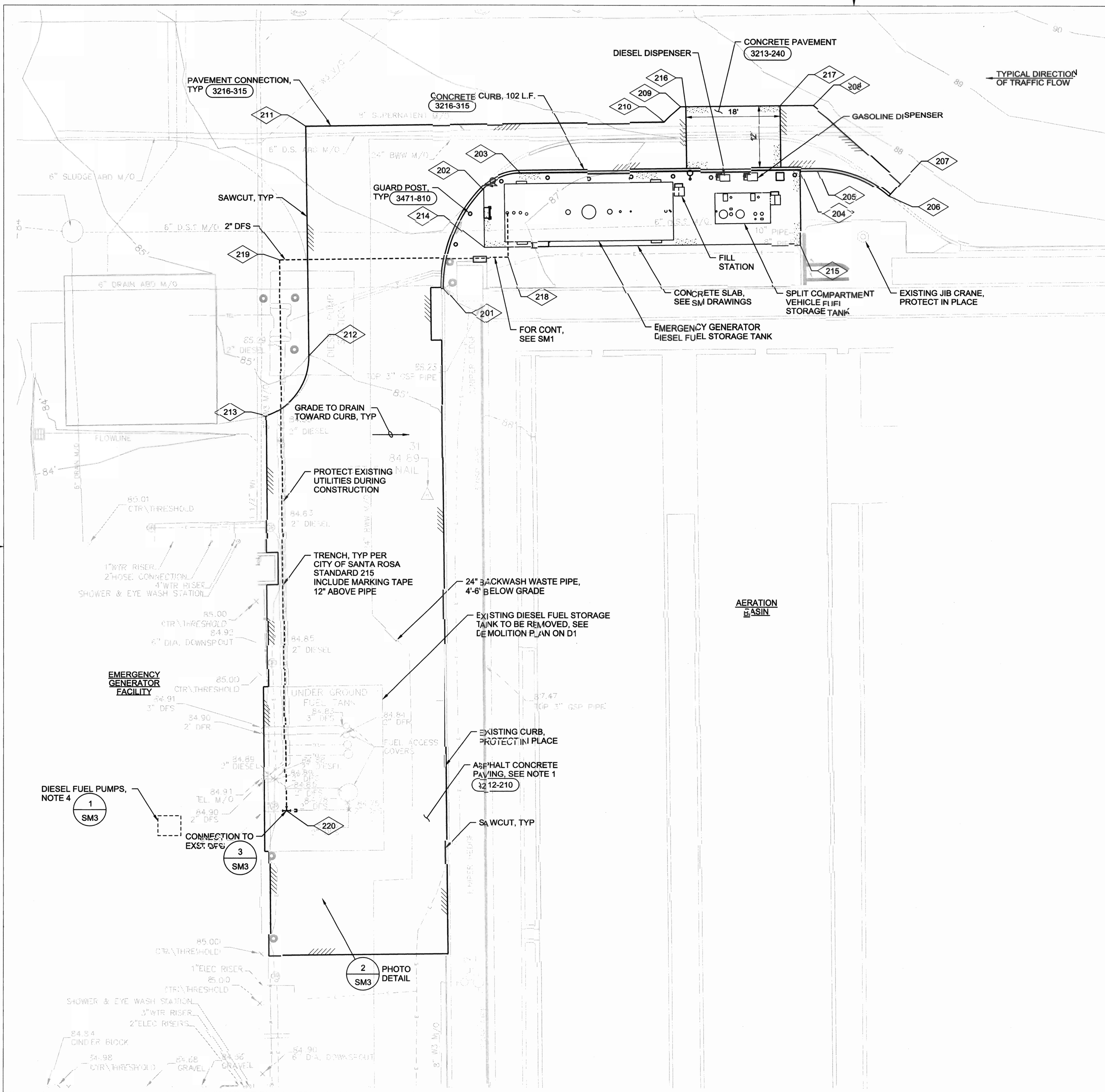
1. EXISTING UNDERGROUND UTILITIES OBTAINED FROM AS-BUILTS AND FROM FIELD SURVEY. CONTRACTOR SHALL FIELD VERIFY DEPTH AND LOCATION PRIOR TO EXCAVATION. PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION. SEE DRAWING C2 FOR UTILITY LOCATIONS.
2. EXISTING PIPING AND EQUIPMENT ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW PIPING AND EQUIPMENT ARE SHOWN HEAVY LINED.
3. ALL PIPES SHALL HAVE A CONSTANT SLOPE BETWEEN INVERT ELEVATIONS UNLESS A FITTING IS SHOWN.
4. MINIMUM ALLOWABLE CLEARANCE BETWEEN PIPES AT CROSSING SHALL BE 3". CONTROLLED LOW-STRENGTH FILL SUPPORT IS REQUIRED AS SHOWN ON (3123-120).

DATE: MAR 16, 2022
 CHK BY: T. HOWARD
 City of Santa Rosa
 SCALE: AS SHOWN
 DWN BY: K. BISHOP

City of Santa Rosa
LAGUNA TREATMENT PLANT EMERGENCY GENERATOR FUEL TANK AND FLEET FUELING STATION REPLACEMENT
 CIVIL
OVERALL SITE, PIPING AND SURVEY CONTROL PLAN



CONTRACT NO. C02192
 DRAWING NO. C1
 SHEET 10 OF 22
 FILE NO. 2022-0008

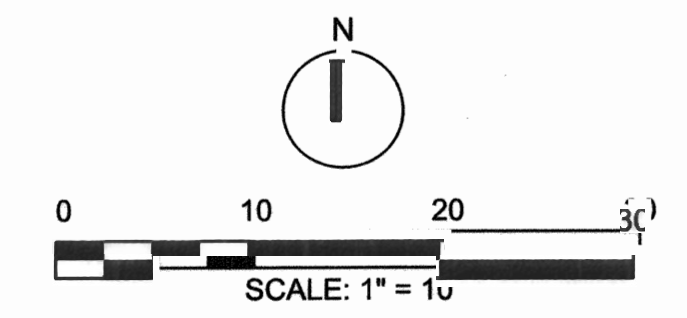


NOTES:

1. ADJUST FINAL LIMITS OF PAVING BASED ON IMPACTS ASSOCIATED WITH DEMOLITION OF DIESEL FUEL STORAGE TANK.
2. FOR CONSTRUCTION SEQUENCING REFERENCE, SEE SECTION PROJECT COORDINATION IN SPECIFICATIONS.
3. NEW DFS PIPING SHALL MAKE CONNECTION TO EXISTING DFS PIPING AT WEST END OF EMERGENCY GENERATOR FACILITY.
4. DIESEL FUEL PUMPS ARE LOCATED INSIDE THE EMERGENCY GENERATOR FACILITY NEAR THE EXISTING DAY TANK.

POINT NO.	DESCRIPTION	NGRTHING	EASTING	FG ELEVATION
201	TBC, PC, R=27.5', MATCH EXISTING	1897427.47	6341475.22	86.00 +/-
202	TBC, PCC, R1=27.5', R2=10'	1897446.62	6341482.69	86.36
203	TBC, PT	1897449.77	6341482.83	86.80
204	TBC, CORNER OF SLAB	1897450.50	6341542.33	87.57
205	TBC, PC, R=20'	1897450.55	6341542.71	87.62
206	TBC, PT, MATCH EXISTING	1897445.47	6341562.30	87.84 +/-
207	SAWCUT ANGLE POINT, MATCH EXISTING	1897448.09	6341562.63	87.63 +/-
208	SAWCUT ANGLE POINT, MATCH EXISTING	1897463.04	6341545.87	87.88 +/-
209	SAWCUT ANGLE POINT, MATCH EXISTING	1897462.69	6341522.49	87.39 +/-
210	SAWCUT ANGLE POINT, MATCH EXISTING	1897459.54	6341517.35	87.21 +/-
211	SAWCUT ANGLE POINT, MATCH EXISTING	1897458.67	6341446.83	86.35 +/-
212	EDGE OF PAVEMENT, PC, R=12'	1897414.46	6341442.44	84.99
213	EDGE OF PAVEMENT, PT, MATCH EXISTING	1897402.94	6341441.32	84.40 +/-
214	CORNER OF SLAB	1897435.32	6341482.99	86.91
215	CORNER OF SLAB	1897436.15	6341542.53	87.86
216	CORNER OF CONCRETE PAVEMENT, MATCH EXISTING	1897462.70	6341521.49	87.41 +/-
217	CORNER OF CONCRETE PAVEMENT, MATCH EXISTING	1897462.95	6341532.49	87.61 +/-
218	DFS 90 DEGREE BEND	1897433.38	6341487.51	82.55*
219	DFS 90 DEGREE BEND	1897432.81	6341443.83	82.33*
220	DFS AT TEE, CONNECT TO EXISTING	1897326.69	6341445.22	81.30 +/-

*ELEVATION TO INVERT OF CARRIER PIPE.
ADJUST AS NEEDED TO MAINTAIN A MINIMUM OF -0.005 FT/FT SLOPE.



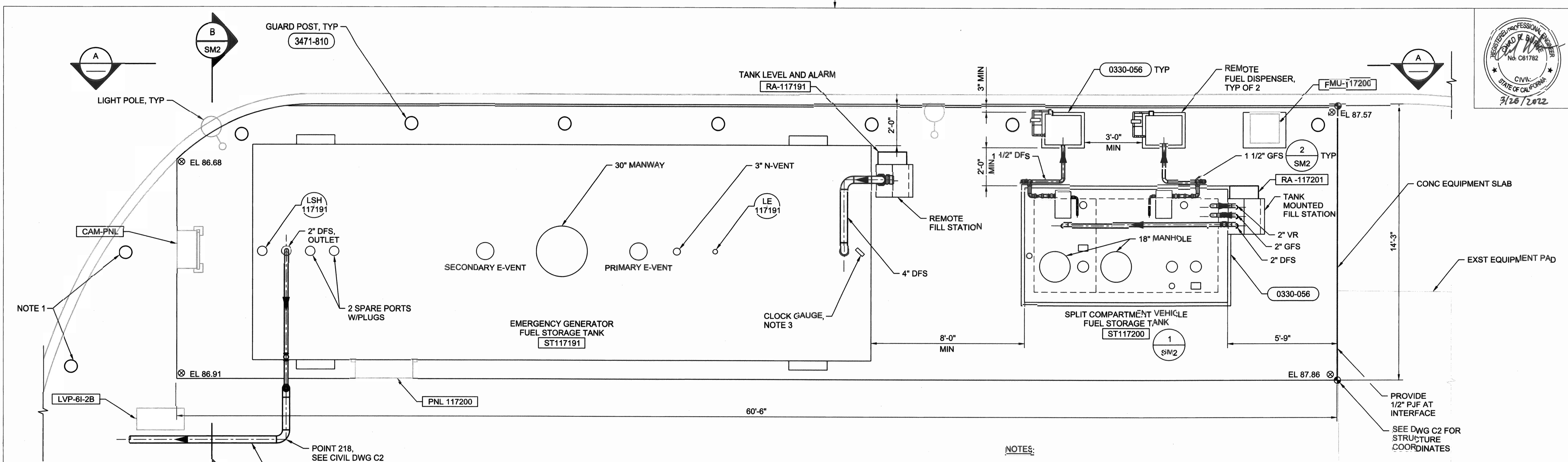
Jacobs

No.	Date	By

DATE: MAR 16, 2022
 SCALE: AS SHOWN
 DWN BY: K. BISHOP
 CHK BY: T. HOWARD
 City of Santa Rosa

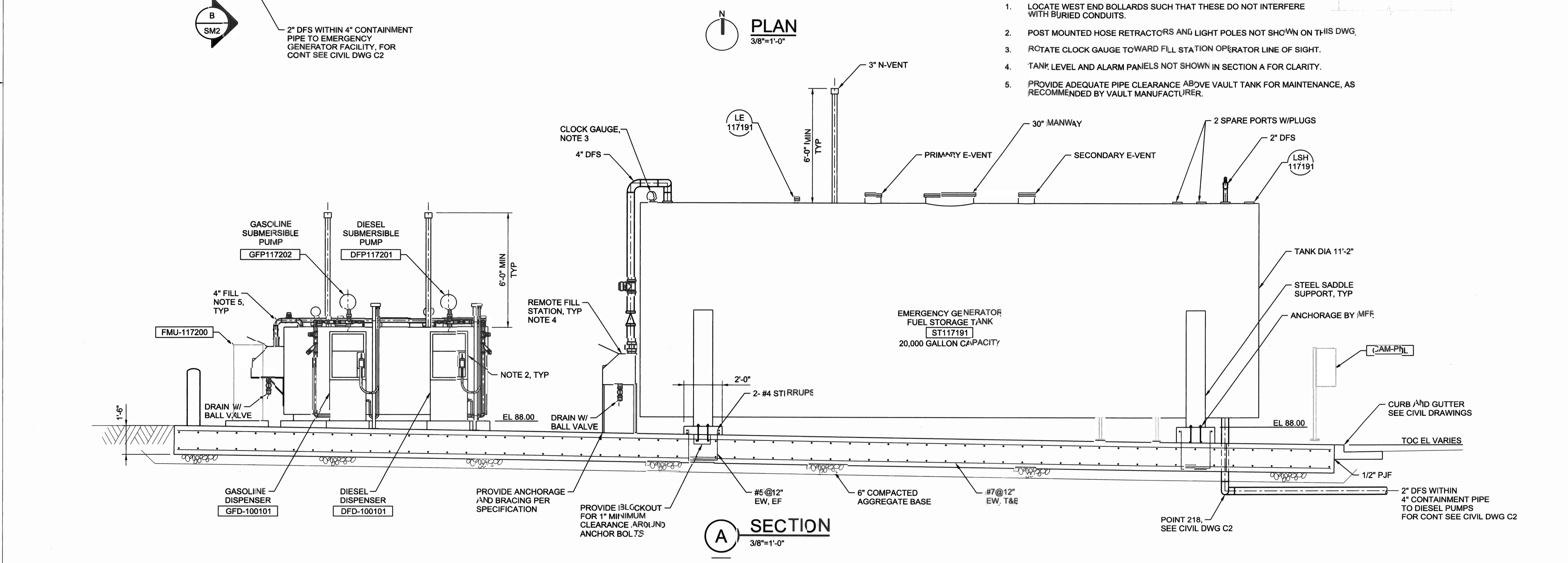
City of Santa Rosa
LAGUNA TREATMENT PLANT EMERGENCY GENERATOR FUEL TANK AND FLEET FUELING STATION REPLACEMENT
CIVIL
SITE AND YARD PIPING PLAN

CONTRACT NO. C02192
 DRAWING NO. C2
 SHEET 11 OF 22
 FILE NO. 2022-0008

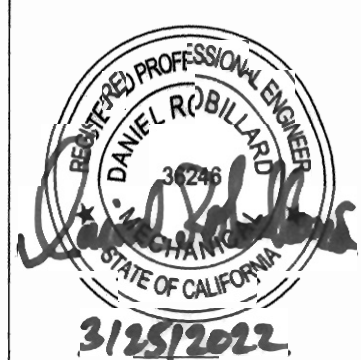


PLAN
3/8"=1'-0"

- NOTES:**
1. LOCATE WEST END BOLLARDS SUCH THAT THESE DO NOT INTERFERE WITH BURIED CONDUITS.
 2. POST MOUNTED HOSE RETRACTORS AND LIGHT POLES NOT SHOWN ON THIS DWG.
 3. ROTATE CLOCK GAUGE TOWARD FILL STATION OPERATOR LINE OF SIGHT.
 4. TANK LEVEL AND ALARM PANELS NOT SHOWN IN SECTION A FOR CLARITY.
 5. PROVIDE ADEQUATE PIPE CLEARANCE ABOVE VAULT TANK FOR MAINTENANCE, AS RECOMMENDED BY VAULT MANUFACTURER.



SECTION A
3/8"=1'-0"



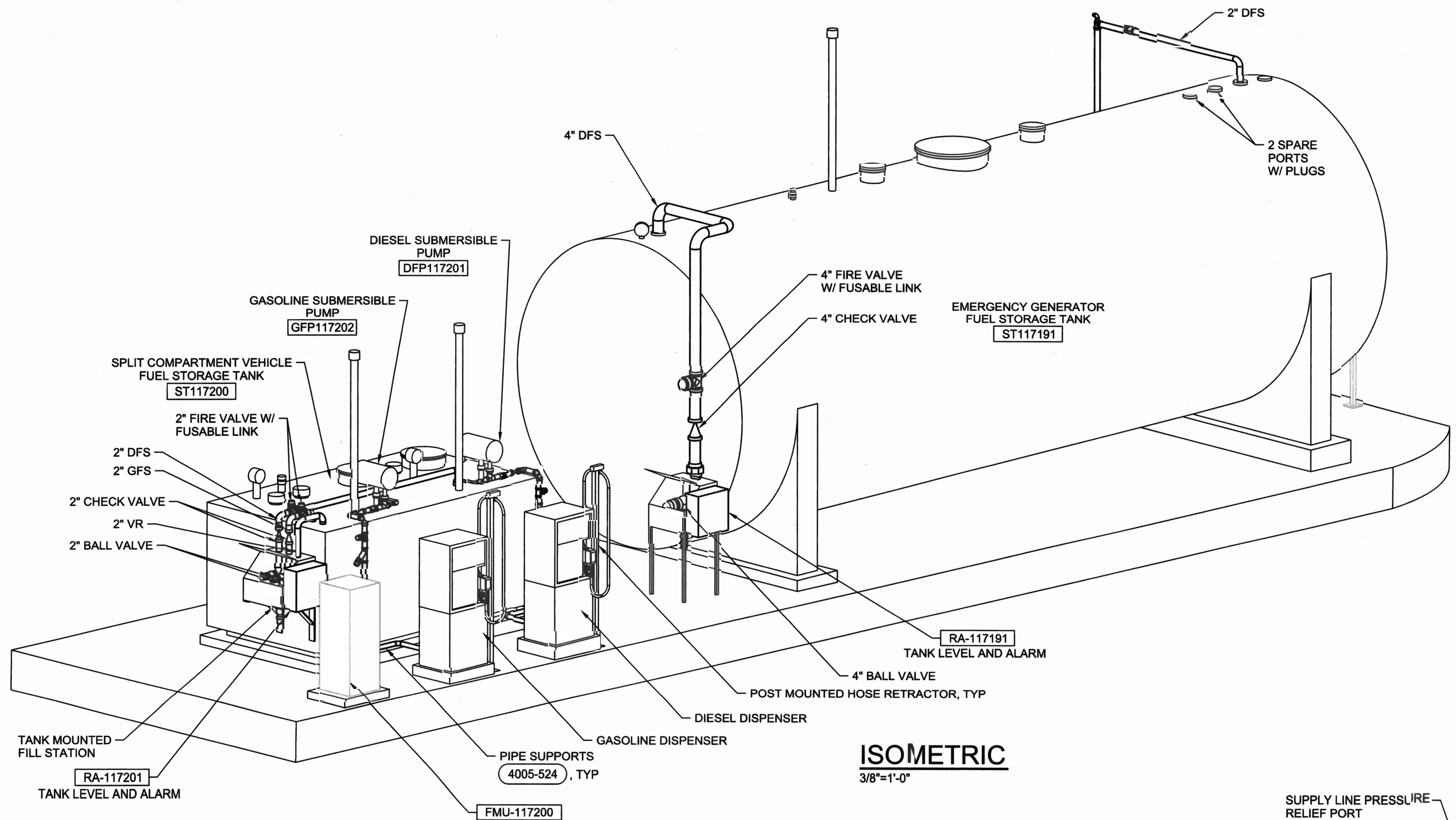
Jacobs

No.	Date	Revision	By

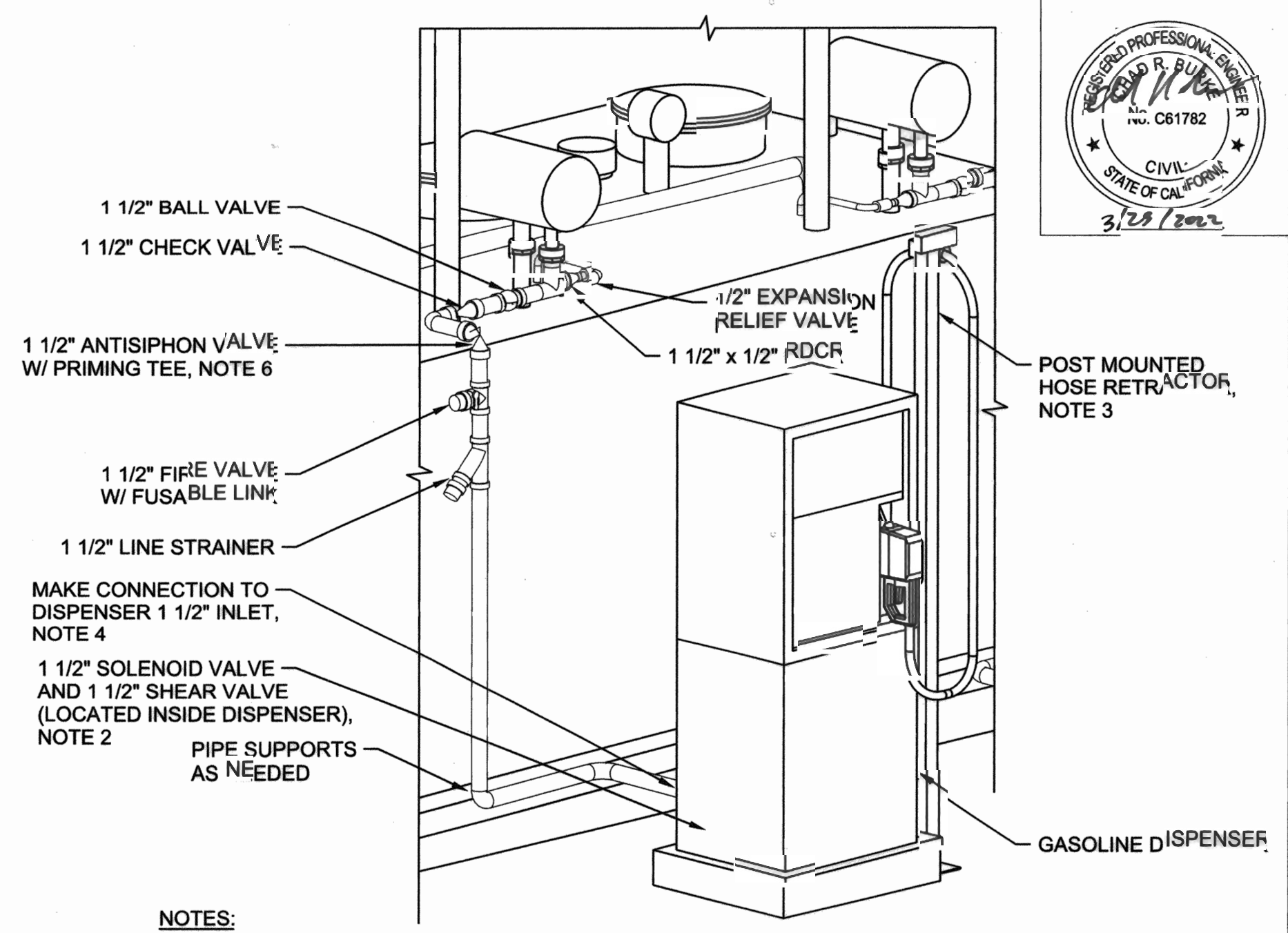
DATE: MAR 16, 2022
 CHK BY: D. ROBILARD
 SCALE: AS SHOWN
 DWN BY: J. MINOR
 City of Santa Rosa

