

ABBREVIATIONS

AB	AGGREGATE BASE	MFR	MANUFACTURE
ABAN	ABANDONED	MG	MILLION GALLONS
ABS	ACRYLONITRILE-BUTADIENE-STYRENE	MH	MANHOLE
AC	ASPHALT CONCRETE	MIN	MINIMUM
ACP	ASBESTOS CEMENT PIPE	MISC	MISCELLANEOUS
AD	ALGEBRAIC DIFFERENCE	MA	MECHANICAL JOINT
ADA	AMERICANS WITH DISABILITIES ACT	MGN	MOUND
ADPT	ADAPTER	MSL	MEAN SEA LEVEL
AGG	AGGREGATE	N	NORTH
ALUM	ALUMINUM	NG	NATURAL GROUND
ANG	ANGLE	NO.	NUMBER
APN	ANGLE POINT	NA	NOT APPLICABLE
APN	ASSESSORS PARCEL NUMBER	NIC	NOT IN CONTRACT
APPROX	APPROXIMATE	NPT	NATIONAL PIPE THREAD
ARV	AIR RELEASE VALVE	OC	ON CENTER
AVE	AVENUE	OD	OUTSIDE DIAMETER
AVG	AVERAGE	OZ	OUNCE
BC	BEGIN HORIZONTAL CURVE	PA	PLANTER AREA
BFP	BACKFLOW PREVENTER	PB	PULL BOX
BLVD	BUILDING	PC	POINT OF CURVATURE
BLVD	BOULEVARD	PCC	POINT OF COMPOUND CURVATURE
BM	BENCHMARK	PCC	PORTLAND CEMENT CONCRETE
BOC	BLOWOFF	PD	PLASTER DRAIN
BOC	BACK OF CURB	PE	PLAIN END
BV	BUTTERFLY VALVE	PEC	PHOTOELECTRIC CELL
BVC	BEGIN VERTICAL CURVE	PEL	PEDESTRIAN
BSW	BACK OF SIDEWALK	PG	PAD GRADE
BT	BOTTOM OF TAPER	PI	POINT OF INTERSECTION
B&R	BRELJE & RACE	PIV	POST INDICATOR VALVE
C	CONDUIT	R	PROPERTY LINE
CAV	COMBINATION AIR AND VACUUM RELEASE VALVE	PN	PAVING NOTCH
CB	CATCH BASIN	PCC	POINT OF CONNECTION
CBC	CALIFORNIA BUILDING CODE	PC	POINT ON CURVE
CDF	CONTROLLED DENSITY FILL	POCC	POINT OF COMPOUND CURVE
CHK	CHECK	POVC	POINT ON VERTICAL CURVE
CHM	CHEMICAL	POS	PRIVATE OPEN SPACE
CIP	CAST-IN-PLACE PIPE	POT	POINT ON TANGENT
CL	CENTERLINE	PP	POWER POLE
CL	CENTERLINE	PRC	POINT OF REVERSE CURVATURE
CL	CLASS	PRV	PRESSURE REDUCING VALVE
CLR	CLEAR	PSD	PERFORATED SUBDRAIN
CMP	CORRUGATED METAL PIPE	PSI	POUND PER SQUARE INCH
CMPA	CORRUGATED METAL PIPE ARCH	PSV	PRESSURE SUSTAINING VALVE
CMU	CONCRETE MASONRY UNIT	PT	POINT
CO	CLEANOUT	PT	POINT OF TANGENCY
COAX	COAXIAL CABLE	PUE	PUBLIC UTILITY EASEMENT
COND	CONCRETE CONDUIT	PVC	POLYVINYL CHLORIDE
COND	CONCRETE CONDUIT	PVI	POINT OF VERTICAL INTERSECTION
CONST	CONSTRUCTION	PWT	PAVEMENT
CONT	CONTINUOUS	PWE	PUBLIC WATER EASEMENT
COTG	CLEANOUT TO GRADE	R	RADIUS
CP	CONTROL POINT	RAW	RAW WATER
CPLG	COUPLING	RC	RELATIVE COMPACTION
CR	CURB RETURN	RCB	REINFORCED CONCRETE BOX
CSP	CORRUGATED STEEL PIPE	RCP	REINFORCED CONCRETE PIPE
CT	COURT	RD	ROAD
CTB	CEMENT TREATED BASE	RD	ROOF DRAIN
CTR	CENTER	RED	REDUCER
CY	CUBIC YARD	REF	REFERENCE
C/C	CENTER TO CENTER	ROW	RIGHT OF WAY
C&G	CURB AND GUTTER	RSC	RAISED PAVEMENT MARKER
DBL	DOUBLE	RSC	REMOTE SUPERVISORY CONTROL
DCDC	DOUBLE CHECK DETECTOR CHECK	RT	RIGHT
DCV	DETECTOR CHECK VALVE	RT	RING TIGHT
DDC	DOUBLE DETECTOR CHECK	RW	RECYCLED WATER
DET	DETECTOR	RWL	RAIN WATER LEADER
DH	DETECTOR HANDHOLE	R/W	RIGHT OF WAY
DI	DROP INLET	S	SOUTH
DIA	DIAMETER	S	SLOPE
DIP	DUCTILE IRON PIPE	S.A.D.	SEE ARCHITECTURAL DRAWINGS
DLC	DETECTOR LOOP CONDUIT	SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
DR	DRIVE	SCHD	STANDARD
DS	DOWNSPOUT	SD	STORM DRAIN
DS	DOWNSTREAM	SOCB	STORM DRAIN CATCH BASIN
DWG	DRAWING	SOD	STORM DRAIN CLEANOUT
DWR	DASHED WHITE PAVEMENT MARKER	SDDI	STORM DRAIN DROP INLET
DWY	DRIVEWAY	SDE	STORM DRAIN EASEMENT
DYR	DASHED YELLOW RAISED PAVEMENT MARKER	SDMH	STORM DRAIN MANHOLE
E	EACH	SE	SEWER EASEMENT
EA	EACH	S.E.D.	SEE ELECTRICAL DRAWINGS
EC	END HORIZONTAL CURVE	SF	SQUARE FEET
ECC	ECCENTRIC	SG	SUBGRADE
EFFL	EFFLUENT (SEWER)	SIG	SIGNAL
EGL	EXISTING GROUND	SL	STREET LIGHT
EL	ELEVATION	S.L.D.	SEE LANDSCAPE DRAWINGS
ELEC	ELECTRICAL	SLIP	SLIP ON FLANGE
ELL	ELBOW	SO	SIDE OPENING (SD)
EP	EDGE OF PAVEMENT	S.P.D.	SEE PLUMBING DRAWINGS
EQ	EQUAL	SPEC	SPECIFICATION
ESMT	EASEMENT	SS	SQUARE
EV	END VERTICAL CURVE	SS	STAINLESS STEEL
EW	EACH WAY	SS	SANITARY SEWER
EX	EXISTING	SSCO	SANITARY SEWER CLEANOUT
F	FIRE	S.S.D.	SEE STRUCTURAL DRAWINGS
FA	FIRE ALARM	SSMH	SANITARY SEWER MANHOLE
FC	FACE OF CURB	ST	STREET
FCA	FLANGED COUPLING ADAPTER	STA	STATION
FDC	FIRE DEPARTMENT CONNECTION	STD	STANDARD
FES	FLARED END SECTION	STL	STEEL
FF	FINISHED FLOOR	SERV	SERVICE
FG	FINISHED GRADE	SWE	SIDEWALK EASEMENT
FH	FIRE HYDRANT	SY	SQUARE YARDS
FL	FLOWLINE	SW	SIDEWALK
FLG	FLOWLINE	SWL	SOLID WHITE LINE
FLSO	FLOWLINE OF SIDE OPENING	T	TANGENT
FLEX	FLEXIBLE	TAN	TANGENT
FM	FORCE MAIN (PRESSURE)	TAN	TANGENT
FRP	FIBERGLASS REINFORCED PLASTIC	TBO	TOP OF BOX
FTG	FEET	TBM	TEMPORARY BENCHMARK
FTG	FEET	TC	TOP OF CONCRETE
GAL	GALLON	TC	TOP OF CURB
GALV	GALVANIZED	TCE	TEMPORARY CONSTRUCTION EASEMENT
GB	GRADE BREAK	TD	TOP OF DIKE
GPM	GALLONS PER MINUTE	TEL	TELEPHONE
GRD	GROUND	TEMP	TEMPORARY
GSP	GALVANIZED STEEL PIPE	TF	TOP OF FOUNDATION
GV	GAS VALVE	TG	TOP OF GRATE
GV	GATE VALVE	THD	THREADED
HB	HOSE BIBB	TP	TOP OF PIPE
HB	HEADER BOARD	TS	TOP OF SLAB
HDD	HOT DIPPED GALVANIZED	TS	TRAFFIC SIGNAL
HDPE	HIGH DENSITY POLYETHYLENE	TT	TOP OF TAPER
HORIZ	HORIZONTAL	TW	TOP OF WALL
HP	HIGH POINT	TW	TWO WAY LEFT TURN LANE
HPC	HIGH PRESSURE GAS	TYP	TYPICAL
HPS	HIGH PRESSURE SODIUM	UC	UTILITY CHASE
HT	HEIGHT	UFFG	UNDER FLOOR FINISHED GRADE
HWY	HIGHWAY	UG	UNDERGROUND
IC	INTERCONNECT	UNO	UNLESS NOTED OTHERWISE
ICV	IRRIGATION CONTROL VALVE	V	VOLT
ID	INSIDE DIAMETER	VC	VERTICAL CURVE
INV	INVERT	VCP	VITRIFIED CLAY PIPE
IP	IRON PIPE	VERT	VERTICAL
IPS	IRON PIPE SIZE	VG	VALLEY GUTTER
IRR	IRRIGATION	VLT	VAULT
ISA	INTERNATIONAL SYMBOL OF ACCESSIBILITY	W	WEST
JB	JUNCTION BOX	W	WATER
JP	JOINT POLE	WBD	WALL BACK DRAIN
JT	JOINT TRENCH	WM	WATER METER
KV	KILOVOLT	WNF	WELD NECK FLANGE
L	LENGTH	WS	WATER SERVICE
LAT	LATERAL	WSS	WATER SAMPLING STATION
LF	LINAL FEET	WT	WEIGHT
LG	LIP OF GARAGE	WTR	WATER
LG	LIP OF GUTTER	WV	WATER VALVE
LL	LANE LINE	WWF	WELDED WIRE FABRIC
LMA	LUMINAIRE MAST ARM	YD	YARD
LN	LANE	'	DEGREES
LP	LOW POINT	"	MINUTES
LT	LEFT	"	SECONDS
LUM	LUMINAIRE	Δ	DELTA
LUM	LUMINAIRE	∞	AND
MAX	MAXIMUM	@	AT
MB	MAILBOX	#	NUMBER
MBGR	METAL BEAM GUARD RAIL	#	POUNDS
		%	PERCENT

LEGEND

LINES

APPROXIMATE EXISTING BOUNDARY	-----
APPROXIMATE EXISTING PARCEL CENTER	-----
EASEMENT	-----

UTILITY & TOPOGRAPHY

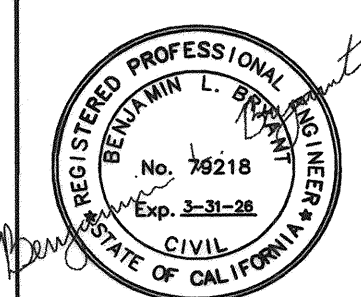
DROP INLET		
DROP INLET WITH SIDE OPENINGS		
STORM DRAIN, MANHOLE & CATCH BASIN		
SEWER MAIN, MANHOLE & CLEAN OUT		
SEWER LATERAL & CLEANOUT		
IRRIGATION CONTROL VALVE BOX & SERVICE		
FIRE HYDRANT & SERVICE ASSEMBLY		
WATER MAIN, GATE VALVE, CROSS & ELBOW		
WATER MAIN, PERMANENT BLOWOFF, TEE, GATE VALVE, CROSS & BEND		
SINGLE WATER SERVICE (SEE PLANS FOR SIZE)		
DUAL WATER SERVICE (SEE PLANS FOR SIZE)		
TEMPORARY BLOWOFF, REDUCER & TIE-IN		
END CAP OR PLUG		
GAS MAIN, VALVE & SERVICE		
ELECTRICAL MANHOLE		
TELEPHONE MANHOLE		
PACIFIC BELL TELEPHONE PULL BOX/VAULT		
ELECTRICAL CONDUIT & BOX		
STREET LIGHT CONDUIT & BOX		
STREET LIGHT		
TRAFFIC SIGNAL		
TRAFFIC SIGNAL PULL BOX		
JOINT POLE & GUY ANCHOR		
OVERHEAD UTILITY		
STREET ADDRESS		
STREET SIGN		
FENCE		
PARKING METER		
SURVEY CONTROL POINT		
SURVEY MONUMENT		
AC DIKE		
CURB & GUTTER		
TREE PROTECTION		
ABANDON EXISTING UTILITY		
TREE TO BE SAVED/PROTECTED		
TREE TO BE REMOVED		

PLAN BACKGROUND NOTES

- EXISTING PLANIMETRIC FEATURES SHOWN ON THESE PLANS ARE BASED ON AVAILABLE RECORD DRAWINGS, MANUFACTURER CUT SHEETS, AND FIELD MEASUREMENTS. NO TOPOGRAPHIC MAPPING OR FIELD SURVEYING WAS COMPLETED DURING THE PROJECT DESIGN.
- CONTRACTOR AND OTHERS USING THESE PLANS SHALL CONFIRM THE LOCATION OF UNDERGROUND UTILITIES AND STRUCTURES WITH THE CITY PRIOR TO COMMENCING POT-HOLING AND CONSTRUCTION ACTIVITIES.
- RIGHT-OF-WAY, BOUNDARY, AND PARCEL LINES SHOWN ARE APPROXIMATE AND FOR GENERAL REFERENCE ONLY. NO BOUNDARY SURVEYING WAS COMPLETED DURING THE PROJECT DESIGN.
- ELEVATIONS NOTED ARE BASED ON THE CITY OF SANTA ROSA VERTICAL CONTROL DATUM (NGVD 29) UNLESS OTHERWISE NOTED.

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 SECTION 5-1.36E OF THE SPECIAL PROVISIONS.
- THE LOCATIONS OF UNDERGROUND UTILITIES AND OTHER OBSTACLES SHOWN ON THE PLANS ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL POT-HOLE 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 ENGINEER.
- THE CONTRACTOR SHALL PROTECT AND PRESERVE CITY MONUMENTS. THE CONTRACTOR SHALL COORDINATE WITH THE CITY ENGINEER 10 WORKING DAYS IN ADVANCE FOR REFERENCING OF EXISTING MONUMENTS TO BE DISTURBED. THE CONTRACTOR SHALL RECONSTRUCT DISTURBED MONUMENTS IN ACCORDANCE WITH CITY STANDARD 280.
- OVERHEAD UTILITY SERVICE DROPS ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL INVESTIGATE THE SITE AND BE AWARE OF LIMITED CLEARANCES UNDER OVERHEAD UTILITY LINES AND LOW HANGING TREE BRANCHES. THE CONTRACTOR'S TRUCKS AND LOW EXCAVATION EQUIPMENT SHALL BE SIZED SO THAT OVERHEAD WIRES AND TREE BRANCHES ARE NOT DAMAGED.
- ALL EXCAVATED MATERIAL SHALL BE DISPOSED OF AS GENERATED AND AT NO TIME SHALL THE CONTRACTOR PLACE EXCAVATED MATERIAL AT THE WORK SITE.
- THE CONTRACTOR SHALL ONLY REMOVE EXISTING TREES OR SHRUBS AS NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- FOR CLARITY OF EXISTING SUBSURFACE CONDITIONS, NOT ALL CROSSWALKS, STOP BARS, OR EXISTING PAVEMENT MARKINGS ARE SHOWN ON THE PLANS. TRAFFIC STRIPES, RAISED PAVEMENT MARKERS AND PAVEMENT MARKINGS DAMAGED DUE TO THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED PER CITY OF SANTA ROSA TRAFFIC STANDARDS PART III, TRAFFIC MARKINGS. PATCHING OF DAMAGED MARKINGS WILL NOT BE ALLOWED WITHOUT PRIOR APPROVAL FROM THE ENGINEER. ALL DAMAGED RAISED PAVEMENT (NON-REFLECTIVE) MARKERS MUST BE CERAMIC.
- CONTRACTOR SHALL KEEP A SET OF PLANS ON-SITE THAT IS CONTINUAL AND LEGIBLY UPDATED AS THIS PROJECT PROGRESSES. THIS SET OF AN EXACT COPY SHALL BE GIVEN TO THE ENGINEER AT THE END OF THE WORK.
- ALL FACILITIES AT PUMP STATION 9 SHALL BE ACCESSIBLE AT ALL TIMES TO CITY PERSONNEL WHEN STATION IS IN OPERATION.



