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[illegible]

Jordan Volk
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 142341
COLLIERS ENGINEERING & DESIGN, INC.
T.X. TBPE Reg. #: F-14909

VIDA SAN ANTONIO LIFT
STATION

FOR
SOUTHSTAR AT
VERANO, LLC

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

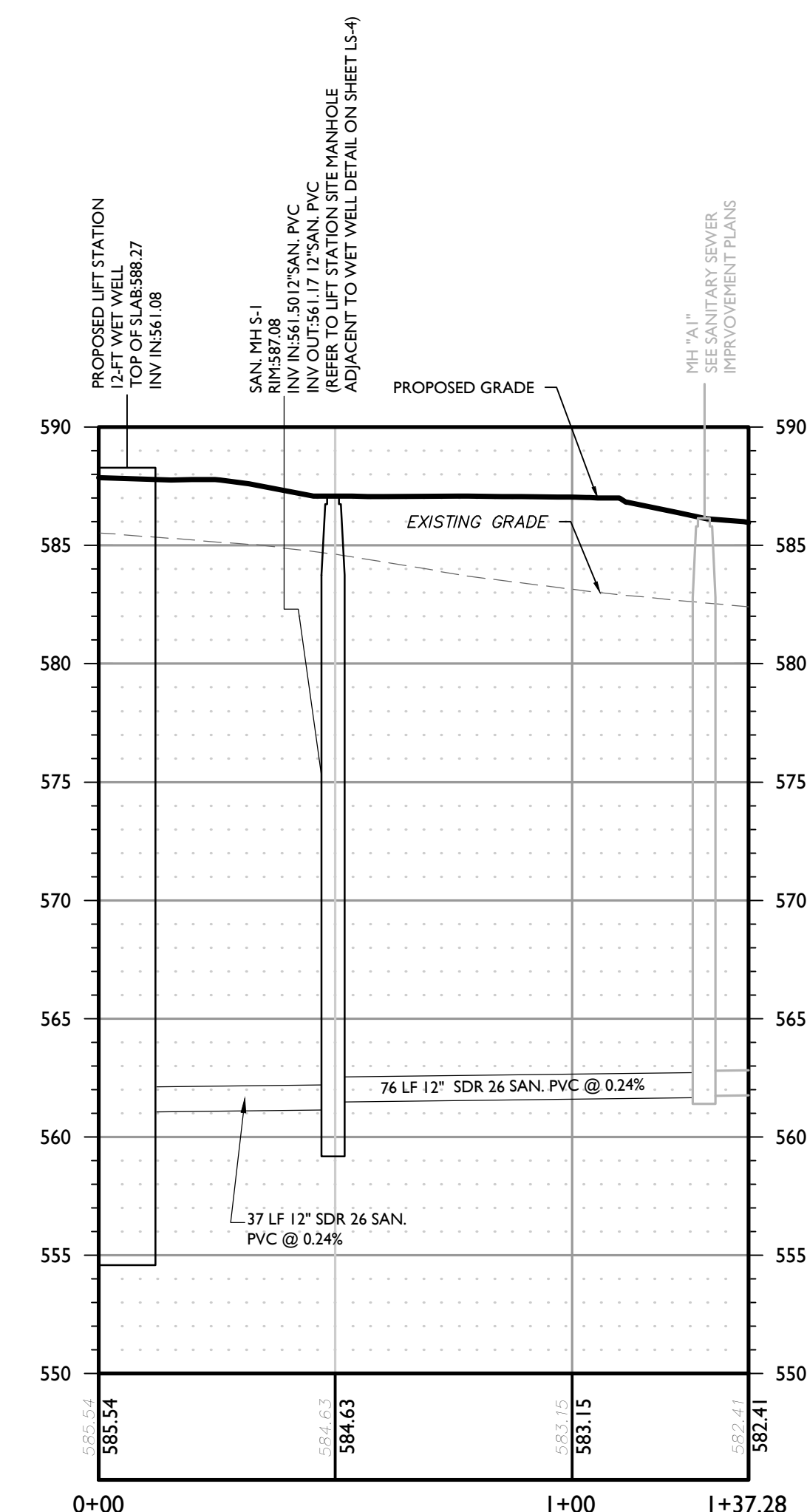
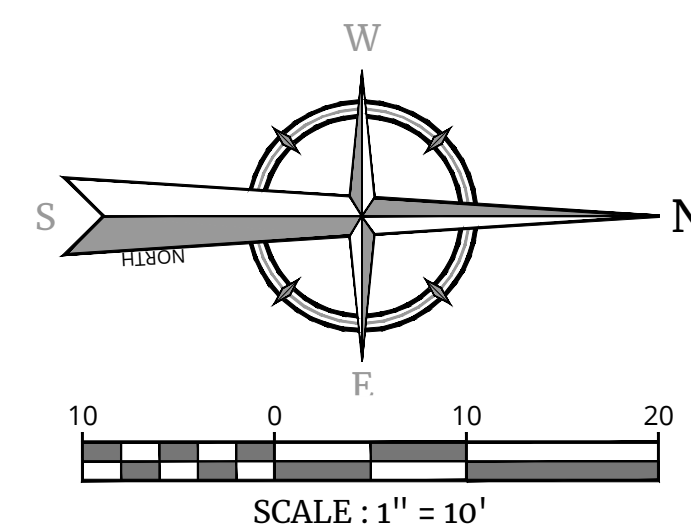


HOLMDEL (Headquarters)
101 Crawfords Corner Road
Suite 3400
Holmdel, NJ 07733
Phone: 732.383.1950

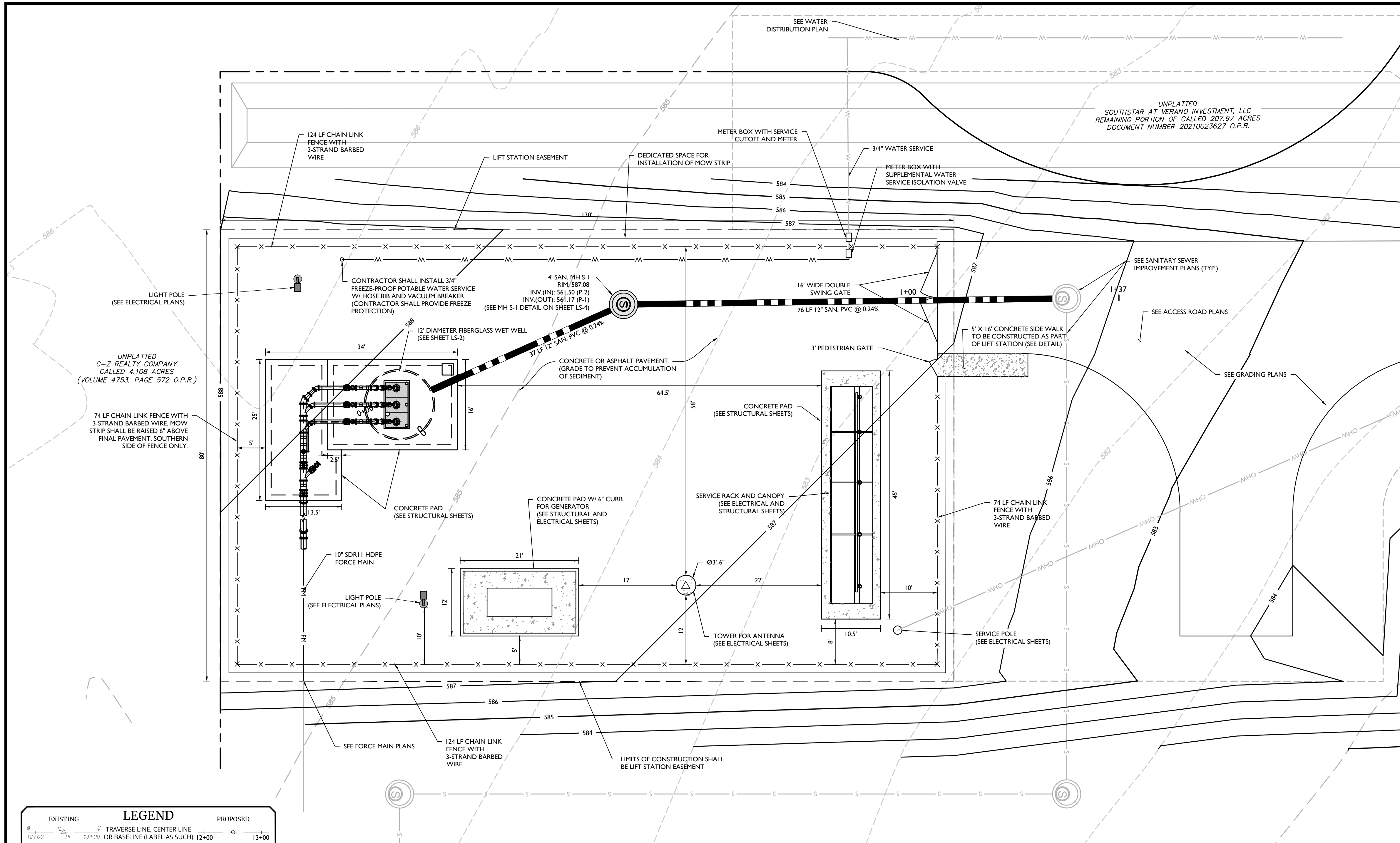
SCALE: AS SHOWN	DATE: 11/03/23	DRAWN BY: DJI	CHECKED BY: JJM
PROJECT NUMBER: 220100034		DRAWING NAME: W-LAYT	

LIFT STATION SITE PLAN

SHEET NUMBER:



PROFILE OF PROPOSED 12-INCH LIFT STATION GRAVITY MAIN
HORIZONTAL : 1" = 30'
VERTICAL : 1" = 6'



EXISTING		LEGEND	PROPOSED	
		TRAVERSE LINE, CENTER LINE OR BASELINE (LABEL AS SUCH)		
		RIGHT OF WAY LINE		
		PROPERTY LINE		
		EDGE OF PAVEMENT		
		CURB		
		DEPRESSED CURB		
		SIDEWALK		
		FENCES		
		TREELINE		
		ROADWAY SIGNS		
		WETLAND LINE		
		MUNICIPAL BOUNDARY LINE		
		TYPE '9' INLET		
		TYPE 'C', 'D', 'E' INLET		
		STORM MANHOLE		
		SANITARY MANHOLE		
		FLARED END SECTION		
		HEADWALL		
		HYDRANT		
		POLE MOUNTED LIGHT		
		CABLE TV CONDUIT		
		WATER MAIN		
		GAS MAIN		
		TELEPHONE CONDUIT		
		ELECTRIC CONDUIT		
		SANITARY PIPE		
		STORM PIPE		

NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING FEATURES DURING CONSTRUCTION, ANY FEATURES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTORS EXPENSE TO THE SATISFACTION OF SAWS AND THE ENGINEER.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UTILITIES SHOWN AND NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGED TO THE UTILITIES CAUSED BY THE CONTRACTOR'S OPERATION.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND QUANTITIES.
4. CONTRACTOR SHALL INSTALL PROTECTIVE BOLLARDS. THE CONTRACTOR SHALL VERIFY THE LOCATION OF PROTECTIVE BOLLARDS WITH SAWS AND THE ENGINEER.
5. CONTRACTOR SHALL PROVIDE FREEZE PROTECTION TO HOSE BIB, PRESSURE TRANSMITTER ASSEMBLY, PRESSURE GAUGE ASSEMBLY AND TO ALL DISCHARGE LINES 6-INCH DIAMETER AND SMALLER.

DEVELOPER'S NAME: SOUTHSTAR AT VERANO, LLC

ADDRESS: 1118 VINTAGE WAY

CITY: NEW BRAUNFELS

STATE: TEXAS

ZIP: 78132

PHONE #: (512) 923-9160

FAX: N/A

TOTAL LINEAR FOOTAGE OF PIPE

TOTAL ACREAGE: 232.87

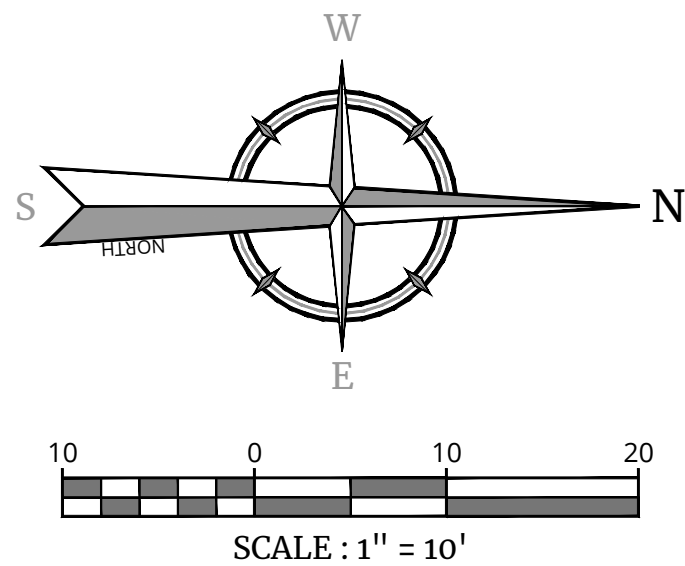
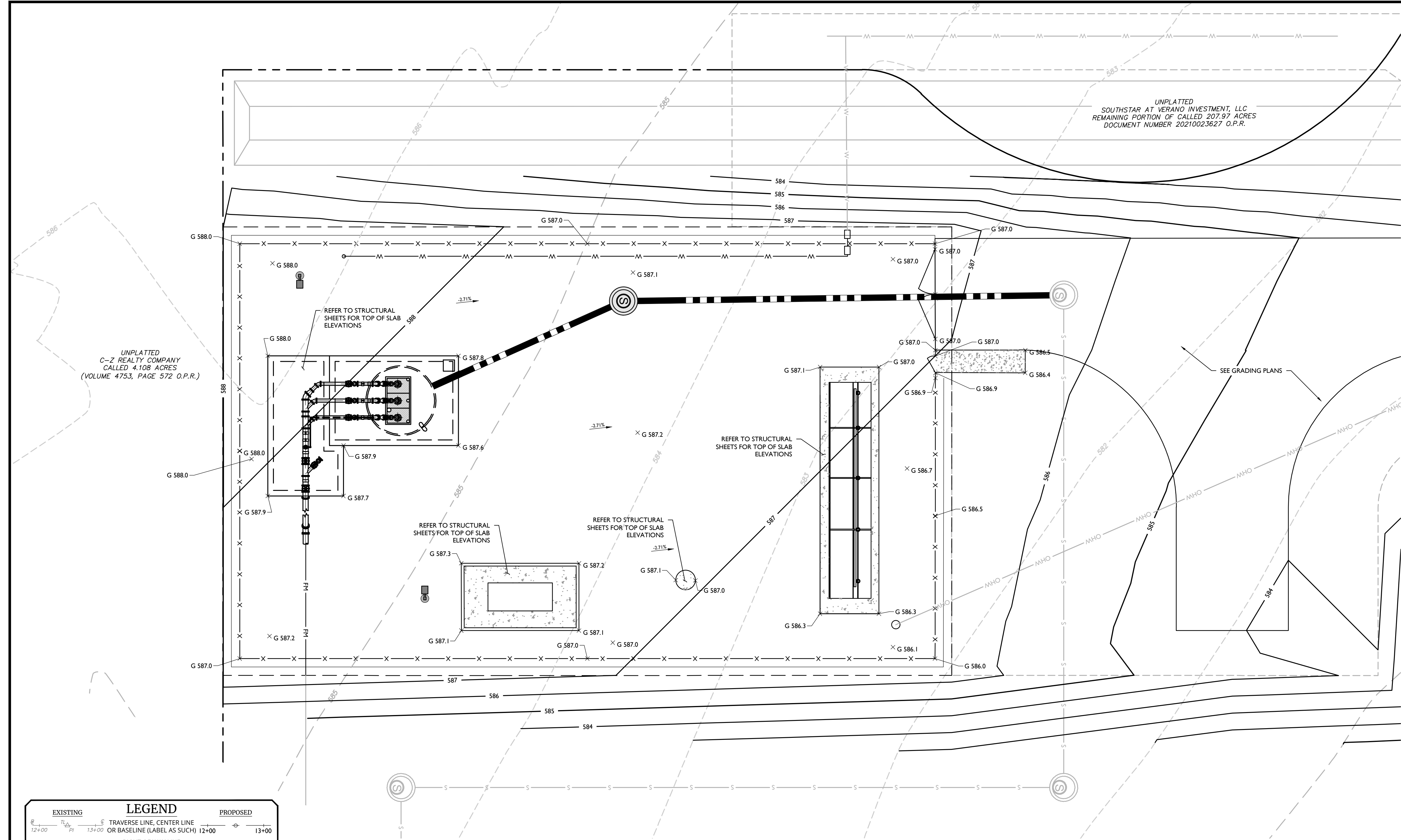
SAWS BLOCK MAP: N/A

TOTAL EDU'S: 1,795

SAWS | JOB NO.:

002212201000361Site Plans\W1 AYT.dwg(1:1)

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION



EXISTING	LEGEND	PROPOSED
	TRAVERSE LINE, CENTER LINE OR BASELINE (LABEL AS SUCH)	
	RIGHT OF WAY LINE	
	PROPERTY LINE	
	EDGE OF PAVEMENT	
	CURB	
	DEPRESSED CURB	
	SIDEWALK	
	FENCES	
	TREELINE	
	ROADWAY SIGNS	
	WETLAND LINE	
	MUNICIPAL BOUNDARY LINE	
	TYPE '9' INLET	
	TYPE 'C', 'D', 'E' INLET	
	STORM MANHOLE	
	SANITARY MANHOLE	
	FLARED END SECTION	
	HEADWALL	
	HYDRANT	
	POLE MOUNTED LIGHT	
	CONTOURS	
	SPOT ELEVATION	
	DIRECTION OF OVERLAND FLOW	
	TOP OF CURB ELEVATION	
	BOTTOM OF CURB ELEVATION	
	TOP OF DEPRESSED CURB ELEVATION	

NOTES:

- CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING FEATURES DURING CONSTRUCTION. ANY FEATURES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTORS EXPENSE TO THE SATISFACTION OF SAWS AND THE ENGINEER.
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- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND QUANTITIES.