City of Santa Rosa
LAGUNA TREATMENT PLANT EMERGENCY GENERATOR FUEL TANK AND FLEET FUELING STATION REPLACEMENT STRUCTURAL/MECHANICAL FUEL SYSTEM PLAN AND SECTION

CONTRACT NO. C02192
 DRAWING NO. SM1
 SHEET 12 OF 22
 FILE NO. 2022-0008



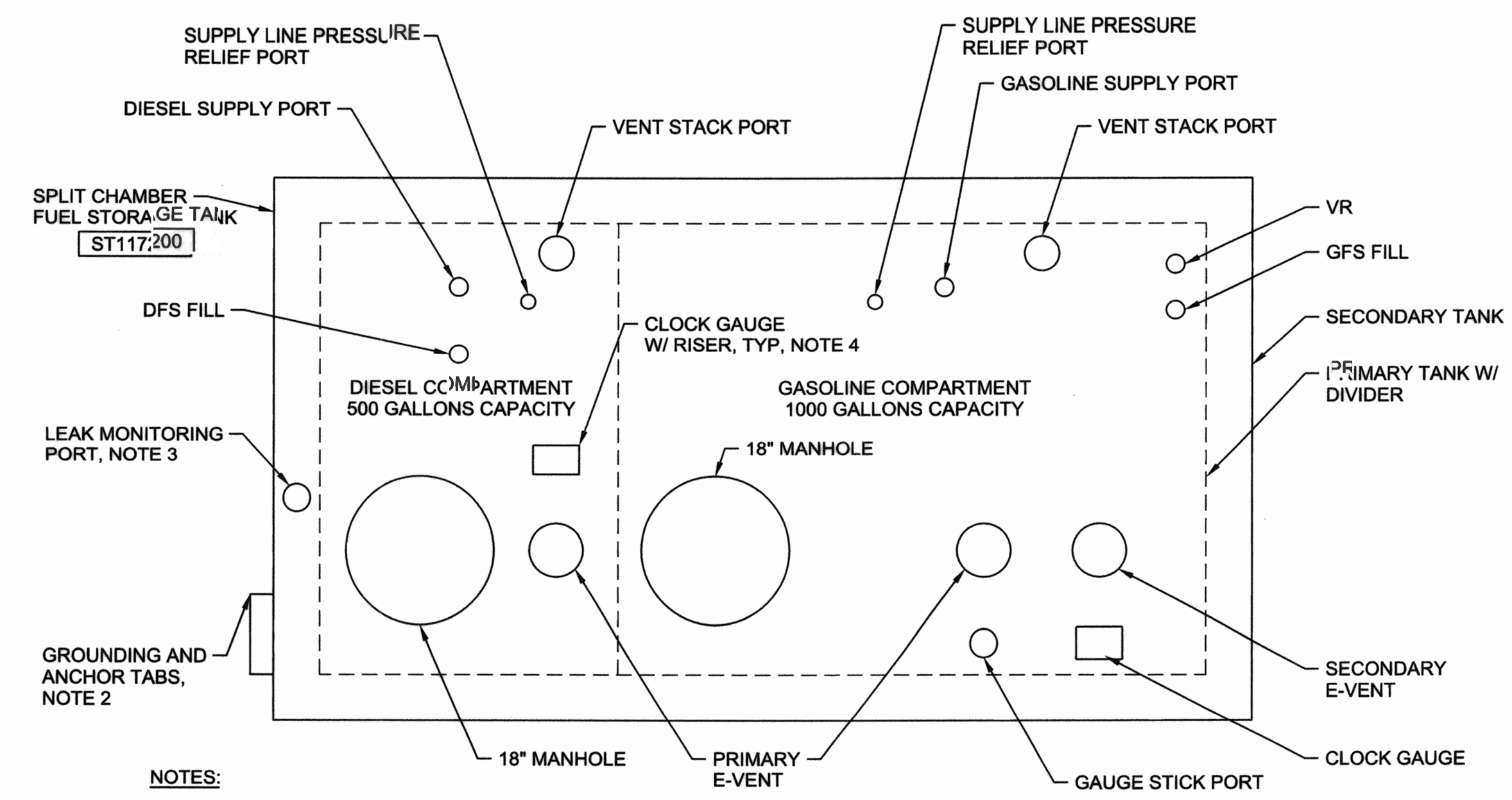
ISOMETRIC
3/8"=1'-0"



NOTES:

- SUPPLY LINE VALVE LOCATIONS SIMILAR FOR DIESEL SIDE OF SPLIT COMPARTMENT VEHICLE FUEL STORAGE TANK.
- COORDINATE SHEAR VALVE INSTALLATION INSIDE DISPENSER PEDESTAL WITH DISPENSER MANUFACTURER. INSTALL SOLENOID WITHIN DISPENSER UNIT TO ALLOW EASE OF MAINTENANCE.
- INSTALL, ANCHOR AND LOCATE POST MOUNTED HOSE RETRACTOR PER MANUFACTURERS INSTRUCTION.
- TANK MANUFACTURERS SHALL PROVIDE PIPE SUPPORT TANK TABS FOR ADJACENT PIPING.
- INSTALLATION PROVIDED BY CONTRACTOR.
- FUEL LINE PRIMING SHALL BE ACHIEVED BY UTILIZING A HAND PUMP OR PRIMING PUMP. COORDINATE PRIMING UNIT CONNECTION WITH PRIMING TEE MANUFACTURER.

2 **DETAIL**
3/4"=1'-0"
SM1

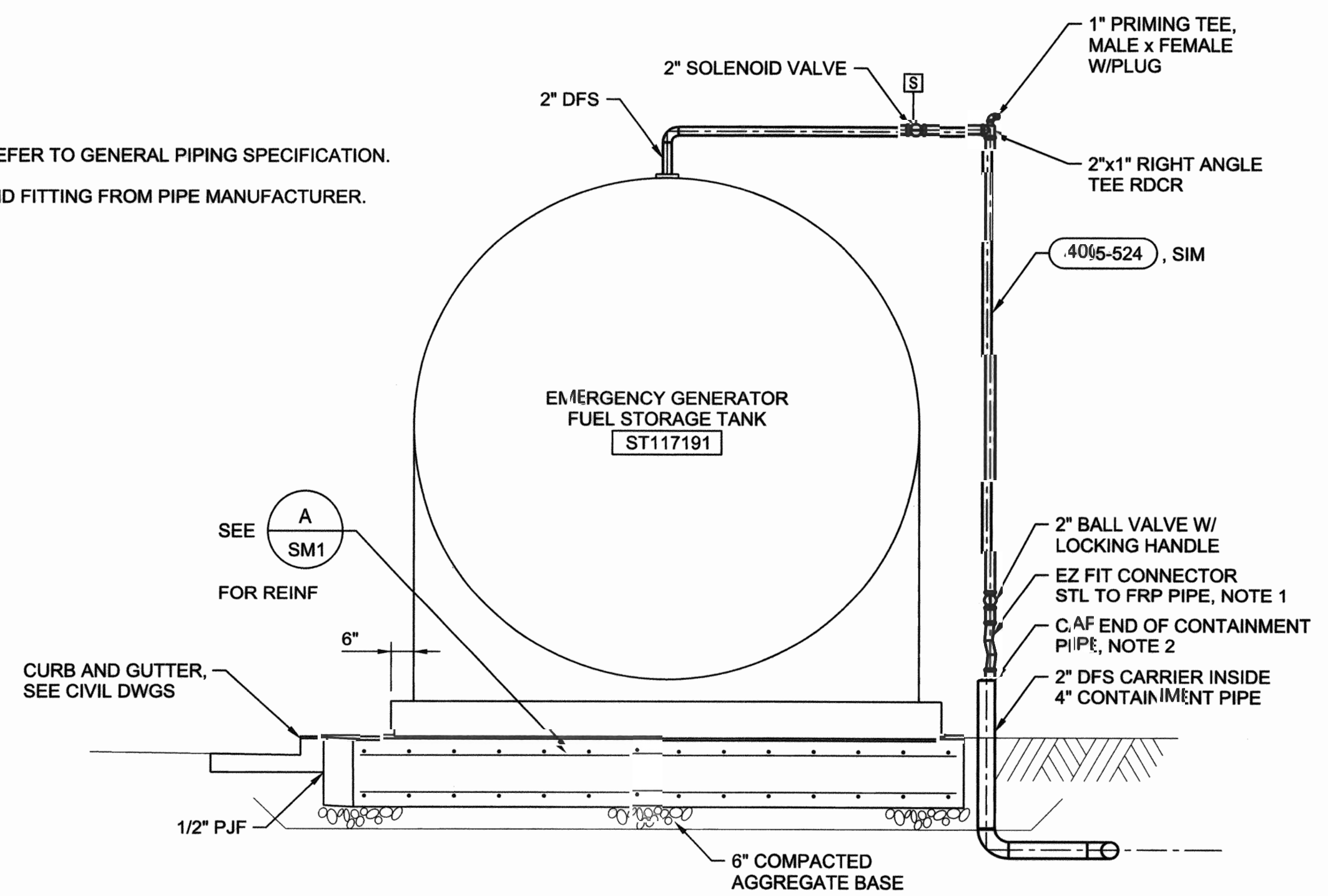


NOTES:

- DETAIL SHOWS GENERAL LAYOUT OF PORTS AND ATTACHMENTS, SEE FUEL STORAGE TANKS SPECIFICATION SECTION FOR REMAINING INFORMATION.
- NUMBER, LOCATION, AND DESIGN OF TABS BY MANUFACTURER, SPARE PORTS NOT SHOWN.
- INTERSTITIAL LEAK MONITORING PORT SHALL BE LOCATED BY MANUFACTURER.
- PROVIDE CLOCK GAUGE WITH RISER EXTENSION FOR EASE OF VISIBILITY TO OPERATOR AT FILL STATION AND FROM THE ROAD. GAUGE LINE OF SIGHT SHALL CLEAR PIPING, TANK NOZZLES, AND OBSTRUCTING EQUIPMENT.

SPLIT COMPARTMENT VEHICLE FUEL TANK PORT AND ATTACHMENTS

1 **DETAIL**
3/4"=1'-0"
SM1



B **SECTION**
3/8"=1'-0"
SM1

- NOTE:**
- FOR FLEXIBLE CONNECTOR REFER TO GENERAL PIPING SPECIFICATION.
 - PROVIDE LEAK PROOF CAP END FITTING FROM PIPE MANUFACTURER.



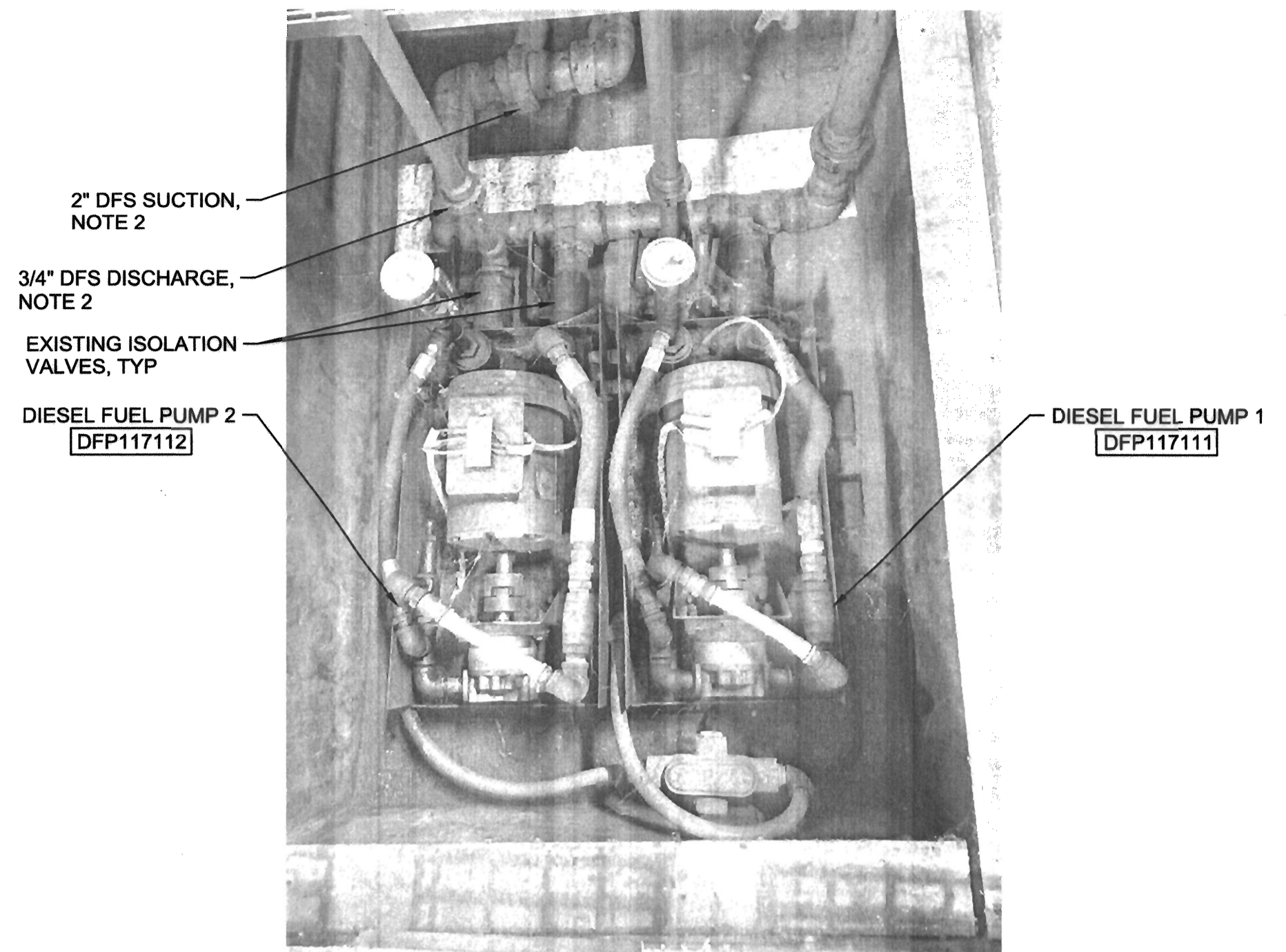
Jacobs

No.	Date	Revision	By

DATE: MAR 16, 2022
CHK BY: D. ROBILLARD
City of Santa Rosa

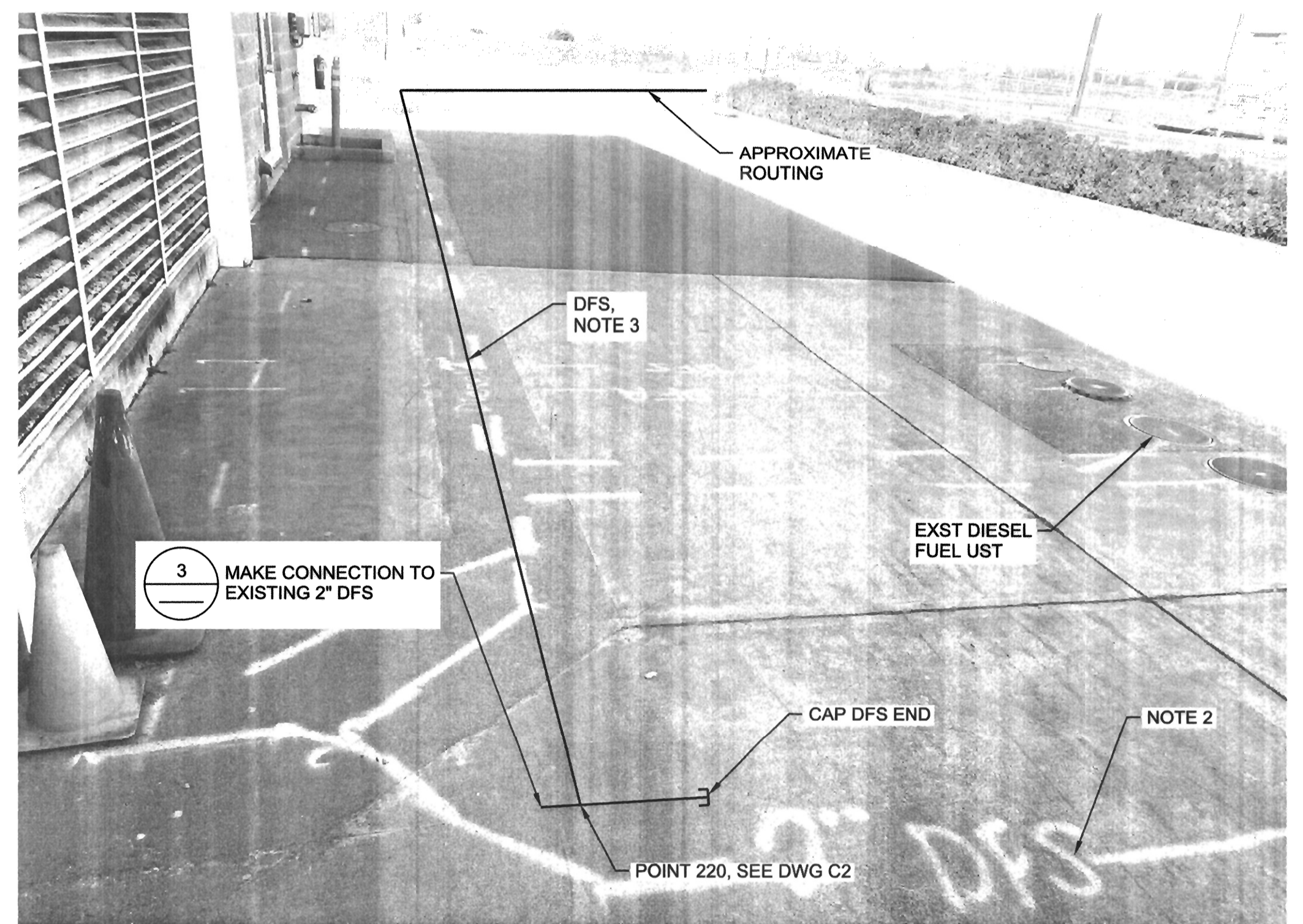
City of Santa Rosa
LAGUNA TREATMENT PLANT EMERGENCY GENERATOR FUEL TANK AND FLEET FUELING STATION REPLACEMENT STRUCTURAL/MECHANICAL
FILL STATION ISO, SECTION AND DETAIL