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www.brelje.com

No.	Date	Revision	By

SCALE: AS SHOWN	DATE: AUGUST 2024
DWN BY: SYK	CHK BY: BB

City of Santa Rosa
**WATER PUMP STATION 9
ELECTRICAL UPGRADES**
ABBREVIATIONS, LEGEND & NOTES

BROOKSHIRE CIRCLE

SUMMERFIELD ROAD

SHEET NOTES

ELECTRICAL UTILITIES NOT SHOWN ON THIS SHEET FOR CLARITY PURPOSES. SEE ELECTRICAL DRAWINGS.

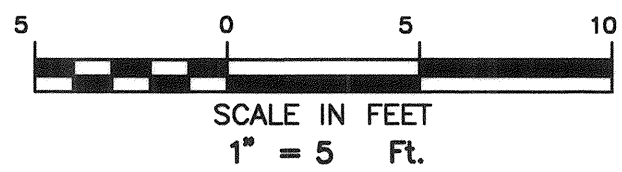
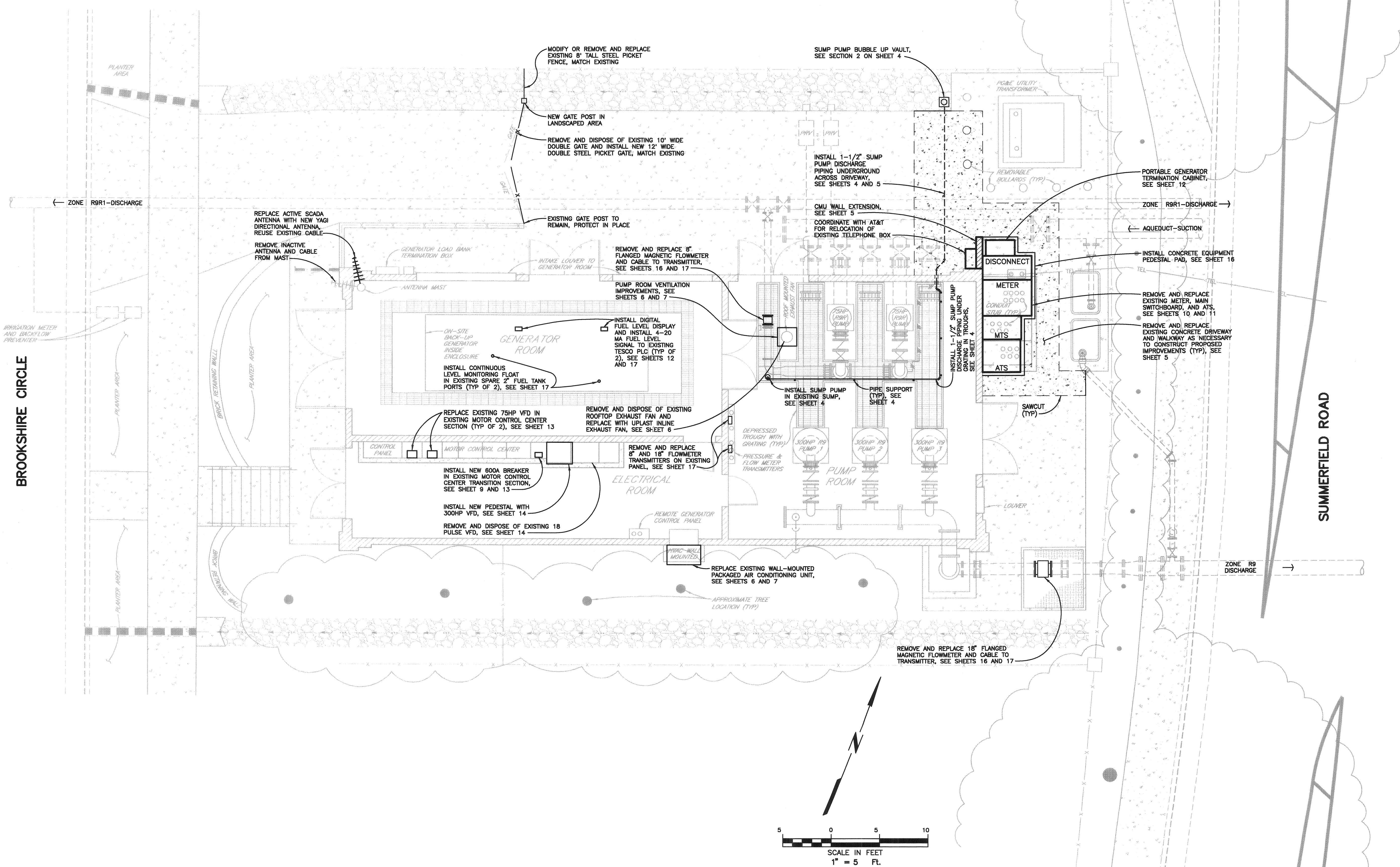


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No.	Date	Revision	By

SCALE: AS SHOWN	DATE: AUGUST 2024
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City of Santa Rosa	WATER PUMP STATION 9 ELECTRICAL UPGRADES OVERALL SITE PLAN
CONTRACT NO. C02438	
SHEET 3 OF 18	
FILE NO. 2024-0001	





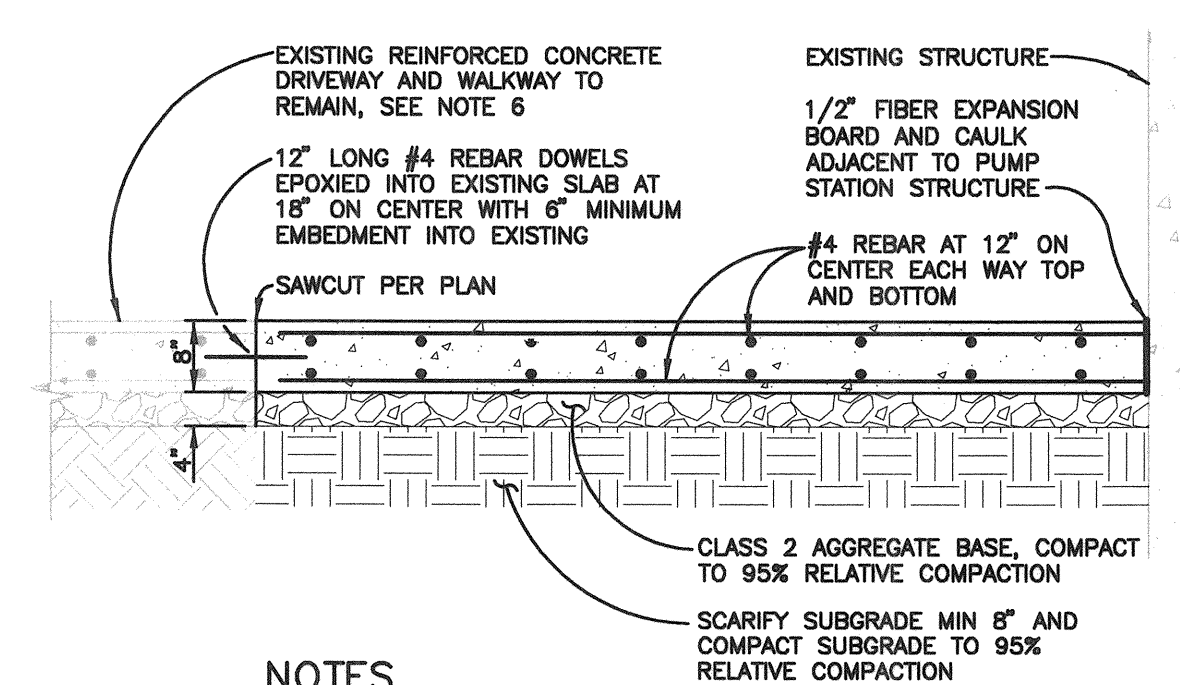
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DATE: AUGUST 2024	CHK BY: BB
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City of Santa Rosa
WATER PUMP STATION 9
ELECTRICAL UPGRADES
CIVIL & MECHANICAL
DETAILS

CONTRACT NO. C02438
SHEET 5 OF 18
FILE NO. 2024-001

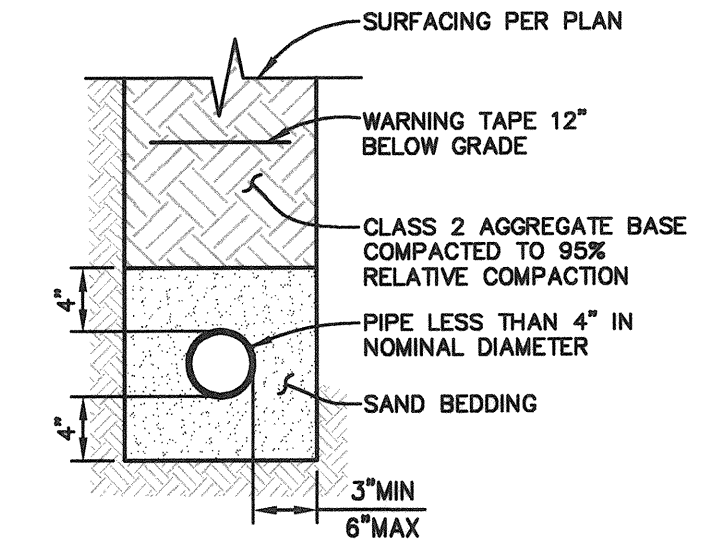


NOTES

1. SLAB EXPANSION JOINTS SHALL BE AT 12'-0" EACH WAY MAX WITH WIDTH AND DEPTH TO MATCH EXISTING.
2. SURFACE FINISH SHALL BE LIGHT DELAYED BRUSHING, MATCH EXISTING.
3. PLACE 1/2" FIBER EXPANSION BETWEEN SLAB AND EXISTING STRUCTURES TO REMAIN.
4. PROVIDE 1/2" CHAMFER AT ALL EXPOSED EDGES.
5. PROVIDE 2" CONCRETE COVER OVER REINFORCEMENT.
6. EXISTING CONCRETE REINFORCED WITH #4 REBAR AT 12" ON CENTER EACH WAY TOP AND BOTTOM.