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PHONE #: (512) 923-9160

FAX: N/A

TOTAL LINEAR FOOTAGE OF PIPE:

TOTAL ACREAGE: 232.87

SAWS BLOCK MAP: N/A

TOTAL EDU'S: 1,795

SAWS JOB NO.:

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REV. DATE DESCRIPTION
1 7/30/24 REVISED PER SAWS REVIEW COMMENTS DATED DECEMBER 5, 2023

Jordan Volk

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FOR
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VERANO, LLC

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BEXAR COUNTY
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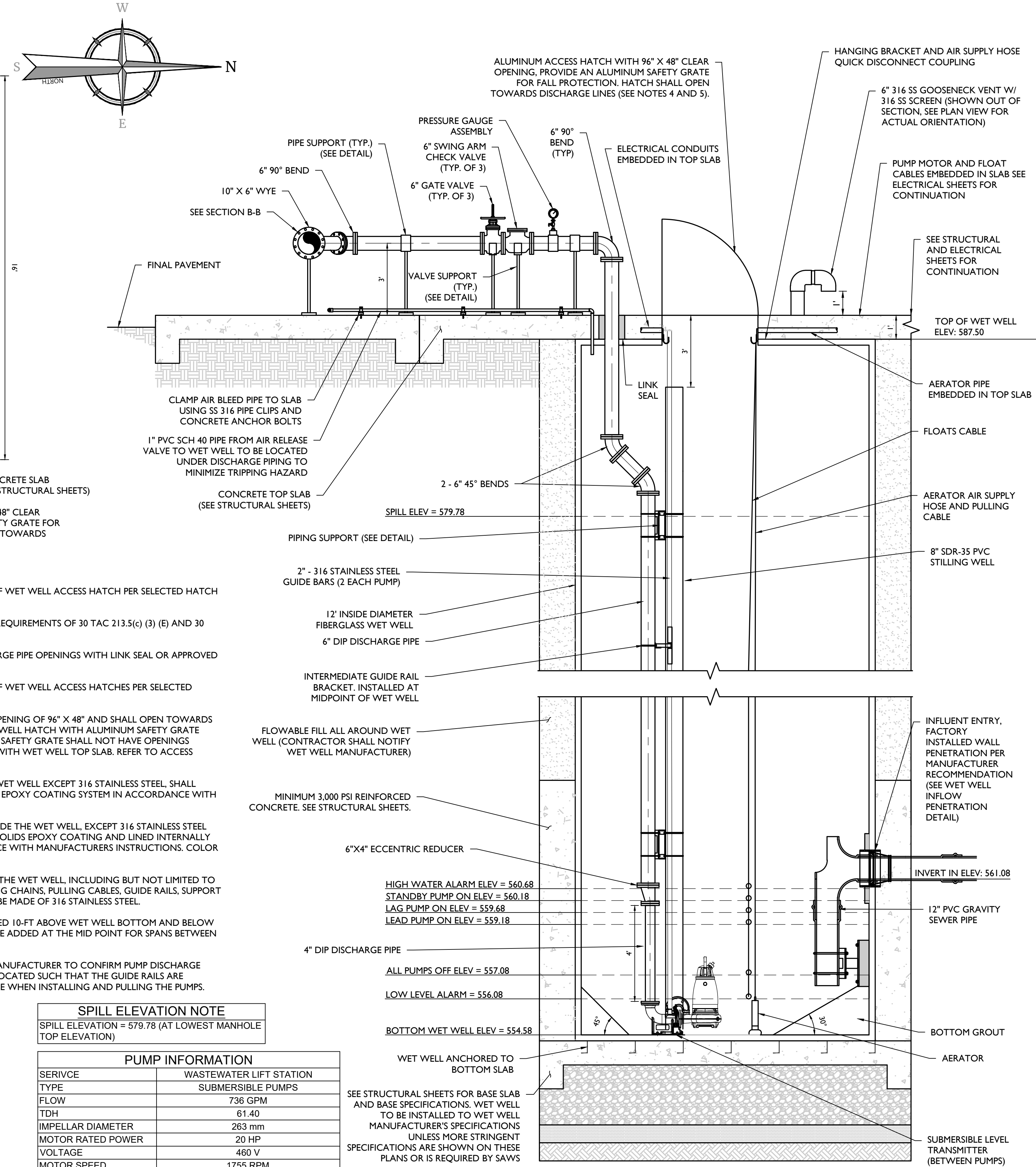
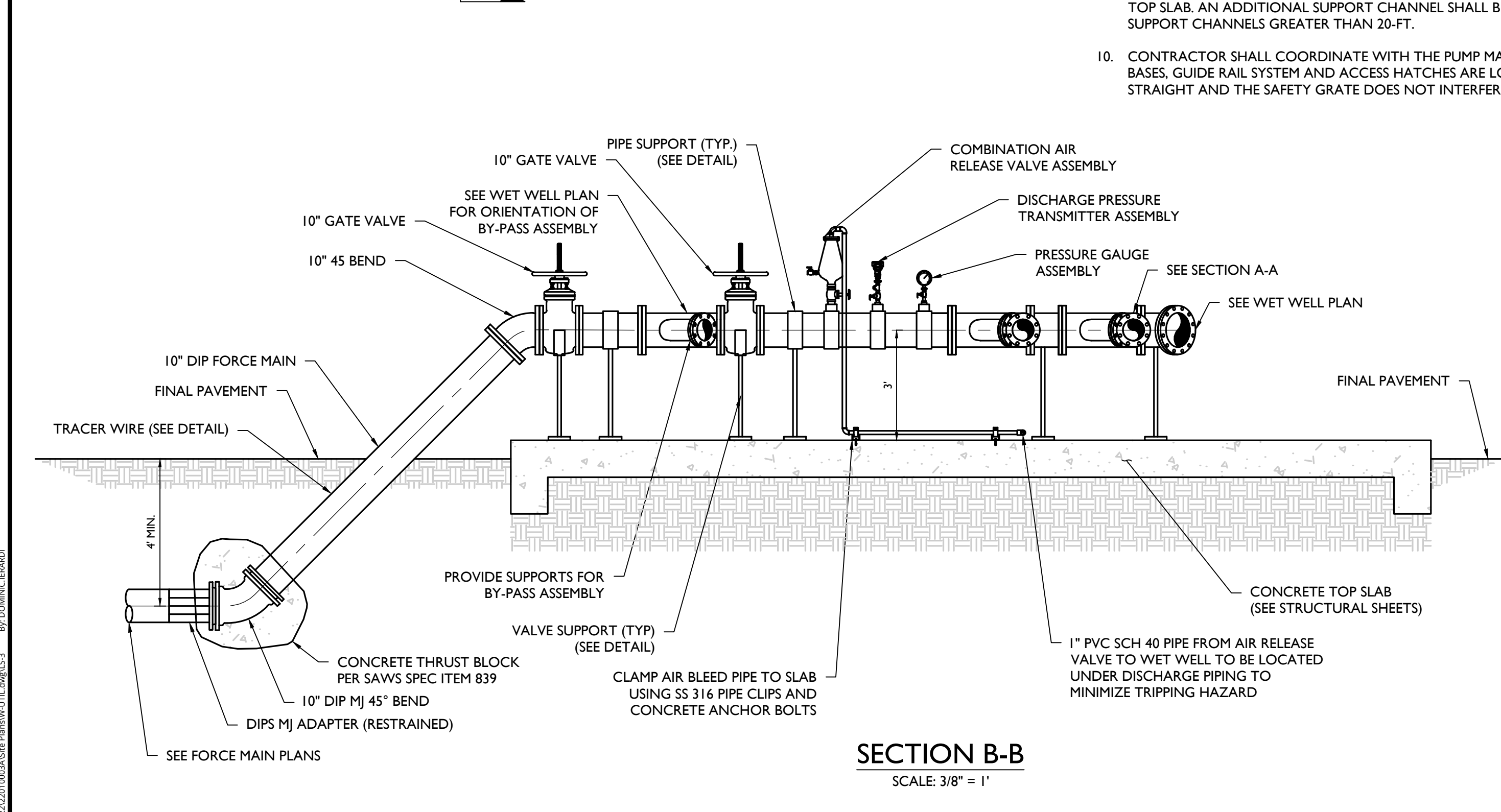
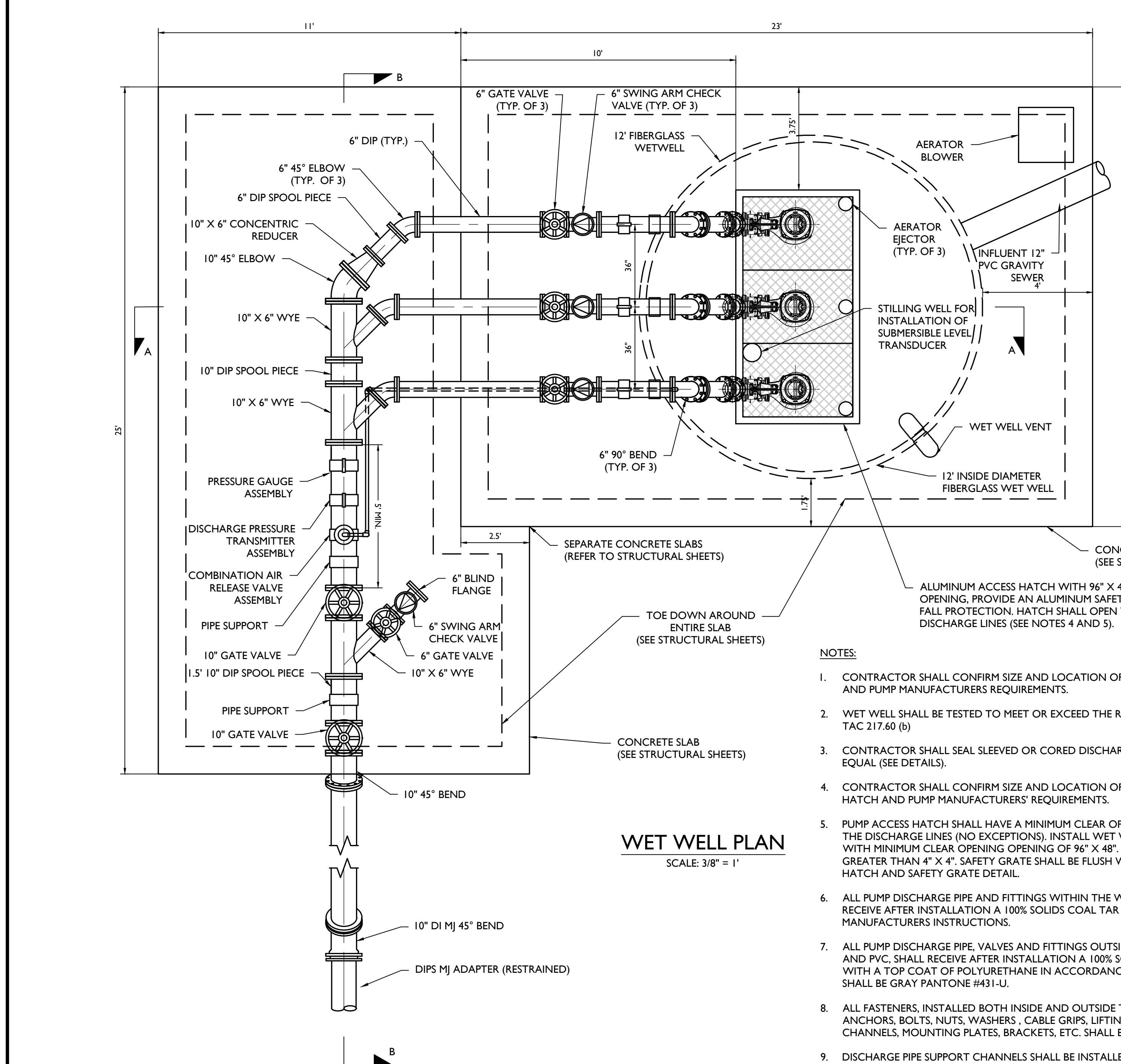
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Suite 3400
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Phone: 732.383.1950
COLLIERS ENGINEERING & DESIGN, INC. DOING
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SCALE: AS SHOWN
DATE: 11/03/23
DRAWN BY: DJM
CHECKED BY: JJM
PROJECT NUMBER: 22010003A
DRAWING NAME: W-LAY1

SHEET TITLE:
LIFT STATION GRADING PLAN

SHEET NUMBER:
LS-2

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



SPILL ELEVATION NOTE
SPILL ELEVATION = 579.78 (AT LOWEST MANHOLE TOP ELEVATION)

PUMP INFORMATION	
SERVICE	WASTEWATER LIFT STATION
TYPE	SUBMERSIBLE PUMPS
FLOW	736 GPM
TDH	61.40
IMPELLER DIAMETER	263 mm
MOTOR RATED POWER	20 HP
VOLTAGE	460 V
MOTOR SPEED	1755 RPM
MANUFACTURER MODEL	NP 3153 HT 3~ 463

RISING LEVEL CYCLE		
WATER LEVEL ELEVATION	ACTION	PUMP(S) IN OPERATION
557.08	PUMP OFF LEVEL	ALL PUMPS OFF
559.18	LEAD PUMP LEVEL	LEAD PUMP ON
559.68	LAG PUMP LEVEL	LEAD & LAG PUMP ON
560.18	STANDBY PUMP LEVEL	LEAD, LAG & STANDBY PUMP ON
560.68	HIGH WATER LEVEL ALARM	HIGH WATER ALARM SOUND

FALLING LEVEL CYCLE		
WATER LEVEL ELEVATION	ACTION	PUMP(S) IN OPERATION
560.18	STANDBY PUMP LEVEL	LEAD, LAG & STANDBY PUMP ON, HIGH LEVEL ALARM RESETS
559.68	LAG PUMP LEVEL	LEAD & LAG PUMP ON, STANDBY PUMP OFF
559.18	LEAD PUMP LEVEL	LEAD PUMP ON, LAG & STANDBY PUMP OFF
557.08	ALL PUMPS OFF LEVEL	ALL PUMPS OFF

SECTION A-A
SCALE: 3/8" = 1'

DEVELOPER'S NAME: SOUTHSTAR AT VERANO, LLC

ADDRESS: 1118 VINTAGE WAY

CITY: NEW BRAUNFELS STATE: TEXAS ZIP: 78132

PHONE #: (512) 923-9160 FAX: N/A

TOTAL LINEAR FOOTAGE OF PIPE: TOTAL ACREAGE: 232.87

SAWS BLOCK MAP: N/A TOTAL EDU'S: 1,795

SAWS JOB NO.:

- NOTES:**
- CONTRACTOR SHALL CONFIRM SIZE AND LOCATION OF WET WELL ACCESS HATCH PER SELECTED HATCH AND PUMP MANUFACTURERS REQUIREMENTS.
 - WET WELL SHALL BE TESTED TO MEET OR EXCEED THE REQUIREMENTS OF 30 TAC 213.5(c) (3) (E) AND 30 TAC 217.60 (b)
 - CONTRACTOR SHALL SEAL SLEEVED OR CORED DISCHARGE PIPE OPENINGS WITH LINK SEAL OR APPROVED EQUAL (SEE DETAILS).
 - CONTRACTOR SHALL CONFIRM SIZE AND LOCATION OF WET WELL ACCESS HATCHES PER SELECTED HATCH AND PUMP MANUFACTURERS REQUIREMENTS.
 - PUMP ACCESS HATCH SHALL HAVE A MINIMUM CLEAR OPENING OF 96" X 48" AND SHALL OPEN TOWARDS THE DISCHARGE LINES (NO EXCEPTIONS). INSTALL WET WELL HATCH WITH ALUMINUM SAFETY GRATE WITH MINIMUM CLEAR OPENING OPENING OF 96" X 48". SAFETY GRATE SHALL NOT HAVE OPENINGS GREATER THAN 4" X 4". SAFETY GRATE SHALL BE FLUSH WITH WET WELL TOP SLAB. REFER TO ACCESS HATCH AND SAFETY GRATE DETAIL.
 - ALL PUMP DISCHARGE PIPE AND FITTINGS WITHIN THE WET WELL EXCEPT 316 STAINLESS STEEL, SHALL RECEIVE AFTER INSTALLATION A 100% SOLIDS COAL TAR EPOXY COATING SYSTEM IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
 - ALL PUMP DISCHARGE PIPE, VALVES AND FITTINGS OUTSIDE THE WET WELL, EXCEPT 316 STAINLESS STEEL AND PVC, SHALL RECEIVE AFTER INSTALLATION A 100% SOLIDS EPOXY COATING AND LINED INTERNALLY WITH A TOP COAT OF POLYURETHANE IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. COLOR SHALL BE GRAY PANTONE #431-U.
 - ALL FASTENERS, INSTALLED BOTH INSIDE AND OUTSIDE THE WET WELL, INCLUDING BUT NOT LIMITED TO ANCHORS, BOLTS, NUTS, WASHERS, CABLE GRIPS, LIFTING CHAINS, PULLING CABLES, GUIDE RAILS, SUPPORT CHANNELS, MOUNTING PLATES, BRACKETS, ETC. SHALL BE MADE OF 316 STAINLESS STEEL.
 - DISCHARGE PIPE SUPPORT CHANNELS SHALL BE INSTALLED 10-FT ABOVE WET WELL BOTTOM AND BELOW TOP SLAB. AN ADDITIONAL SUPPORT CHANNEL SHALL BE ADDED AT THE MID POINT FOR SPANS BETWEEN SUPPORT CHANNELS GREATER THAN 20-FT.
 - CONTRACTOR SHALL COORDINATE WITH THE PUMP MANUFACTURER TO CONFIRM PUMP DISCHARGE BASES, GUIDE RAIL SYSTEM AND ACCESS HATCHES ARE LOCATED SUCH THAT THE GUIDE RAILS ARE STRAIGHT AND THE SAFETY GRATE DOES NOT INTERFERE WHEN INSTALLING AND PULLING THE PUMPS.