CONTRACT NO. C02192
DRAWING NO. SM2
SHEET 13 OF 22
FILE NO. 2022-0008



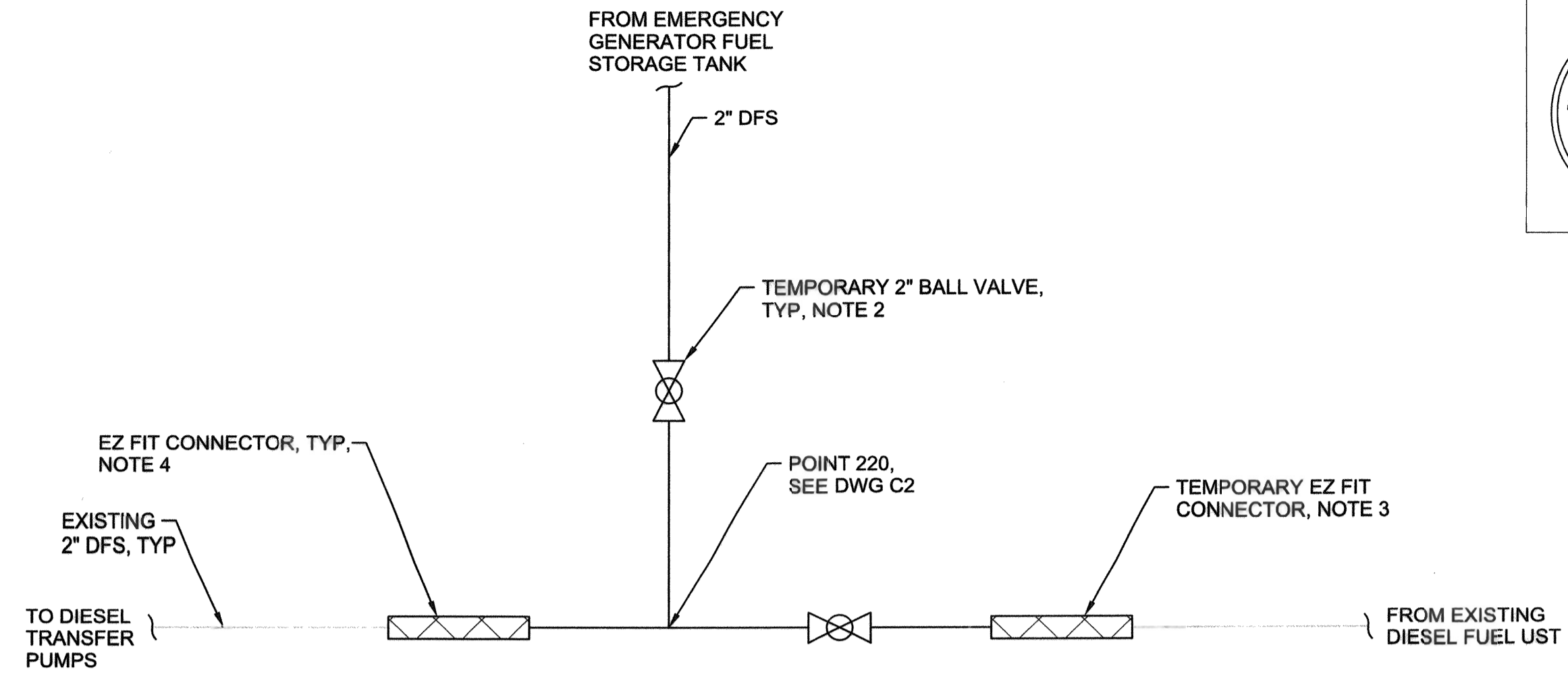
- NOTES:**
1. REPLACE DIESEL PUMPS SKIDS IN KIND EXCEPT AS NOTED IN GEAR PUMP SPECIFICATION SECTION.
 2. PRESERVE EXISTING DFS PIPING AND MAKE CONNECTIONS AT EXISTING ISOLATION VALVES.

1 PHOTO
NTS
C2



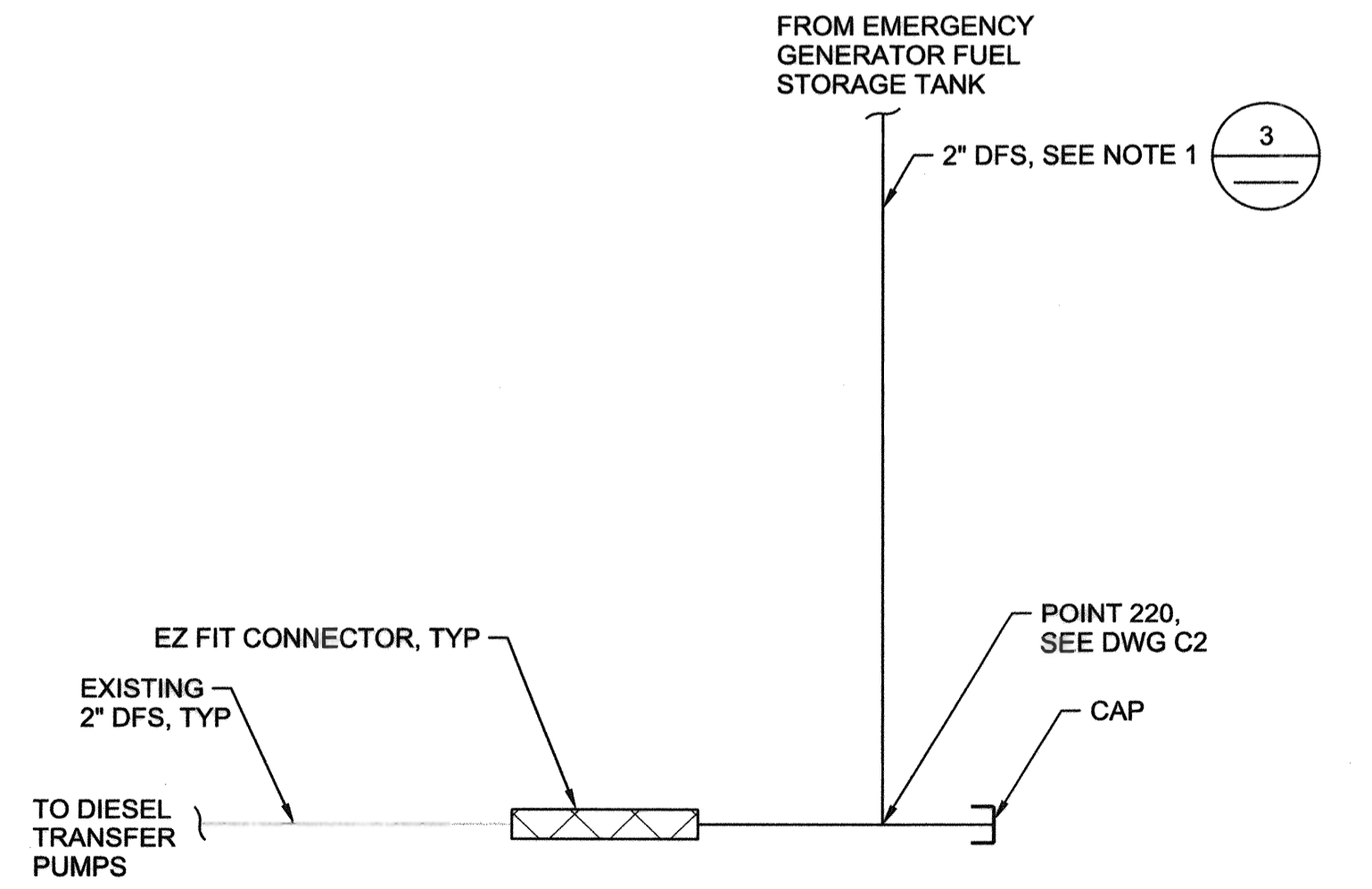
- NOTES:**
1. PHOTO PERSPECTIVE: FACING NORTH. ANNOTATIONS ARE NOT TO SCALE.
 2. PHOTO SHOWS SPRAY PAINT MARKINGS OF EXISTING UTILITIES IN THE AREA.
 3. NORTH TO SOUTH DFS SEGMENT SHALL REPLACE DEMOLISHED FUEL PIPING.
 4. PHOTO MARKUP SHOWS FINAL PIPING CONFIGURATION FOLLOWING REPLACEMENT OF TEMPORARY SYSTEM SHOWN IN DETAIL 3.

2 PHOTO
NTS
C2

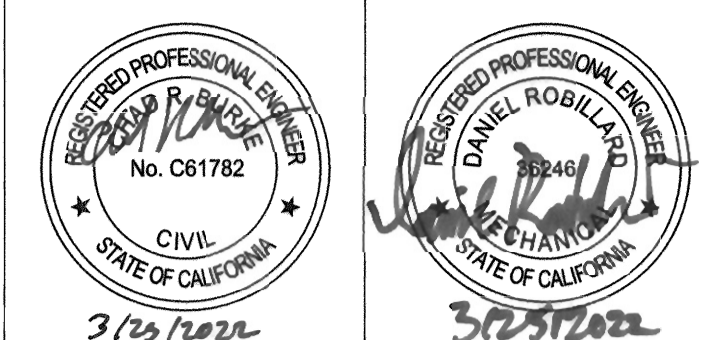


- NOTES:**
1. DOUBLE CONTAINMENT PIPING NOT SHOWN ON THIS SHEET FOR CLARITY. REFER TO FRP PIPE DATA SHEET.
 2. PROVIDE DOUBLE CONTAINMENT FOR TEMPORARY PIPELINE AND ITS COMPONENTS THROUGHOUT TESTING, STARTUP, AND TRANSITION TO NEW FUEL SUPPLY SYSTEM. DOUBLE CONTAINMENT PIPING IS REQUIRED FOR ALL TEMPORARY AND PERMANENT PIPING. REMOVE TEMPORARY COMPONENTS AND REPLACE WITH EZ FIT CONNECTORS OR FRP SPOOLS AS APPLICABLE. ALSO REFER TO SECTION 01 31 13, PROJECT COORDINATION.
 3. INSTALL CAP IN PLACE OF TEMPORARY EZ FIT CONNECTOR PRIOR TO DEMOLITION OF EXISTING DIESEL UST, PIPING AND APPURTENANCES.
 4. MAKE CONNECTION BETWEEN EXISTING AND NEW SECONDARY PIPE.

3 DETAIL
1 1/2"=1'-0"
C2



4 DETAIL
1 1/2"=1'-0"
C2



Jacobs

No.	Date	Revision	By

DATE: MAR 16, 2022
CHK BY: D. ROBILLARD
SCALE: AS SHOWN
DWN BY: J. MINOR
City of Santa Rosa

LAGUNA TREATMENT PLANT EMERGENCY GENERATOR FUEL TANK AND FLEET FUELING STATION REPLACEMENT STRUCTURAL/MECHANICAL SECTION AND DETAILS 2

CONTRACT NO. C02192
DRAWING NO. SM3
SHEET 14 OF 22
FILE NO. 2022-0008

GENERATOR BUILDING
SWGR ROOM
SWGR-MASTER

PLC-25

RACK 1
SLOT 5
CHNL 16
115.4
DIESEL FUEL STORAGE
TANKS TROUBLE

RACK 1
SLOT 5
CHNL 17
115.5
DIESEL FUEL DAY
TANK TROUBLE

GENERATOR BUILDING
GENERATOR ROOM
NORTH WALL

120V

TMS-117191

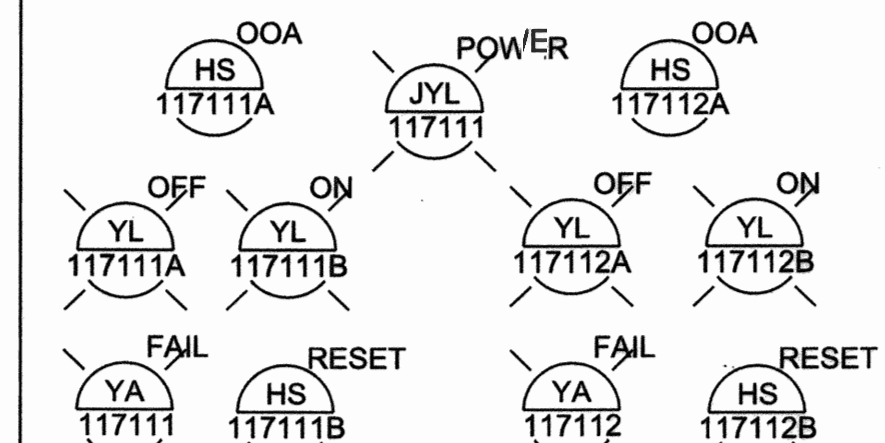


CONTINUED ON
DWG N2

GENERATOR BUILDING
GENERATOR ROOM

DAY TANK
FUEL PUMP
CONTROL PANEL

480V
MCC-26W



(1) - OPEN

(2) - FAIL

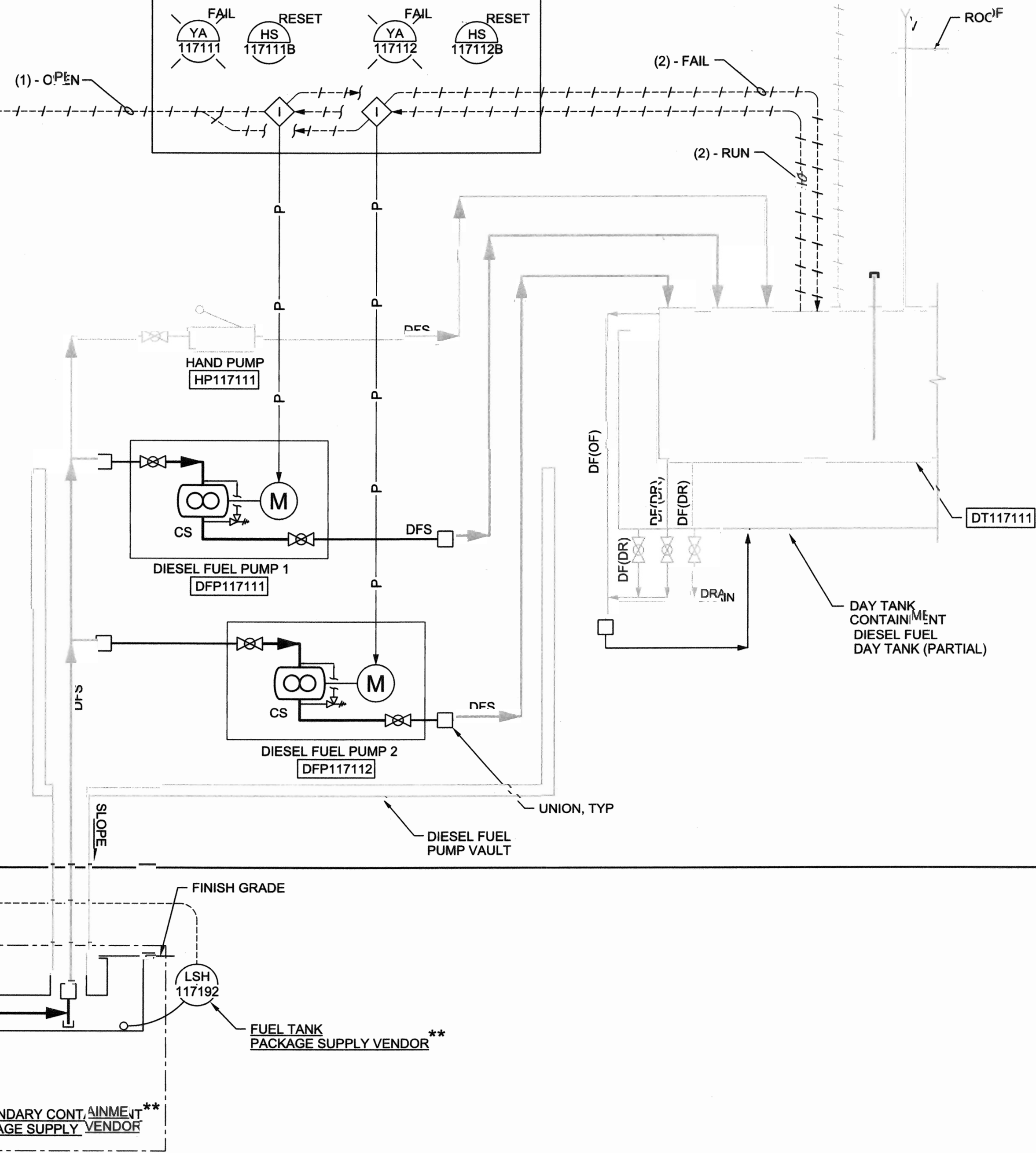
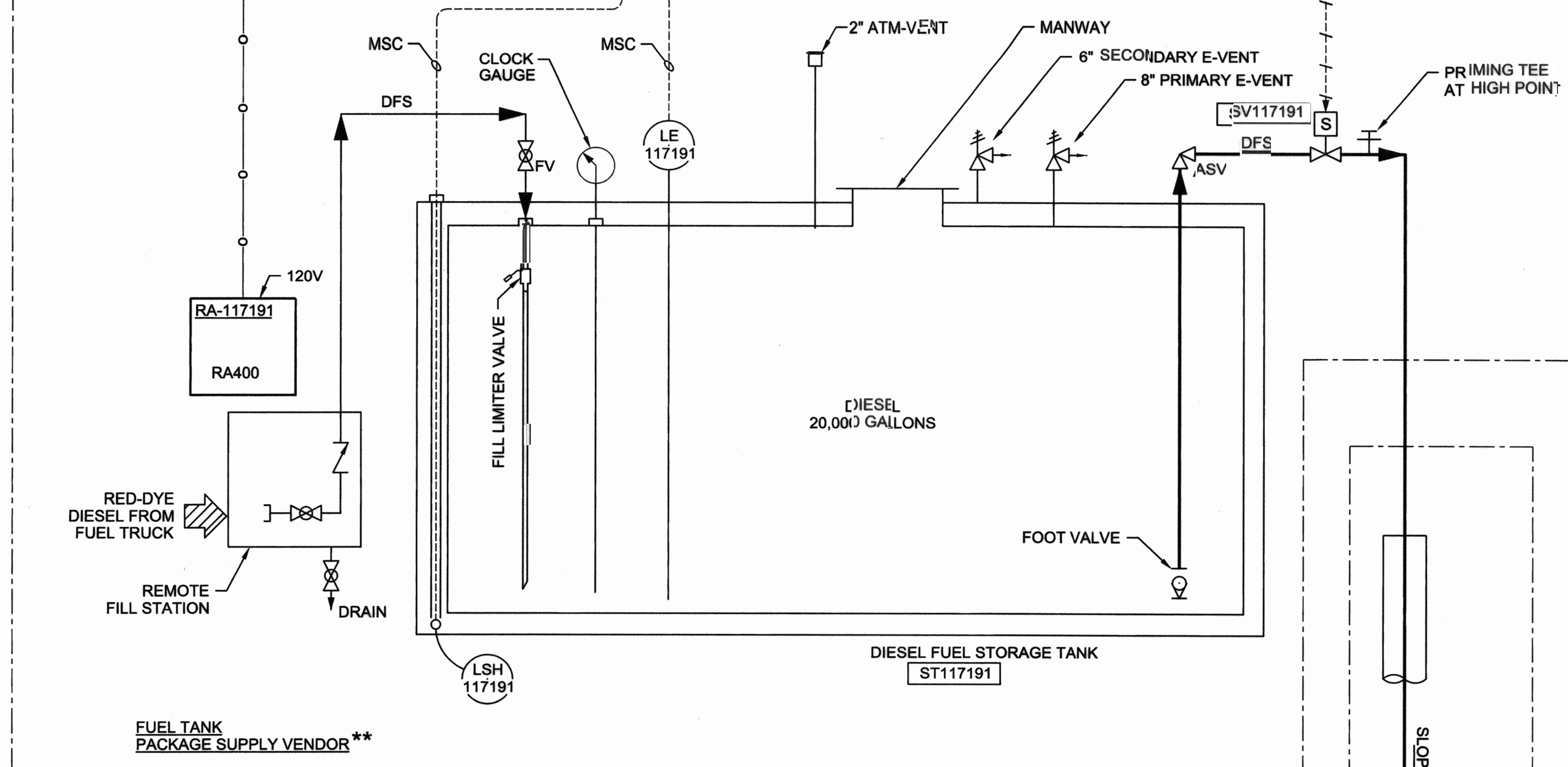
(2) - RUN

FIELD

SEE CONTINUATION OF SIGNALS
FROM JBOX 117200 ON DWG N2

PNL-117200

CONTINUED ON
DWG N2



Jacobs

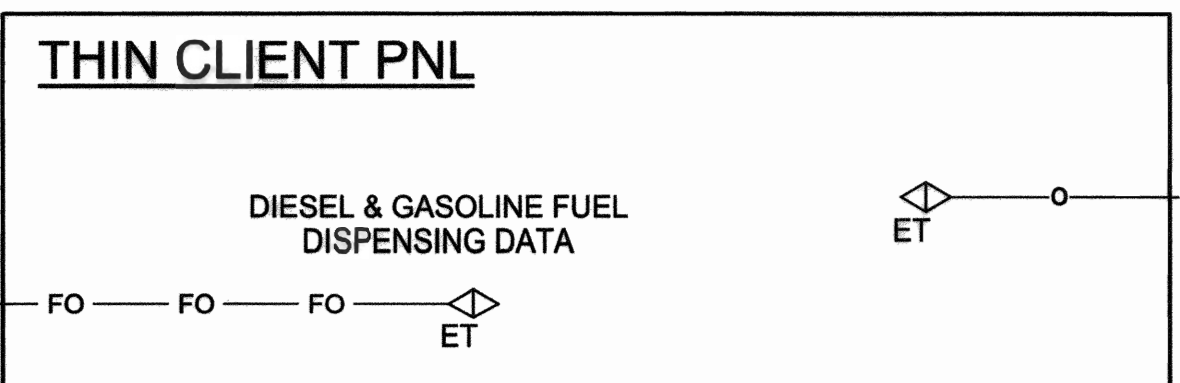
No.	Date	Revision	By

DATE: MAR 16, 2022
CHK BY: S. PARKER
City of Santa Rosa

LAGUNA TREATMENT PLANT EMERGENCY GENERATOR
FUEL TANK AND FLEET FUELING STATION REPLACEMENT
INSTRUMENTATION AND CONTROLS
FUEL STORAGE TANK & ID