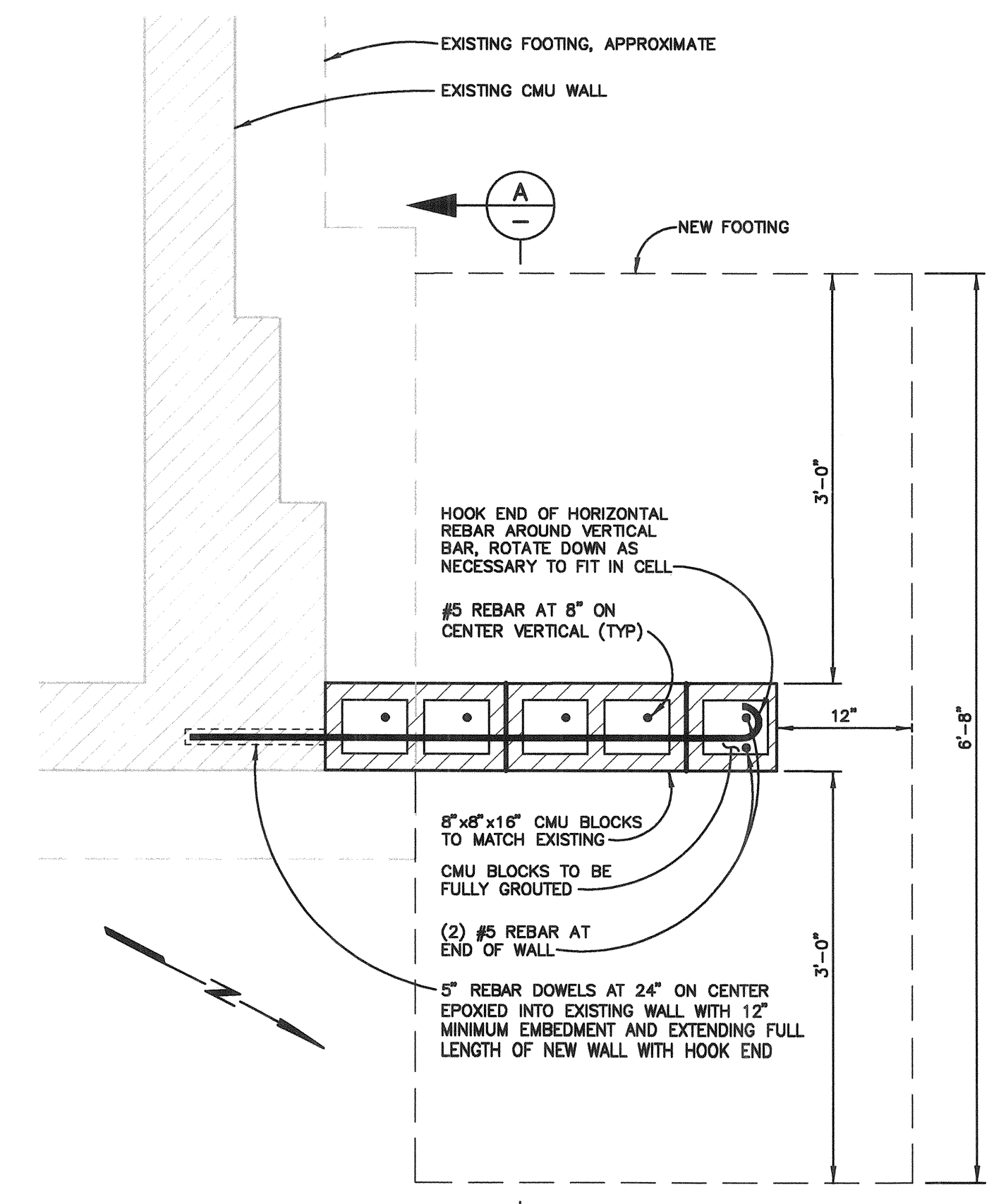
DRIVEWAY AND WALKWAY

NOT TO SCALE



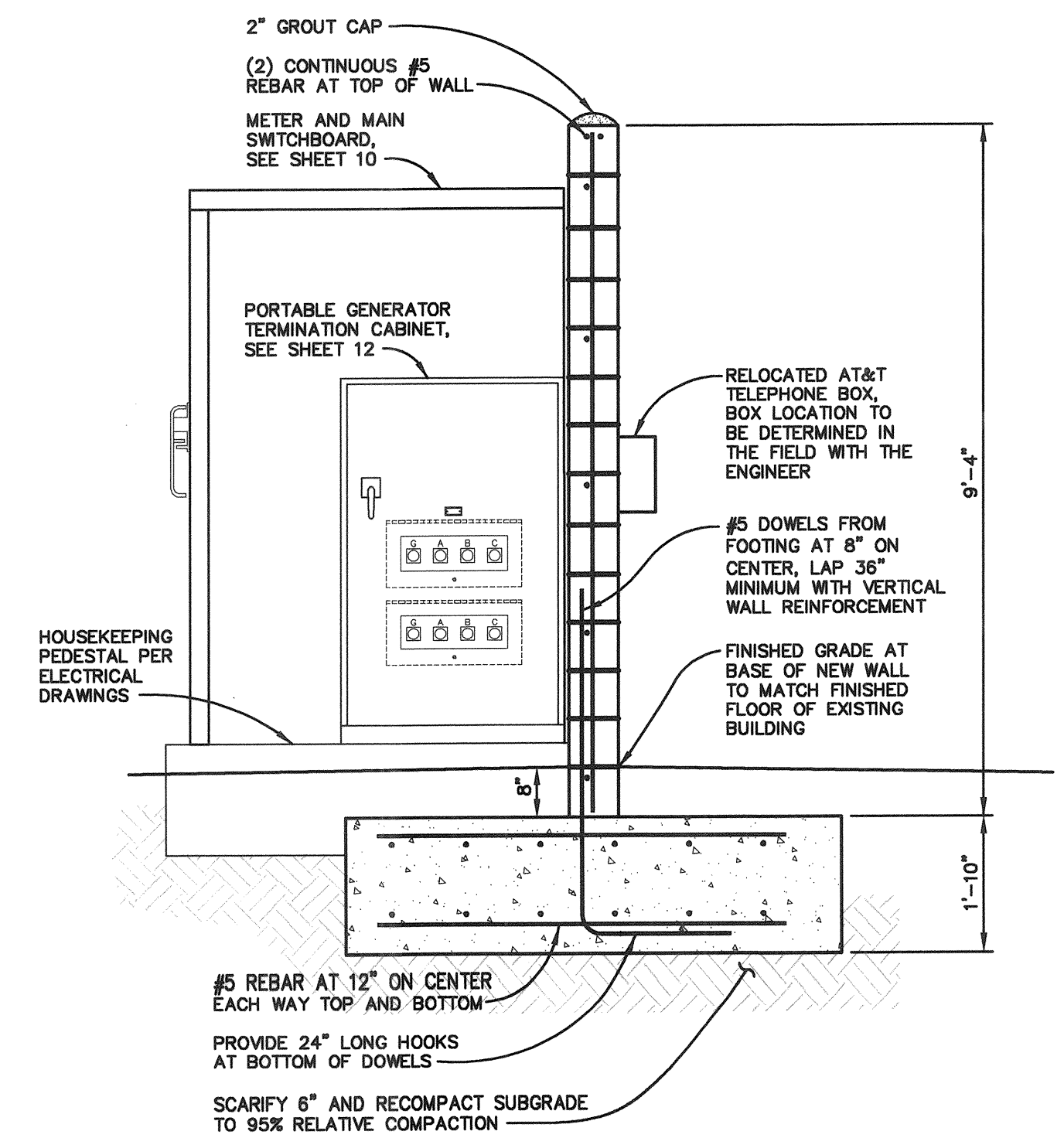
TRENCH SECTION

NOT TO SCALE



CMU WALL EXTENSION

SCALE: AS SHOWN



TAB: 5 DETAIL

08-23-24 Scaberrini \\495A\dwg\4954\00\4954-00 DETAIL.dwg

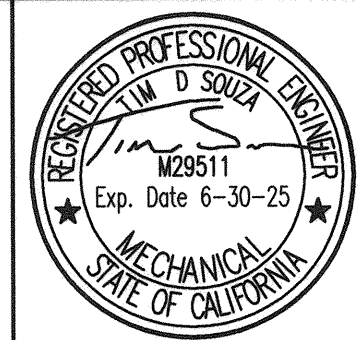
MECHANICAL SYMBOLS

SYMBOL	ABBREVIATION	DESCRIPTION
	CD	SUPPLY DIFFUSER
	RAG, EAG	RETURN/EXHAUST AIR GRILLE
	VD	VOLUME DAMPER
		DUCT SIZE, FIRST NUMBER IS IN PLANE OF PAGE
	L	LINED DUCTWORK
		DEMOLITION
		TURNING VANES
	FC	FLEXIBLE CONNECTION
	FD	FIRE OR FIRE SMOKE DAMPER
		SUPPLY DUCT UP
		RETURN/EXHAUST DUCT UP
	T	THERMOSTAT
	POC	POINT OF CONNECTION
	SD	DUCT SMOKE DETECTOR
	M	MOTOR-ACTUATOR
	AFF	ABOVE FINISHED FLOOR
	BDD	BACK DRAFT DAMPER
	CD	CONDENSATE DRAIN
	CTE	CONNECT TO EXISTING
	DG	DOOR GRILLE
	DN	DOWN
	DS	DOOR SENSOR
	DWG	DRAWING
	EA	EXHAUST AIR
	(E)	EXISTING
	FLA	FULL LOAD AMPS
	GA	GAUGE
	GSM	GALVANIZED SHEET METAL
	IJS	IN JOIST SPACE
	MBH	THOUSAND BTU PER HOUR
	MCA	MINIMUM CIRCUIT AMPS
	MOCP	MAXIMUM OVER CURRENT PROTECTION
	NTS	NOT TO SCALE
	OA	OUTSIDE AIR
	OS	OCCUPANCY SENSOR
	(RE)	RELOCATE EXISTING
	RL	REFRIGERANT LIQUID
	RS	REFRIGERANT SUCTION
	SAD	SEE ARCHITECTURAL DRAWINGS
	SCD	SEE CIVIL DRAWINGS
	SED	SEE ELECTRICAL DRAWINGS
	SMD	SEE MECHANICAL DRAWINGS
	SSTL	STAINLESS STEEL
	TYP	TYPICAL
	U/C	UNDERCUT DOOR 5/8"
	UON	UNLESS OTHERWISE NOTED
	VD	VOLUME DAMPER
	VIF	VERIFY IN FIELD
	VTR	VENT THROUGH ROOF

MECHANICAL EQUIPMENT SCHEDULE

Mark	Make / Model	Description	Accessories/ Options	Cooling Capacity	Heating Capacity	Airflow / Press	Min. OA CFM	Notes	Voltage	Phase	FLA	MCA	MOCP	Weight
TL	GRAINGER 4L294 (or APPROVED EQUIVALENT)	Line voltage wall mounted thermostat, 30-110 F setpoint range, inductive rating @ 120 V 16 A						Set operate fan above 90 F						
WHP-1	BARB W80HC-C02NXXXJ (or APPROVED EQUIVALENT)	Nominal 5 ton wall mounted heat pump, ECM indoor blower motor, scroll compressor, ball bearing outdoor motor, 2" MERV 13 air filters, fresh air manual damper.	Low leakage economizer with JADE controller	54.5 MBH, 11.0 EER @ AHRI	50.7 MBH @ 47 F, 3.3 COPm 33.3 MBH @ 17 F, 2.3 COP	1750 CFM @ 0.2"WC	440 CFM	Connect to operate from the existing wall thermostat	460 V	3 P	14 A	25 A	471 Lbs	

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 TEP PROJECT #3804



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FAN SCHEDULE

MARK	MAKE / MODEL	DESCRIPTION	ACCESSORIES	AIRFLOW	RPM	SOUND LEVEL	NOTES	VOLTS	PHASE	FLA	MOTOR HP	WEIGHT
EF-1	GREENHECK B50-240 (or APPROVED EQUIVALENT)	Direct drive inline fan, ODP VariGreen motor, galvanized steel construction, backward incline centrifugal fan, ball bearing motor	WD-330 backdraft damper, intake with OSHA guard, NEMA 1 disconnect switch, dial on fan 0-10 VDC speed controller, seismically restrained 1" deflection hanging spring isolators	2,500 CFM @ 0.5"WC, 1.52 BHP	1069 RPM	10.2 Sones	Wire to operate from wall thermostat TL	120 V	1 P	3.8 A, 15 A MOCP	3/4 HP	136 Lbs.

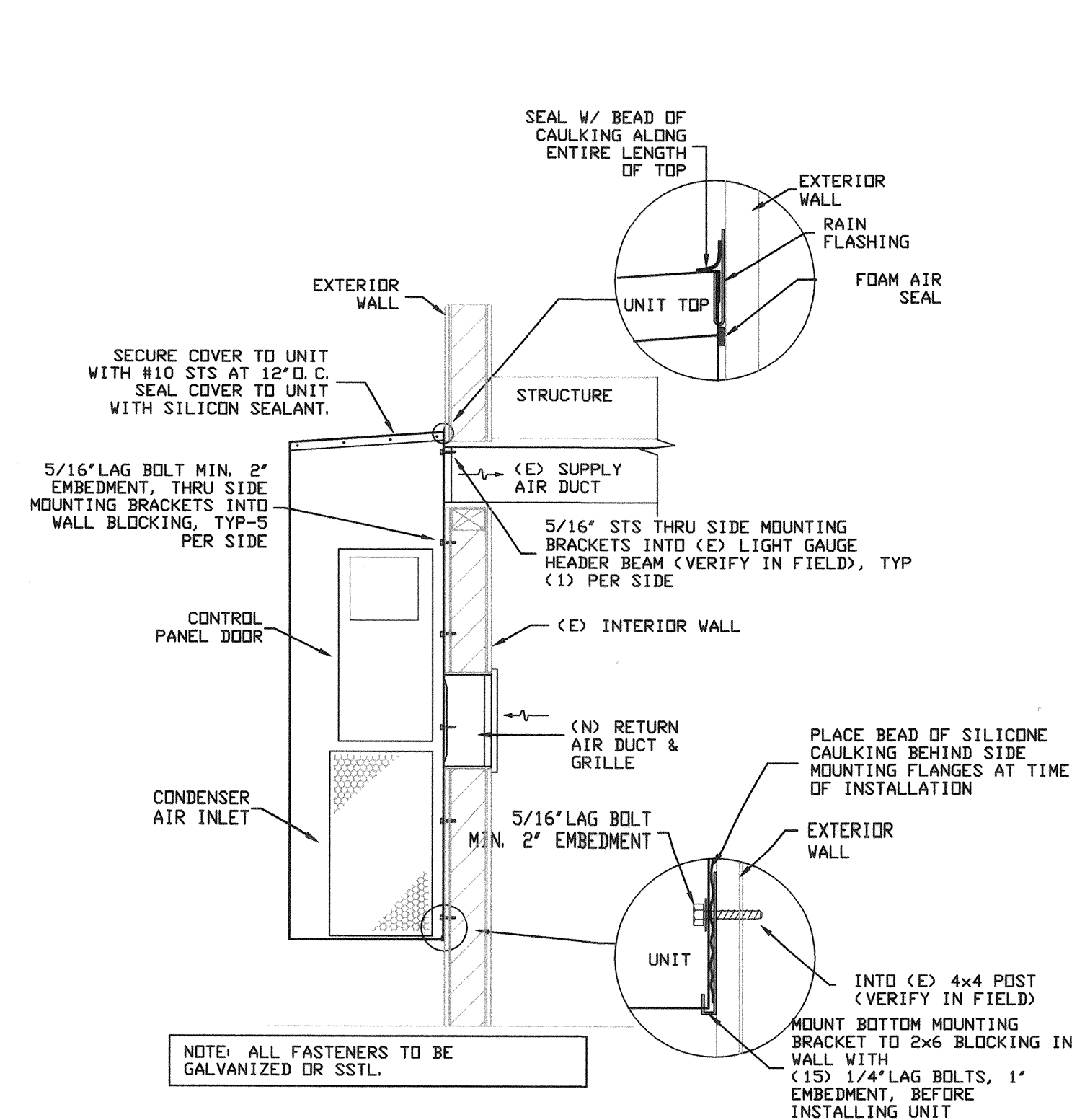
MECHANICAL MATERIALS SCHEDULE

SEE SPECIFICATIONS SECTION 23 00 00 FOR COMPLETE SPECIFICATIONS AND REQUIREMENTS

ITEM	MAKE / MODEL	MATERIAL DESCRIPTION
HANGER STRUT	SUPERSTRUT SERIES 1400 "GOLDGALV" or equivalent by B-LINE	14 GAUGE, 0.5 MIL ELECTRO GALVANIZED PLATED COATING
EQUIPMENT NAMEPLATES	SETON custom	Engraved acrylic (plastic), black with white border, 3" wide by 1" high with minimum 1/4" lettering.

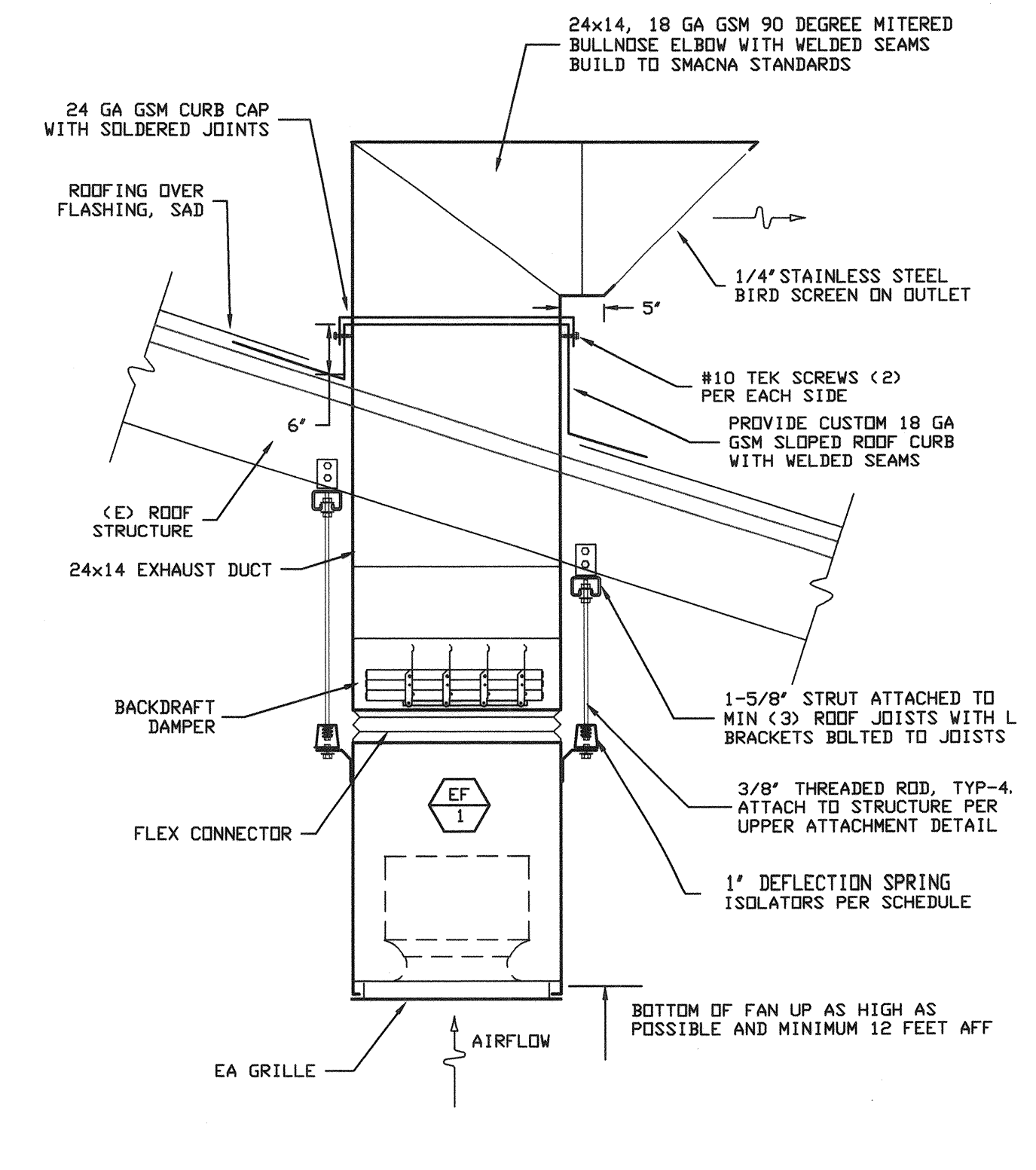
MECHANICAL GENERAL NOTES

- ALL EXPOSED CONTROL WIRING SHALL BE INSTALLED IN EMT CONDUIT UNLESS CONCEALED IN WALLS OR ATTIC SPACES.
- LABEL ALL EQUIPMENT WITH ENGRAVED PLASTIC TAGS 3"x1" WITH EQUIPMENT TAG NUMBERS.
- INSTALLATION INSTRUCTIONS FOR ALL EQUIPMENT SHALL BE MADE AVAILABLE TO THE BUILDING INSPECTOR AT THE TIME OF INSPECTION.
- SEISMIC SUPPORT AND BRACING FOR ALL DUCTS AND PIPING SHALL BE INSTALLED IN ACCORDANCE WITH CBC CHAPTER 16, STANDARDS FOR SUPPORT AND ANCHORAGE METHOD AND MATERIALS PUBLISHED BY SMACNA AND APPROVED BY THE STATE AGENCIES MAY BE USED.
- MECHANICAL CONTRACTOR SHALL COMPLETE TITLE 24 CERTIFICATE OF INSTALLATION (NRCI-MCH) AND CERTIFICATE OF ACCEPTANCE (NRC-A-MCH) FORMS PRIOR TO COMPLETION OF CONSTRUCTION AND SUBMIT TO THE ENGINEER FOR APPROVAL.
- REFER TO SPECIFICATION SECTION 199 FOR ADDITIONAL REQUIREMENTS.