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Jordan Volk
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 142341
COLLIERS ENGINEERING & DESIGN, INC.
TX TBPE Reg. # F-14899

VIDA SAN ANTONIO LIFT STATION

FOR SOUTHSTAR AT VERANO, LLC

**CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS**

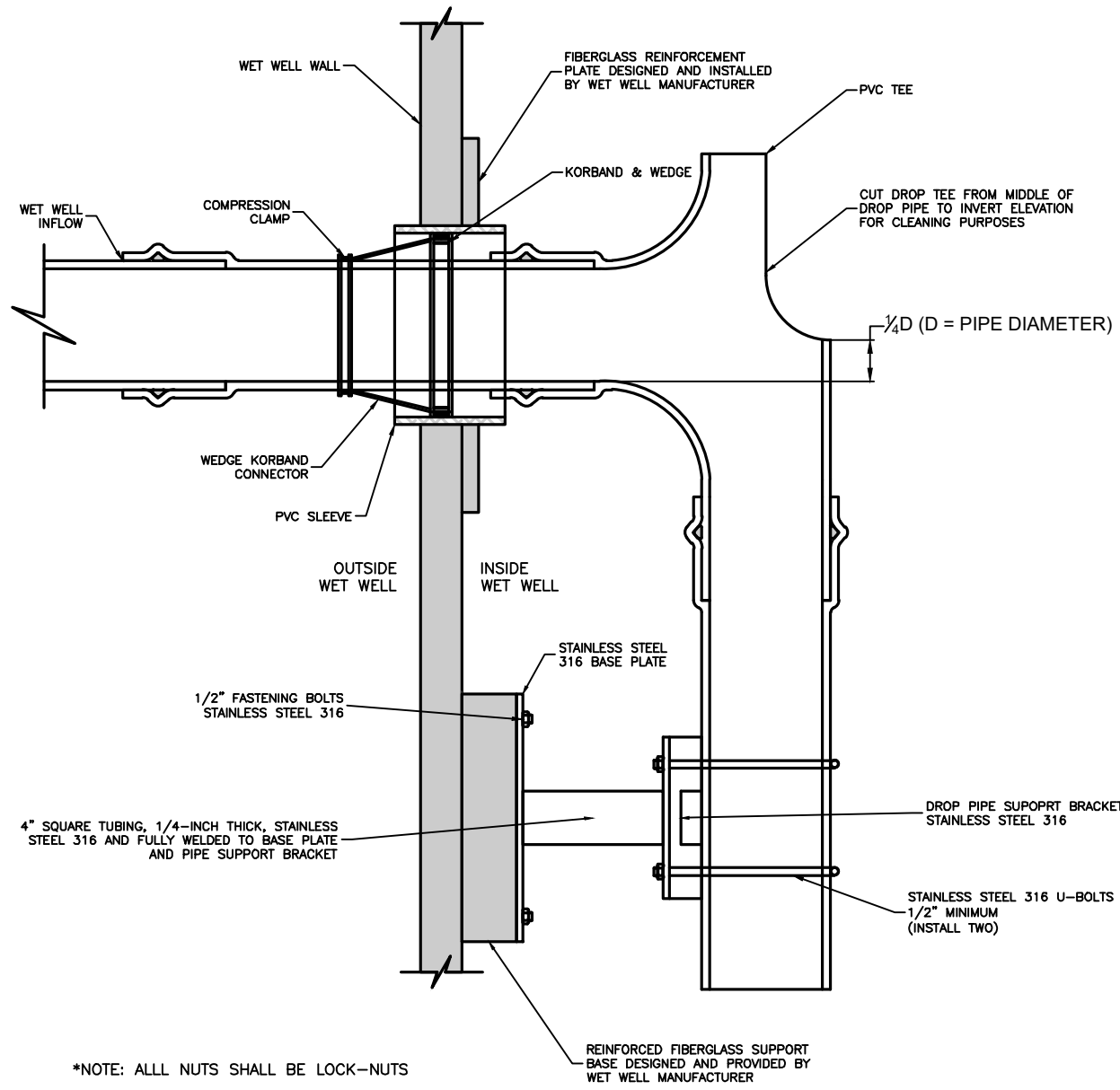
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SCALE: AS SHOWN	DATE: 11/03/23	DRAWN BY: DJJ	CHECKED BY: JJM
PROJECT NUMBER: 22010003A	DRAWING NAME: W-UTIL		

SHEET TITLE: LIFT STATION PLAN AND SECTIONS
SHEET NUMBER: LS-3

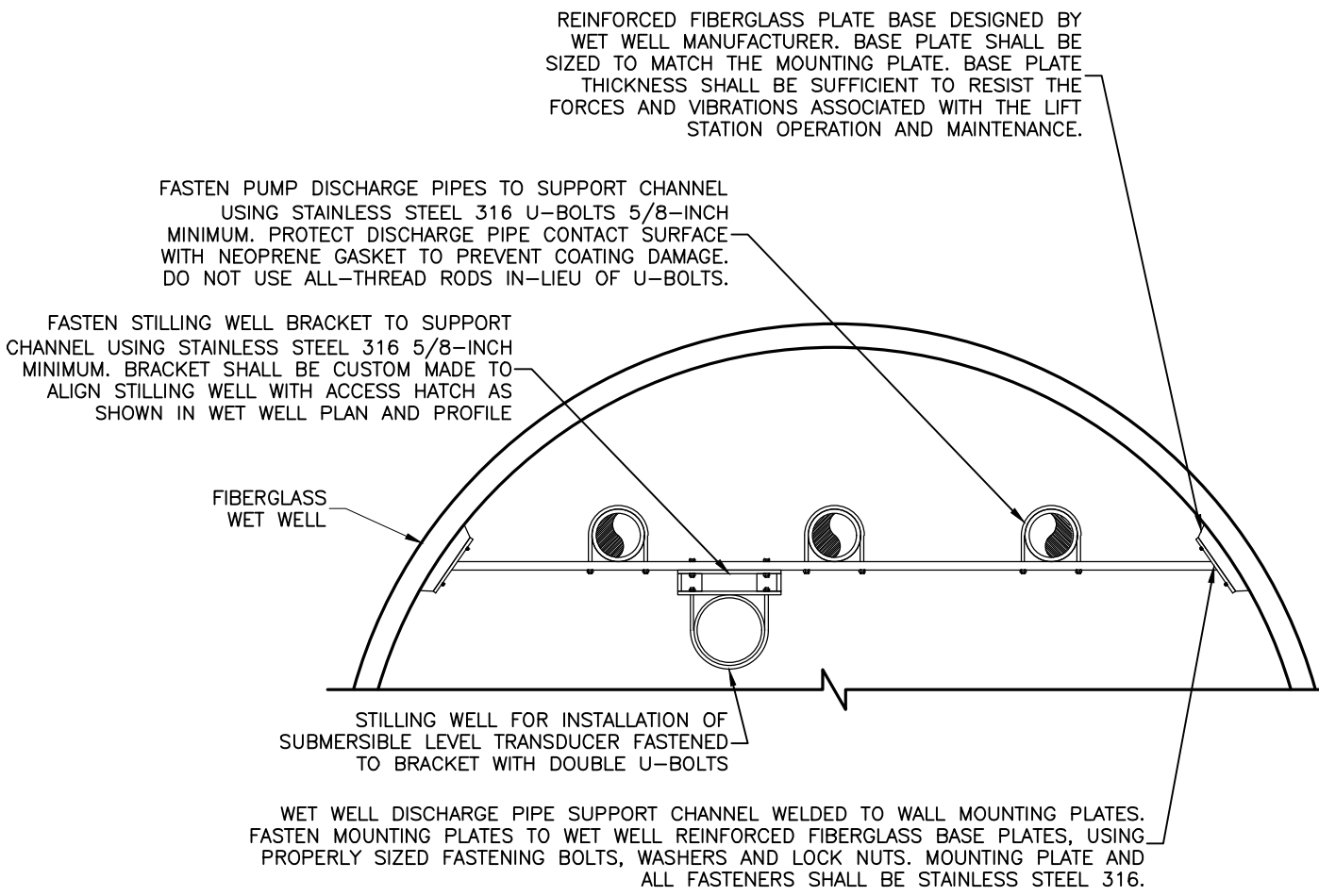
NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