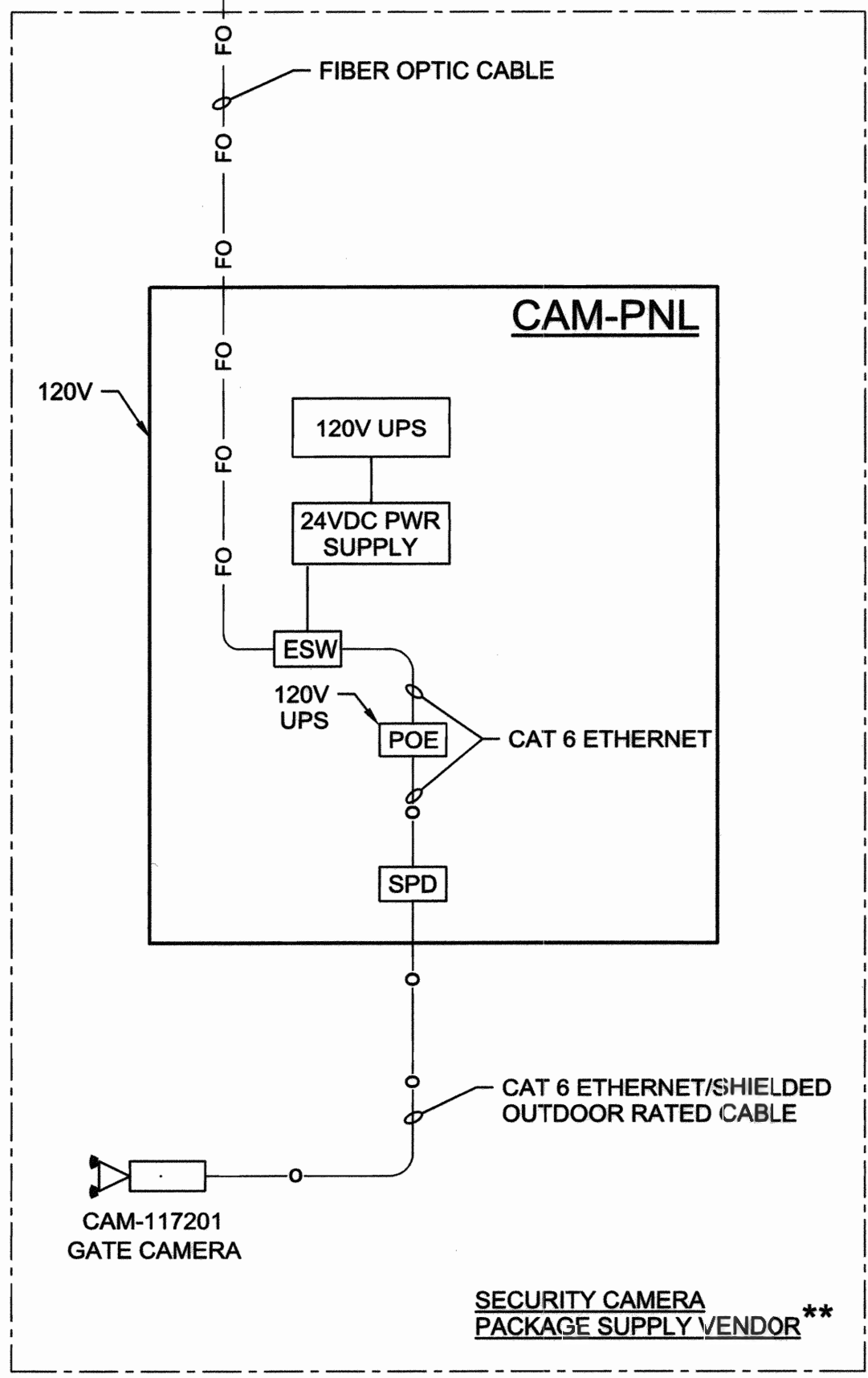
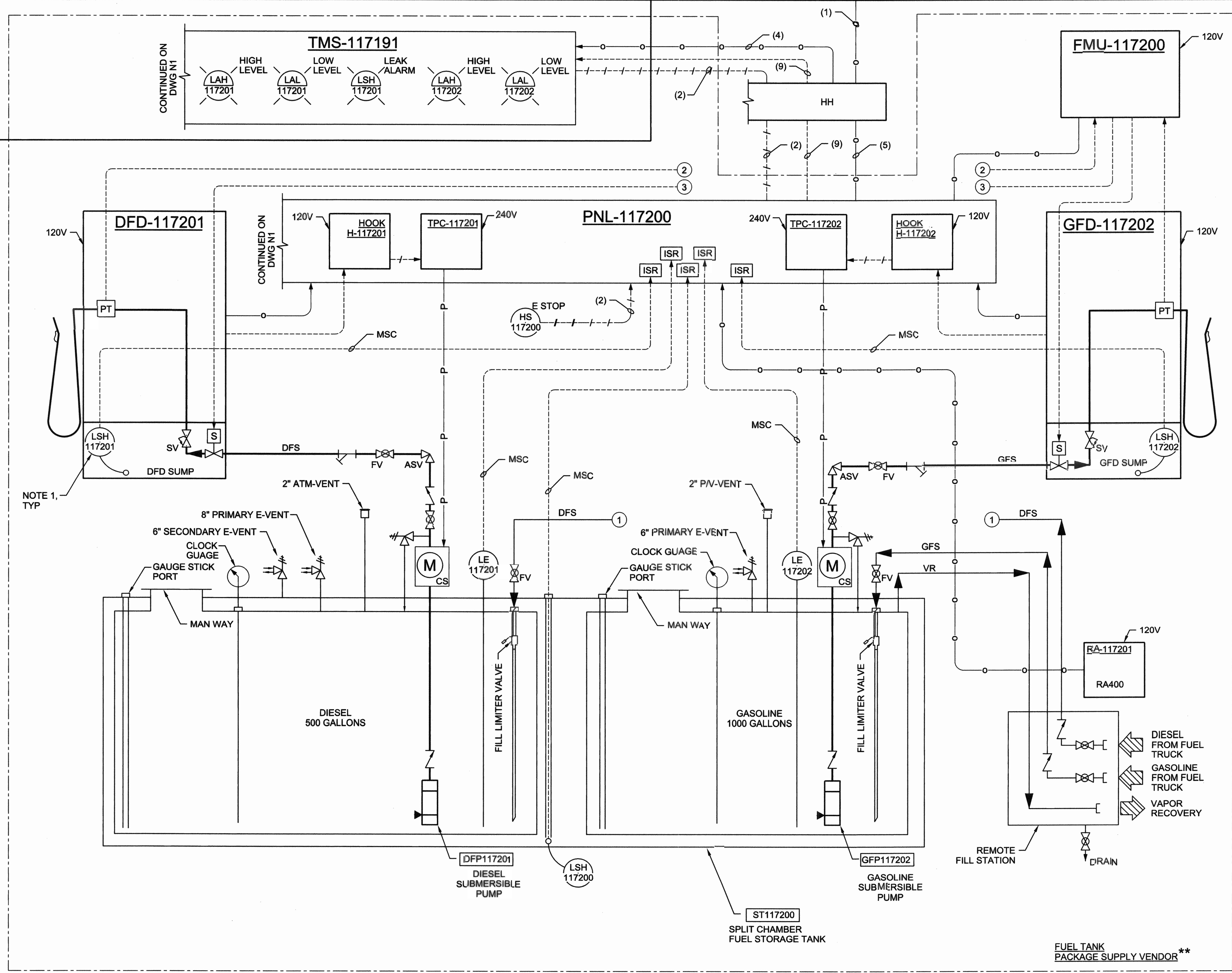
CONTRACT NO. C02192
DRAWING NO. N1
SHEET 15 OF 22
FILE NO. 2022-0008

**GENERATOR BUILDING
SWGR ROOM**



FIELD

**GENERATOR BUILDING
GENERATOR ROOM
NORTH WALL**



NOTES:
1. LSH ARE INSTALLED IN CLASS 1 DIV 1 AREA.



Jacobs

No.	Date	By

DATE: MAR 16, 2022
CHK BY: S. PARKER
City of Santa Rosa

**LAGUNA TREATMENT PLANT EMERGENCY GENERATOR
FUEL TANK AND FLEET FUELING STATION REPLACEMENT
INSTRUMENTATION AND CONTROLS
FUEL DISPENSERS P&ID**

CONTRACT NO. C02192
DRAWING NO. N2
SHEET 16 OF 22
FILE NO. 2022-0008



Jacobs

No.	Date	Revision	By

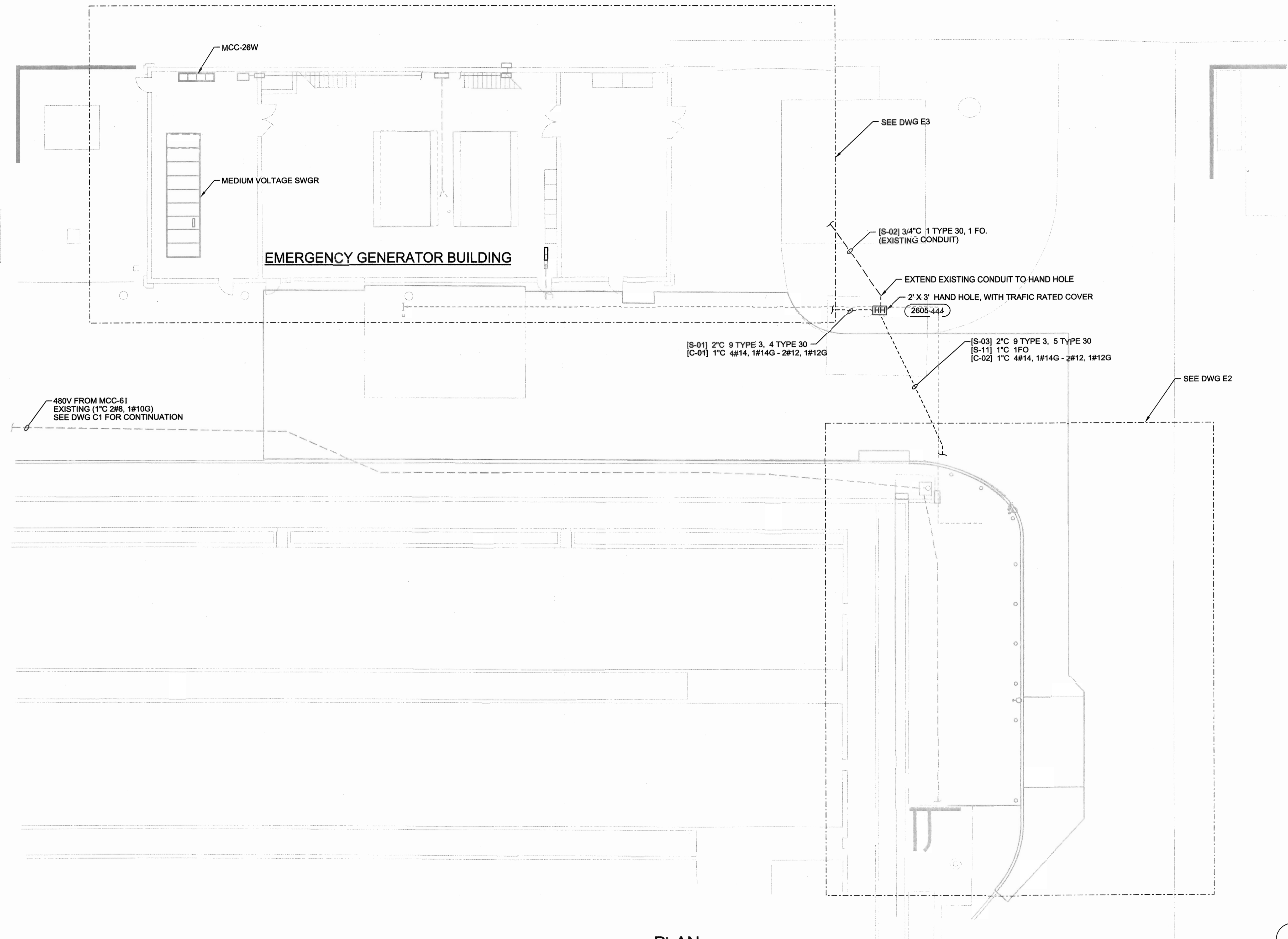
SCALE: AS SHOWN
DATE: MAR 16, 2022
DWN BY: T. HILL
CHK BY: S. PARKER
City of Santa Rosa

City of Santa Rosa
LAGUNA TREATMENT PLANT EMERGENCY GENERATOR FUEL TANK AND FLEET FUELING STATION REPLACEMENT ELECTRICAL SITE PLAN

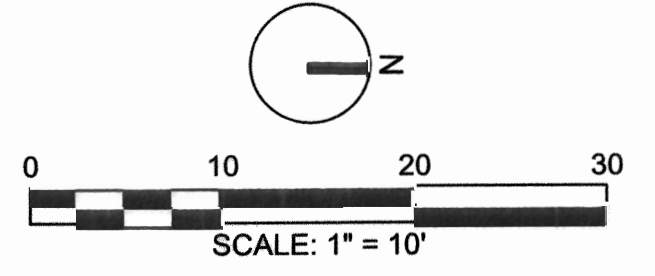
CONTRACT NO. C02192
DRAWING NO. E1
SHEET 17 OF 22
FILE NO. 2022-0008

LEGEND:
CALLOUT FORMAT [X-YY] CIRCUIT NUMBER
 CIRCUIT TYPE

CIRCUIT TYPES:
C = CONTROL
P = POWER
S = SIGNAL



PLAN
1"=10'



LUMINAIRE SCHEDULE

ITEM	DESCRIPTION	MOUNTING METHOD	LAMP		LUMINAIRE SPECIFICATIONS			
			QUANTITY	TYPE	MANUFACTURER	CATALOG	VOLTS	VA
A	LED LIGHT FIXTURE, SQUARE POLE MOUNTING ADAPTER. CONNECT TO EXISTING PHOTOCELL SEE NOTE 10 & 11, FOR COMPLIANCE WITH TITLE 24. DARK BROWN FINISH.	POLE MOUNTED	1 PER POLE	LED	LITHONIA	MODEL# DSX0 LED 40C 700 40K T5W MVOLT SPA PER DBLXD WITH TGC COATING.	120	
B	PROVIDE 20' TALL SQUARE ALUMINUM POLE, LITHONIA SSA OR EQUAL.		2		LITHONIA	SSA 204C DM19AS FDL DDB		

NOTES:

- CLASSIFICATION BOUNDARY EXTENDS 18" ABOVE FUEL PUMPS AND FUEL DISPENSERS, AND 18" ABOVE THE GROUND TO BOUNDARY INDICATED.
- PANEL AND DISCONNECTS SWITCHES ARE UNDER AND OUTSIDE OF DIESEL TANK VENT CLASSIFICATION BOUNDARY.
- PROVIDE SEAL FITTINGS AT CLASSIFICATION BOUNDARY PER NEC.
- PROVIDE HANWHA PNM-9081VQ 20MP CAMERA, RACEWAY, CABLING, AND MOUNT ASSOCIATED HARDWARE FOR A FULLY FUNCTIONAL CAMERA.
CAMERA SHALL HAVE SUFFICIENT RESOLUTION TO ACHIEVE 33 PIXELS PER FOOT (PPF) AT A TARGET DISTANCE OF 100 FEET AND WIDTH OF 80 FEET, USING A HORIZONTAL FIELD OF VIEW OF 45-DEGREES.
CAMERA TO BE INTEGRATED INTO OWNER'S EXISTING VIDEO MANAGEMENT SYSTEM, USING EXISTING STORAGE WITH NO NEW CENTRAL STORAGE ADDED. INCLUDE MICRO SDHC CARD (1TB) FOR LOCAL ONBOARD STORAGE AT THE CAMERA.
CONFIGURE THE CAMERA WITH A FRAME RATE OF 20 FRAMES PER SECOND, MINIMUM.
INCORPORATE VIDEO ANALYTICS FOR LOITERING, TAMPERING AND VIRTUAL LINE CROSSING AT TARGET FIELD OF VIEW.
- DEMONSTRATE CAMERA VIEWS AND ANALYTIC PERFORMANCE DURING DAYTIME AND NIGHT TIME SCENES FOR OWNER ACCEPTANCE.
PROVIDE LOCKABLE, NEMA 4X RATED ENCLOSURE CONTAINING UPS (15 MINUTE'S MINIMUM RUNTIME AT FULL LOAD), RATED NETWORK SWITCH AND ASSOCIATED POWER SUPPLY, POE MIDSPAN INJECTORS, SURGE PROTECTION DEVICES AND ANY NECESSARY MEDIA CONVERTERS FOR A COMPLETE CAMERA POWER AND DATA PANEL.
DEMONSTRATE OPERATION DURING POWER FAILURE FOR OWNER ACCEPTANCE.
- PROVIDE ONE FUELMASTER 2500 PLUS - MASTER FUEL MANAGEMENT UNIT (FMU). CONFIGURE FOR TWO FUEL DISPENSER CONTROLLERS. PROKEES SHALL BE INCLUDED, COORDINATE QUANTITY WITH OWNER.
- PROVIDE #4/0 BARE COPPER EGC, BOND TANK AND EQUIPMENT TO GROUND CONDUCTOR.
- 3/4" 1 TYPE 3
- 3/4" 2 TYPE 3
- PROVIDE CONTROL FOR LIGHTS FROM EXISTING PHOTO CELL. SEE LIGHTING CONTROL DIAGRAM ON DWG E4.
- CONNECT NEW POLE MOUNTED LIGHTS TO CIRCUIT AS INDICATED ON PANEL SCHEDULE LVP-6I-2. USE EXISTING 3/4" CONDUIT FOR CONDUCTORS TO LC. SEE LIGHTING CONTROL DIAGRAM ON DWG E4.