WALL MOUNTED HEAT PUMP

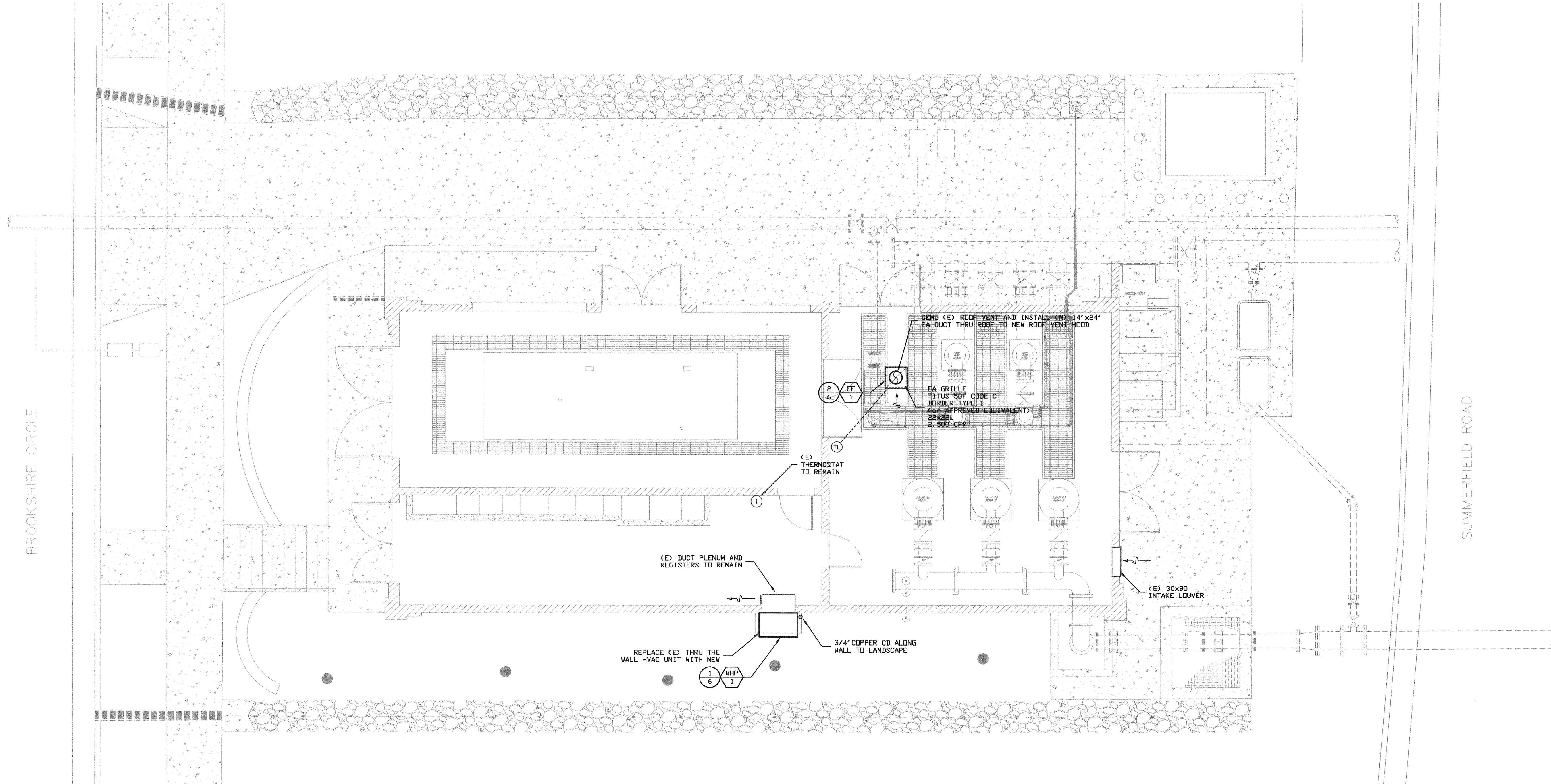
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UPBLAST INLINE EXHAUST FAN

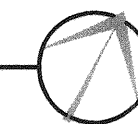
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City of Santa Rosa		
WATER PUMP STATION 9		
ELECTRICAL UPGRADES,		
MECHANICAL SCHEDULES,		
DETAILS AND NOTES		
CONTRACT NO. C02438		
SHEET 6 OF 18		
FILE NO. 2024-0001		



MECHANICAL PLAN

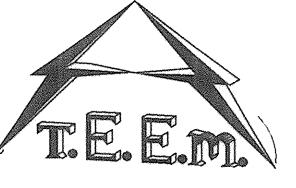
SCALE: 1" = 5' - 0"



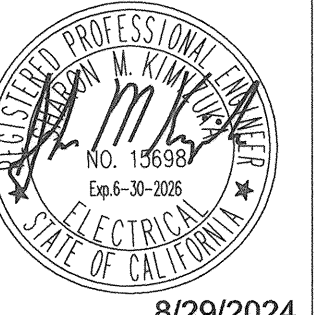
No.	Date	Revision	By

SCALE: AS SHOWN	DATE: AUGUST 2024
DWN BY: TS	CHK BY: TS

City of Santa Rosa	WATER PUMP STATION 9 ELECTRICAL UPGRADES MECHANICAL PLAN
CONTRACT NO. C024-38	
SHEET 7 OF 18	

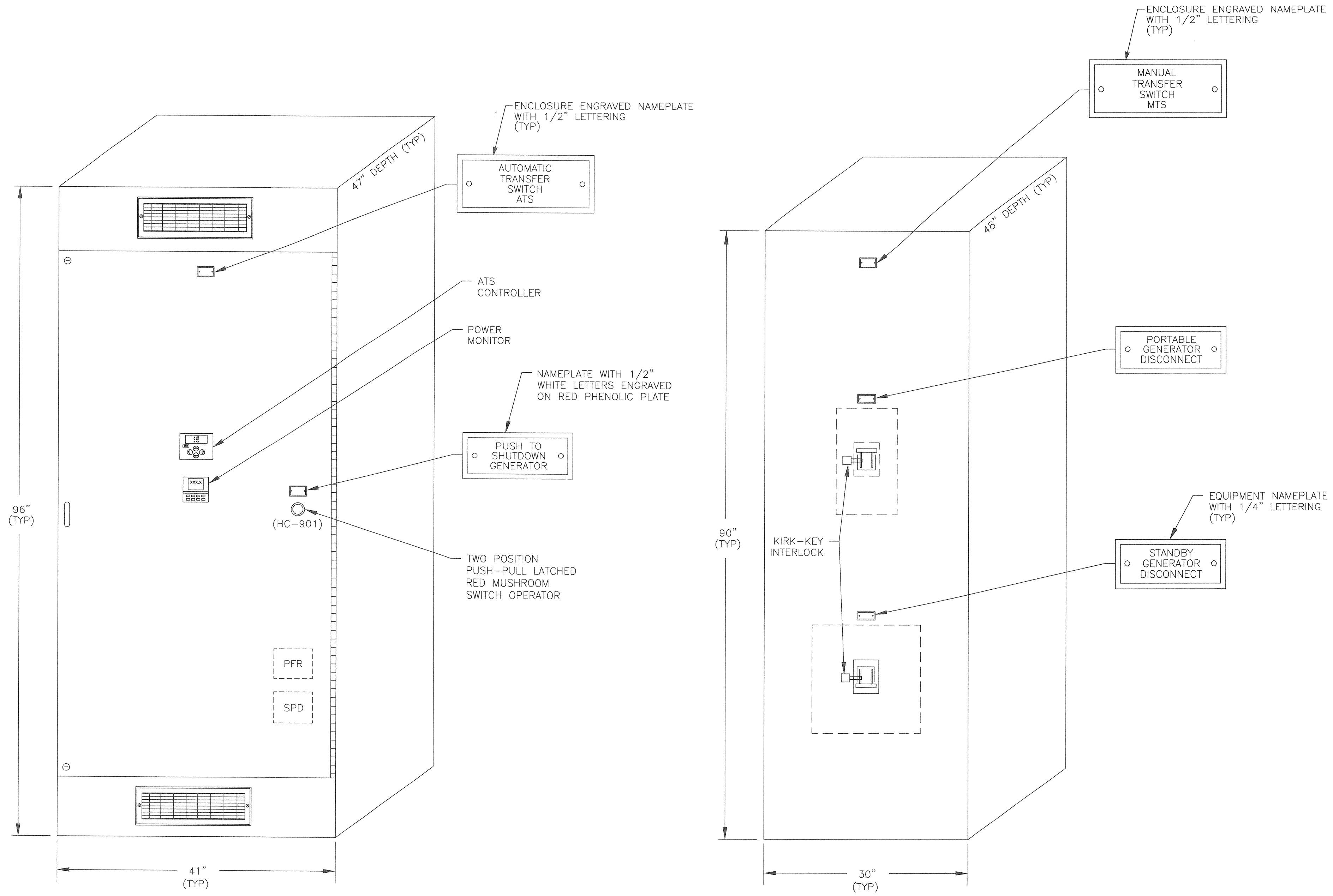


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ATS & MTS ELEVATION ① ② ③ ④

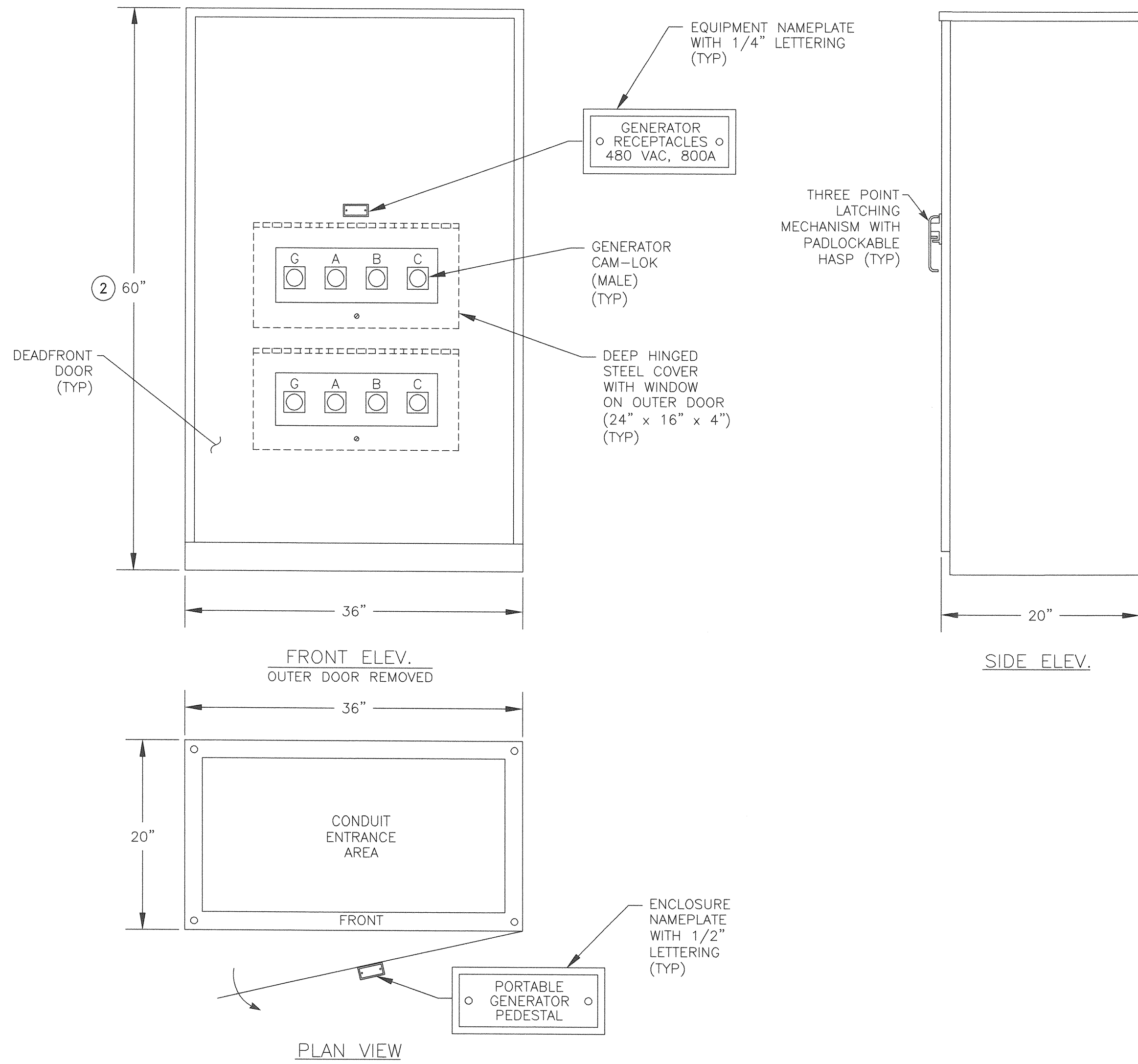
- NOTES:
- ① REAR ACCESS SHALL NOT BE REQUIRED TO SERVICE OR REPLACE ANY COMPONENTS.
 - ② NEMA 3R ENCLOSURE WITH TYPICAL DIMENSIONS AS SHOWN, OUTDOOR NOT SHOWN FOR CLARITY. ITEMS DRAWN IN DASHED LINES ARE TO BE LOCATED BEHIND DEADFRONT DOORS.
 - ③ EACH BREAKER SHALL HAVE A PADLOCKABLE HASP TO LOCK BREAKER IN THE OFF POSITION.
 - ④ DEVICES SHALL BE INSTALLED MAXIMUM 66" ABOVE FINISHED FLOOR.