2023/2020/003AS/001 Pump/W-01LS.dwg, L-4 By: DOUGLAS, EMMETT



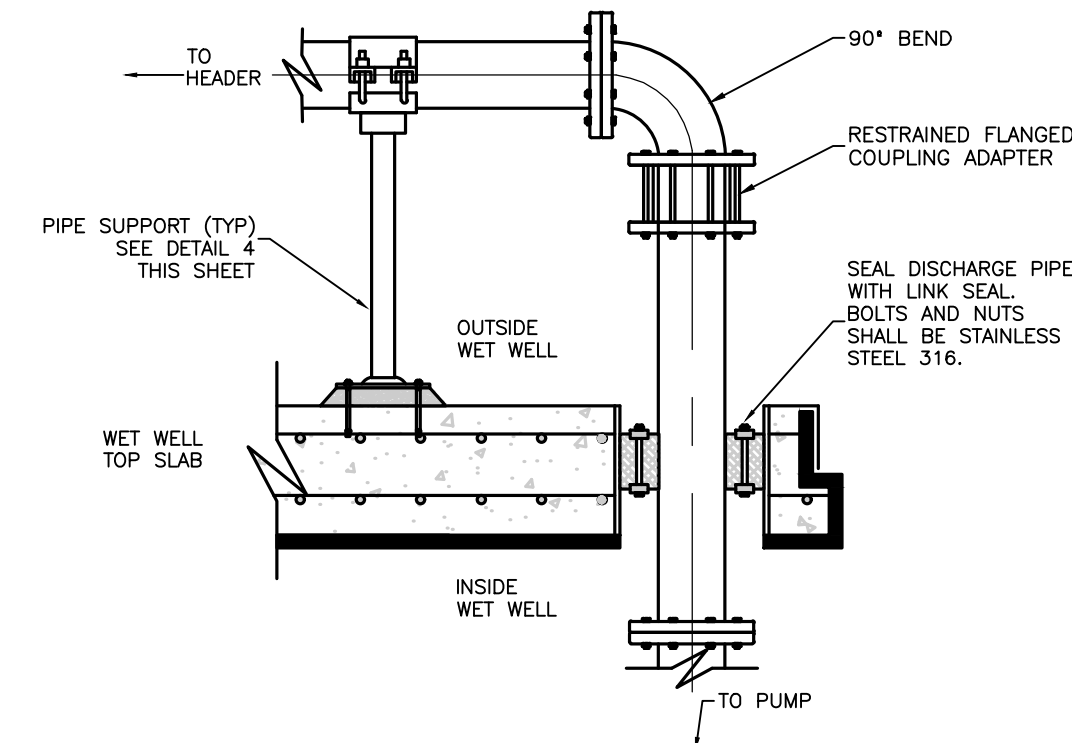
WET WELL INFLOW PENETRATION DETAIL

NOT TO SCALE GNRL-DTLS-STND-GRID XX/XX/XX



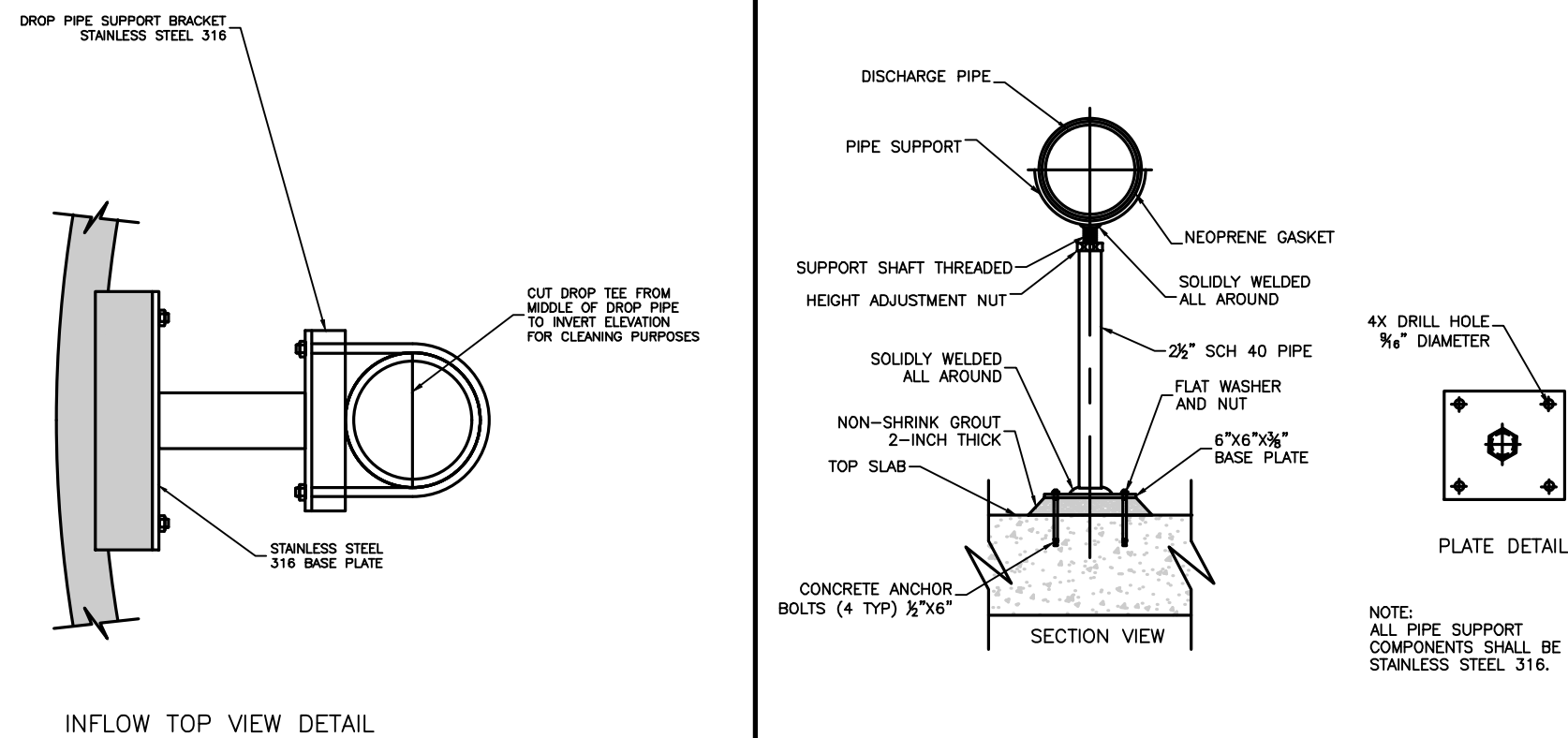
DISCHARGE PIPE SUPPORT DETAIL

NOT TO SCALE GNRL-DTLS-STND-GRID XX/XX/XX



DISCHARGE PIPE PENETRATION DETAIL

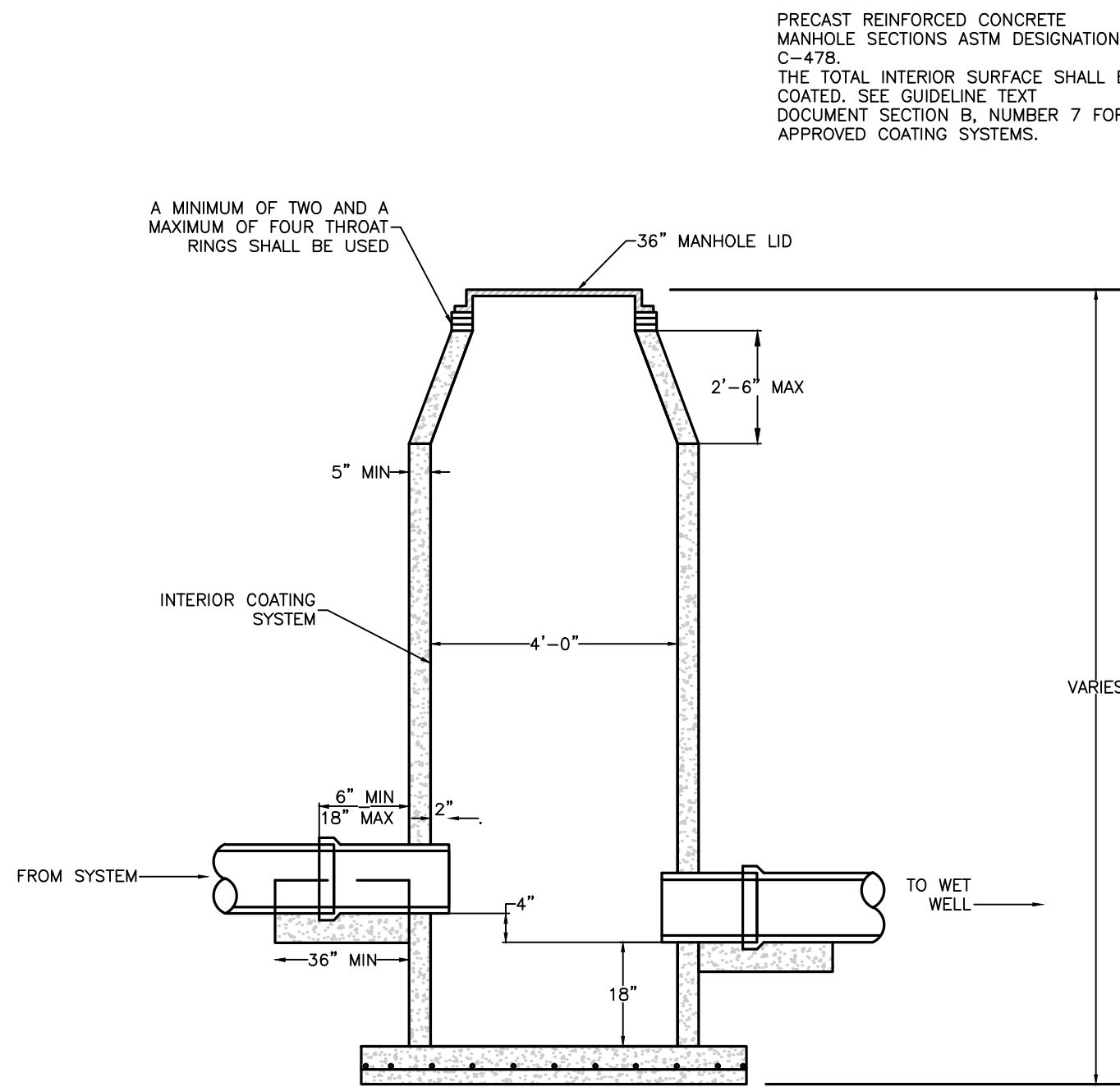
NOT TO SCALE GNRL-DTLS-STND-GRID XX/XX/XX



INFLOW TOP VIEW DETAIL

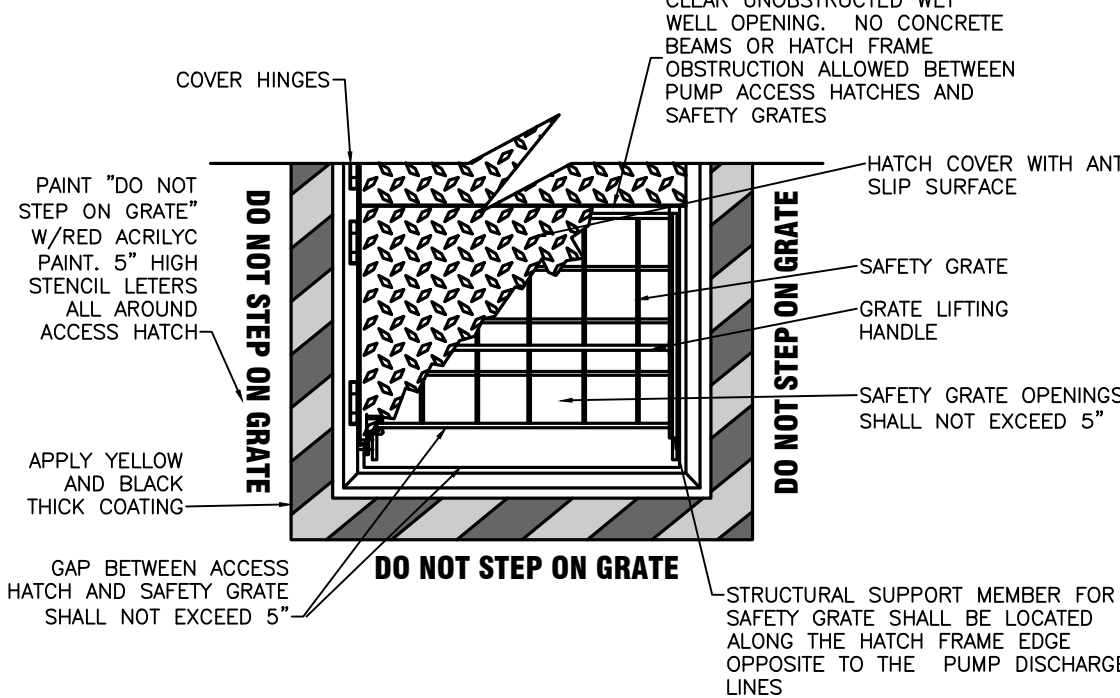
VALVE SUPPORT DETAIL

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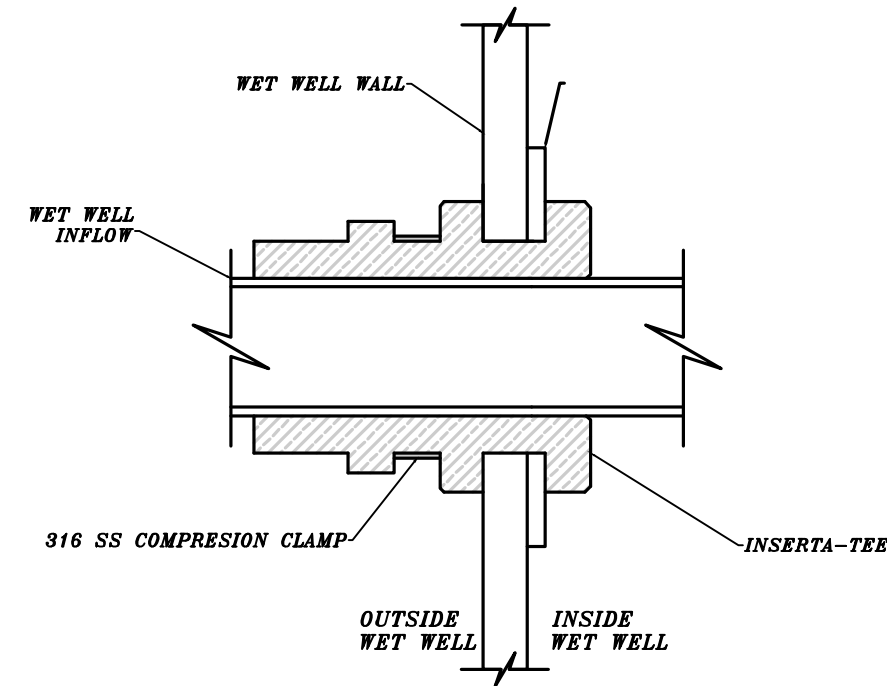
LIFT STATION SITE MANHOLE (MH S-1) ADJACENT TO WET WELL DETAIL