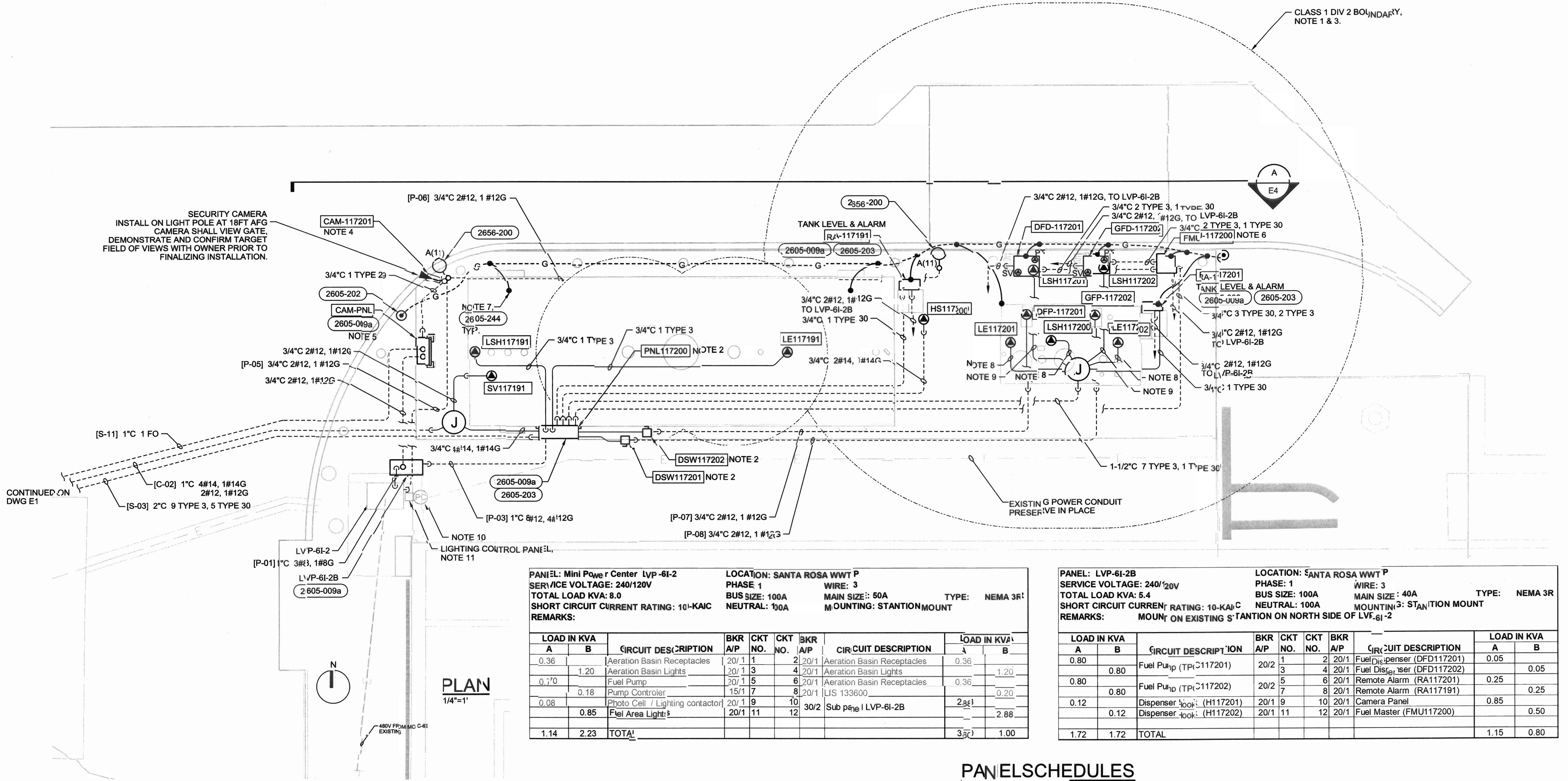
Jacobs

No.	Date	By

DATE: MAR 16, 2022
SCALE: AS SHOWN
DWN BY: T. HILL
CHK BY: S. PARKER
City of Santa Rosa

LAGUNA TREATMENT PLANT MERGENCYGENERATOR
FUEL TANK AND FLEET FUELING STATION REPLACEMENT
ELECTRICAL
FUEL STATION PLAN

CONTRACT NO. C02192
DRAWING NO. E2
SHEET 18 OF 22
FILE NO. 2022-0008



PANEL: Mini Power Center LVP-6I-2
SERVICE VOLTAGE: 240/120V
TOTAL LOAD KVA: 8.0
SHORT CIRCUIT CURRENT RATING: 10-KAIC
REMARKS:

LOCATION: SANTA ROSA WWT P
PHASE 1
BUS SIZE: 100A
NEUTRAL: 100A

WIRE: 3
MAIN SIZE: 50A
MOUNTING: STATION MOUNT

TYPE: NEMA 3R

LOAD IN KVA		CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT A/P	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN KVA	
A	B							A	B
0.36		Aeration Basin Receptacles	20/1	1	2	20/1	Aeration Basin Receptacles	0.36	
	1.20	Aeration Basin Lights	20/1	3	4	20/1	Aeration Basin Lights		1.20
0.70		Fuel Pump	20/1	5	6	20/1	Aeration Basin Receptacles	0.36	
	0.18	Pump Controller	15/1	7	8	20/1	LIS 133600		0.20
0.08		Photo Cell / Lighting contactor	20/1	9	10	30/2	Sub panel LVP-6I-2B	2.88	
	0.85	Fuel Area Lights	20/1	11	12	20/1	Fuel Area Lights		2.88
1.14	2.23	TOTAL						3.57	1.00

PANEL: LVP-6I-2B
SERVICE VOLTAGE: 240/120V
TOTAL LOAD KVA: 5.4
SHORT CIRCUIT CURRENT RATING: 10-KAIC
REMARKS: MOUNT ON EXISTING STANTION ON NORTH SIDE OF LVP-6I-2

LOCATION: SANTA ROSA WWT P
PHASE: 1
BUS SIZE: 100A
NEUTRAL: 100A

WIRE: 3
MAIN SIZE: 40A
MOUNTING: STATION MOUNT

TYPE: NEMA 3R

LOAD IN KVA		CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT A/P	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN KVA	
A	B							A	B
0.80		Fuel Dispenser (DFD117201)	20/2	1	2	20/1	Fuel Dispenser (DFD117201)	0.05	
	0.80	Fuel Dispenser (DFD117202)	20/2	3	4	20/1	Fuel Dispenser (DFD117202)		0.05
0.80		Fuel Pump (TPC117202)	20/2	5	6	20/1	Remote Alarm (RA117201)	0.25	
	0.80	Remote Alarm (RA117201)	20/2	7	8	20/1	Remote Alarm (RA117191)		0.25
0.12		Dispenser Hook (H117201)	20/1	9	10	20/1	Camera Panel	0.85	
	0.12	Dispenser Hook (H117202)	20/1	11	12	20/1	Fuel Master (FMU117200)		0.50
1.72	1.72	TOTAL						1.15	0.80

PANEL SCHEDULES



Jacobs

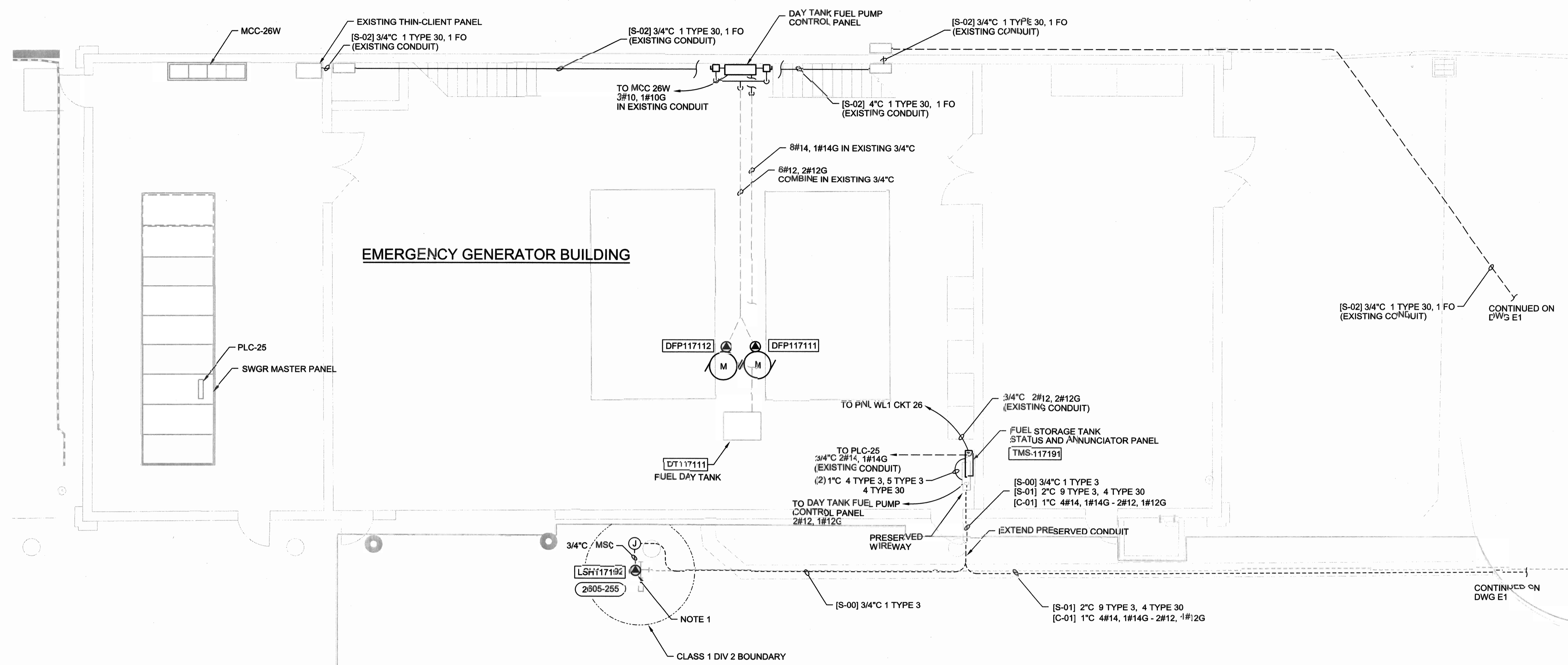
No.	Date	Revision	By

DATE: MAR 16, 2022
 CHK BY: S. PARKER
 SCALE: AS SHOWN
 DWN BY: T. HILL
 City of Santa Rosa

LAGUNA TREATMENT PLANT EMERGENCY GENERATOR FUEL TANK AND FLEET FUELING STATION REPLACEMENT ELECTRICAL GENERATOR BUILDING PLAN

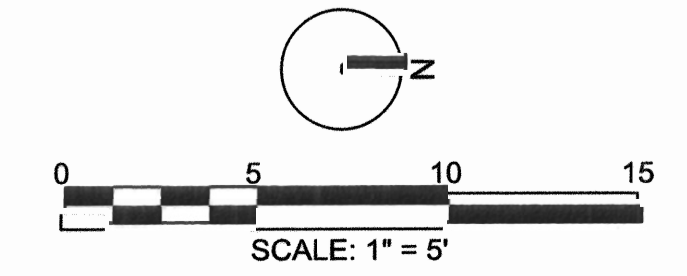
CONTRACT NO. C02192
 DRAWING NO. E-3
 SHEET 19 OF 22
 FILE NO. 2022-0008

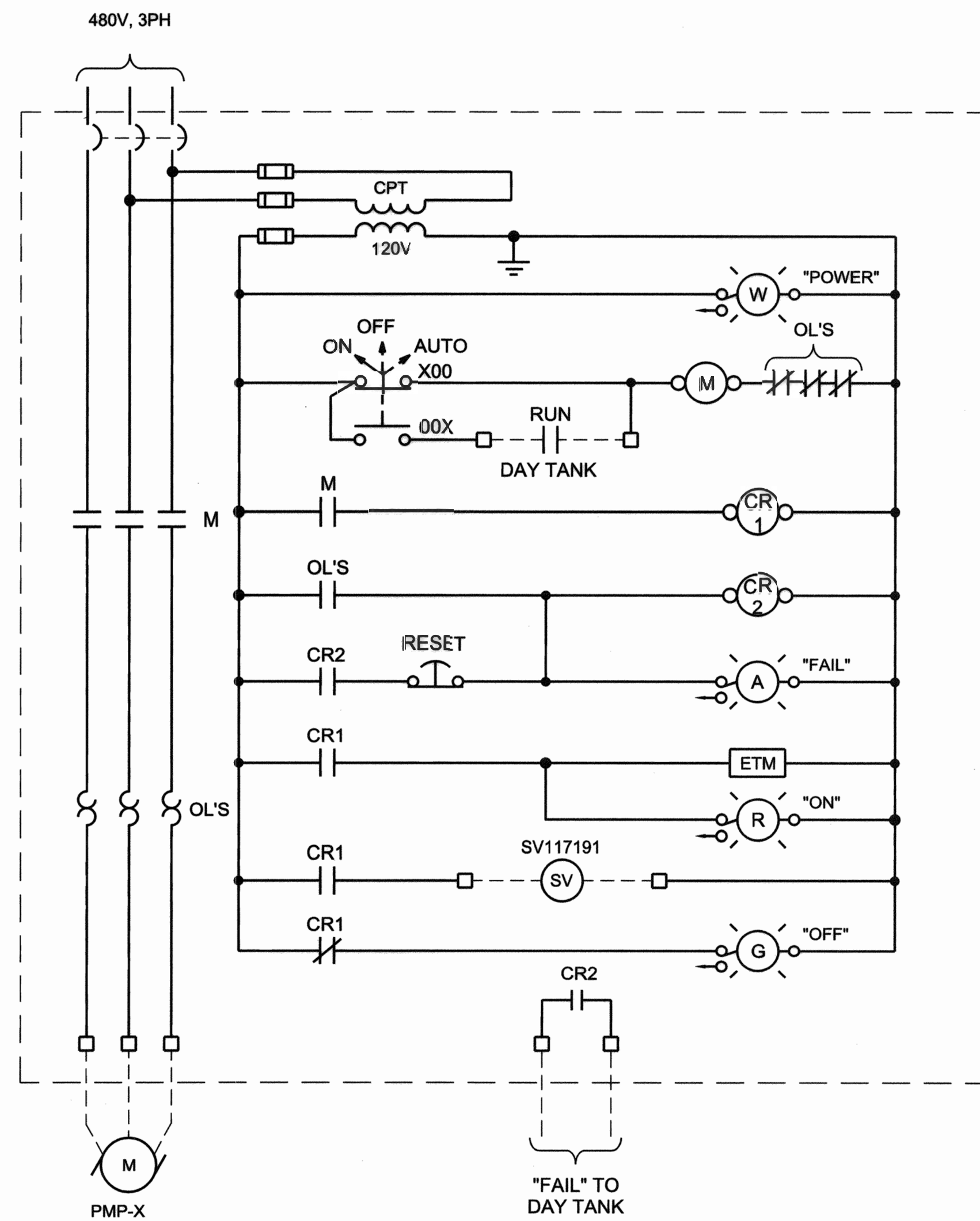
LEGEND:
 CALLOUT FORMAT
 X-YY
 X = CIRCUIT NUMBER
 Y = CIRCUIT TYPE
CIRCUIT TYPES:
 C = CONTROL
 P = POWER
 S = SIGNAL



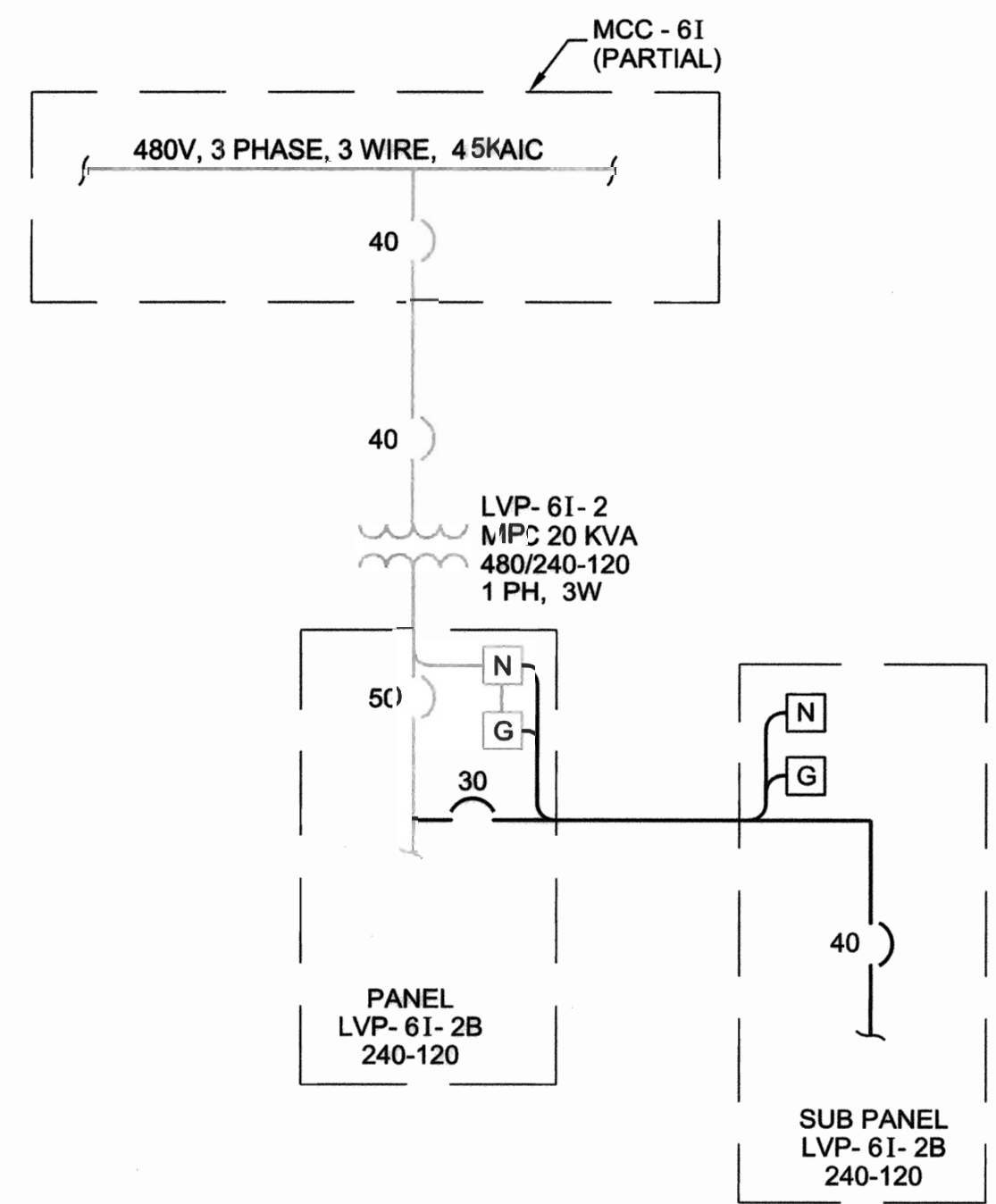
PLAN
 1"=10'

NOTES:
 1. CLASSIFICATION BOUNDARY EXTENDS 18" ABOVE FUEL CONTAINMENT SUMP, AND 5FT RADIUS AROUND SUMP INDICATED.