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No.	Date	Revision	By

SCALE: AS SHOWN	DATE: AUGUST 2024
DWN BY: XML	CHK BY: SMK

City of Santa Rosa
WATER PUMP STATION 9
ELECTRICAL UPGRADES
ATS & MTS
ELEVATION

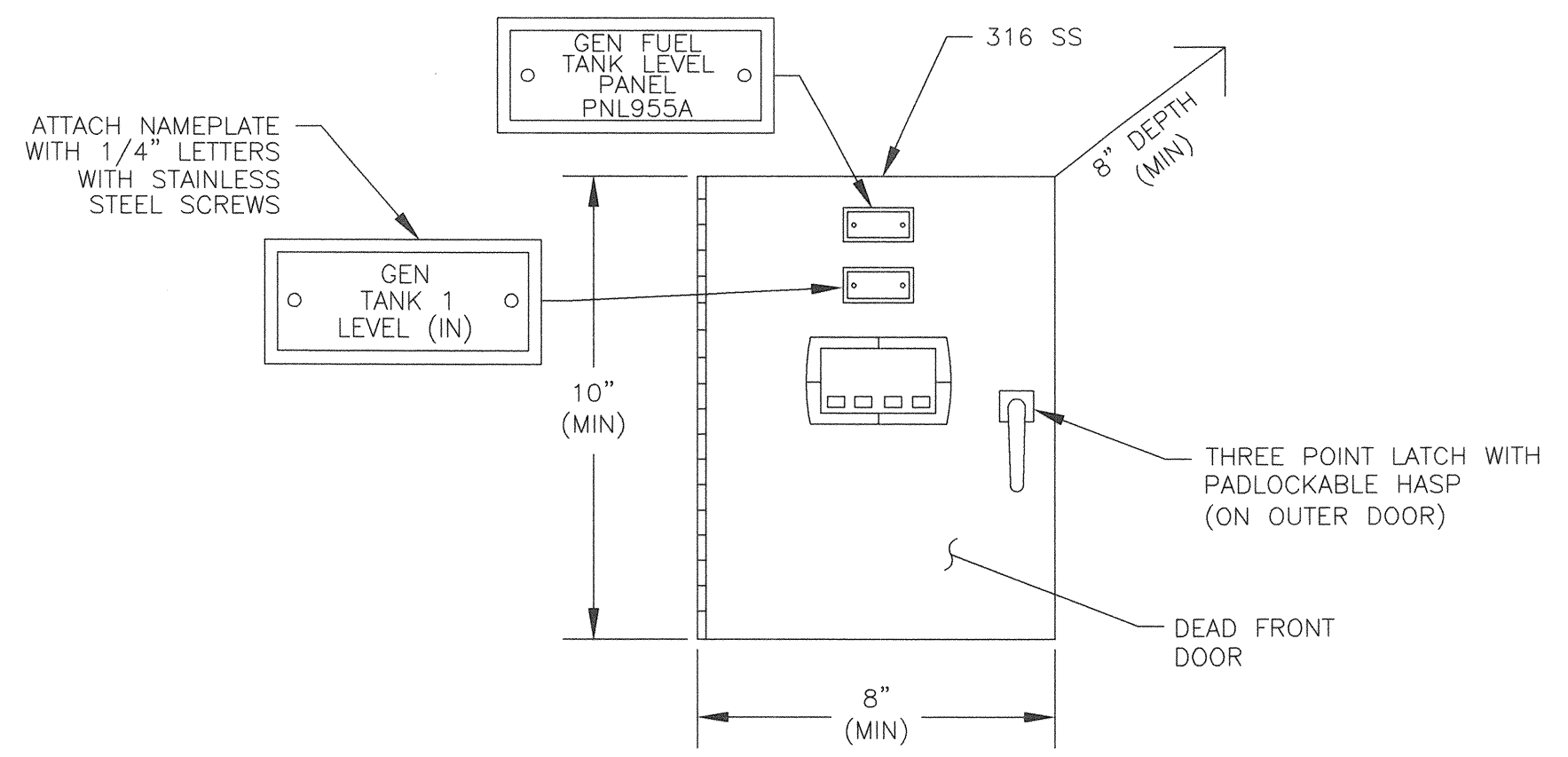


PORTABLE GENERATOR PEDESTAL ELEVATION ①
 NOT TO SCALE

- NOTES: ① ITEMS DRAWN IN DASHED LINES ARE TO BE LOCATED BEHIND DEADFRONT DOORS, OUTER DOORS ARE NOT SHOWN FOR ELEVATION CLARITY.
- ② HEIGHT OF CABINET SHALL BE 84" (MINIMUM) ABOVE GRADE. PROVIDE TALLER CABINET OR CONCRETE PAD TO MEET THIS HEIGHT. SEE STRUCTURAL DRAWINGS FOR CONCRETE PAD DETAILS.

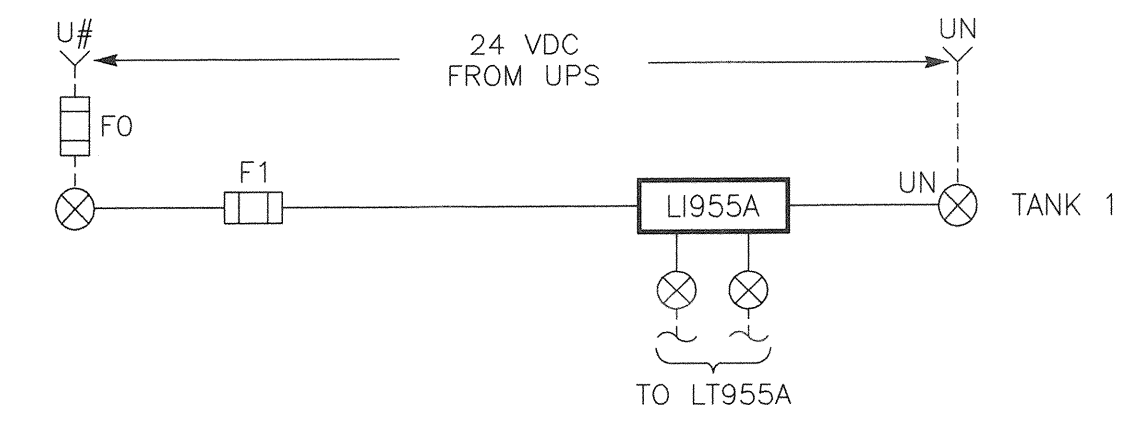
FABRICATION METHODS

- NEMA 3R WEATHER-PROOFED FOR OUTSIDE INSTALLATION.
- ALL OUTER DOORS SEALED WITH PERMANENT TYPE GASKETING.
- EXTERIOR FABRICATED FROM HOT DIPPED GALVANIZED SHEET STEEL.
- 12 GAUGE EXTERIOR AND 14 GAUGE INTERIOR.
- ALL SEAMS CONTINUOUS WELDED.
- OUTER DOORS TO BE PADLOCKABLE WITH HEAVY DUTY 3 POINT LATCHES.
- DOOR HINGES AND PINS SHALL BE 316 STAINLESS STEEL.
- NO SCREWS, RIVETS, OR BOLTS SHALL PROTRUDE EXTERNALLY.
- INTERNAL SCREWS, RIVETS, BOLTS, AND NUTS SHALL BE STAINLESS STEEL.
- PEDESTAL SHALL BE U.L. LABELED.
- EXTERIOR PANEL COLOR: DESERT TAN (SUBMIT COLOR SAMPLE TO OWNER FOR APPROVAL).
- INTERIOR DEADFRONT DOOR COLOR: WHITE.
- PHENOLIC SCREW MOUNTED NAMEPLATES SHALL BE PROVIDED FOR ALL DEVICES ON DEADFRONT.
- FABRICATION AND WIRING SHALL CONFORM TO U.L. 508 AND NEMA STANDARDS.
- ALL WIRING SHALL BE PERMANENTLY LABELED WITH WIRE MARKERS ON BOTH ENDS.
- WIRING DIAGRAMS SHALL BE PLACED IN A DRAWING HOLDER PERMANENTLY ATTACHED TO THE INSIDE OF THE FRONT DOOR.
- AS - BUILT WIRING DIAGRAMS SHALL BE SHIPPED WITH EQUIPMENT.



FUEL TANK LEVEL PANEL ELEMENTARY & ELEVATION ①
 NOT TO SCALE

- NOTES: ① PROVIDE BACKPAN FOR TERMINAL BLOCKS AND FUSES.
- ② TYPICAL FOR TANK 2 (LT955B).



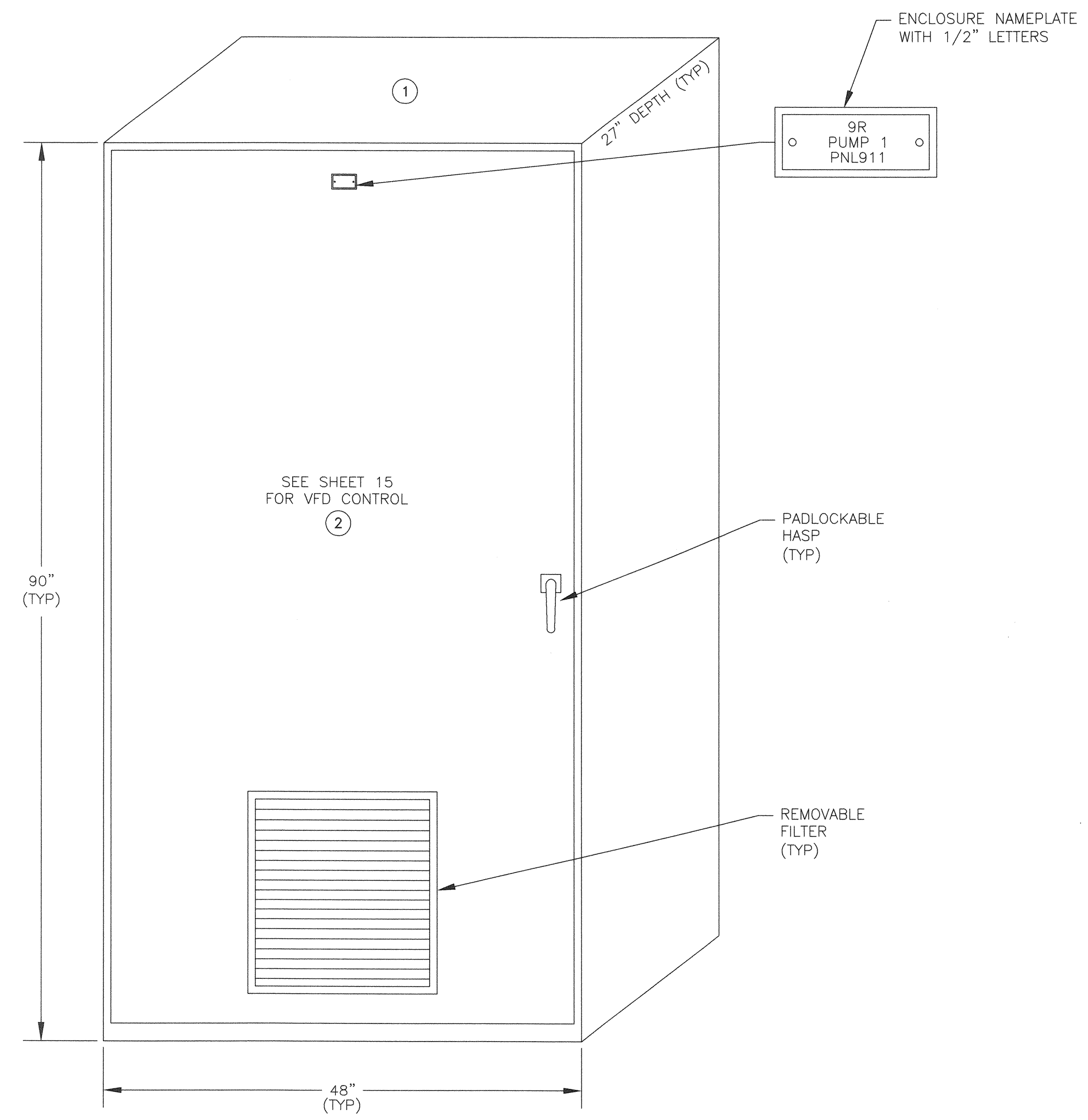
No.	Date	Revision	By

DATE: AUGUST 2024	CHK BY: SMK
SCALE: AS SHOWN	DWN BY: XML

City of Santa Rosa
**WATER PUMP STATION 9
 ELECTRICAL UPGRADES**
**PORTABLE GENERATOR PEDESTAL &
 FUEL TANK LEVEL PANEL ELEVATION**

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AFE VFD ELEVATION
NOT TO SCALE

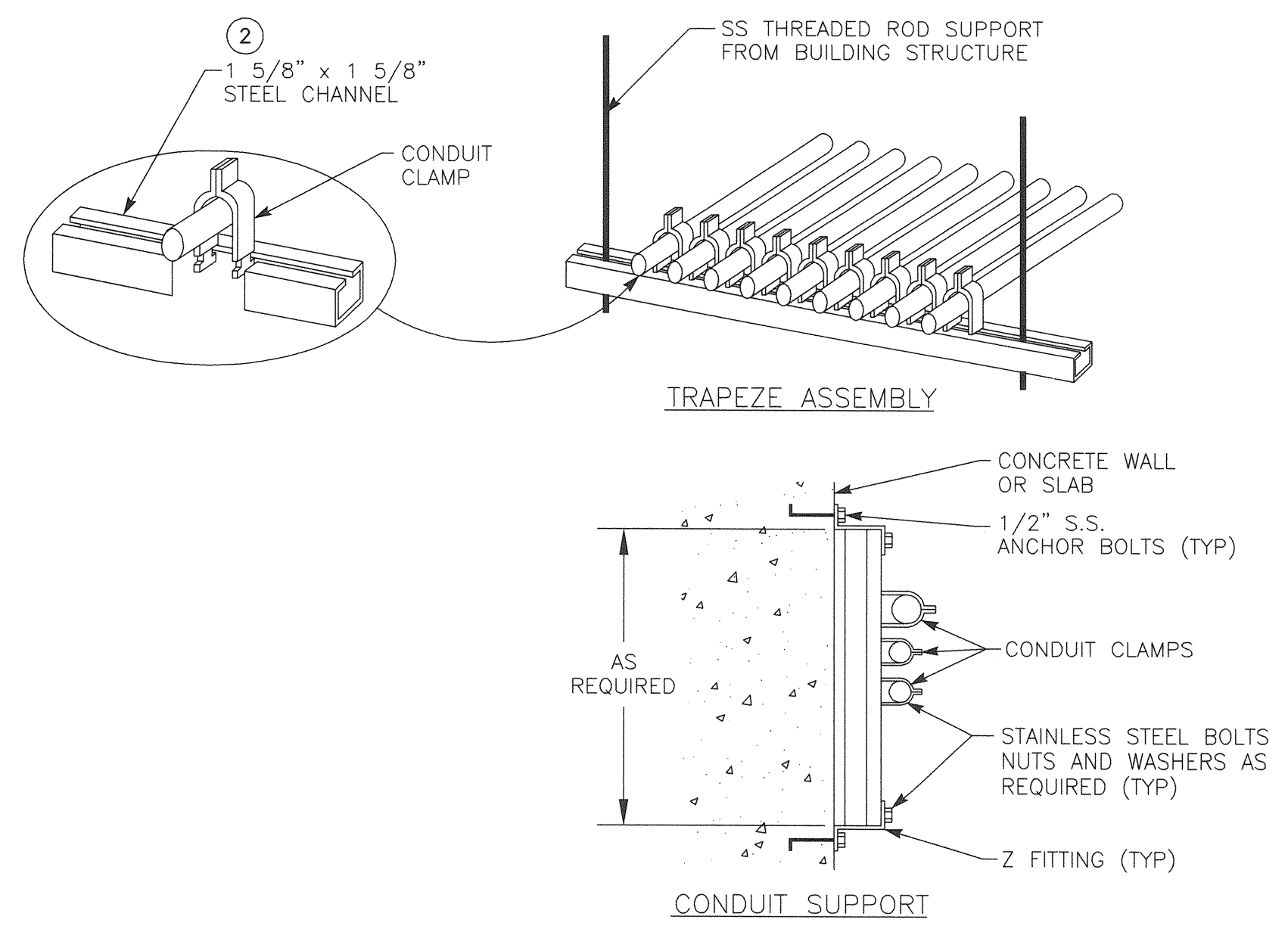
- NOTES: ① MINIMUM 24" CLEARANCE FOR VENT ON TOP.
- ② DEVICES SHALL BE INSTALLED MAXIMUM 66" ABOVE FINISHED FLOOR.