NOT TO SCALE GNRL-DTLS-STND-GRID XX/XX/XX



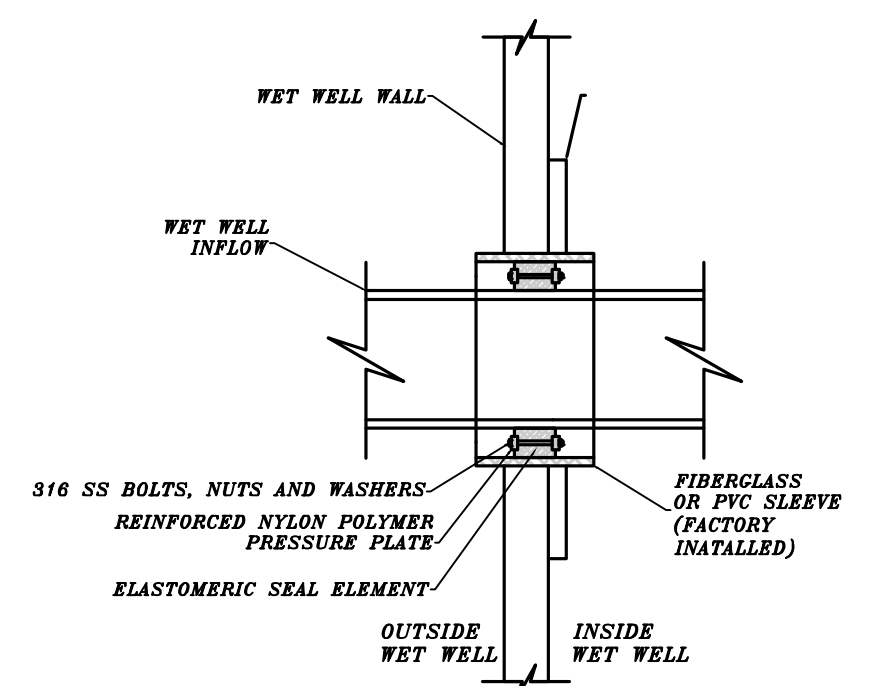
ACCESS HATCH AND SAFETY GRATE DETAIL

NOT TO SCALE GNRL-DTLS-STND-GRID XX/XX/XX



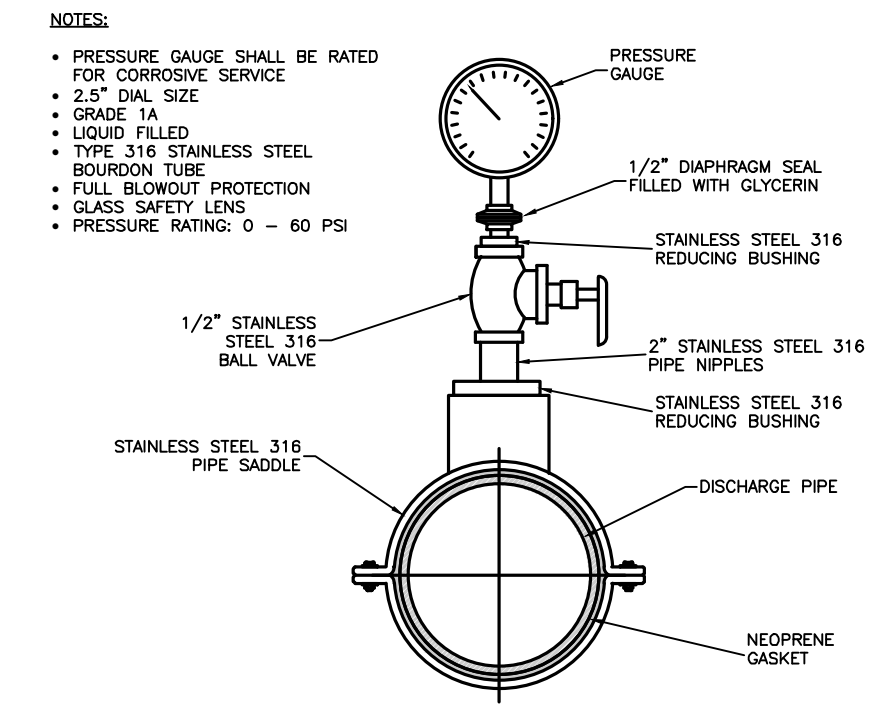
INSERTA-TEE DETAIL

NOT TO SCALE GNRL-DTLS-STND-GRID XX/XX/XX



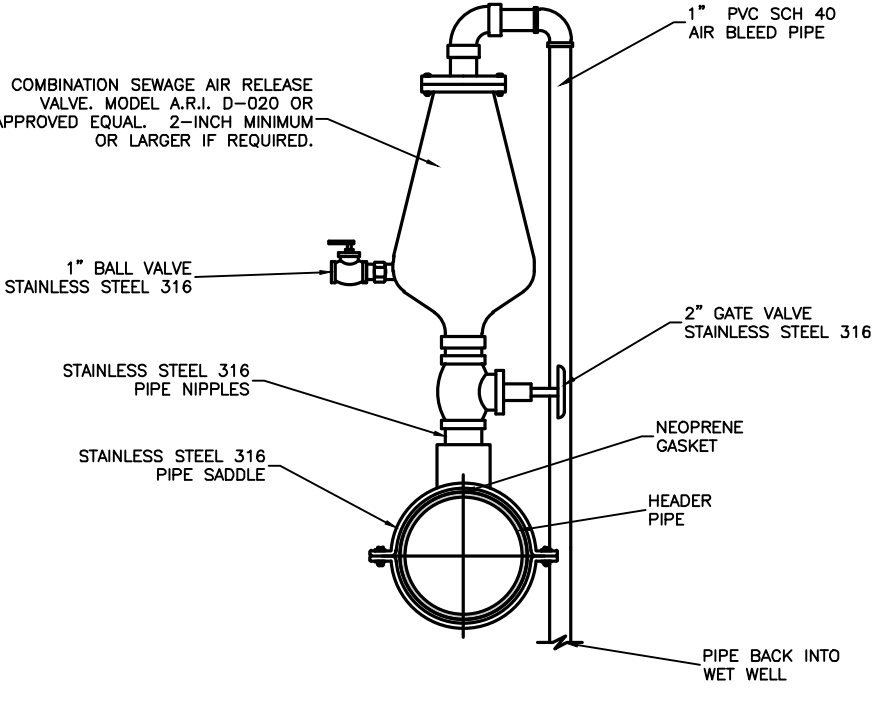
LINK-SEAL DETAIL

NOT TO SCALE GNRL-DTLS-STND-GRID XX/XX/XX



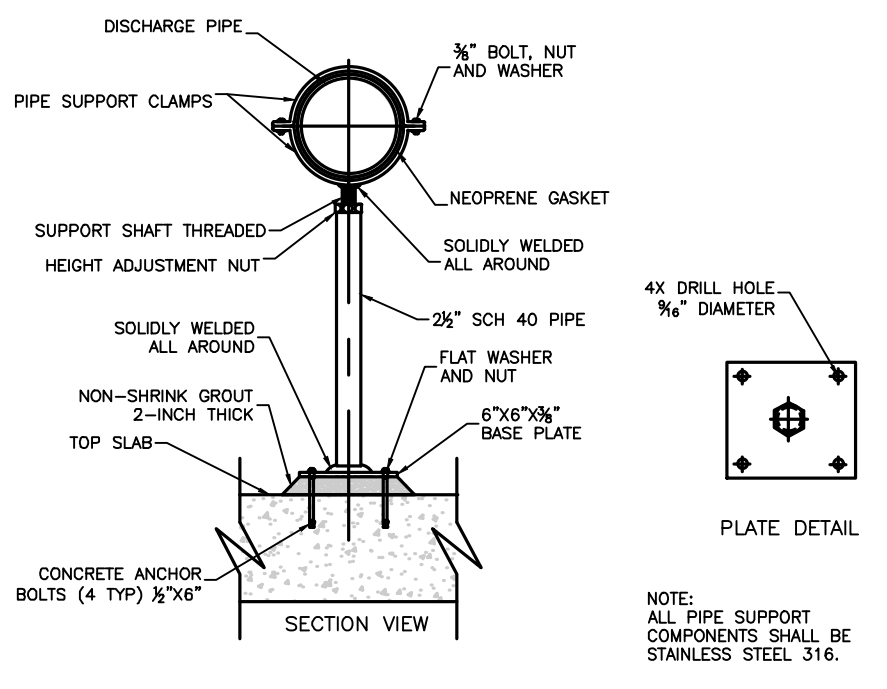
PRESSURE GAUGE INSTALLATION DETAIL

NOT TO SCALE GNRL-DTLS-STND-GRID XX/XX/XX



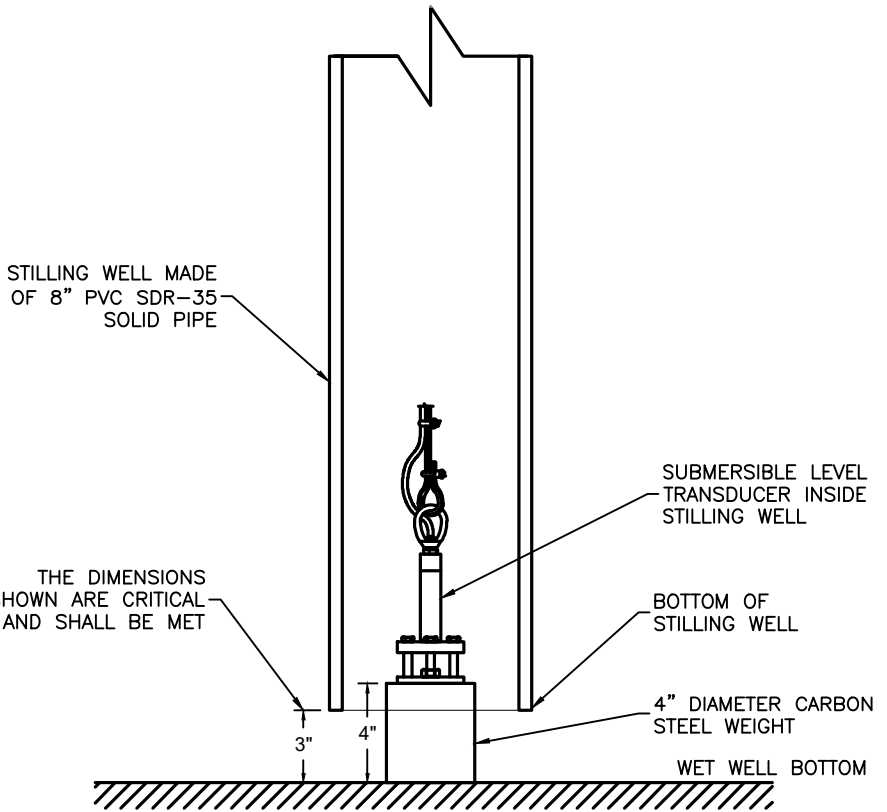
AIR/VACUUM RELEASE VALVE INSTALLATION DETAIL

NOT TO SCALE GNRL-DTLS-STND-GRID XX/XX/XX



PIPE SUPPORT DETAIL

NOT TO SCALE GNRL-DTLS-STND-GRID XX/XX/XX



SUBMERSIBLE LEVEL TRANSDUCER INSTALLATION WITHIN STILLING WELL DETAIL

NOT TO SCALE GNRL-DTLS-STND-GRID XX/XX/XX

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SCALE: AS SHOWN DATE: 11/03/23 DRAWN BY: DJI CHECKED BY: JJM

PROJECT NUMBER: 22010003A DRAWING NAME: W-DTLS

SHEET TITLE: CONSTRUCTION DETAILS

SHEET NUMBER: LS-4

DEVELOPER'S NAME: SOUTHSTAR AT VERANO, LLC

ADDRESS: 1118 VINTAGE WAY

CITY: NEW BRAUNFELS STATE: TEXAS ZIP: 78132

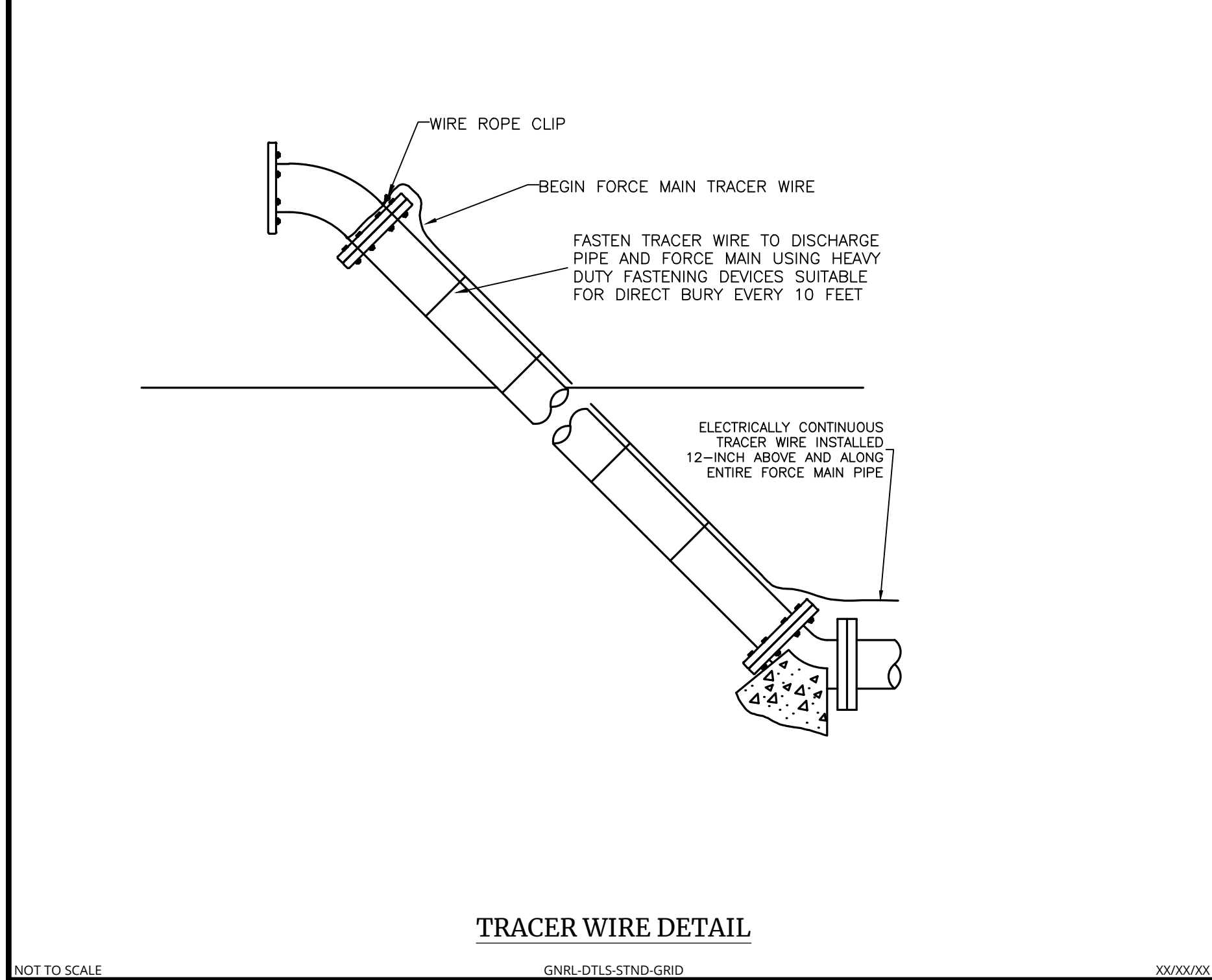
PHONE #: (512) 923-9160 FAX: N/A

TOTAL LINEAR FOOTAGE OF PIPE: TOTAL ACREAGE: 232.87

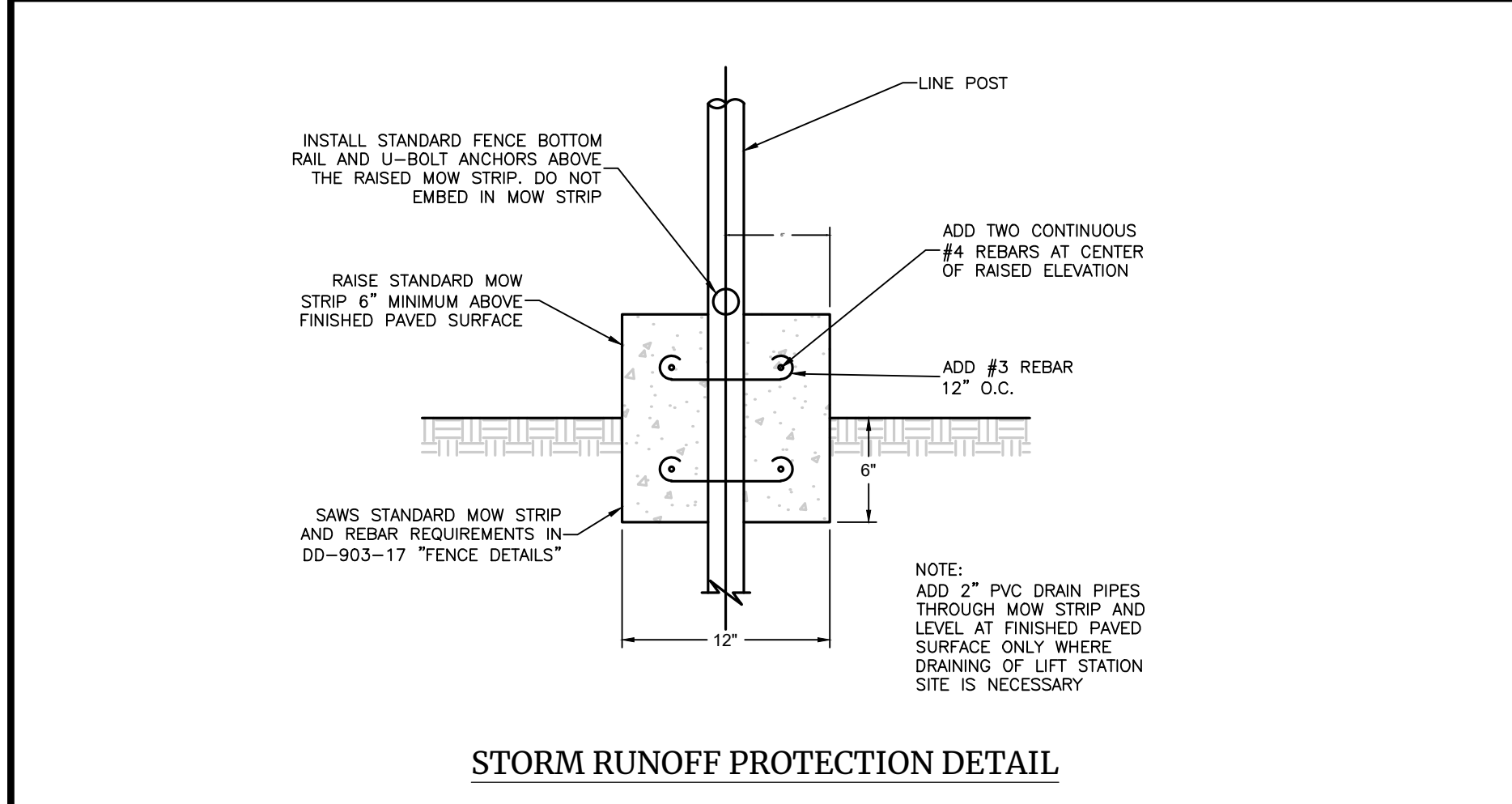
SAWS BLOCK MAP: N/A TOTAL EDU'S: 1,795

SAWS JOB NO.:

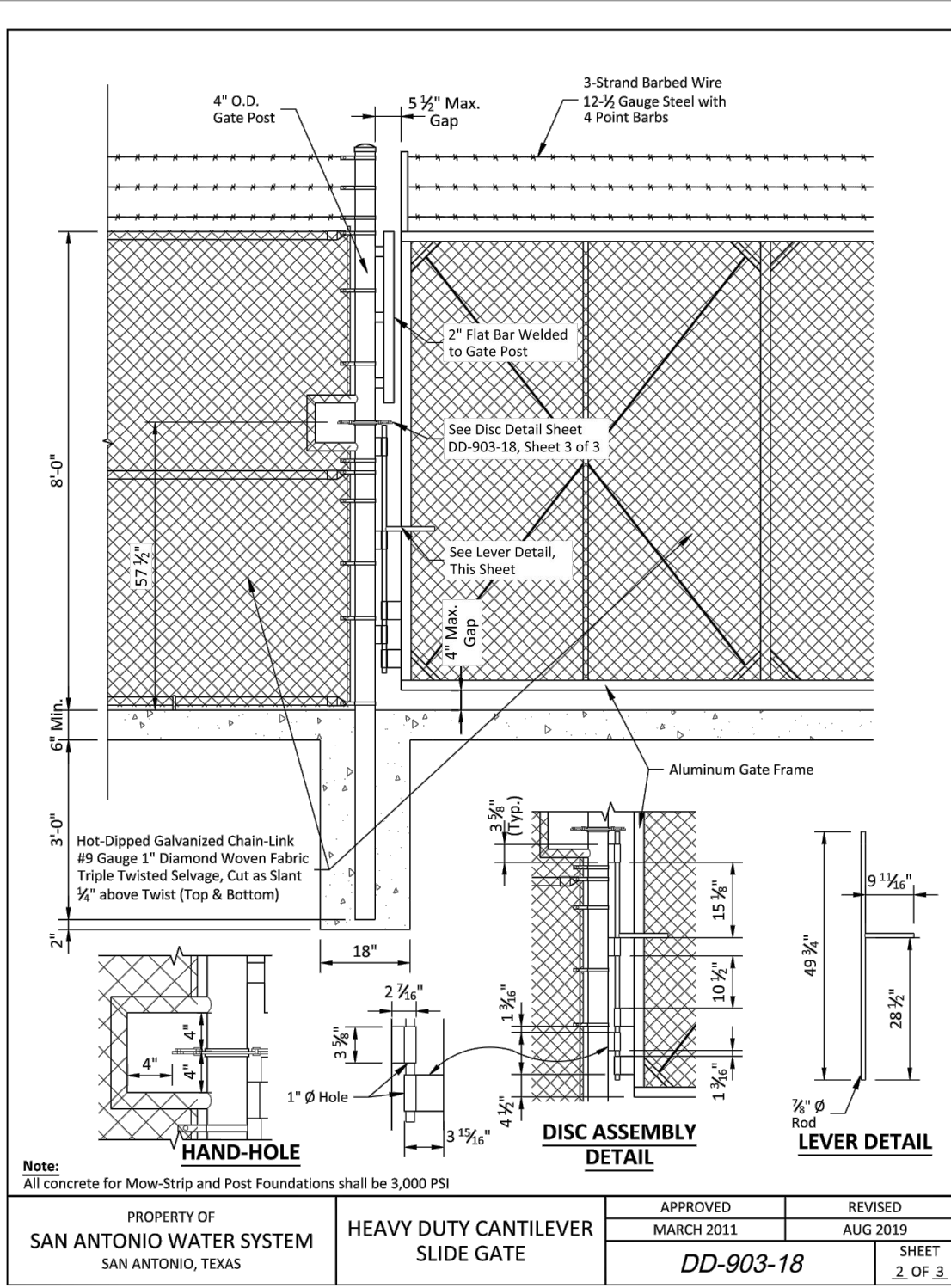
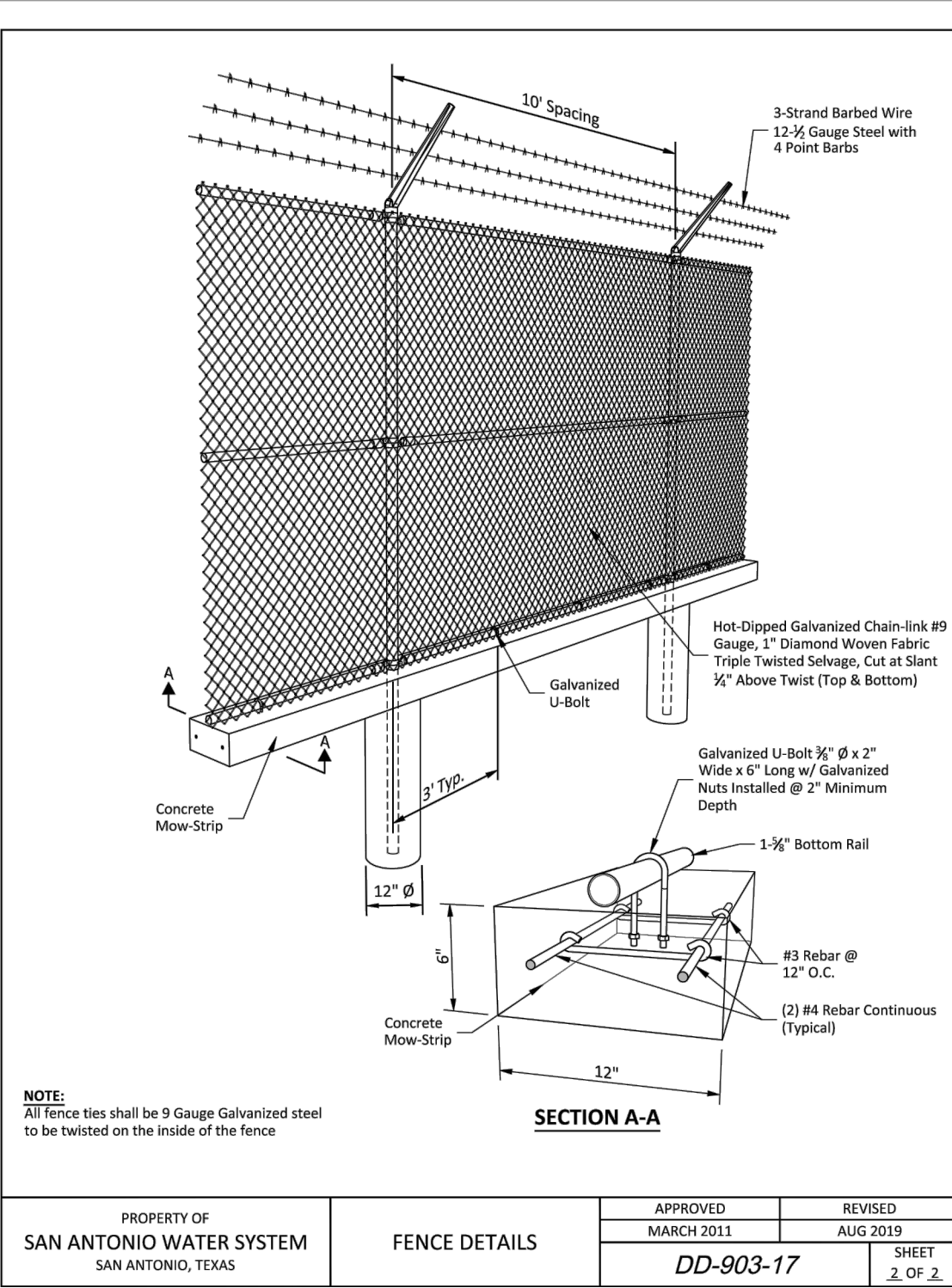
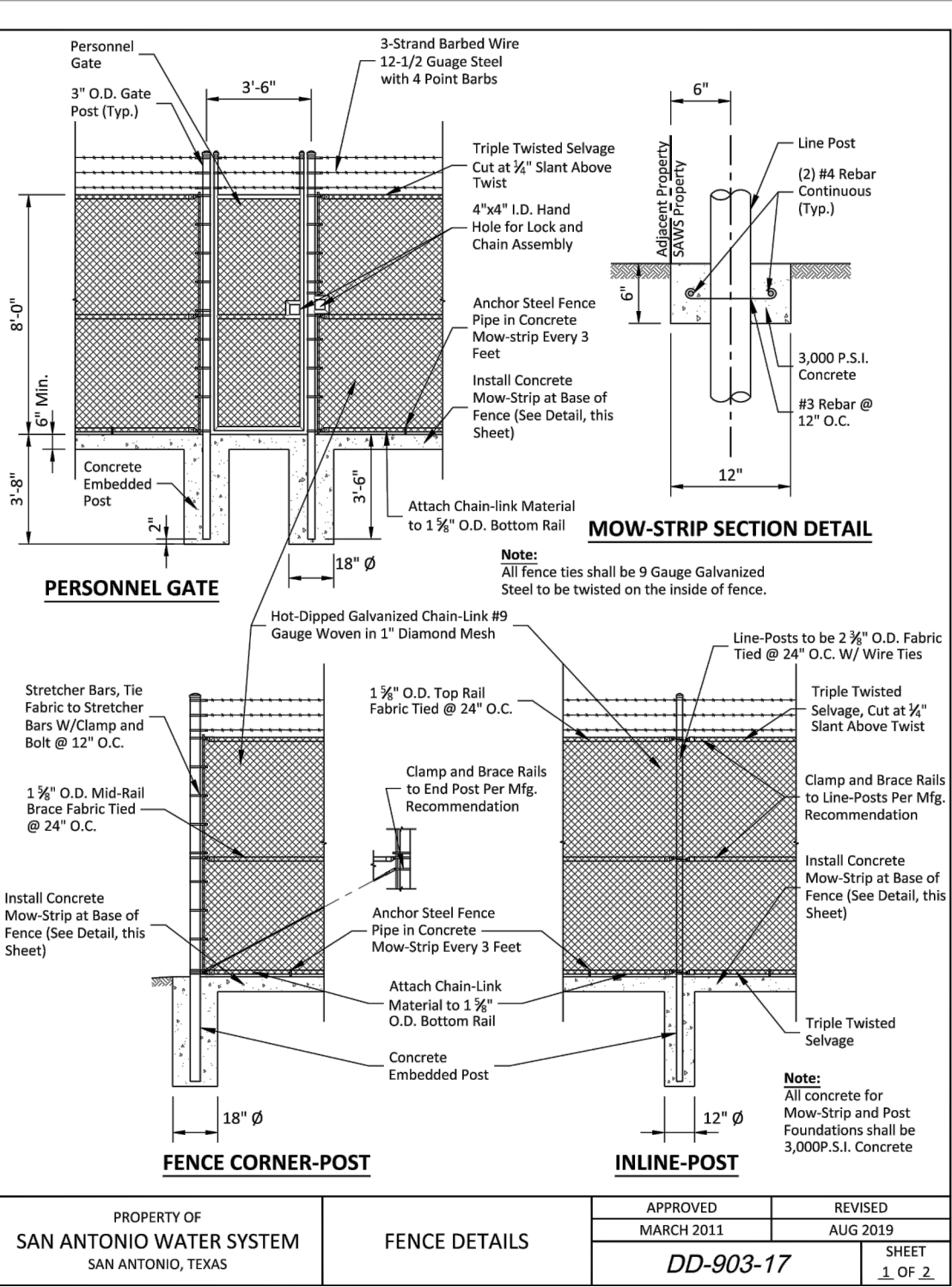
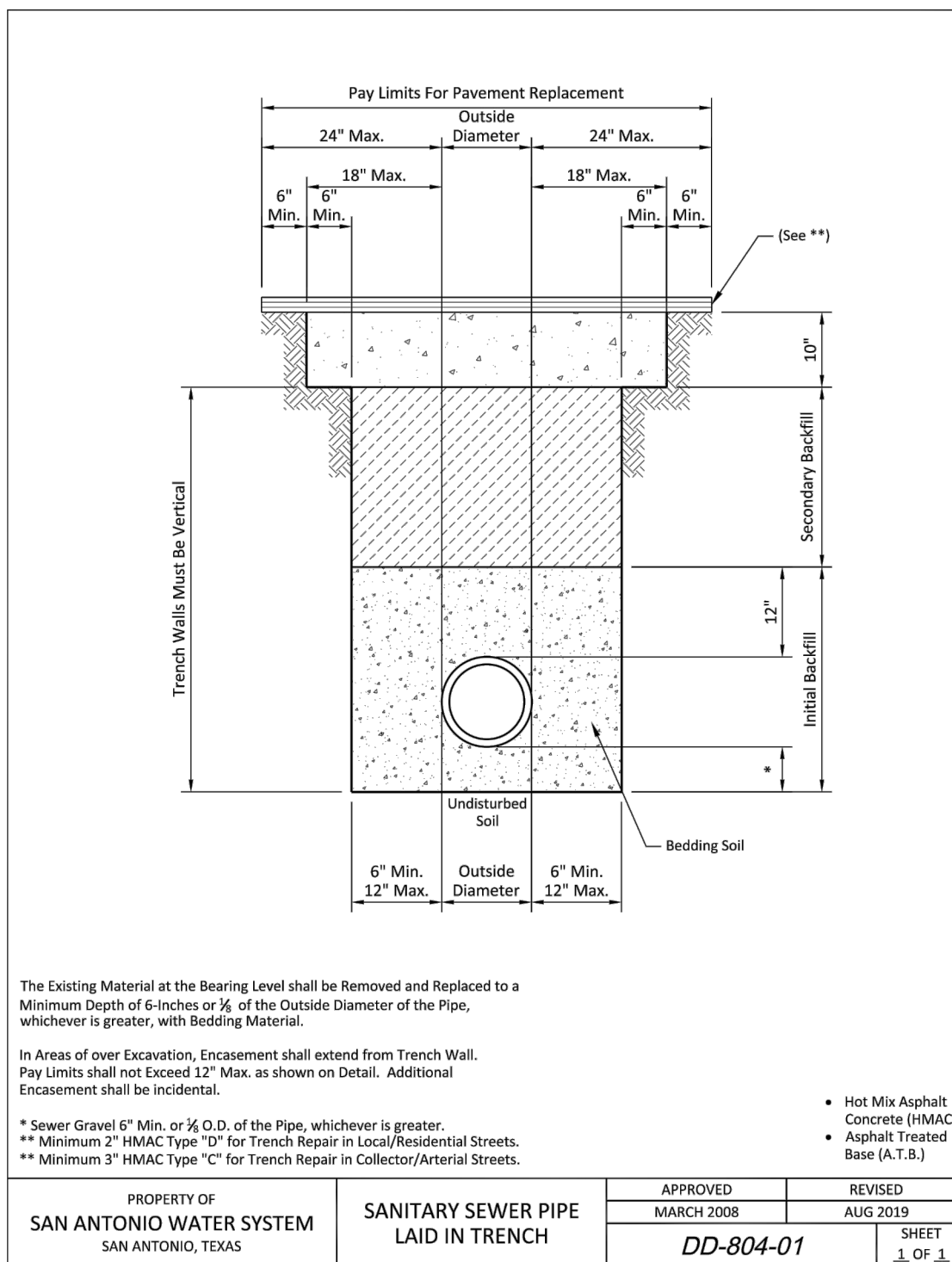
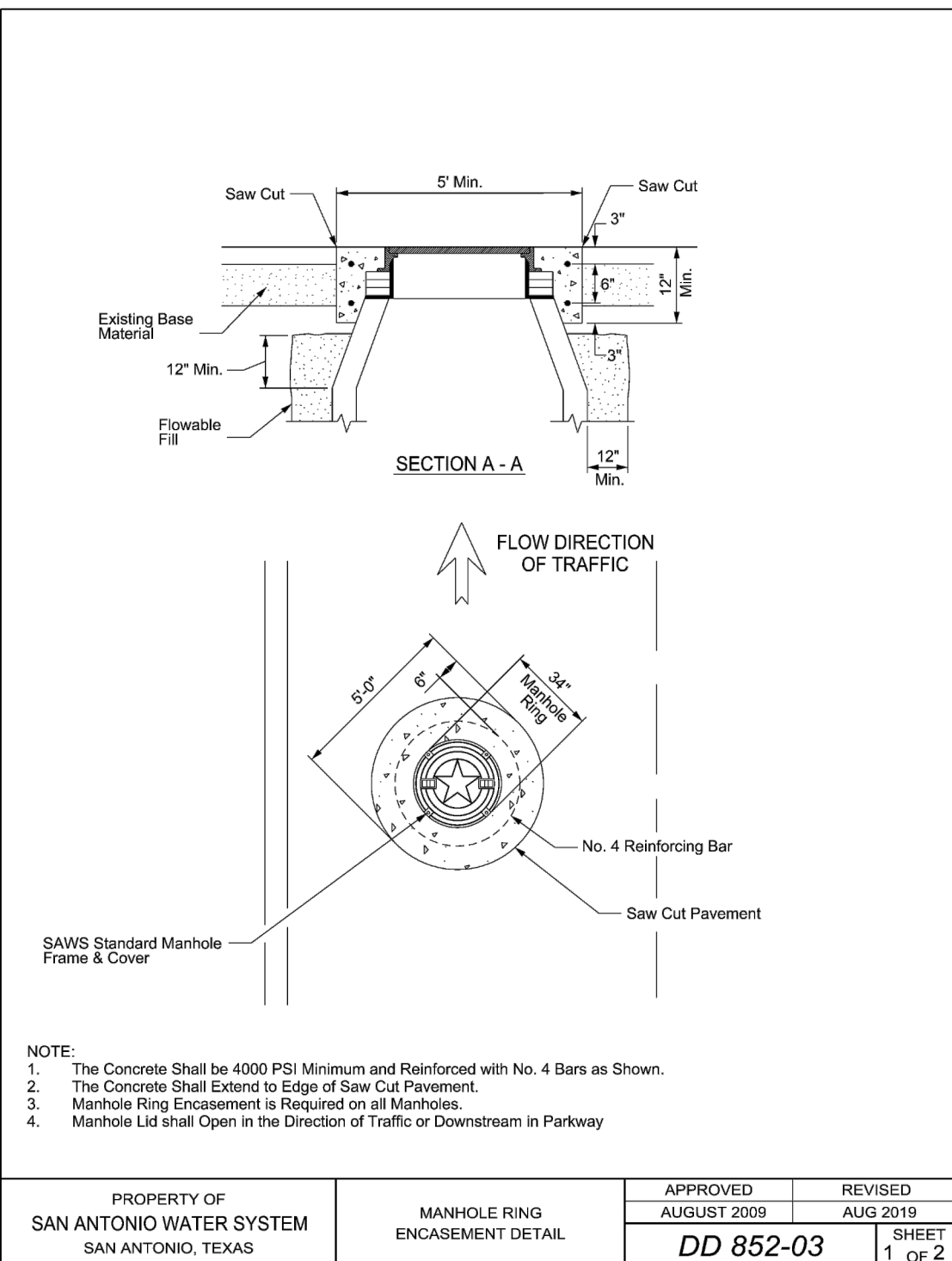
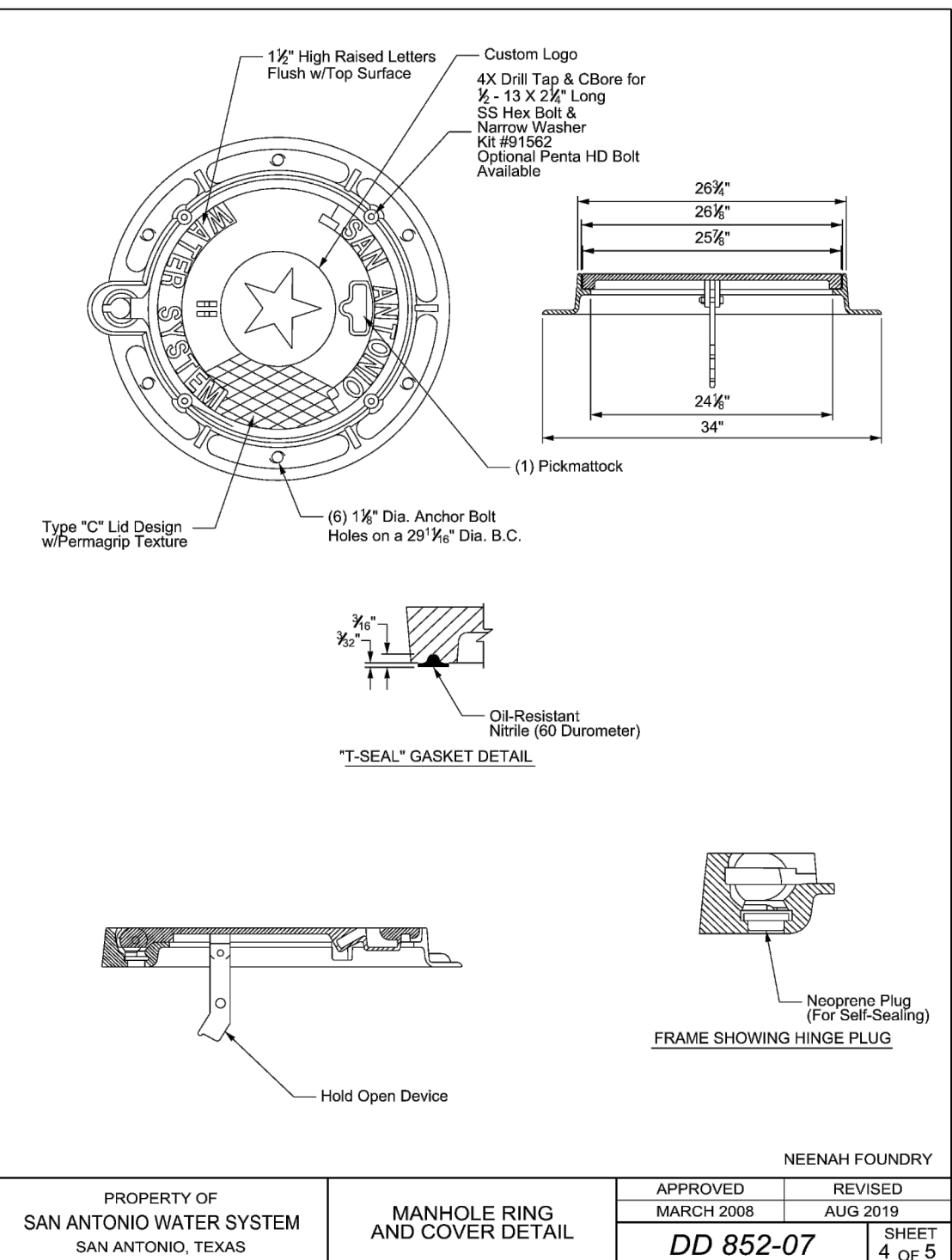
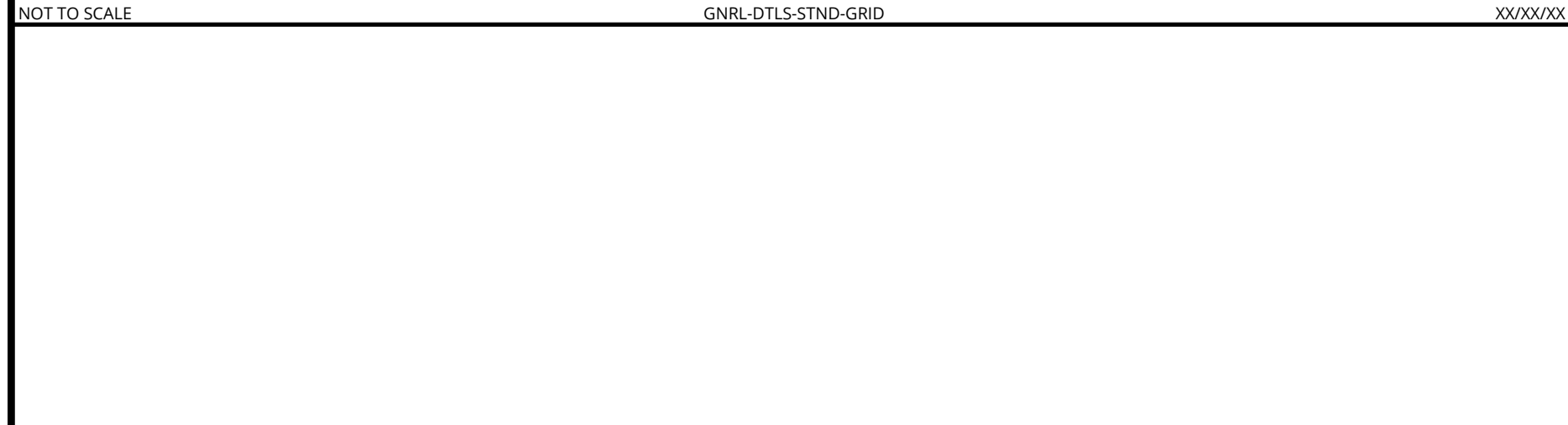
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TRACER WIRE DETAIL



STORM RUNOFF PROTECTION DETAIL



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SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	11/03/23	DJI	JJM