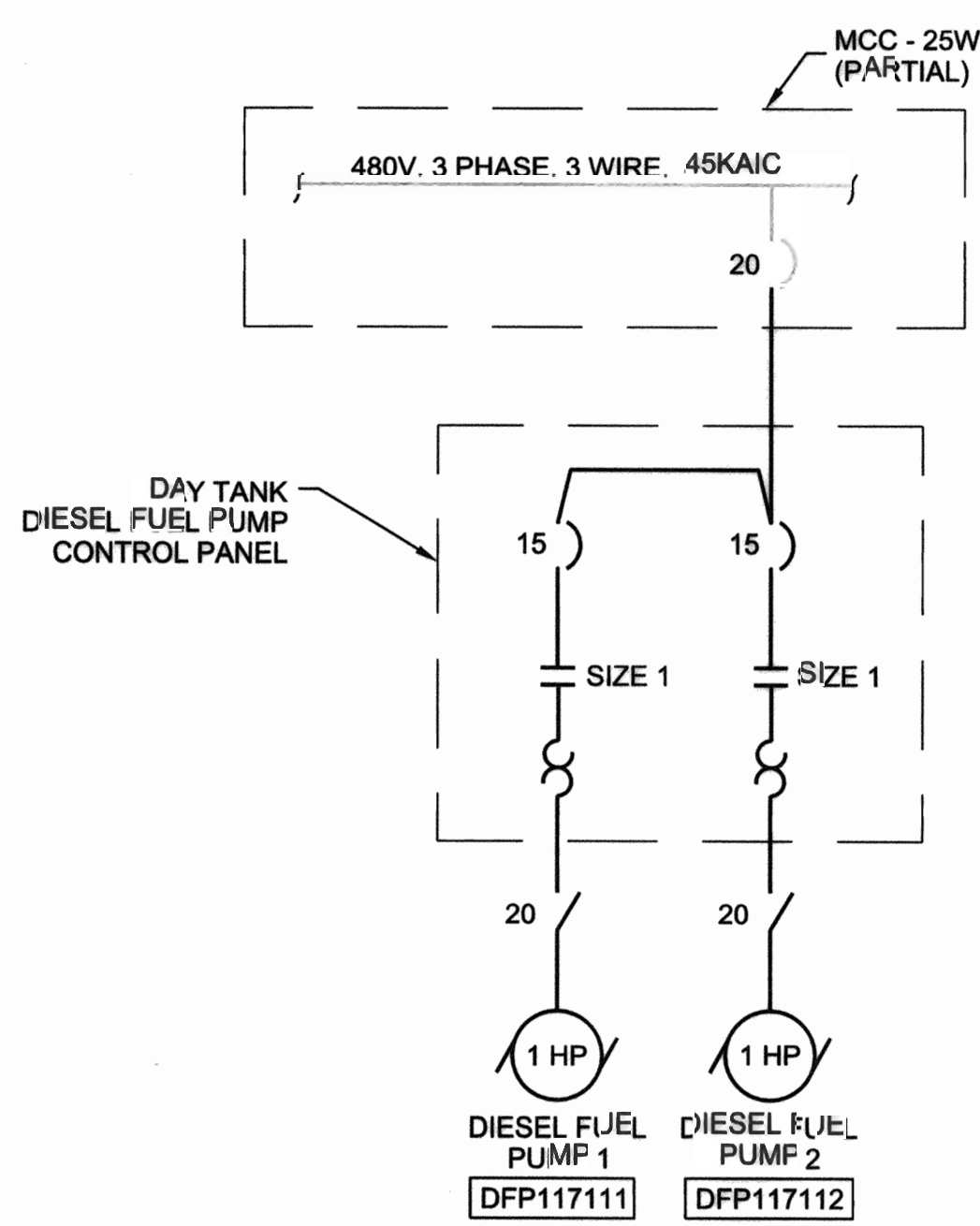




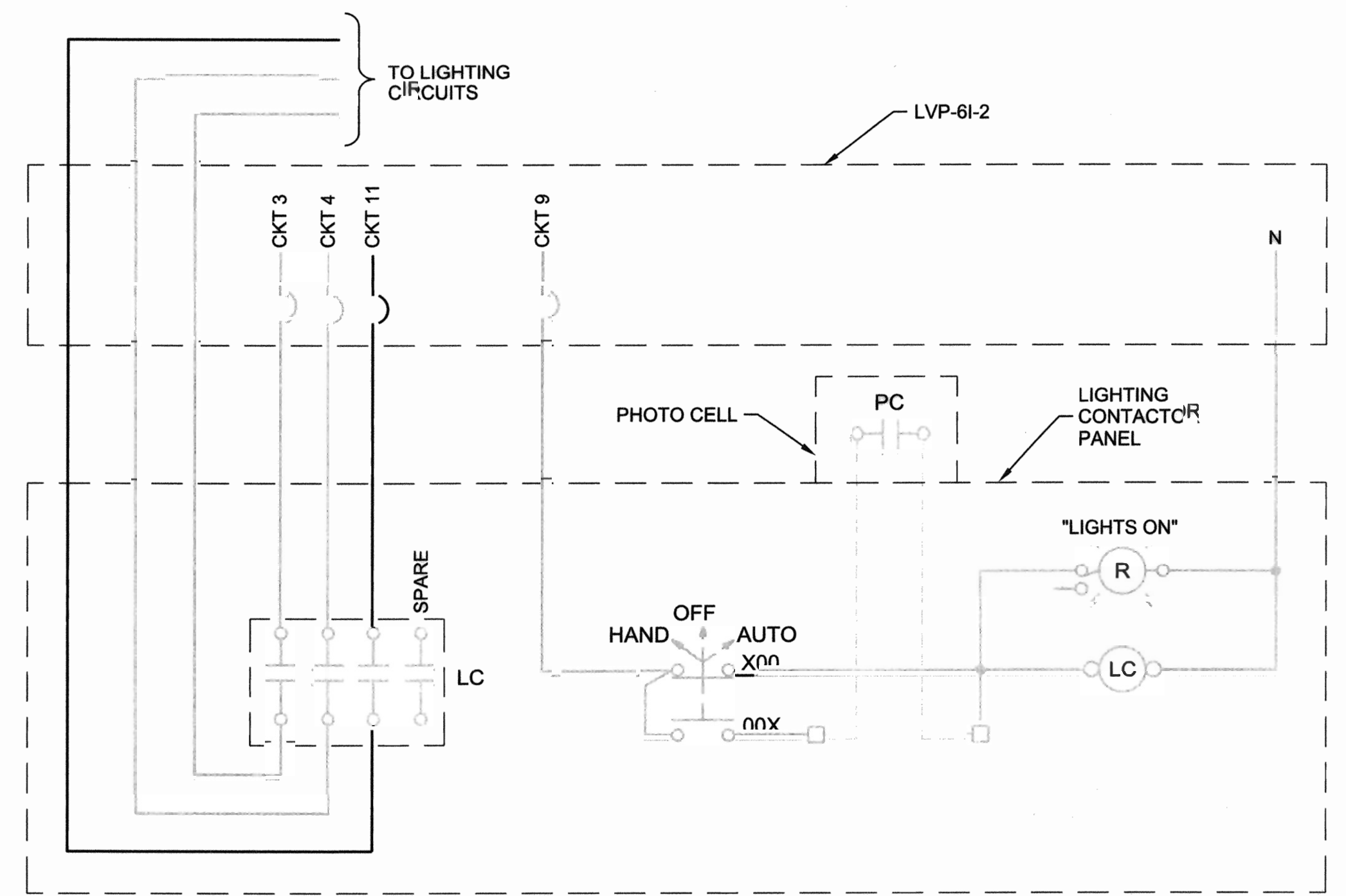
DIESEL FUEL PUMP CONTROL DIAGRAM PMP11711X
X = 1, 2



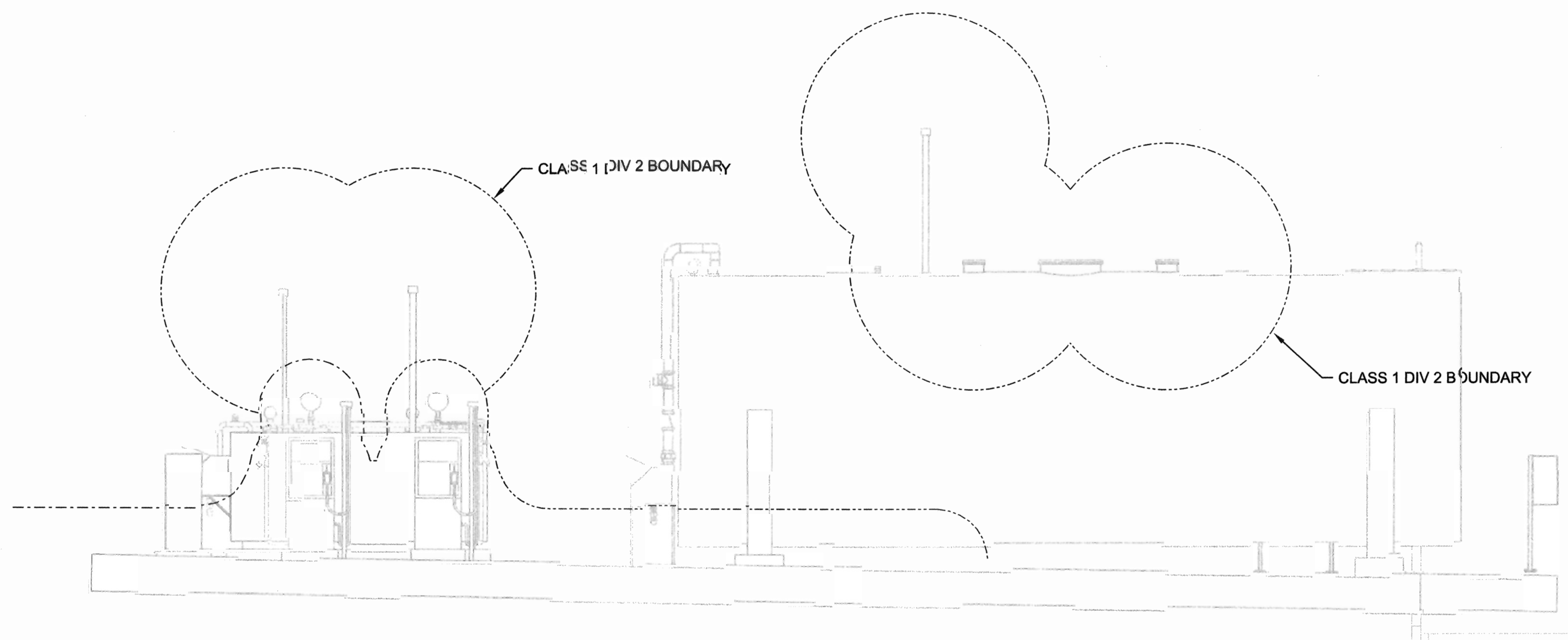
ONELINE DIAGRAM (PARTIAL)



ONELINE DIAGRAM (PARTIAL)



LIGHTING CONTROL DIAGRAM



- NOTES:
1. CLASSIFICATION BOUNDARY EXTENDS 18" ABOVE FUEL PUMPS AND FUEL DISPENSERS, AND 18" ABOVE THE GROUND TO BOUNDARY INDICATED. CLASSIFICATION BOUNDARY EXTENDS 5' RADIUS FROM VENTS.

A SECTION
1/4"=1'-0"
E2



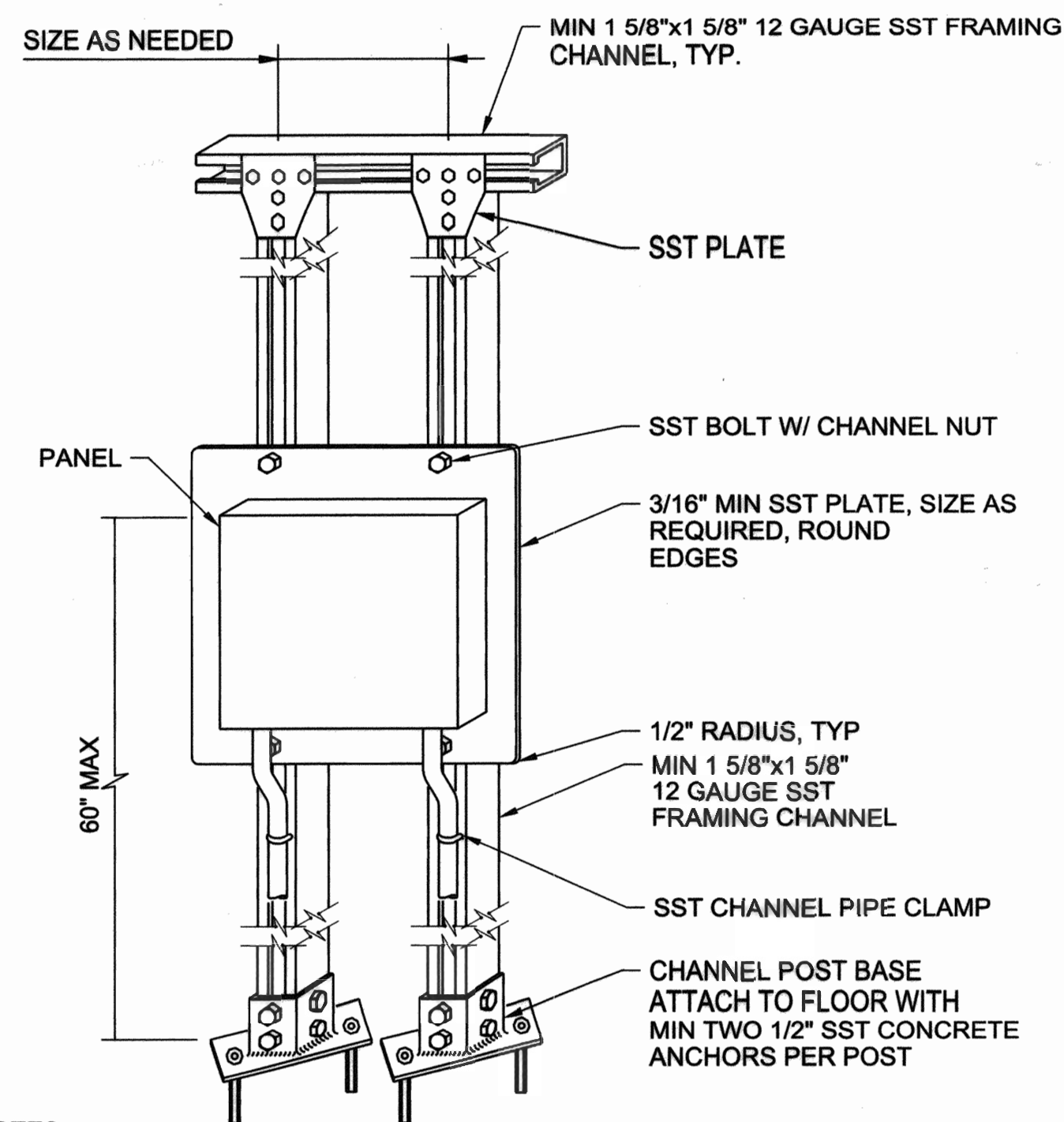
Jacobs

No.	Date	Revision	By

DATE: MAR 16, 2022
CHK BY: S. PARKER
City of Santa Rosa
SCALE: AS SHOWN
DWN BY: T. HILL

City of Santa Rosa
LAGUNA TREATMENT PLANT EMERGENCY GENERATOR FUEL TANK AND FLEET FUELING STATION REPLACE/REPAIR
ELECTRICAL ONE-LINE DIAGRAM

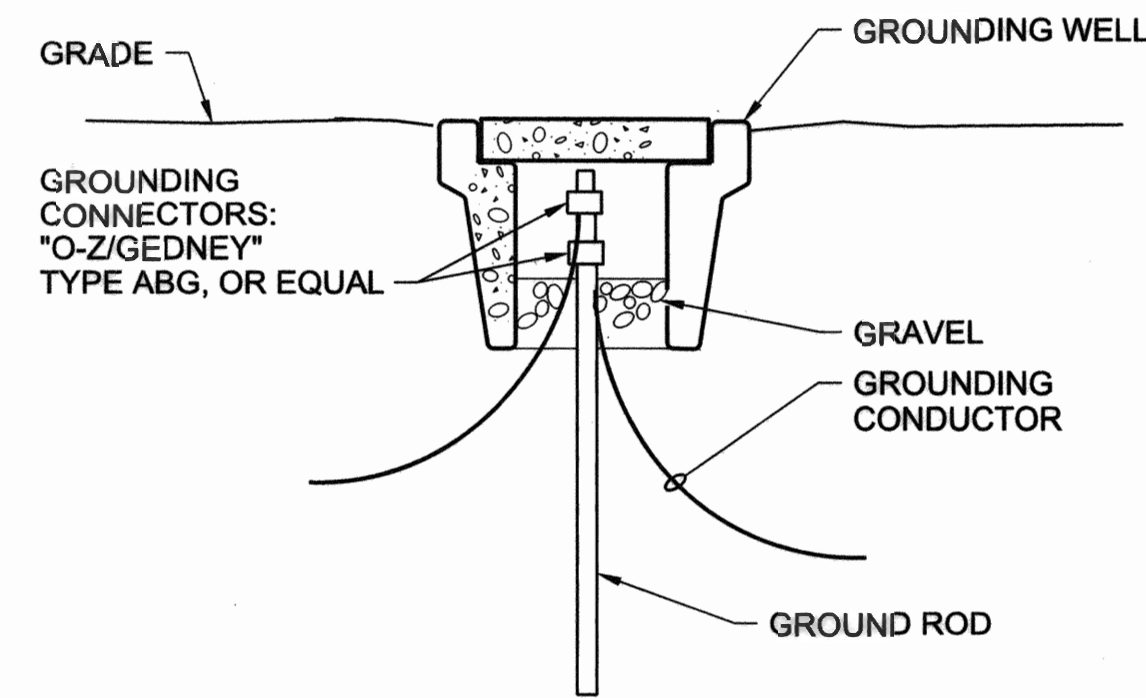
CONTRACT NO. C02192
DRAWING NO. E4
SHEET 20 OF 22
FILE NO. 2022-0008
PLOT TIME: 12:27:46 PM



- NOTES:**
- MINIMUM COMPONENT AND CONNECTION SIZES SHOWN. FURNISH LARGER SIZES AS REQUIRED BY CALCULATIONS.
 - SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED.

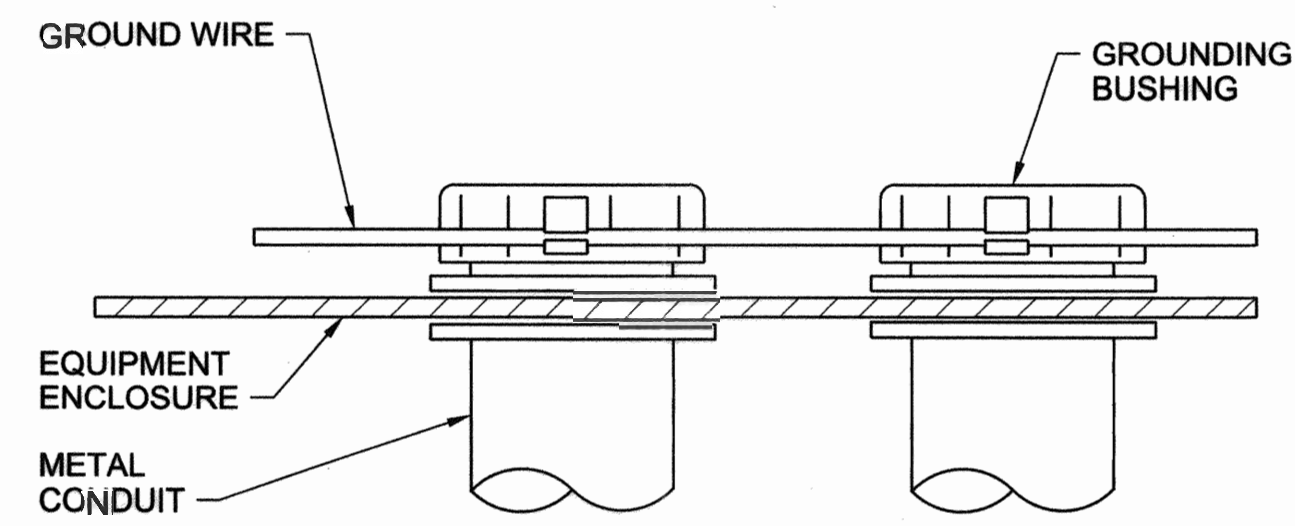
DEVICE MOUNTING, FROM FLOOR

2605-009A



GROUND WELL

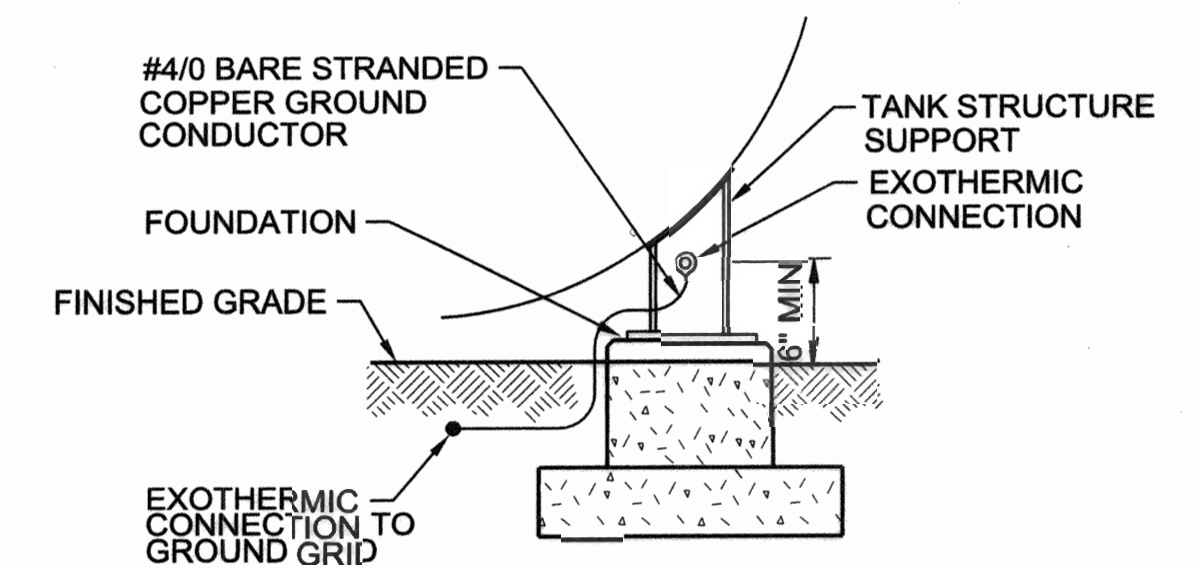
2605-202



- NOTES:**
- THE ENDS OF ALL CONDUITS REQUIRED TO BE GROUNDED BY THE SPECIFICATIONS SHALL BE GROUNDED IN ACCORDANCE WITH THIS DETAIL.