No.	Date	Revision	By

SCALE: AS SHOWN	DATE: AUGUST 2024
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City of Santa Rosa
WATER PUMP STATION 9
ELECTRICAL UPGRADES

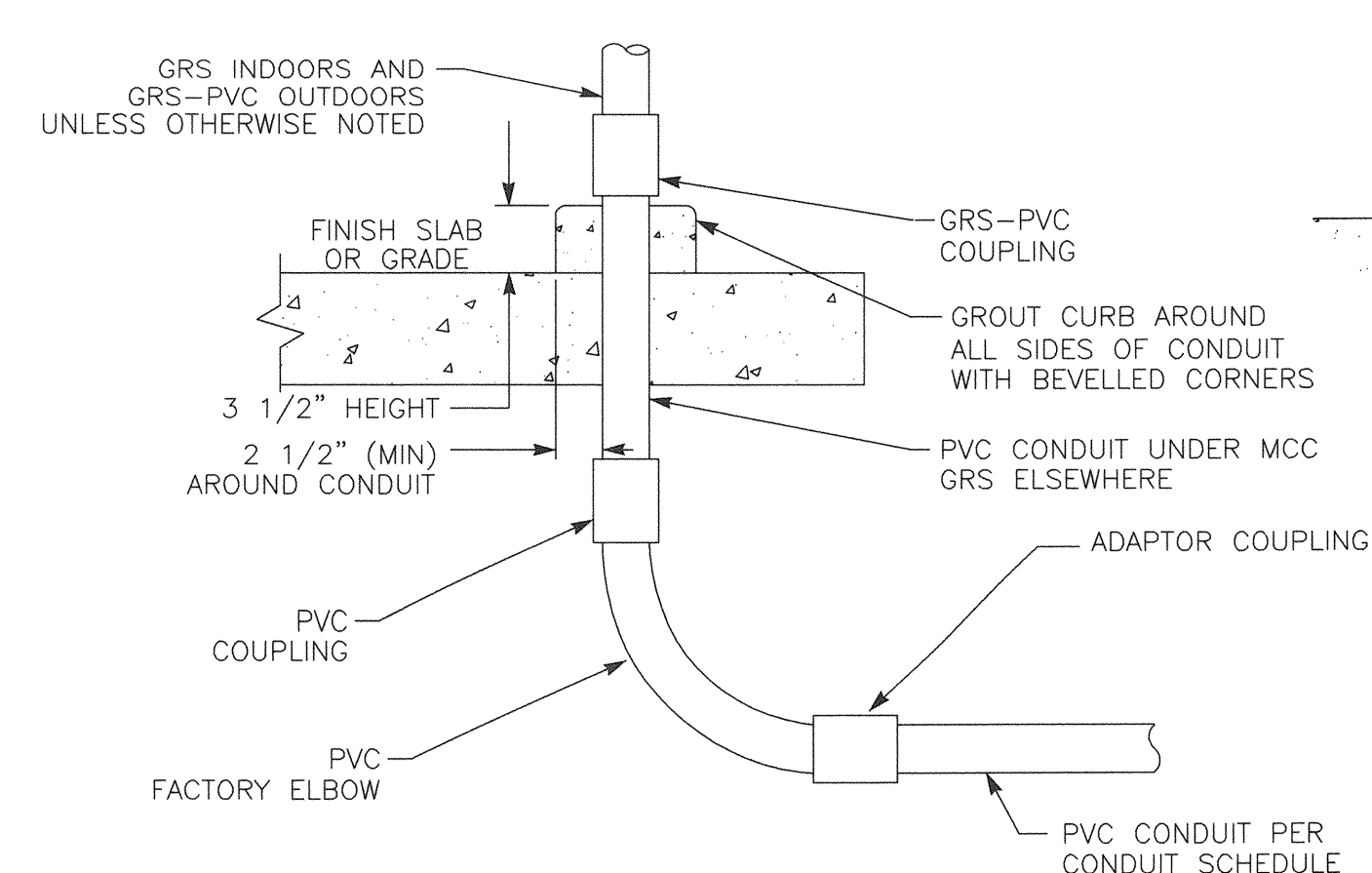
AFE VFD
ELEVATION



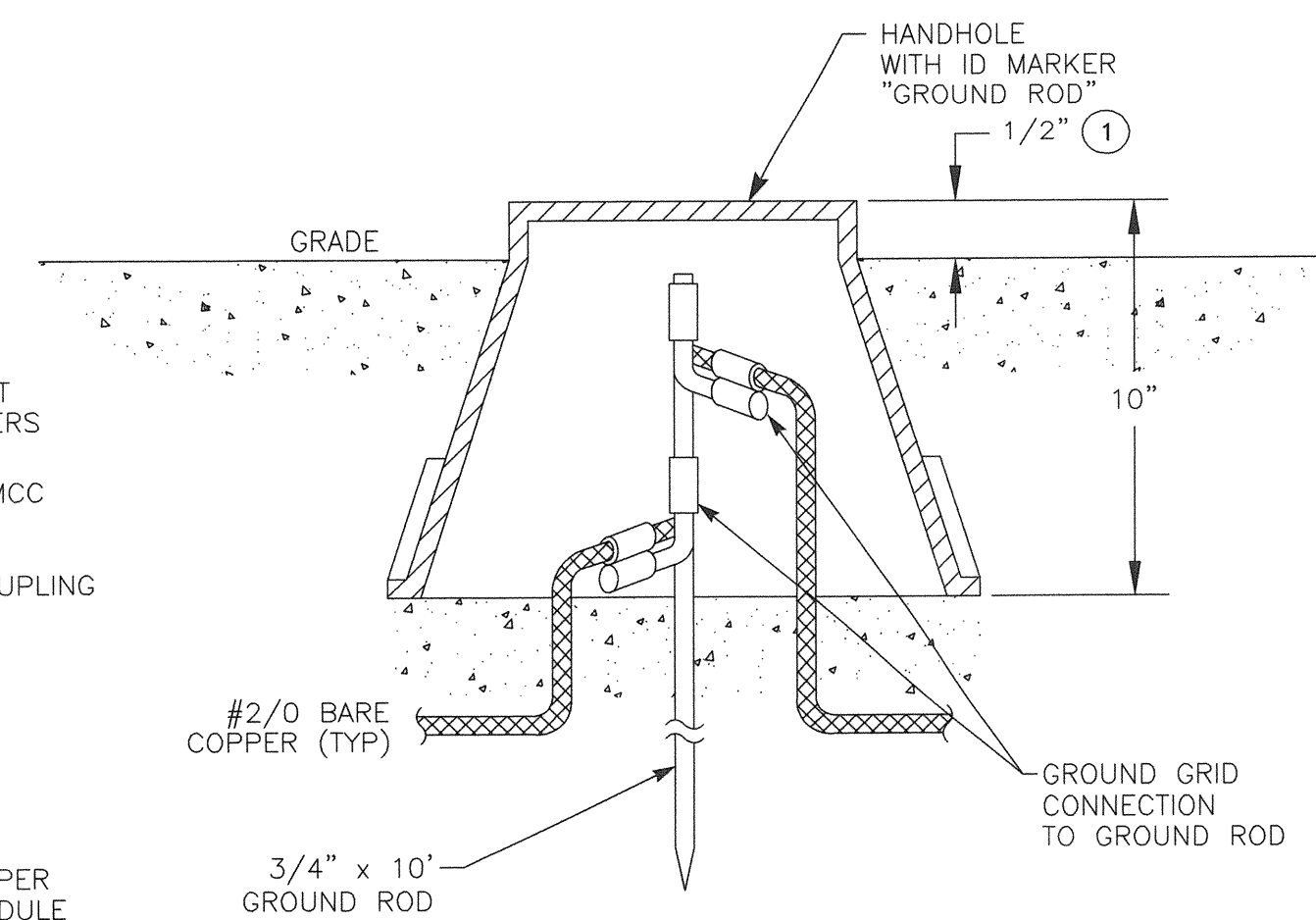
CONDUIT PIPE STRAP MOUNTING DETAIL
 NOT TO SCALE (A) 17 (1) (3)

- NOTES: (1) THIS DETAIL TYPICAL FOR BOTH VERTICAL AND HORIZONTAL MOUNTING.
 (2) CHANNEL AND ALL SUPPORT DEVICES TO BE RATED PER AREA CLASSIFICATION. FIELD COAT ALL CUTS, ETC. TO MATCH.
 (3) CHANNELS TO BE SPACED 5' MAXIMUM.

AREA LIGHT DETAIL
 NOT TO SCALE (B) -
 NOT USED

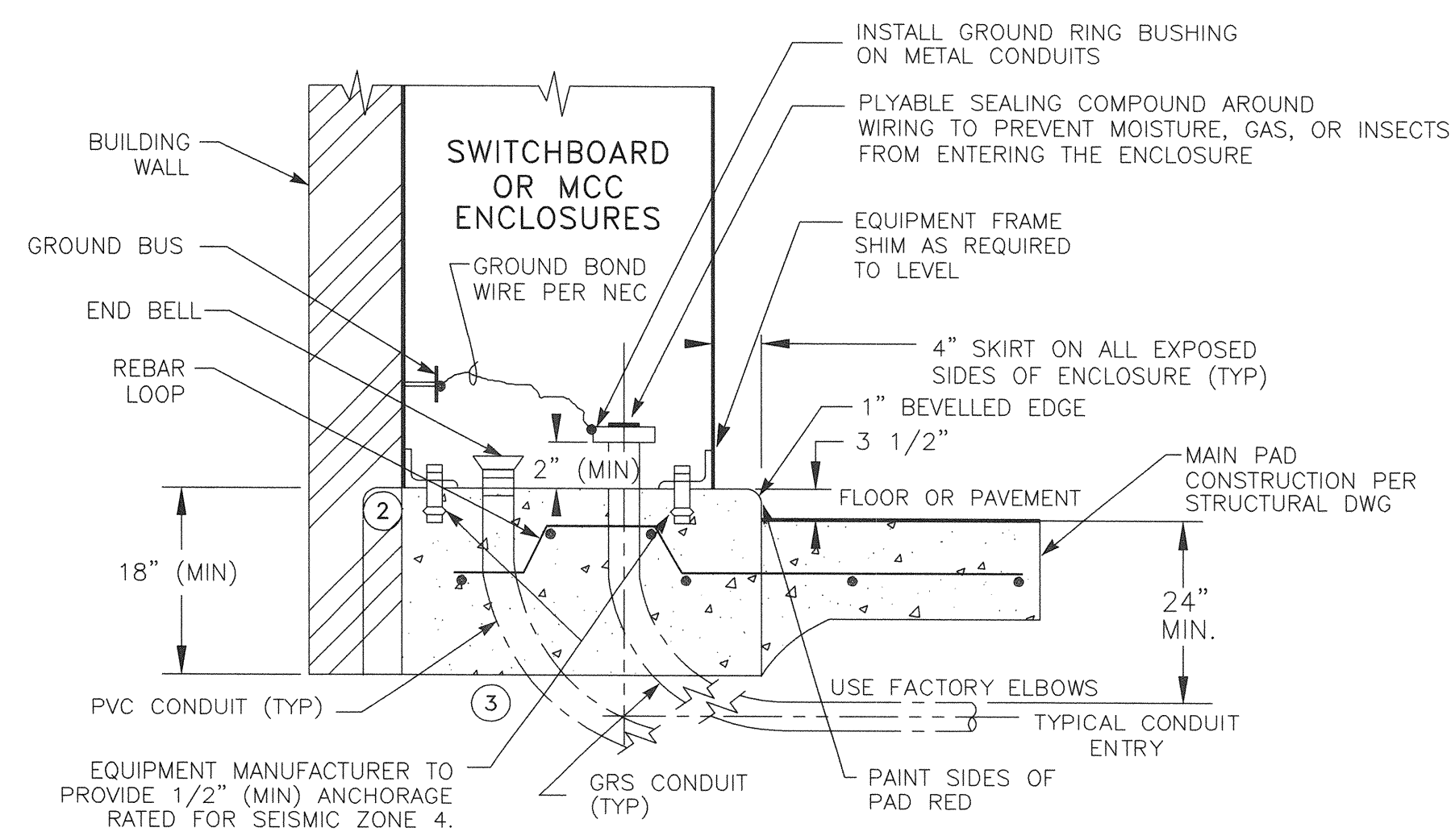


EXPOSED CONDUIT TRANSITION DETAIL
 NOT TO SCALE (C) 17



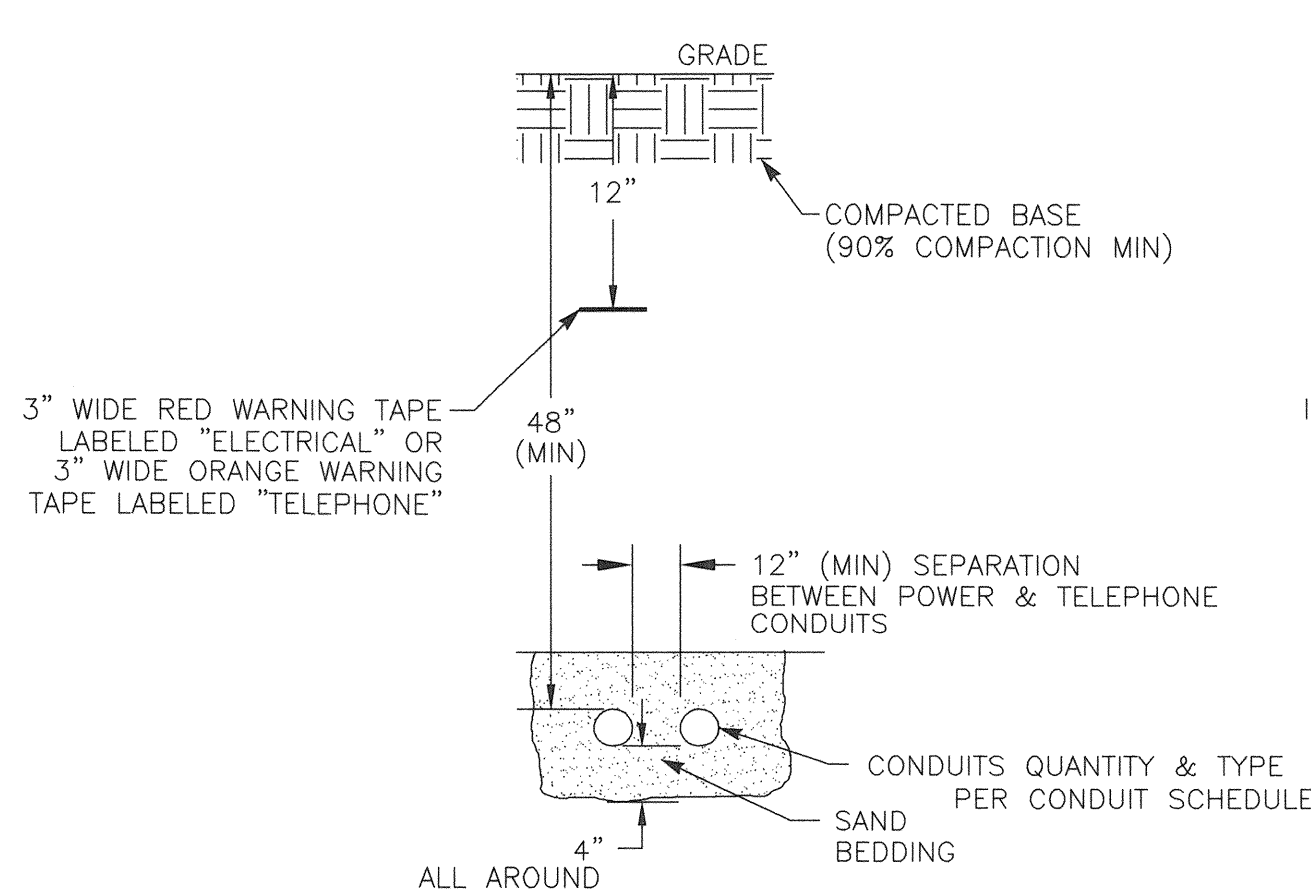
GROUND ROD HANDHOLE DETAIL
 NOT TO SCALE (D) 17

- NOTES: (1) FLUSH IN PAVED AREAS.