PROJECT NUMBER:	DRAWING NAME:
22010003A	W-DTLS

SHEET TITLE:
CONSTRUCTION DETAILS

SHEET NUMBER:
LS-5

DEVELOPER'S NAME: SOUTHSTAR AT VERANO, LLC

ADDRESS: 1118 VINTAGE WAY

CITY: NEW BRAUNFELS STATE: TEXAS ZIP: 78132

PHONE #: (512) 923-9160 FAX: N/A

TOTAL LINEAR FOOTAGE OF PIPE: TOTAL ACREAGE: 232.87

SAWS BLOCK MAP: N/A TOTAL EDU'S: 1,795

SAWS JOB NO.:

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

[illegible]

Jordan Volk
TEXAS LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 142341
COLLIERS ENGINEERING & DESIGN, INC.
T.X. TBPE Reg. #: F-14909

VIDA SAN ANTONIO LIFT
STATION

FOR

SOUTHSTAR AT
VERANO, LLC

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS

Colliers
Engineering
& Design

HOLMDEL (Headquarters)
101 Crawford's Corner Road,
Suite 3400
Holmdel, NJ 07733
Phone: 732.383.1950

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BUSINESS AS MASER CONSULTING

SCALE: AS SHOWN	DATE: 11/03/23	DRAWN BY: DJI	CHECKED BY: JJM
PROJECT NUMBER: 22010003A		DRAWING NAME: W-DTLS	

SHEET TITLE:

CONSTRUCTION DETAILS

SHEET NUMBER: LS-6

DEVELOPER'S NAME: SOUTHSTAR AT VERANO, LLC		
ADDRESS: 1118 VINTAGE WAY		
CITY: NEW BRAUNFELS	STATE: TEXAS	ZIP: 78132
PHONE #: (512) 923-9160		FAX: N/A
TOTAL LINEAR FOOTAGE OF PIPE:		TOTAL ACREAGE: 232.87
SAWS BLOCK MAP: N/A		TOTAL EDU'S: 1,795
		SAWS JOB NO.:

PLAN LEGEND

	EQUIPMENT CONNECTION	
	JUNCTION OR CONNECTION BOX	
	STARTER OR LIGHTING CONTACTOR	
	DISCONNECT	
	MANHOLE	
	HANDHOLE	
	KEYED NOTE. NUMBER MATCHES NOTE NUMBER	
	TOGGLE SWITCH, WALL MOUNTED, SINGLE POLE SINGLE THROW. MOUNTED 54" AFF UNLESS OTHERWISE NOTED	
	TOGGLE SWITCH, WALL MOUNTED, FOUR WAY. MOUNTED 54" AFF UNLESS OTHERWISE NOTED	
	SWITCH MOTOR RATED WITH TERMINAL OVERLOADS	
	OCCUPANCY SENSOR	
	TERMINAL BOARD	
	TELEPHONE OUTLET, PRIVATE. MOUNTED 12" AFF	
	DATA OUTLET, SURFACE MOUNTED	
	MOTOR LOAD, NUMBER INDICATES HORSEPOWER	
	POLE	
	TRANSFORMER, DRY TYPE, KVA RATING MAY BE DISPLAYED NEXT TO SYMBOL	
	ANTENNA	
	HOMERUN. LETTERS INDICATE PANELBOARD, NUMBERS INDICATE CIRCUIT NUMBER IN PANELBOARD	
	CONDUIT CAPPED FOR FUTURE USE	
	CONDUIT GOING DOWN	
	CONDUIT GOING UP	
	CONDUIT ABOVE GROUND	
	CONDUIT RUN UNDERGROUND OR CONCEALED	
	CONDUIT BELOW GRADE	
	LIQUID TIGHT FLEXIBLE CONDUIT	
	SURFACE MOUNT	
	120V RECEPTACLE FLUSH MOUNTED	
	120V RECEPTACLE SURFACE MOUNTED	
	120V QUAD RECEPTACLE FLUSH MOUNTED	
	120V QUAD RECEPTACLE SURFACE MOUNTED	
	208V RECEPTACLE FLUSH MOUNTED	
	208V RECEPTACLE SURFACE MOUNTED	
	WELDING OUTLET	
	THERMOSTAT	
	PANELBOARD FLUSH MOUNTED	
	PANELBOARD SURFACE MOUNTED	
	NORTH ARROW	
	TORQUE SWITCH	
	SOLENOID SWITCH	
	LIMIT SWITCH	
	AMMETER SWITCH	
	VOLTMETER SWITCH	
	PRESSURE SWITCH	
	LIGHTING CONTACTOR	
	PHOTO CELL	

ONE-LINE AND CONTROL SCHEMATIC LEGEND

GROUND CONNECTION

NORMALLY OPEN RELAY OR CONTACTOR CONTACTS

NORMALLY CLOSED RELAY OR CONTACTOR CONTACTS

CONDUCTOR CONNECTION

CIRCUIT BREAKER, MOLDED CASE, TRIP CURRENT AND QUANTITY OF POLES (P) SHOWN NEXT TO SYMBOL

DISCONNECT SWITCH NON-FUSED, LOAD BREAK. CONTINUOUS CURRENT RATING, QUANTITY OF POLES (P) SHOWN NEXT TO SYMBOL

DISCONNECT SWITCH FUSED, LOAD BREAK. CONTINUOUS CURRENT RATING, QUANTITY OF POLES (P), AND FUSE RATING SHOWN NEXT TO SYMBOL

FUSE. RATING SHOWN NEXT TO SYMBOL

MOTOR STARTER THERMAL OVERLOAD PROTECTOR

CONTACTOR OR RELAY COIL. LETTERS AND NUMBERS MATCH CONTACTS CONTROLLED

LIMIT SWITCH NORMALLY CLOSED

LIMIT SWITCH NORMALLY OPEN

MOTOR OPERATED VALVE GEARED LIMIT SWITCH

PRESSURE SWITCH NORMALLY CLOSED OPEN ON INCREASING PRESSURE

PRESSURE SWITCH NORMALLY OPEN CLOSURES ON INCREASING PRESSURE

LEVEL SWITCH NORMALLY CLOSED OPEN ON INCREASING LEVEL

LEVEL SWITCH NORMALLY OPEN CLOSURES ON INCREASING LEVEL

FLOW SWITCH NORMALLY CLOSED OPENS WITH FLOW

FLOW SWITCH NORMALLY OPEN CLOSURES ON LOSS OF FLOW

SPACE HEATER

PHASE FAILURE RELAY

MAINTAINED CONTACT START/STOP PUSHBUTTON

MAINTAINED CONTACT HAND-OFF-AUTO SELECTOR SWITCH

NORMALLY CLOSED MOMENTARY CONTACT PUSHBUTTON

NORMALLY OPEN MOMENTARY CONTACT PUSHBUTTON

WYE TRANSFORMER CONNECTION

DELTA TRANSFORMER CONNECTION

CURRENT TRANSFORMER WITH RATIO SHOWN

ANALYTICAL TRANSMITTER

FLOW OR FLOAT SWITCH

LEVEL TRANSMITTER

MOTOR OPERATED VALVE

PRESSURE TRANSMITTER

SOLENOID VALVE

ELAPSED TIME METER

TIME DELAY RELAY. TIMES OUT AFTER ENERGIZATION. ADJUSTABLE TIME DELAY TIME INDICATED NEXT TO SYMBOL

TIME DELAY RELAY. TIMES OUT AFTER DE-ENERGIZATION. ADJUSTABLE TIME DELAY TIME INDICATED NEXT TO SYMBOL

CONDUIT TAG

TELEVISION CAMERA

TORQUE SWITCH

PILOT LIGHT R=RED, B=BLUE, G=GREEN, A=AMBER, Y=YELLOW





CONTROL POWER TRANSFORMER. PRIMARY AND SECONDARY VOLTAGE INDICATED

TERMINAL BLOCK

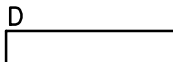







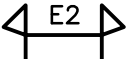


ABBREVIATIONS

A	AMPERES OR TRIP AMPERES
AC	ALTERNATING CURRENT
A/C	AIR CONDITIONING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	SYMMETRICAL AMPERES
	INTERRUPTING CAPACITY
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
BKR	BREAKER
C	CONDUIT
CAP	CAPACITOR
CKT	CIRCUIT
CONT'D	CONTINUED
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CU	COPPER
DBL	DOUBLE
DISC SW	DISCONNECT SWITCH
DC	DIRECT CURRENT
EMER	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EP	EXPLOSION PROOF
EQUIP	EQUIPMENT
FM	FLOW METER
FS	FLOAT SWITCH
G	GROUND WIRE
GALV	GALVANIZED
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
	CIRCUIT
GND	GROUND
HDG	HOT DIPPED GALVANIZED
HPG	HIGH PRESSURE GAUGE
HPS	HIGH PRESSURE SODIUM
HT	HEIGHT
HZ	HERTZ
INST	INSTRUMENT
KV	KILOVOLTS
KVA	KILOVOLT AMPERES
KWH	KILOWATT HOURS
LA	LIGHTNING ARRESTOR
L-L	LINE TO LINE
L-N	LINE TO NEUTRAL
MCC	MOTOR CONTROL CENTER
MFR	MANUFACTURER
MIN	MINIMUM
MTD	MOUNTED
MTG	MOUNTING
MRCT	MULTI-RATIO CURRENT
	TRANSFORMER
MV	MERCURY VAPOR
N.C.	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL
	MANUFACTURER'S ASSOCIATION
NEUT	NEUTRAL
N.O.	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
OH	OVERHEAD
P	POLE
PC	PHOTOCELL
PNL	PANEL
PRI	PRIMARY
PVC	POLYVINYL CHLORIDE
REQ'D	REQUIRED
RS	RUN/STOP
RTD	RESISTANCE TEMPERATURE
	DETECTOR
SCH	SCHEDULE
SEC	SECONDARY
S/N	SOLID NEUTRAL
SPACE	SPACE(S) ONLY-NO BREAKER OR
	DEVICE
SPARE	SPARE BREAKER OR DEVICE
SPECS	SPECIFICATIONS
S.D. BARE	SPEC DRAWN BARE
SS HDWE	STAINLESS STEEL HARDWARE
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TB	TERMINAL BLOCK
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
V	VOLTS
VA	VOLT AMPERES
W	WATTS
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
XFMR	TRANSFORMER
PHASE	PHASE
1/C	ONE CONDUCTOR
3/C	THREE CONDUCTOR

GROUNDING LEGEND

 A = GROUNDING RECEPTACLE, B = GROUND TEST WELL
 BARE COPPER GROUNDING CONDUCTOR
 GROUNDING CONNECTION
 COPPER CLAD GROUND ROD

LIGHTING FIXTURE LEGEND

	LETTER IN OR BESIDE FIXTURE IDENTIFIES FIXTURE IN SCHEDULE
	LED STRIP LIGHT
	LED STRIP LIGHT WITH BATTERY BACKUP
	LED FIXTURE, SURFACE OR SUSPENDED, CEILING MOUNTED
	LED FIXTURE, STANCHION MOUNTED
	LED FIXTURE, WALL MOUNTED
	LED LIGHTED EXIT SIGN. ARROWS DENOTE DIRECTION OF EGRESS ON EACH SIDE OF FIXTURE. NO ARROW DENOTES NO DIRECTION OF EGRESS
	POLE MOUNTED LED LUMINAIRE. SEE SCHEDULE OR NOTES FOR TYPE. ORIENT FIXTURE FOR CUT-OFF TOWARDS AREA TO BE LIT. ORIENT HOUSE SHIELD TOWARDS BUILDING. SEE DETAILS FOR POLE BASE. PROVIDE POLE BASE GROUND ROD.
	REMOTE EMERGENCY LIGHTS
	EMERGENCY LED LIGHT FIXTURE, SELF CONTAINED, BATTERY OPERATED
	PAR LAMP HOLDER. NUMBER OF TRIANGLES INDICATE NUMBER OF FIXTURES
	POLE MOUNTED FLOOR LIGHT. NUMBER OF TRIANGLES INDICATE NUMBER OF FIXTURES. ARROW DENOTES FOLDING POLE AND DIRECTION POLE FOLDS DOWN.

LEGEND & GENERAL NOTES

1. BRANCH CIRCUIT NUMBERS MAY BE SHOWN NEXT TO SYMBOLS IN MULTIWIRED CIRCUITS.
2. SYMBOL SIZE DOES NOT IMPLY EQUIPMENT SIZE UNLESS OTHERWISE NOTED.
3. LOWER CASE LETTERS NEXT TO SYMBOLS INDICATE FIXTURE(S) CONTROLLED BY THE SWITCH DISPLAYING THE SAME LETTER.
4. THIS IS A STANDARD LEGEND LIST. ALL SYMBOLS MAY NOT BE USED.
5. INSTALLATION SHALL BE PER LATEST VERSION OF NATIONAL ELECTRICAL CODE, AND ALL APPLICABLE LOCAL CODES/ORDINANCES. NOT ALL CODE AND STANDARD REQUIREMENTS MAY BE SHOWN ON PLANS. CONTRACTOR SHALL ADHERE TO CODES AND STANDARDS REGARDLESS OF BEING SHOWN ON PLANS OR SPECIFICATIONS IN DETAILED FASHION.
6. REFER TO ENTIRE DRAWING PACKAGE PRIOR TO BID FOR FULL PROJECT REQUIREMENTS.



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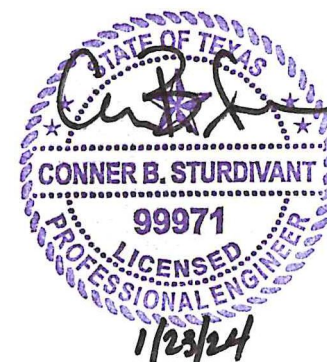
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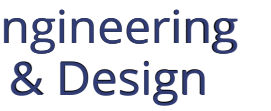
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SCALE: AS SHOWN	DATE: 1/23/24	DRAWN BY: CS	CHECKED BY: JC
PROJECT NUMBER: 22010003A		DRAWING NAME: W-TTLE-CEDL	

SHEET TITLE:

ELECTRICAL ABBREVIATIONS,
LEGENDS AND GENERAL NOTES

SHEET NUMBER: E-001



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- KEYED NOTES:
- ① ELECTRICAL SERVICE DROP CONFIGURED FOR 200A, 480Y/277V, 4W ELECTRICAL SERVICE TO SITE.
 - ② ELECTRICAL SERVICE POLE W/UTILITY METER AND SERVICE DISCONNECT RACK. RE: ELECTRICAL SERVICE POLE DETAIL.
 - ③ 125KW, 156KVA. 480/277V, 3Ø DIESEL GENERATOR W/ SUB-BASE FUEL TANK AND A LEVEL 3 SOUND-ATTENUATING ENCLOSURE.
 - ④ 480V, 200A, 3P, DELAYED-TRANSITION AUTOMATIC TRANSFER SWITCH IN NEMA 4X STAINLESS STEEL ENCL.
 - ⑤ PANEL "DP-1".
 - ⑥ SPD'S
 - ⑦ PANEL "A"
 - ⑧ ODOR CONTROL BLOWER PANEL. RE: ODOR CONTROL UNIT PANEL TYPICAL LAYOUT.
 - ⑨ LIFT PUMP NO. 1 CONTROL PANEL. RE: LIFT PUMP CONTROL PANEL TYPICAL LAYOUT.
 - ⑩ LIFT PUMP NO. 2 CONTROL PANEL. RE: LIFT PUMP CONTROL PANEL TYPICAL LAYOUT.
 - ⑪ LIFT PUMP NO. 3 CONTROL PANEL. RE: LIFT PUMP CONTROL PANEL TYPICAL LAYOUT.
 - ⑫ LEVEL CONTROL PANEL. RE: LEVEL CONTROL PANEL LAYOUT.
 - ⑬ SCADA PANEL. RE: SCADA PANEL INTERIOR LAYOUT.
 - ⑭ EQUIPMENT RACK CANOPY. RE: ELECTRICAL EQUIPMENT RACK LAYOUT.
 - ⑮ ANTENNA TOWER. RE: TYPICAL ANTENNA TOWER DETAIL.
 - ⑯ RE: TOWER ENCLOSURE. TYPICAL ANTENNA TOWER DETAIL.
 - ⑰ AREA LIGHT. RE: AREA LIGHT POLE DETAIL.
 - ⑱ POST-MOUNTED WEATHERPROOF CONVENIENCE RECEPTACLE. RE: POST MOUNTED CONVENIENCE RECEPTACLE DETAIL.
 - ⑲ DISCHARGE PRESSURE TRANSMITTER. RE: DISCHARGE PRESSURE TRANSMITTER MOUNTING DETAIL.
 - ⑳ DISCHARGE PRESSURE TRANSMITTER AND HEAT TRACE J-BOX. RE: DISCHARGE PRESSURE TRANSMITTER MOUNTING DETAIL.
 - ㉑ MOTOR JUNCTION AND INSTRUMENTATION JUNCTION BOXES (TYP). RE: WET WELL JUNCTION BOX DETAIL.
 - ㉒ ODOR CONTROL BLOWER J-BOX. PROVIDE MINIMUM 12" X 12" X 8" STAINLESS STEEL NEMA 4X ENCLOSURE.
 - ㉓ NEMA-SIZED HANDHOLE.
 - ㉔ WET WELL LEVEL FLOATS. RE: CONDUITS, HANGING PLATES AND CONTROL DEVICES DETAIL.
 - ㉕ SUBMERSIBLE LEVEL TRANSDUCER IN 8"Ø STILLING WELL. RE: SUBMERSIBLE LEVEL TRANSDUCER MOUNTING DETAIL AND CONDUITS, HANGING PLATES AND CONTROL DEVICES DETAIL.