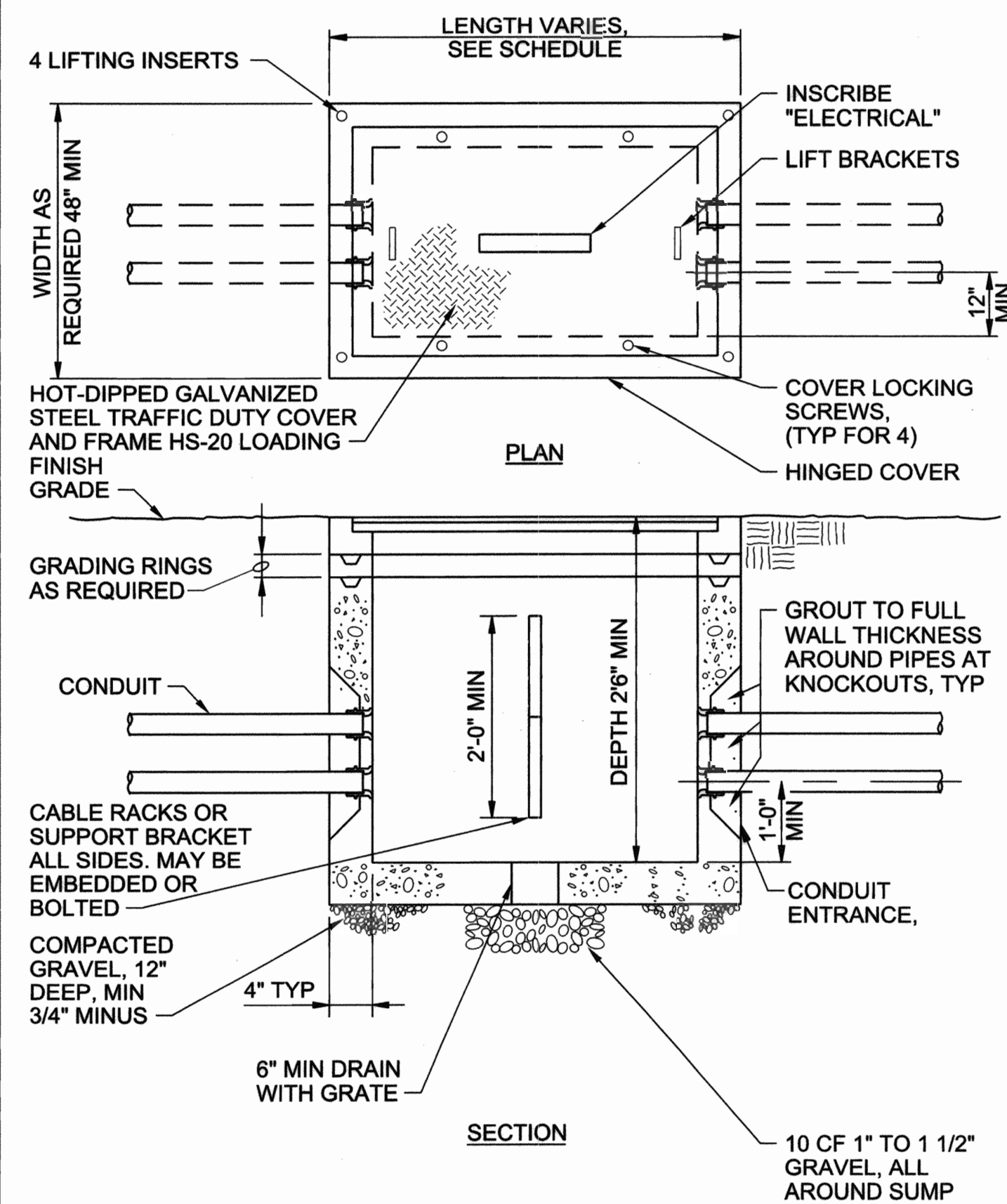
CONDUIT GROUNING

2605-203



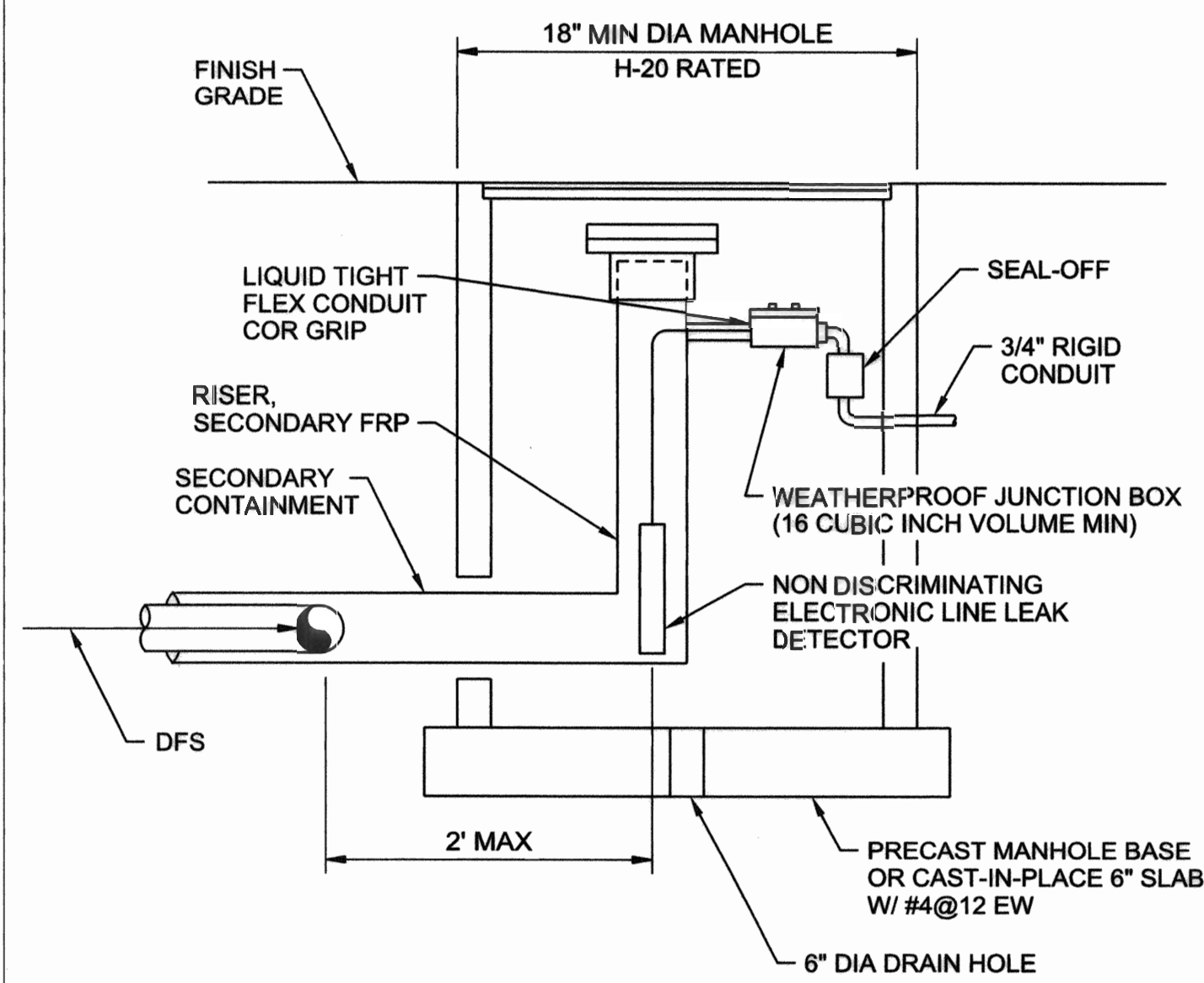
STRUCTURE GROUNING

2605-244



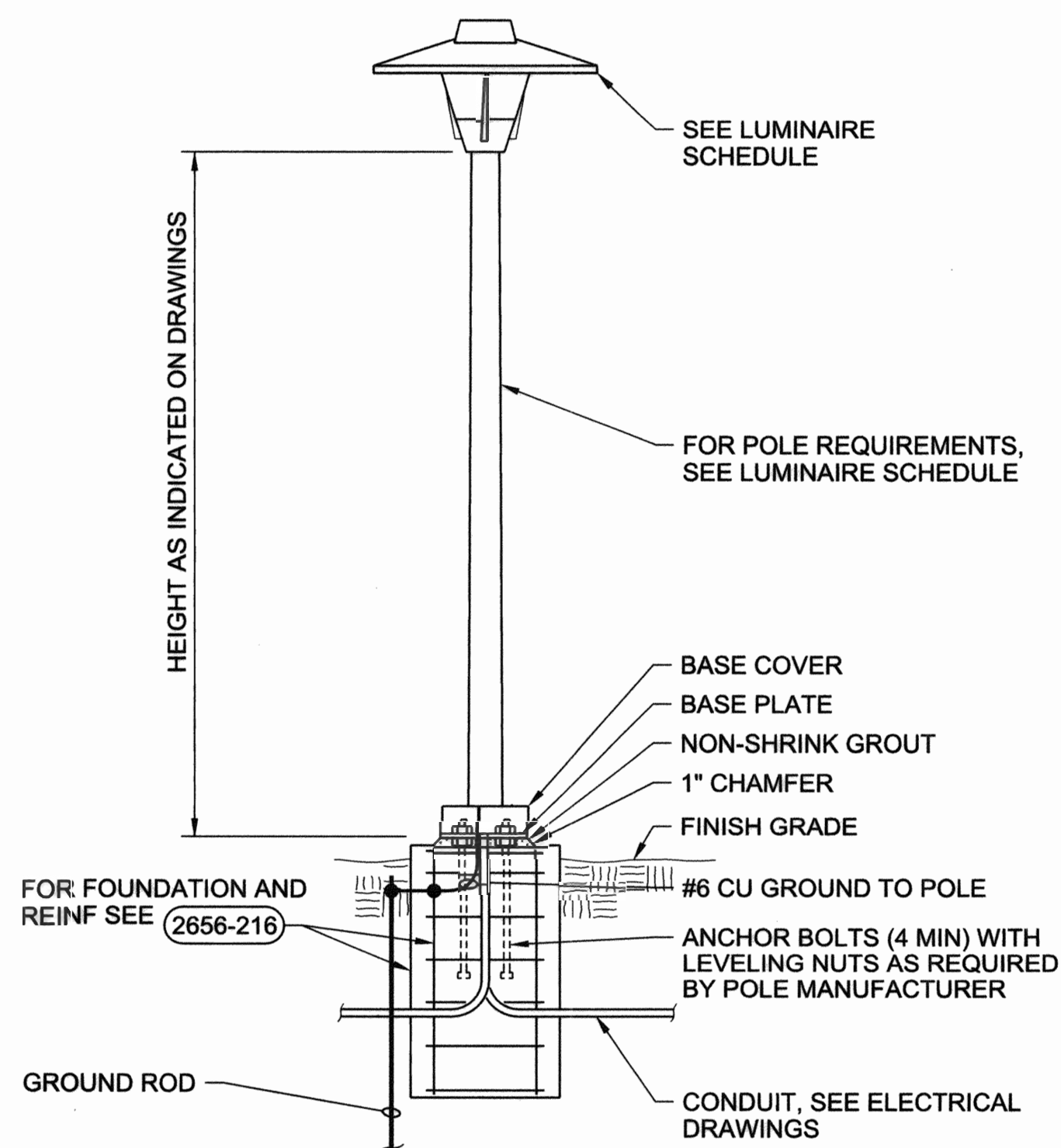
HANDHOLE

2605-444



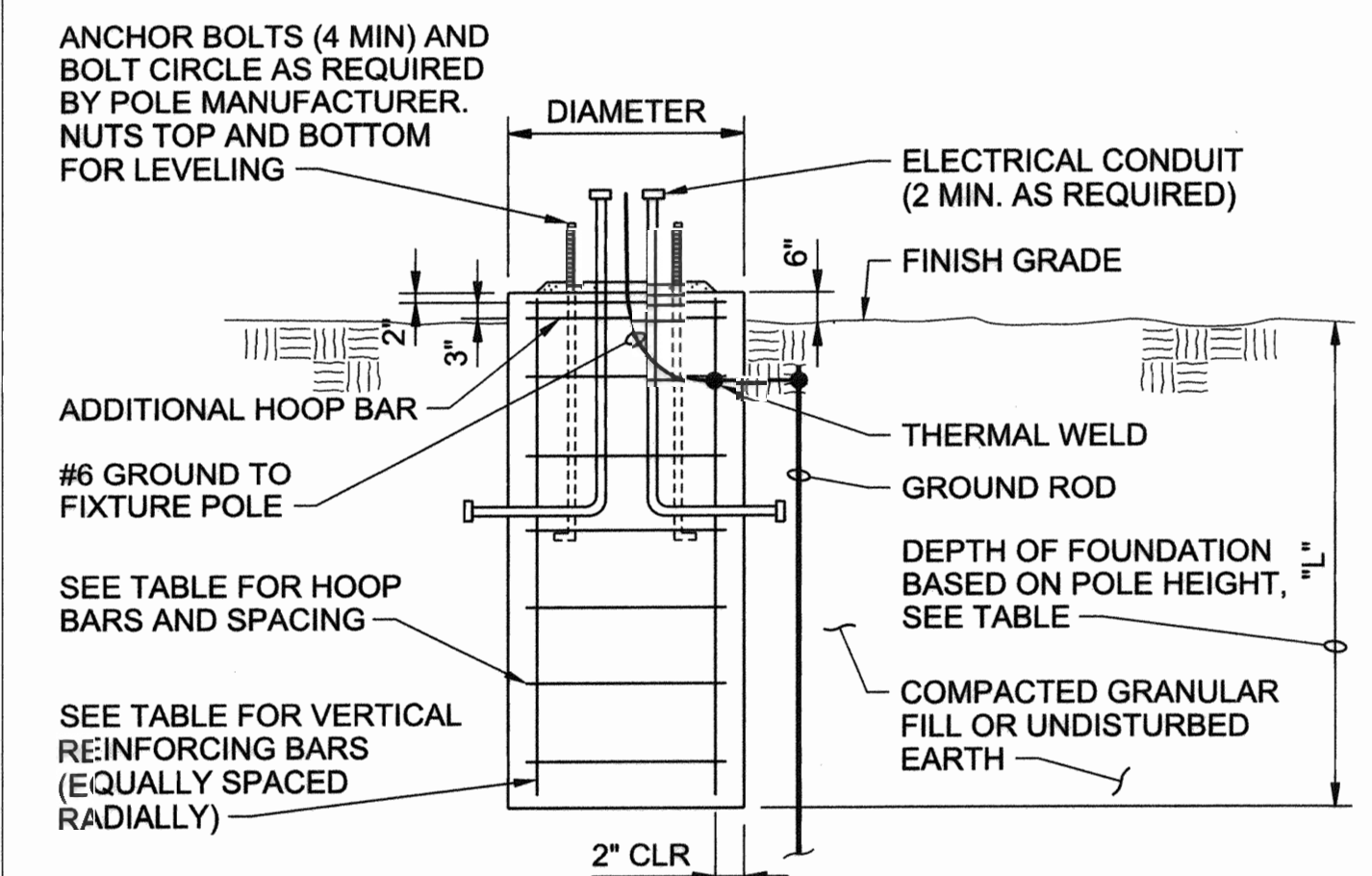
FUEL LEAK SENSOR

2605-255



POST LIGHT FOUNDATION

2656-200



MAX POLE HEIGHT	DIAMETER	"L"	VERTICAL BARS	HOOP BARS
20'-0" MAX	2'-6" MIN	5'-0" MIN	12 #7	#4 @ 12"

- NOTES:**
- USE STAINLESS STEEL NUTS AND LOCKWASHERS.
 - INSTALL TWO CONDUITS (MINIMUM) PER POLE.
 - INSTALL CENTERLINE OF POLE 2'-0" BEHIND THE FACE OF THE CURB.
 - CONDUITS SHALL BE STUBBED UP TO WITHIN SIX INCHES OF THE POLE HANDHOLE.
 - COORDINATE WITH SITE PLANS FOR PROPER ORIENTATION OF POLE.

SITE AREA LIGHT POLE FOOTING

2656-216



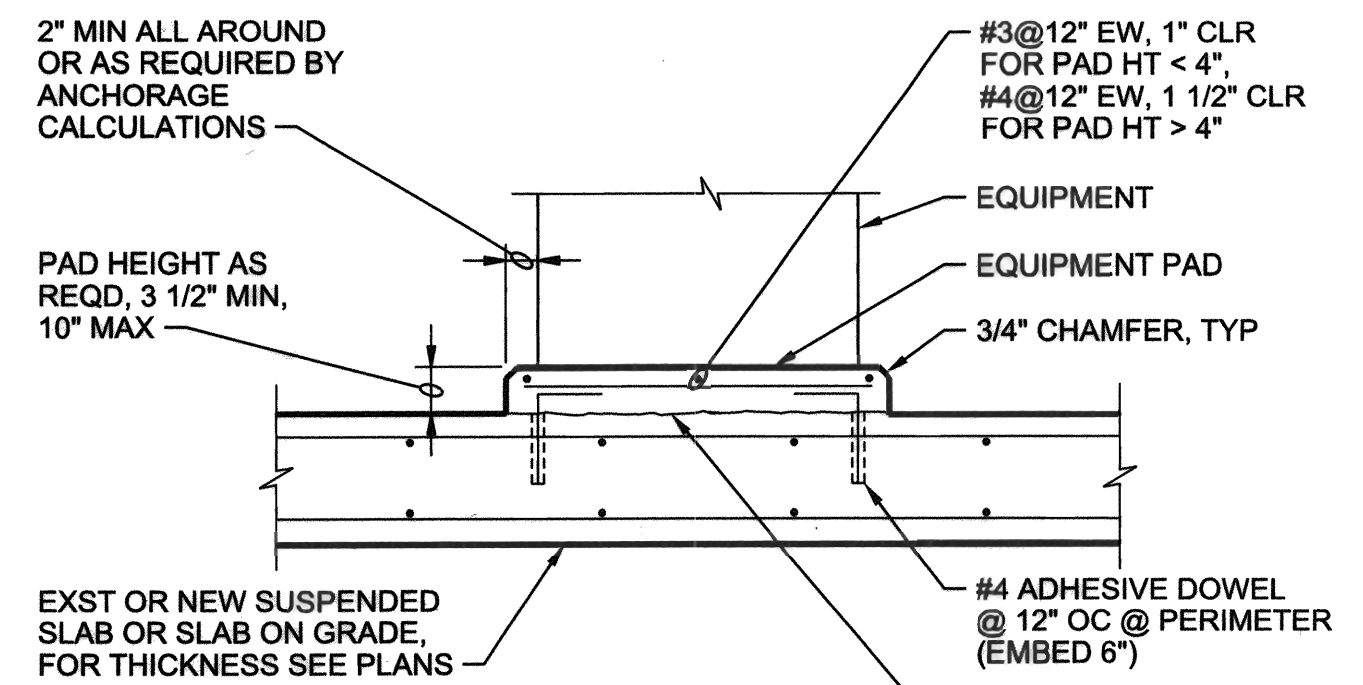
Jacobs

DATE: MAR 16, 2022
CHK BY: S. PARKER



LAGUNA TREATMENT PLANT EMERGENCY GENERATOR
FUEL TANK AND FLEET FUELING STATION REPLACEMENT
STANDARD DETAILS 1

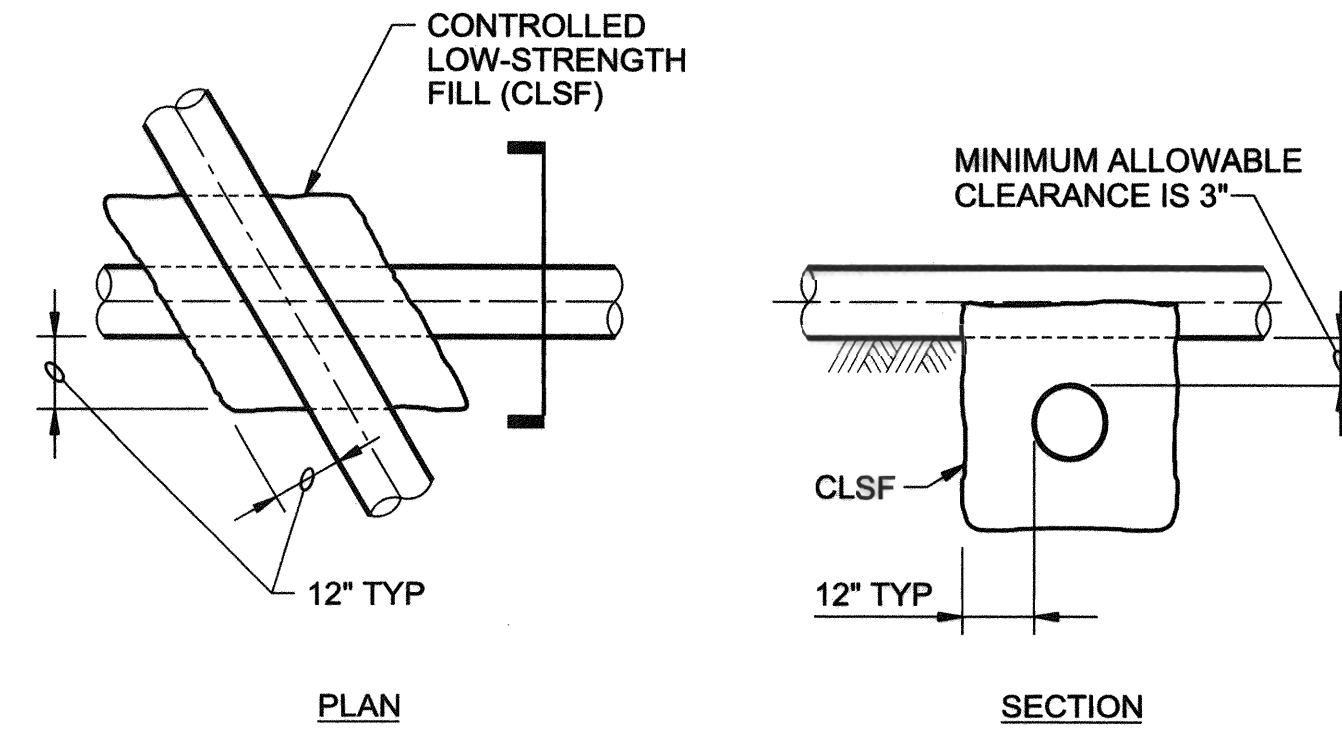
CONTRACT NO. C02192
DRAWING NO. SD1
SHEET 21 OF 22
FILE NO. 2022-0008



- NOTES:**
1. WHEN ANCHORAGE OF EQUIPMENT TO PAD IS REQUIRED, USE CONCRETE ANCHORS SPECIFIED.
 2. CONCRETE PADS FOR ELECTRICAL EQUIPMENT SHALL BE 3 1/2" HIGH, UNLESS NOTED OTHERWISE.