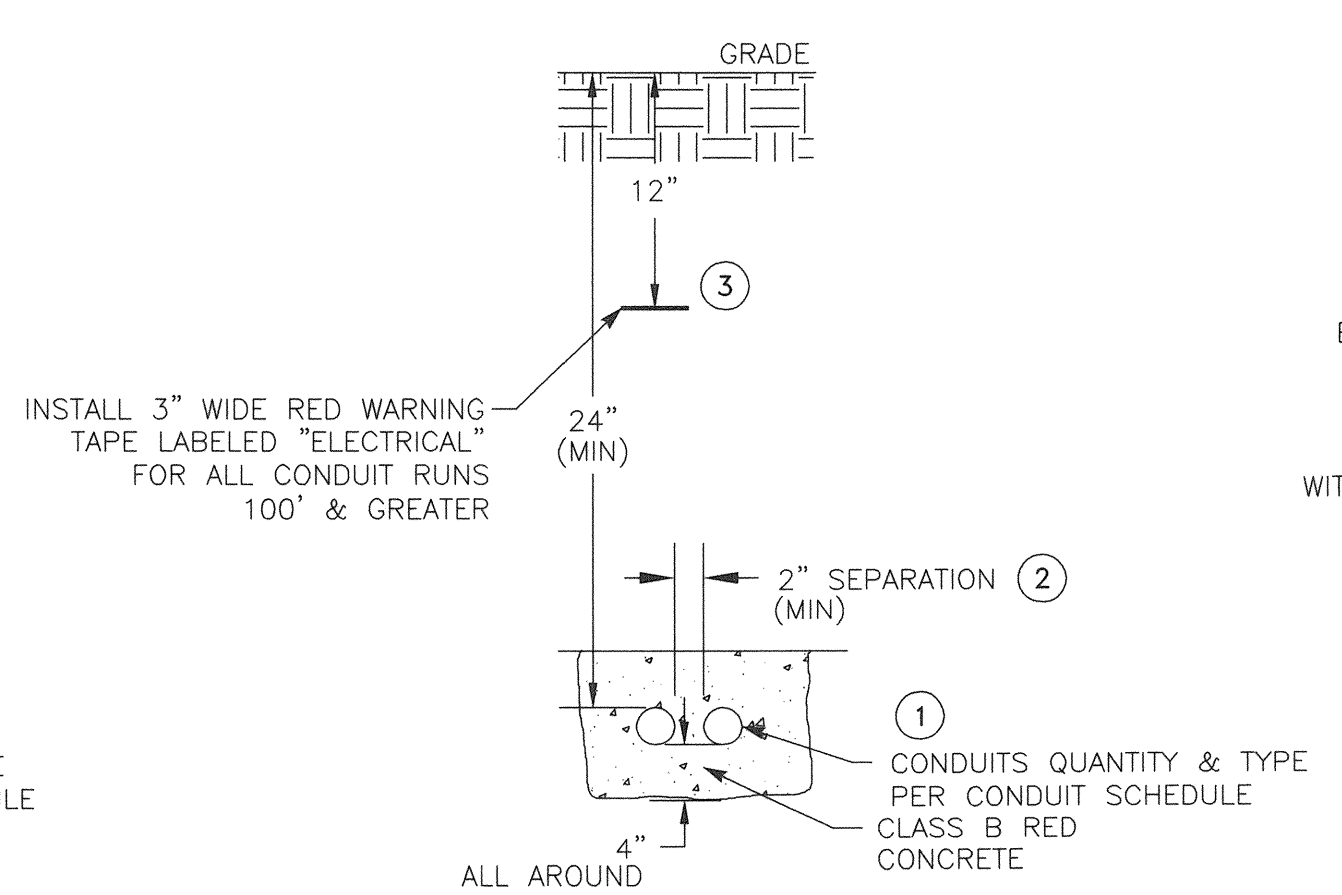


EQUIPMENT CONCRETE PAD DETAIL
 NOT TO SCALE (E) 17

- NOTES: (1) CONCRETE PAD ABOVE FLOOR TO BE POURED AFTER MAIN PAD HAS BEEN POURED. PAD ABOVE FLOOR TO BE POURED PER SECTION 90 OF THE CITY STANDARD SPECIFICATION AND ACCURATELY LEVELED WITHIN 1/16 INCH. REBAR TO BE #4 @ 12" CROSSWAYS & VERTICAL EVERY 6" (MINIMUM) OR AS CALLED OUT IN STRUCTURAL DRAWINGS.
 (2) IF NO BUILDING WALL EXTEND PAD 4" BEYOND ENCLOSURE ON BACK & SIDES.
 (3) CONCRETE DUCT BANKS SHALL EXTEND & CONNECT INTO EQUIPMENT CONCRETE PAD.

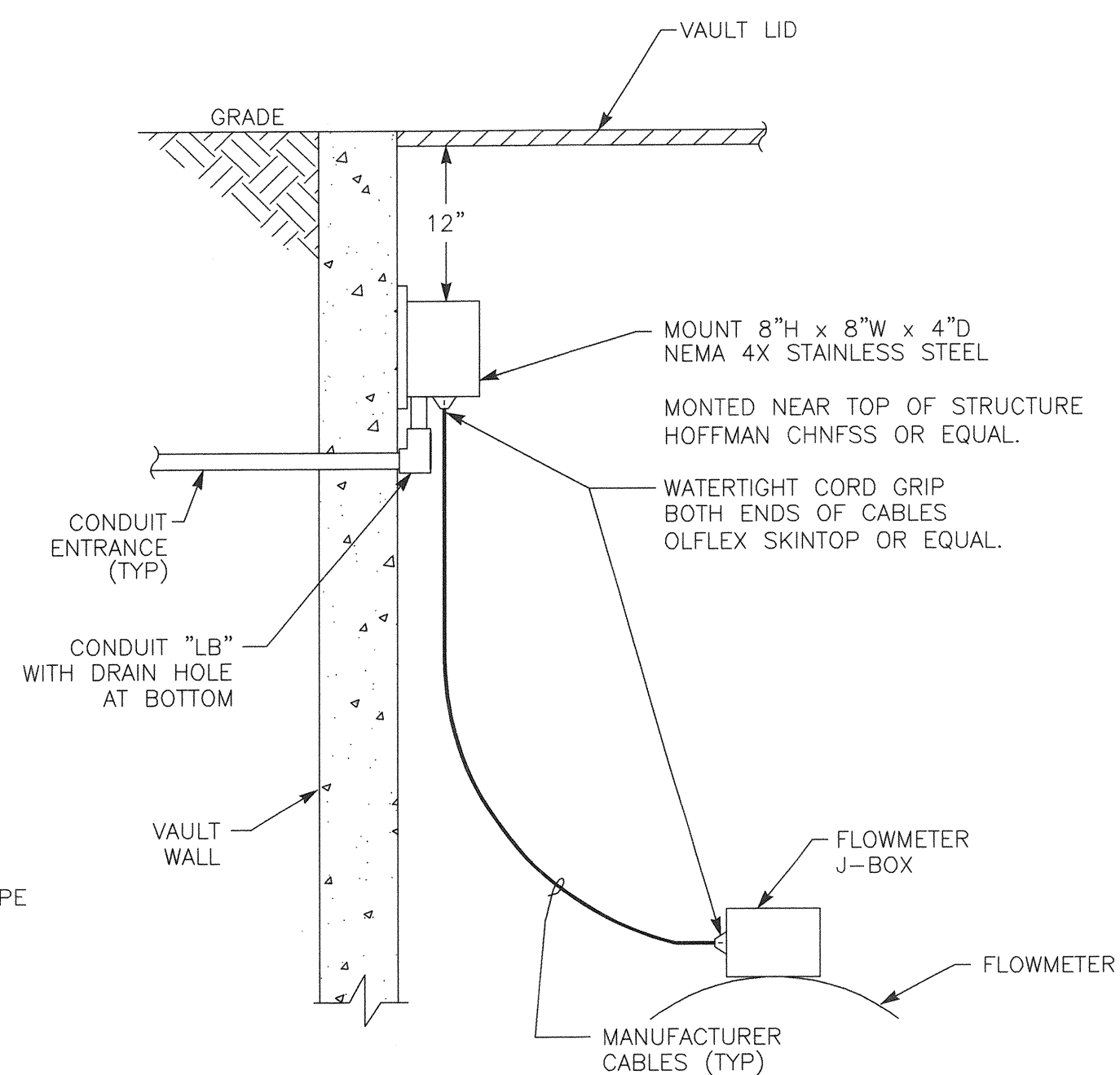


UTILITY CONDUIT INSTALLATION DETAIL
 NOT TO SCALE (F) 17



ENCASED CONDUITS DETAIL
 NOT TO SCALE (G) 17

- NOTES: (1) PLACE CONDUIT RUNS OF 4 CONDUITS OR GREATER IN PLASTIC SPACERS (RATED FOR DIRECT BURIAL) EVERY 5' ALONG LENGTH OF RUN.
 (2) PROVIDE 12" (MIN) SEPARATION BETWEEN "A, C, D & M" TYPE GROUP AND "E, L & P" TYPE GROUP CONDUITS.
 (3) TRENCHING & COMPACTED BACKFILL PER SPECIFICATIONS.



BELOW GROUND FLOWMETER DETAIL
 NOT TO SCALE (H) 17

- NOTES: (1) INSTALL WP RECEPTACLE AT 12" BELOW LID ADJACENT TO FLOWMETER JUNCTION BOX.
 (2) SUPPORT CABLE PER DWG E16, DETAIL "D".

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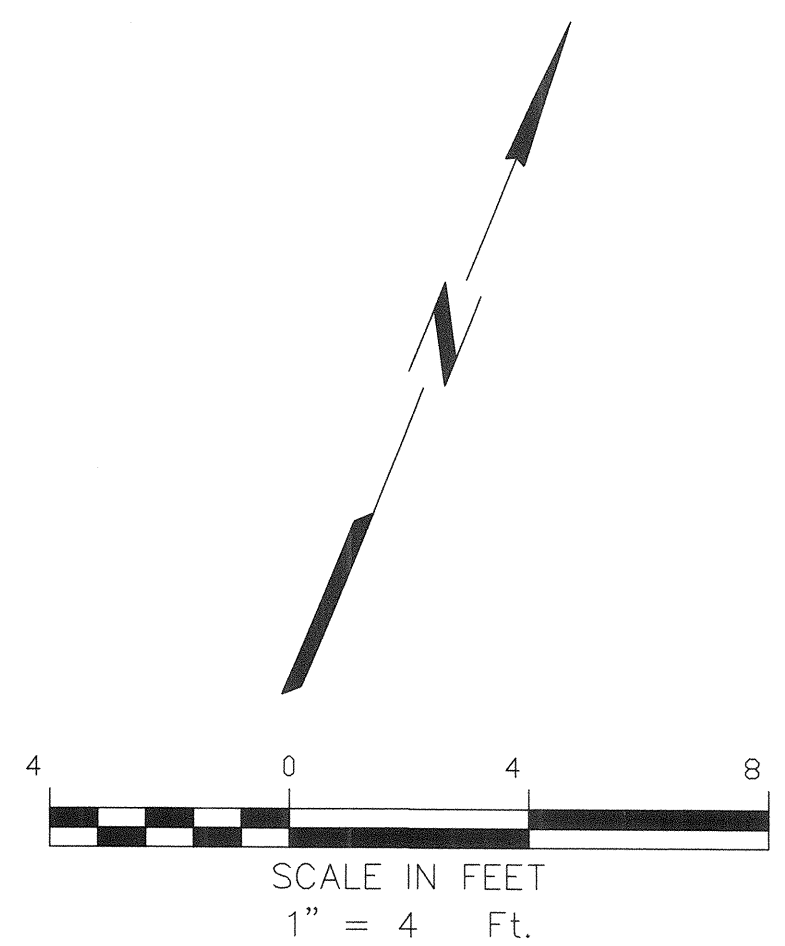
No.	Date	Revision	By

DATE:	AUGUST 2024
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City of Santa Rosa
**WATER PUMP STATION 9
 ELECTRICAL UPGRADES**
**TYPICAL ELECTRICAL
 DETAIL NO.1**

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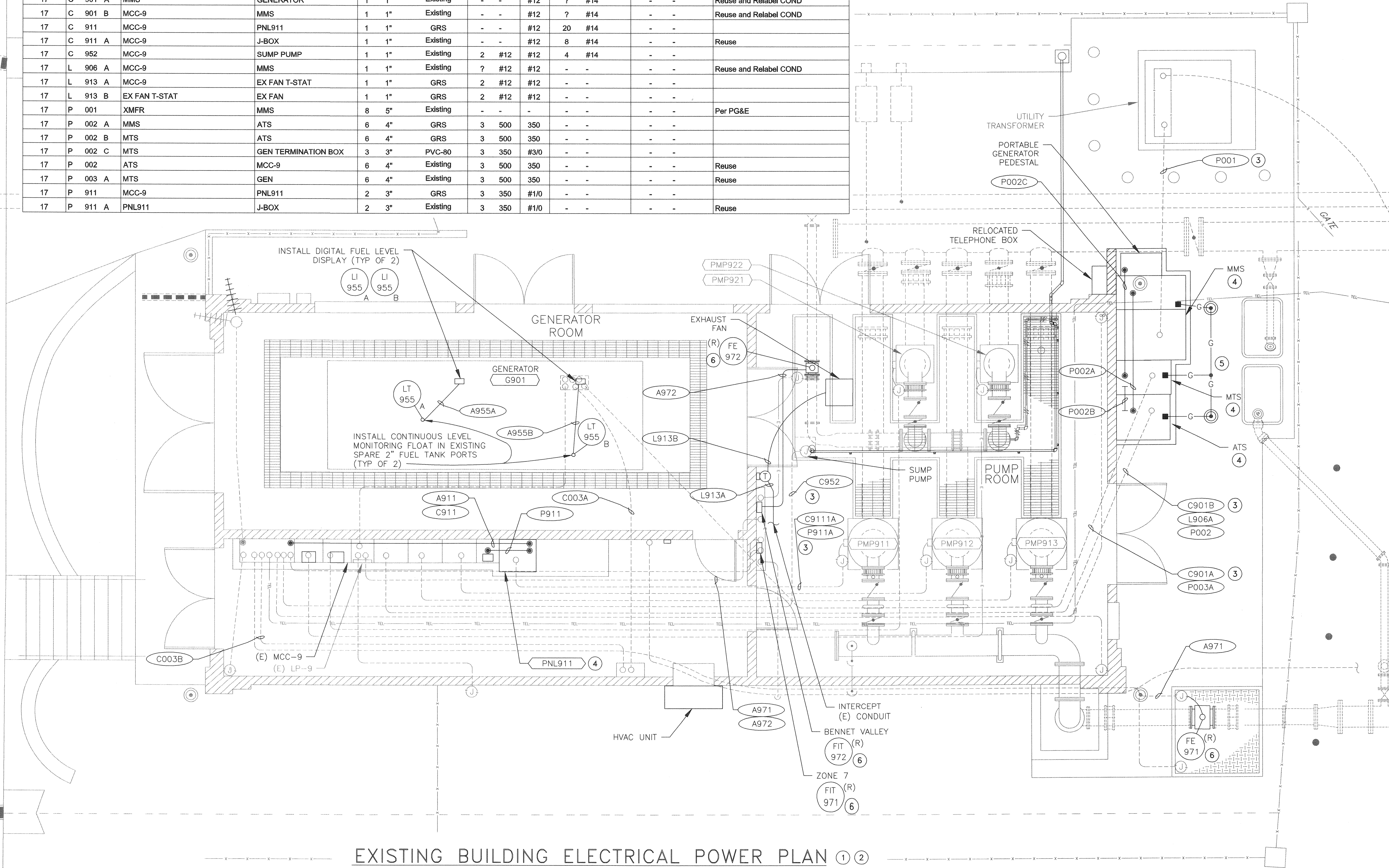
Sheet	CONDUIT NO.	FROM	TO	CONDUIT QTY	CONDUIT SIZE	TYPE	POWER WIRE QTY	POWER WIRE SIZE	GND SIZE	CONTROL WIRE QTY	CONTROL WIRE SIZE	SIGNAL WIRE QTY	SIGNAL WIRE SIZE	NOTES
17	A 911	MCC-9	PNL911	1	1"	GRS	-	-	#12	-	-	2	#16 TSPR	
17	A 955 A	PNL955A	LT 955 A	1	1"	GRS	-	-	#12	-	-	1	#16 TSPR	
17	A 955 B	PNL955B	LT 955 B	1	1"	GRS	-	-	#12	-	-	1	#16 TSPR	
17	A 971	MCC-9 VIA INSTRUMENT PANEL	FE 971	1	1"	Existing	-	-	#8	-	-	1	MFG CBL	New Cable
17	A 972	MCC-9 VIA INSTRUMENT PANEL	FE 972	1	1"	Existing	-	-	#8	-	-	1	MFG CBL	New Cable
17	C 003 A	GENERATOR	GENERATOR CP	1	1-1/2"	Existing	-	-	#12	2	#14	2	#16 TSPR	Add Cable
17	C 003 B	MCC-9	GENERATOR CP	1	1"	Existing	-	-	#12	2	#14	2	#16 TSPR	Add Cable
17	C 901 A	MMS	GENERATOR	1	1"	Existing	-	-	#12	?	#14	-	-	Reuse and Relabel COND
17	C 901 B	MCC-9	MMS	1	1"	Existing	-	-	#12	?	#14	-	-	Reuse and Relabel COND
17	C 911	MCC-9	PNL911	1	1"	GRS	-	-	#12	20	#14	-	-	
17	C 911 A	MCC-9	J-BOX	1	1"	Existing	-	-	#12	8	#14	-	-	Reuse
17	C 952	MCC-9	SUMP PUMP	1	1"	Existing	2	#12	#12	4	#14	-	-	
17	L 906 A	MCC-9	MMS	1	1"	Existing	?	#12	#12	-	-	-	-	Reuse and Relabel COND
17	L 913 A	MCC-9	EX FAN T-STAT	1	1"	GRS	2	#12	#12	-	-	-	-	
17	L 913 B	EX FAN T-STAT	EX FAN	1	1"	GRS	2	#12	#12	-	-	-	-	
17	P 001	XMFR	MMS	8	5"	Existing	-	-	-	-	-	-	-	Per PG&E
17	P 002 A	MMS	ATS	6	4"	GRS	3	500	350	-	-	-	-	
17	P 002 B	MTS	ATS	6	4"	GRS	3	500	350	-	-	-	-	
17	P 002 C	MTS	GEN TERMINATION BOX	3	3"	PVC-80	3	350	#3/0	-	-	-	-	
17	P 003 A	ATS	MCC-9	6	4"	Existing	3	500	350	-	-	-	-	Reuse
17	P 003 A	MTS	GEN	6	4"	Existing	3	500	350	-	-	-	-	Reuse
17	P 911	MCC-9	PNL911	2	3"	GRS	3	350	#1/0	-	-	-	-	
17	P 911 A	PNL911	J-BOX	2	3"	Existing	3	350	#1/0	-	-	-	-	Reuse



NEMA 4X AREA
OUTSIDE BUILDING

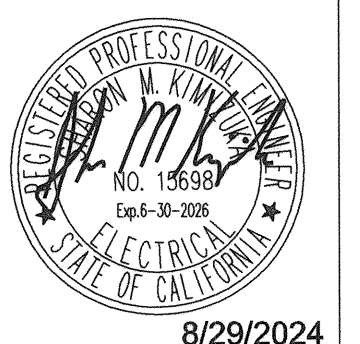
NEMA 3R AREA
PUMP ROOM

NEMA 12 AREA
OTHER ROOMS



EXISTING BUILDING ELECTRICAL POWER PLAN ① ②

- NOTES:
- ① INFORMATION SHOWN ON THE DRAWINGS IS BASED ON LIMITED FIELD OBSERVATION AND AS BUILT DOCUMENTATION. NOT ALL EXISTING ELECTRICAL EQUIPMENT ARE SHOWN. EXISTING EQUIPMENT AS SHOWN ARE THOSE ASSOCIATED WITH NEW WORK. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS BEFORE ANY NEW WORK. CONTRACTOR SHALL PROVIDE TEMPORARY POWER & CONTROLS TO KEEP PUMP STATION IN SERVICE AS REQUIRED.
 - ② EXPOSED CONDUITS PER SHEET 16, DETAIL "A".
 - ③ EXISTING CONDUITS TO BE REUSED, SEE CONDUIT SCHEDULE FOR DETAILS.
 - ④ REUSE EXISTING HOUSEKEEPING PAD AND EXTEND MMS CONCRETE PAD TO MATCH EXISTING PAD.
 - ⑤ GROUND BONDS TO CONSIST OF #4/0 BARE COPPER WITH 30" MINIMUM COVER. BOND GROUND BUS WITH UL APPROVED GROUND CLAMPS. INSTALL GROUND HANDHOLE PER SHEET 16, DETAIL "D" AND CONNECT TO EXISTING GROUNDING SYSTEM.
 - ⑥ REPLACE (E) FLOWMETERS AND TRANSMITTERS.



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City of Santa Rosa
**WATER PUMP STATION 9
ELECTRICAL UPGRADES
EXISTING BUILDING ELECTRICAL
POWER PLAN**

SCALE: AS SHOWN
DWN BY: XML
DATE: AUGUST 2024
CHK BY: SMK

CONTRACT NO.
C02438

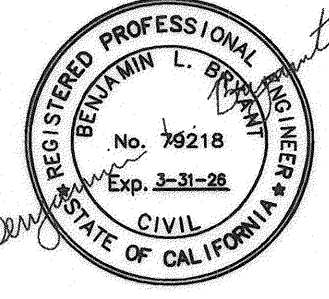
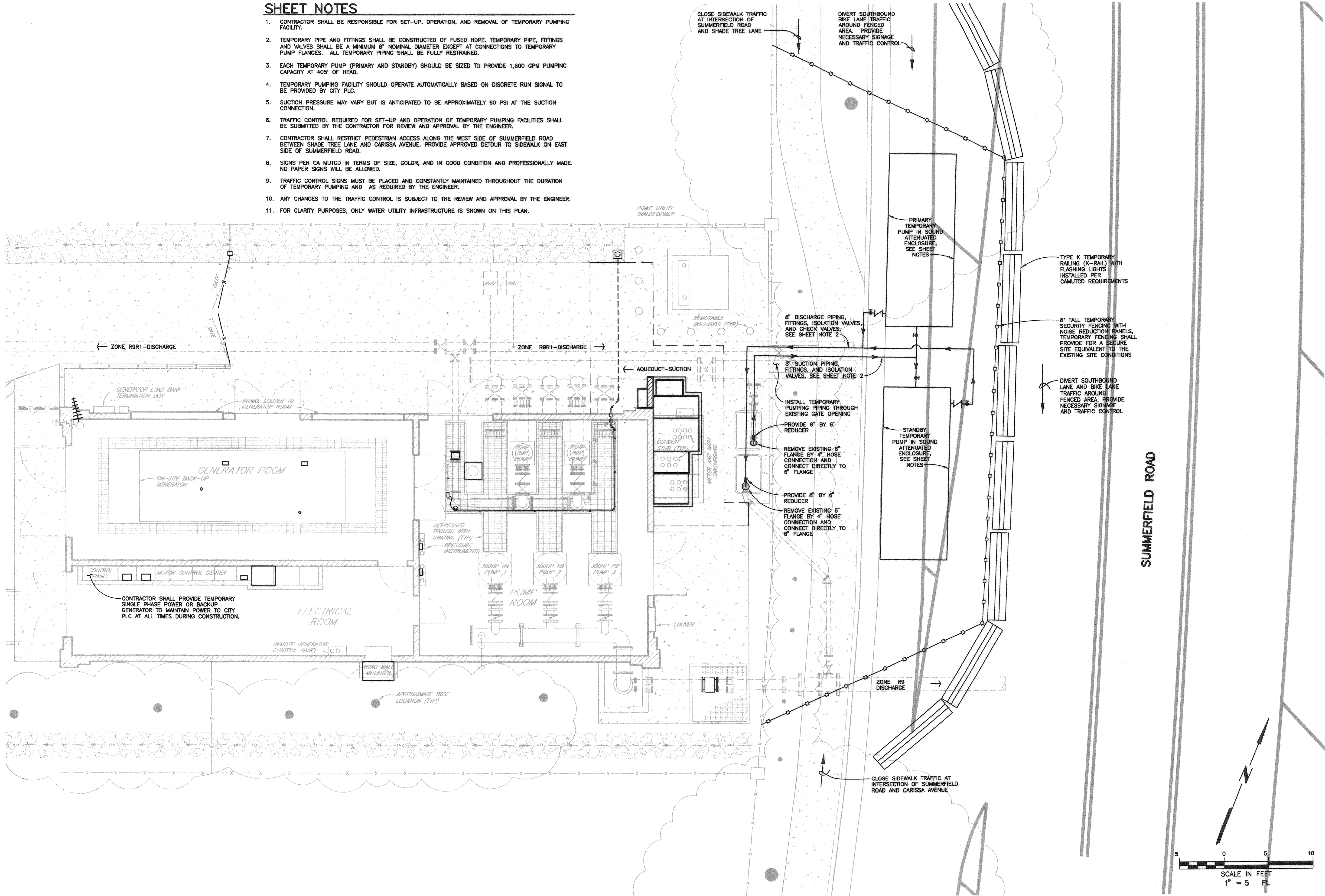
SHEET 17 OF 18

FILE NO. 2024-0001

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SHEET NOTES

- CONTRACTOR SHALL BE RESPONSIBLE FOR SET-UP, OPERATION, AND REMOVAL OF TEMPORARY PUMPING FACILITY.
- TEMPORARY PIPE AND FITTINGS SHALL BE CONSTRUCTED OF FUSED HDPE. TEMPORARY PIPE, FITTINGS AND VALVES SHALL BE A MINIMUM 8" NOMINAL DIAMETER EXCEPT AT CONNECTIONS TO TEMPORARY PUMP FLANGES. ALL TEMPORARY PIPING SHALL BE FULLY RESTRAINED.
- EACH TEMPORARY PUMP (PRIMARY AND STANDBY) SHOULD BE SIZED TO PROVIDE 1,600 GPM PUMPING CAPACITY AT 405' OF HEAD.
- TEMPORARY PUMPING FACILITY SHOULD OPERATE AUTOMATICALLY BASED ON DISCRETE RUN SIGNAL TO BE PROVIDED BY CITY PLC.
- SUCTION PRESSURE MAY VARY BUT IS ANTICIPATED TO BE APPROXIMATELY 60 PSI AT THE SUCTION CONNECTION.
- TRAFFIC CONTROL REQUIRED FOR SET-UP AND OPERATION OF TEMPORARY PUMPING FACILITIES SHALL BE SUBMITTED BY THE CONTRACTOR FOR REVIEW AND APPROVAL BY THE ENGINEER.
- CONTRACTOR SHALL RESTRICT PEDESTRIAN ACCESS ALONG THE WEST SIDE OF SUMMERFIELD ROAD BETWEEN SHADE TREE LANE AND CARISSA AVENUE. PROVIDE APPROVED DETOUR TO SIDEWALK ON EAST SIDE OF SUMMERFIELD ROAD.
- SIGNS PER CA MUTCD IN TERMS OF SIZE, COLOR, AND IN GOOD CONDITION AND PROFESSIONALLY MADE. NO PAPER SIGNS WILL BE ALLOWED.
- TRAFFIC CONTROL SIGNS MUST BE PLACED AND CONSTANTLY MAINTAINED THROUGHOUT THE DURATION OF TEMPORARY PUMPING AND AS REQUIRED BY THE ENGINEER.
- ANY CHANGES TO THE TRAFFIC CONTROL IS SUBJECT TO THE REVIEW AND APPROVAL BY THE ENGINEER.
- FOR CLARITY PURPOSES, ONLY WATER UTILITY INFRASTRUCTURE IS SHOWN ON THIS PLAN.

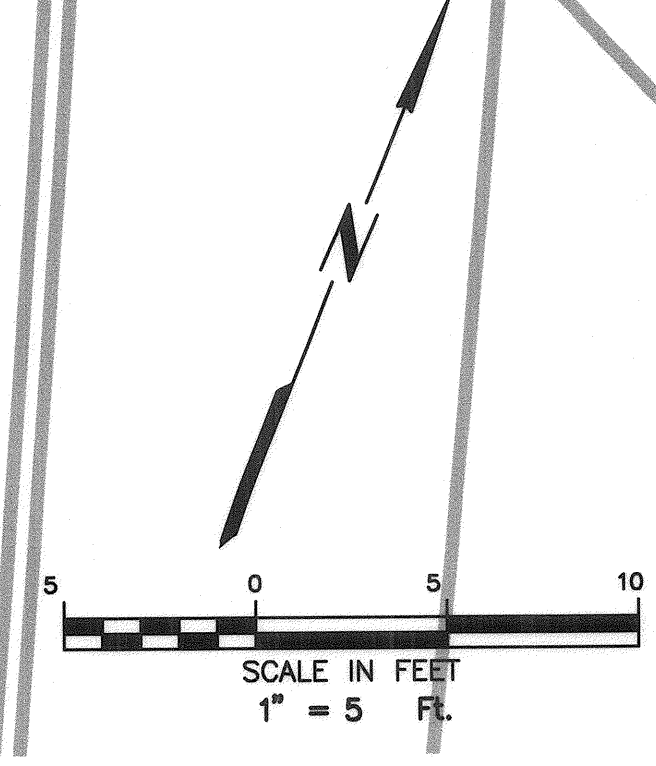


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City of Santa Rosa	CONTRACT NO. C02438
WATER PUMP STATION 9 ELECTRICAL UPGRADES	SHEET 18 OF 18
TEMPORARY PUMPING FACILITY SITE PLAN	FILE NO. 2024-0001



08-30-24 Scalabrini 4954.dwg 4954 00 4954.00 PUMP STATION.dwg TAB: 18-TEMP PUMPING