CONCRETE EQUIPMENT PAD

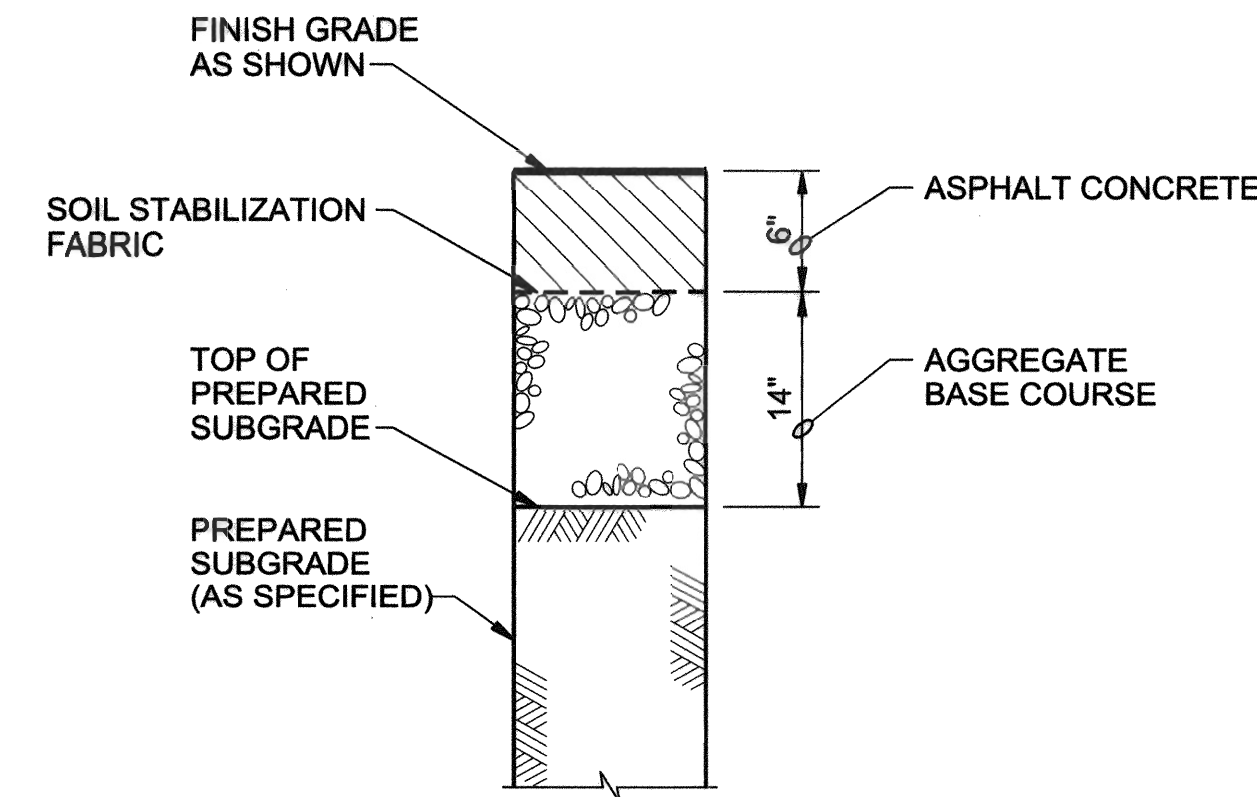
0330-056



- NOTES:**
- CLSIF SUPPORT IS REQUIRED:
- WHEN BOTH PIPELINES ARE NEW AND CLEARANCE BETWEEN THEM IS LESS THAN 12".
 - WHEN A NEW PIPELINE IS CROSSING OVER AN EXISTING PIPELINE AND THE CLEARANCE BETWEEN THEM IS LESS THAN 12".
- AT ALL PIPE CROSSINGS WHERE A NEW PIPELINE IS CROSSING UNDER AN EXISTING PIPELINE.

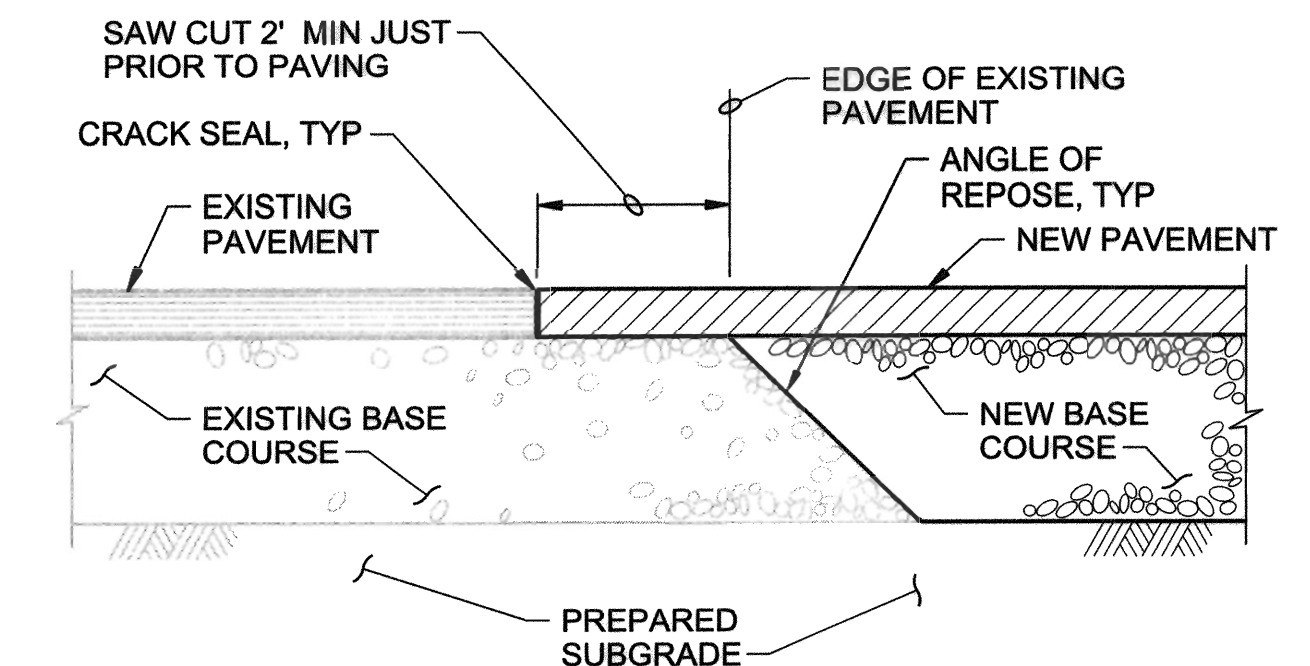
TRENCH PIPE CROSSING

3123-120



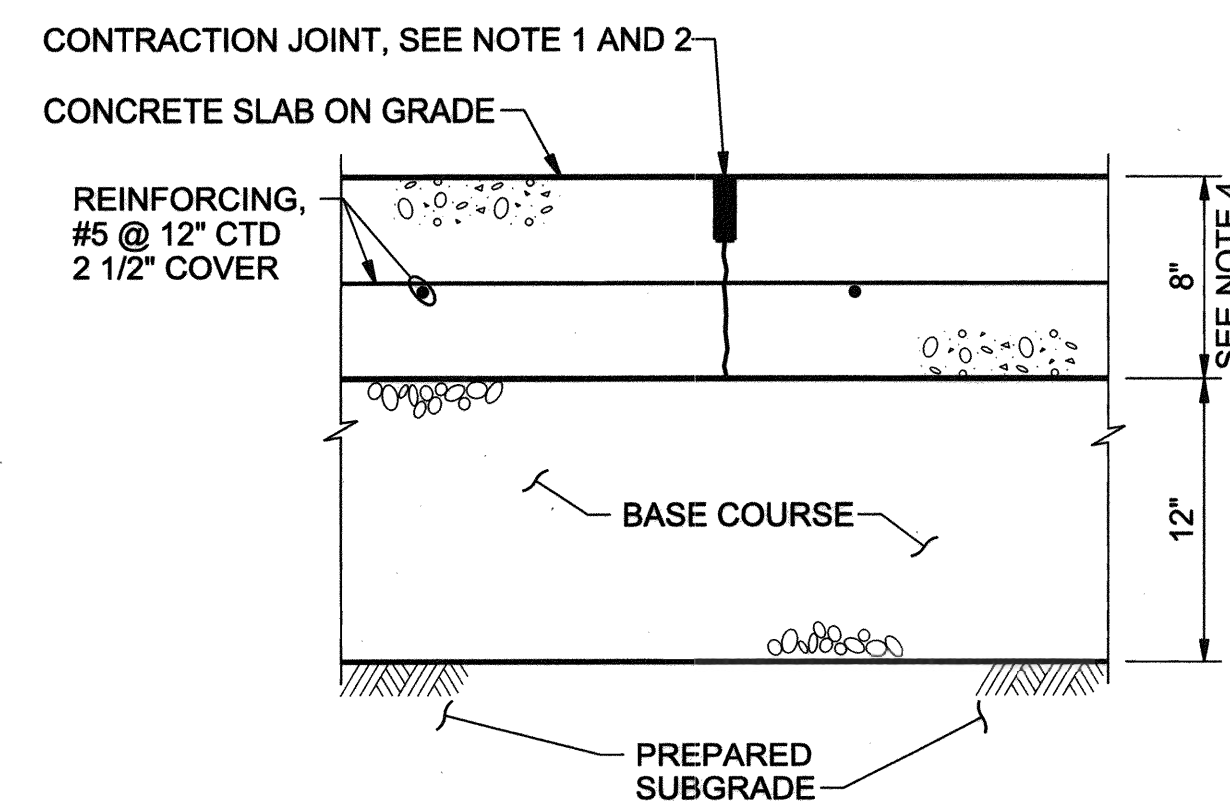
ASPHALT CONCRETE PAVEMENT

3212-210



PAVEMENT CONNECTION

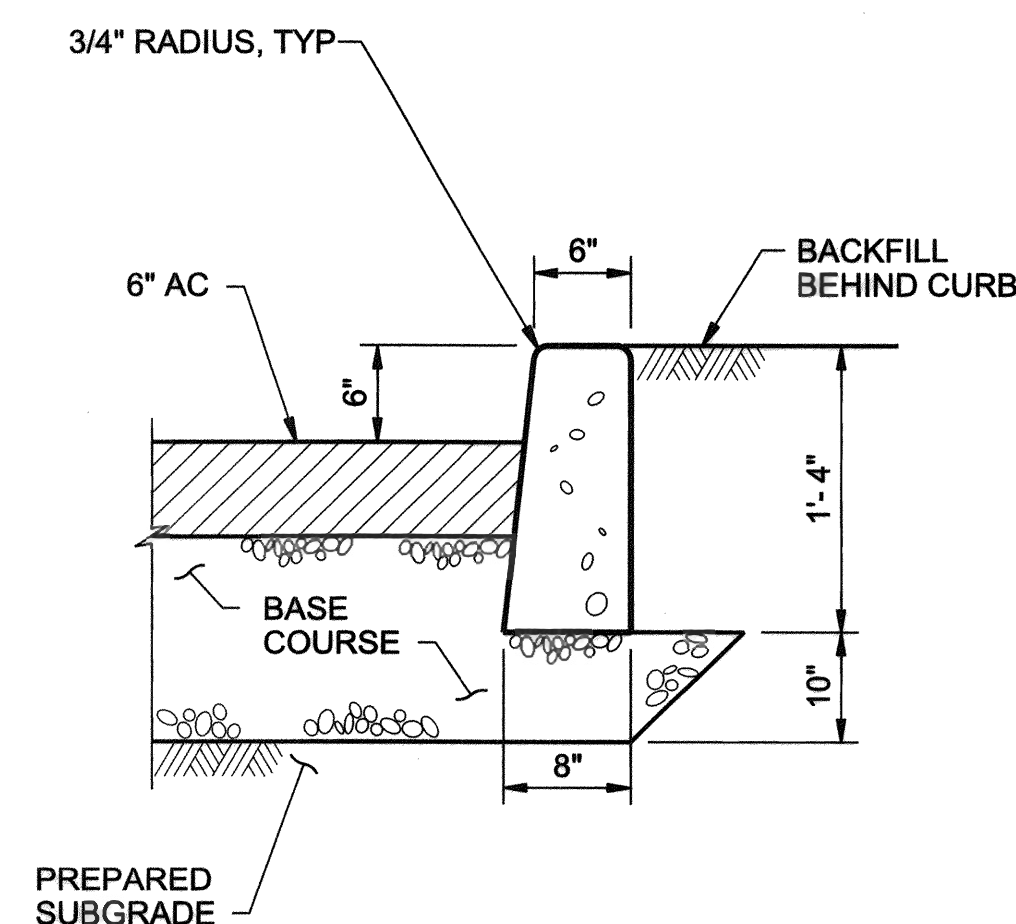
3212-215



- NOTES:**
1. CONTRACTION JOINT SHALL BE MADE, CLEANED WITH COMPRESSED AIR, AND FILLED WITH SEALANT AS SPECIFIED.
 2. CONCRETE JOINT SPACING: 9' x 10' OR AS SHOWN.
 3. INSTALL 1/2" PREMOLDED JOINT FILLER FULL DEPTH WHERE CONCRETE PAVEMENT ABUTS CONCRETE CURB, BUILDING OR ANY RIGID STRUCTURE.
 4. PROVIDE A 12" THICK BY 18" WIDE THICKENED EDGE AROUND PERIMETER OF SLAB. TRANSITION THICKENED EDGE TO NORMAL 8" THICKNESS IN 18".

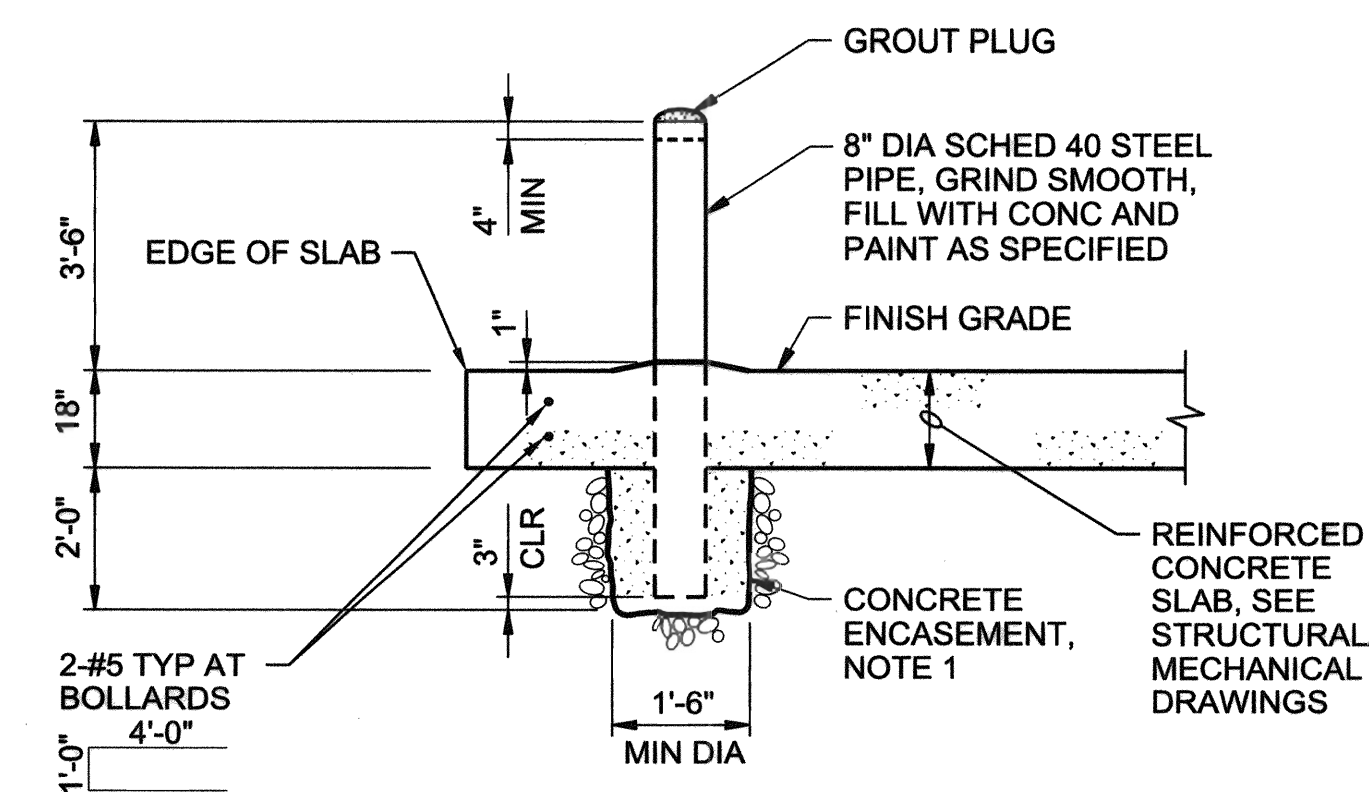
CONCRETE - PAVEMENT

3213-240



CONCRETE CURB

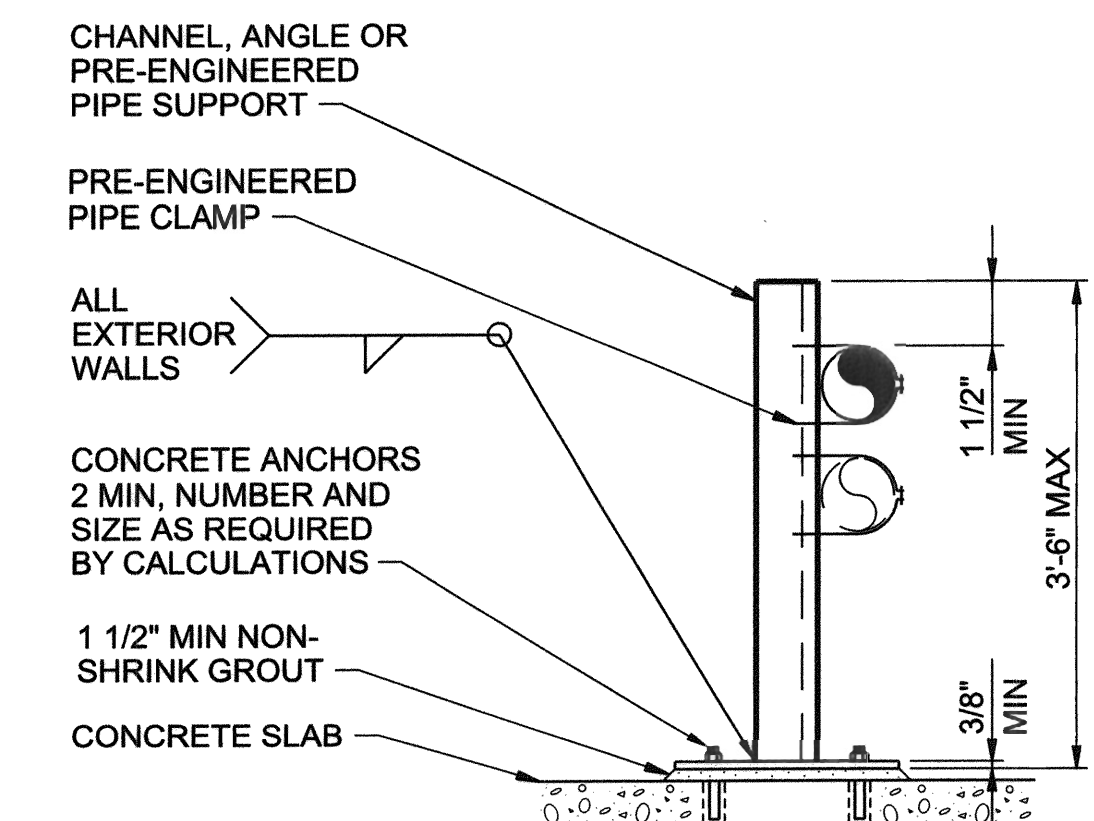
3216-315



- NOTE:**
1. WHERE GUARD POST IS NOT INSTALLED IN A CONCRETE SLAB, EXTEND ENCASEMENT TO FINISH GRADE FOR 3'-6" ENCASEMENT DEPTH. SLOPE TOP OF ENCASEMENT TO DRAIN AWAY FROM POST.

GUARD POST - EXTERIOR

3471-810



- NOTES:**
1. SUBMIT FINAL DESIGN DRAWINGS AND CALCULATIONS OF SUPPORTS AND ANCHORAGES AS SPECIFIED.
 2. MAXIMUM PIPE SIZE: 2" DIAMETER.
 3. MATERIAL TYPE SHALL BE AS SHOWN ON DRAWINGS OR AS SPECIFIED.
 4. PROVIDE PIPE PROTECTION BARRIER AS SPECIFIED.

FLOOR PIPE SUPPORT - FRAME TYPE

4005-524



Jacobs

SCALE: AS SHOWN DATE: MAR 16, 2022
DWN BY: K. BISHOP CHK BY: T. HOWARD



City of Santa Rosa
LAGUNA TREATMENT PLANT EMERGENCY GENERATOR FUEL TANK AND FLEET FUELING STATION REPLACEMENT
STANDARD DETAILS 2

CONTRACT NO. C02192
DRAWING NO. SD2
SHEET 22 OF 22
FILE NO. 2022-0008