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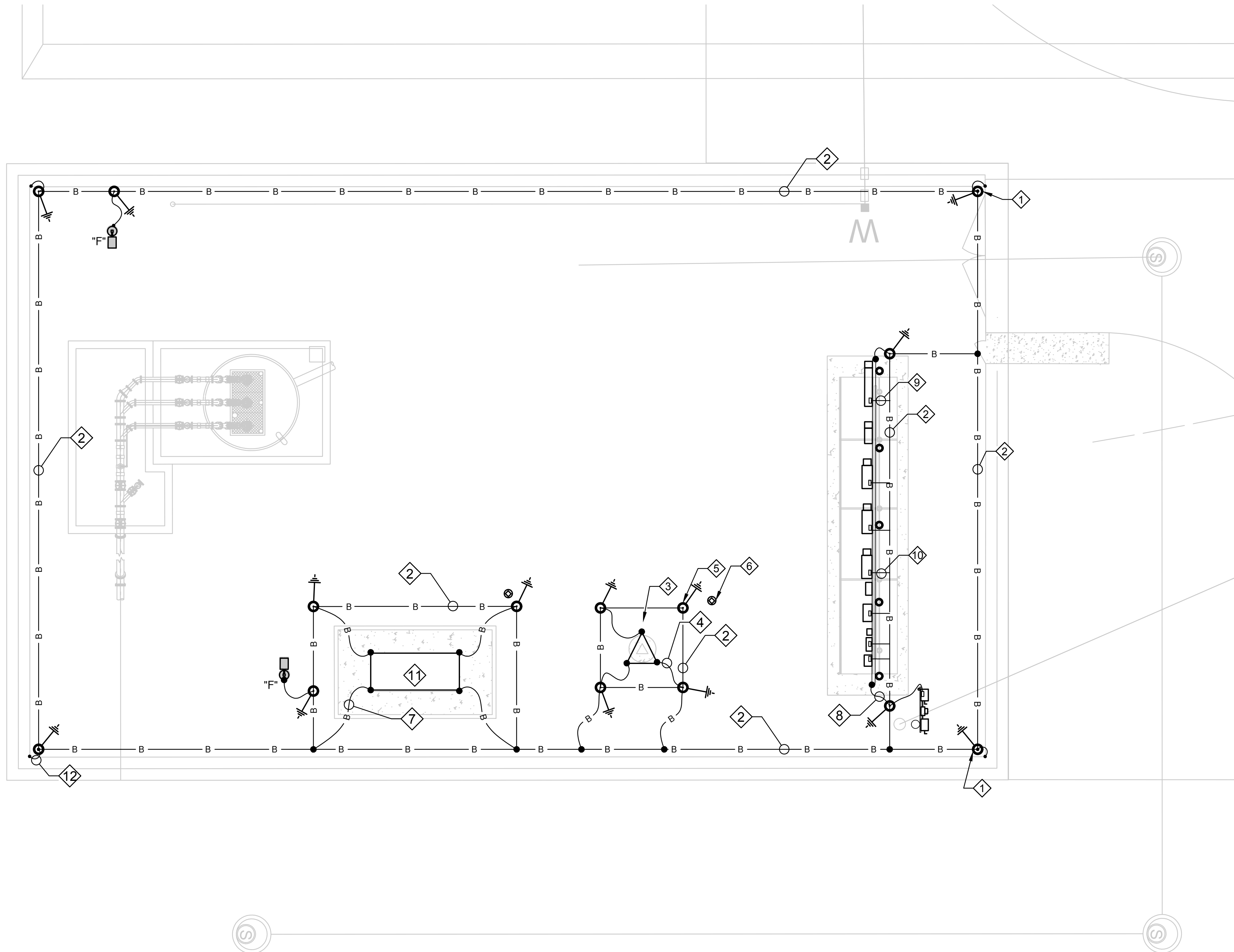
SHEET TITLE:

ELECTRICAL SITE PLAN

SHEET NUMBER: E-101

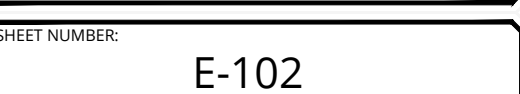
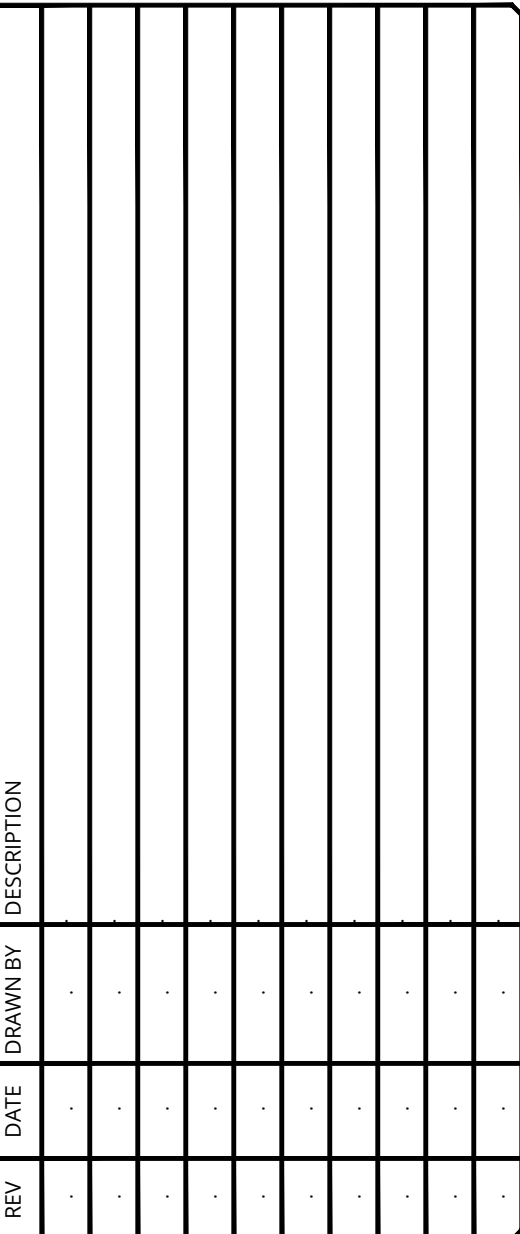


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SCALE: 1/8 IN. = 1 FT.

- ① 3/4"ØX10" COPPER CLAD GROUND ROD (TYP.). EXOTHERMICALLY WELD TO GROUND CABLE BURIED MIN. 30" BELOW GRADE.
- ② #4/0 SOFT DRAWN, BARE COPPER CABLE BURIED MIN. 30" BELOW GRADE (TYP). EXOTHERMICALLY WELD ALL BELOW GRADE CONNECTIONS EXCEPT AT TEST WELLS.
- ③ ANTENNA TOWER AND BASE. RE: TYPICAL ANTENNA TOWER DETAIL.
- ④ #6 SOFT DRAWN ,BARE COPPER GROUNDING TAIL TO ANTENNA TOWER (TYP.).
- ⑤ GROUND TEST WELL. RE: GROUND TEST WELL ARRANGEMENT DETAIL.
- ⑥ MOISTURIZING POINT. RE: MOISTURIZING PORT DETAIL.
- ⑦ #6 SOFT DRAWN, BARE COPPER TAIL TO EACH CORNER OF GENERATOR FRAME.
- ⑧ #6 SOFT DRAWN, BARE COPPER TAIL TO EACH END OF ELECTRICAL EQUIPMENT SHELTER.
- ⑨ #6 SOFT DRAWN, BARE COPPER TO SCADA PANEL GROUND BUS.
- ⑩ #6 SOFT DRAWN, BARE COPPER TO EQUIPMENT GROUND BUS (TYP.).
- ⑪ 125 KW, 156 KVA, 480/277V, 3Ø STAND BY DIESEL GENERATOR W/15HR SUB BASE LEVEL TANK AND LEVEL 3 SOUND ATTENUATED ENCLOSURE.
- ⑫ #6 SOFT DRAWN BARE COPPER TAIL, EXOTHERMICALLY WELD TO FENCE POST (TYP).





NOTES:

1. CONTRACTOR SHALL VERIFY AVAILABLE FAULT CURRENT WITH POWER COMPANY AND PROVIDE EQUIPMENT RATED ACCORDINGLY. INTERRUPT CAPACITY FOR ALL COMPONENTS SHALL BE SAME AS SERVICE.
2. PROVIDE ALL REQUIRED ALARM AND DEVICE POWER CONDUCTORS FOR LOCAL PANELS INSTALLED NEAR MOTORS AND EQUIPMENT. SEE ONE-LINE DIAGRAM, CONTROL DIAGRAMS AND EQUIPMENT SPECIFICATIONS FOR REQUIREMENTS. CONDUCTORS MAY BE ROUTED IN POWER CONDUITS WHERE INSULATION RATING IS 600 VOLTS AND WHERE CONDUIT AREA/SPACE IS PER NEC, OR SEPARATE 1 INCH CONDUIT SHALL BE PROVIDED.
3. COORDINATE LV BREAKER SIZES WITH GENERATOR MANUFACTURER FOR AUXILIARY LOADS
4. VERIFY CAPACITOR SIZE REQUIREMENTS WITH MOTOR MANUFACTURER BEFORE ORDERING. DO NOT OVERCORRECT. PROVIDE CONDUCTORS AND CONDUITS SIZED ACCORDINGLY TO NEC. CAPACITORS SHALL NOT BE DIRECTLY CONNECTED TO RVAT AND SOLID STATE STARTERS. (USE CONTRACTOR, HOA, TIME DELAY AND BREAKER) INTERLOCK WITH STARTERS.
5. ALL CONTROL PANELS TO BE UL LISTED.
6. CONTRACTORS SHALL READ ENTIRE CONTENTS OF SPECIFICATIONS BEFORE BIDDING ON THIS PROJECT
7. SEAL OFF FITTINGS ARE REQUIRED FOR ALL RACEWAYS ENTERING AND EXITING WET WELL JUNCTIONS BOXES. FILL SEAL OFF FITTINGS WITH 3M-2123 RE-ENTERABLE SEALING COMPOUND.
8. ALL 480V LINE AND CONDUCTORS SHALL BE MEGGER TESTED WITH A MINIMUM READING OF 50 OHMS TO BE ACCEPTABLE. ALL TESTING SHALL BE WITNESSED BY AN ENGINEER.
9. REFER TO CONDUIT/CABLE SCHEDULE FOR ADDITIONAL DETAILS.
10. ALL UNDERGROUND CONDUITS SHALL BE PVC SCH. 40. ALL ABOVE GROUND CONDUITS SHALL BE ALUMINUM RMC. ALL BELOW GRADE TO ABOVE GRADE TRANSITIONS CONDUITS SHALL BE PVC-COATED ALUMINUM RMC.
11. NEUTRAL BONDING PER NATIONAL ELECTRICAL CODE ARTICLE 250.
12. SERVICE SHALL BE ADHERE TO LATEST UTILITY STANDARDS. COORDINATE AND PAY FOR ALL UTILITY RELATED EXPENSES PER POWER COMPANY ALLOWANCE.
13. COORDINATE ALL CONNECTIONS TO GENERATOR WITH MANUFACTURER.

NOTES:

1. A PERMANENTLY AFFIXED LABEL SHALL BE APPLIED WITH THE FAULT CURRENT AT THE TIME OF INSTALLATION AND FAULT STUDY. THE LABEL SHALL INCLUDE THE DATE OF THE CALCULATION. REFER TO SPECIFICATIONS.
2. ALL SERVICES SHALL BE IDENTIFIED WITH A PERMANENT LABEL AT EACH DISCONNECT PER NEC 230.2.
3. VERIFY NAMEPLATE AND MANUFACTURER'S REQUIREMENTS ON ALL MOTORS PRIOR TO ORDERING EQUIPMENT.



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02Z\22010003\Site Plans\W-TTLE-CEDL.dwg Model By: DOMINIC IERARDI

LIGHTING FIXTURE SCHEDULE								
MARK	DESCRIPTION	VOLTAGE	VA	LAMP TYPE	MOUNTING	MANUFACTURER	CATALOG FIXTURE NUMBER	POLE DATA
A	VAPORTITE CANOPY LIGHT	120	42	LED	SURFACE	LITHONIA OR EQUAL	VAP 4000LM FST MD MVOLT 40K 80CRI	-
F	LED AREA LIGHT	120	138	LED	POLE	LITHONIA OR APPROVED EQUAL	DSX1LED-P5-40K-T5S-120-SPA-PER-SF	STSH-20-4F-DM29AS-UL-DOB

PANEL

DP-1

SERVICE VOLTAGE

480V

MAIN BREAKER SIZE

200A

PHASE BUS RATING

225A

NEUTRAL BUS RATING

-

SHORT CIRCUIT RATING

65 KAIC

LOCATION

ELECTRICAL RACK

WIRE SIZE #4/0

NEU WIRE SIZE -

PHASE 3

MOUNTING ELECTRICAL RACK

☐

SOLID NEUTRAL & GROUND

☐

ISOLATED GROUND BUS

☐

200% NEUTRAL

NOTE: ADJ. CKTS. TO BAL. PNL.

CKT. DESCRIPTION	WIRE	BREAKER		VA/WATTS			CKT NO.	CKT NO.	VA/WATTS			BREAKER		WIRE	CKT. DESCRIPTION			
		POLE	AMP	A	B	C			A	B	C	POLE	AMP					
SPD	10	3	30	-			1	2	7205			3	50	#8	LIFT PUMP 1 CONTROL PANEL			
					-		3	4		7205								
						-	5	6			7205							
LIFT PUMP 2 CONTROL PANEL	8	3	50	7205			7	8	7205			3	50	#8	LIFT PUMP 3 CONTROL PANEL			
					7205		9	10		7205								
						7205	11	12			7205							
PANEL "A"	10	3	40	5000			13	14	1330			3	15	#12	ODOR CONTROL BLOWER			
					5000		15	16		1330								
						5000	17	18			1330							
SPARE	-	3	30	-			19	20	-			3	30	-	SPARE			
					-		21	22		-								
						-	23	24			-							
TOTAL PHASE A: 27945 VOLT-AMPS															TOTAL CONNECTED LOAD: 83835 VA			
TOTAL PHASE B: 27945 VOLT-AMPS																		
TOTAL PHASE C: 27945 VOLT-AMPS																		

PANEL

A

SERVICE VOLTAGE

120/208V

MAIN BREAKER SIZE

40A

PHASE BUS RATING

-

NEUTRAL BUS RATING

-

SHORT CIRCUIT RATING

22 KAIC

LOCATION

ELECTRICAL RACK

WIRE SIZE #8

NEU WIRE SIZE #10

PHASE 3


MOUNTING ELECTRICAL RACK

WITH:

☒ SOLID NEUTRAL & GROUND
☐ ISOLATED GROUND BUS
☐ 200% NEUTRAL

NOTE: ADJ. CKTS. TO BAL. PNL.

CKT. DESCRIPTION	WIRE	BREAKER		VA/WATTS			CKT NO.	CKT NO.	VA/WATTS			BREAKER		WIRE	CKT. DESCRIPTION
		POLE	AMP	A	B	C			A	B	C	POLE	AMP		
JACKET WATER HEATER	8	2	30	1500			1	2	180			1	20	12	CONVENIENCE RECEPTACLE
					1500		3	4		800		1	20	12	GENERATOR BATTERY CHARGER
SCADA PANEL	12	1	20			1000	5	6			84	1	20	12	CANOPY LIGHTS
PRESSURE XDCCR HEAT TRACE	12	1	20	800			7	8	138			1	20	12	YARD LIGHT NO. 1
YARD LIGHT NO. 2	12	1	20		138		9	10		500		1	20	12	ALTERNATOR SPACE HEATER
LIFT PUMP CONTROL PANEL #2	12	1	20			400	11	12			400	1	20	12	LIFT PUMP CONTROL PANEL #1
LEVEL CONTROL PANEL	12	1	20	400			13	14	400			1	20	12	LIFT PUMP CONTROL PANEL #3
ODOR CONTROL BLOWER PANEL	12	1	20		400		15	16		180		1	20	12	WET WELL CONVENIENC RECEPT.
SPARE			1	20			17	18			500	1	20	12	SCADA PANEL
SPARE			1	20	-		19	20	-			1	20		SPARE
SPARE			1	20		-	21	22		-		1	20		SPARE
SPARE			1	20		-	23	24			-	1	20		SPARE
TOTAL PHASE A: 3418 VOLT-AMPS				TOTAL PHASE A CURRENT: 28 AMPS											
TOTAL PHASE B: 3518 VOLT-AMPS				TOTAL PHASE B CURRENT: 29 AMPS											
TOTAL PHASE C: 2384 VOLT-AMPS				TOTAL PHASE C CURRENT: 20 AMPS											
TOTAL CONNECTED LOAD: 9320 VA															



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A circular professional engineer seal for the State of Texas. The outer ring contains the text "STATE OF TEXAS" at the top and "CONNER B. STURDIVANT" at the bottom. Inside the ring, the word "LICENSED" is written in a large, bold, sans-serif font, with "PROFESSIONAL ENGINEER" written in a smaller font below it. The license number "99971" is prominently displayed in the center. A signature, "Connor B. Sturdivant", is written in cursive across the top half of the seal. The date "1/23/24" is handwritten in blue ink at the bottom of the seal.

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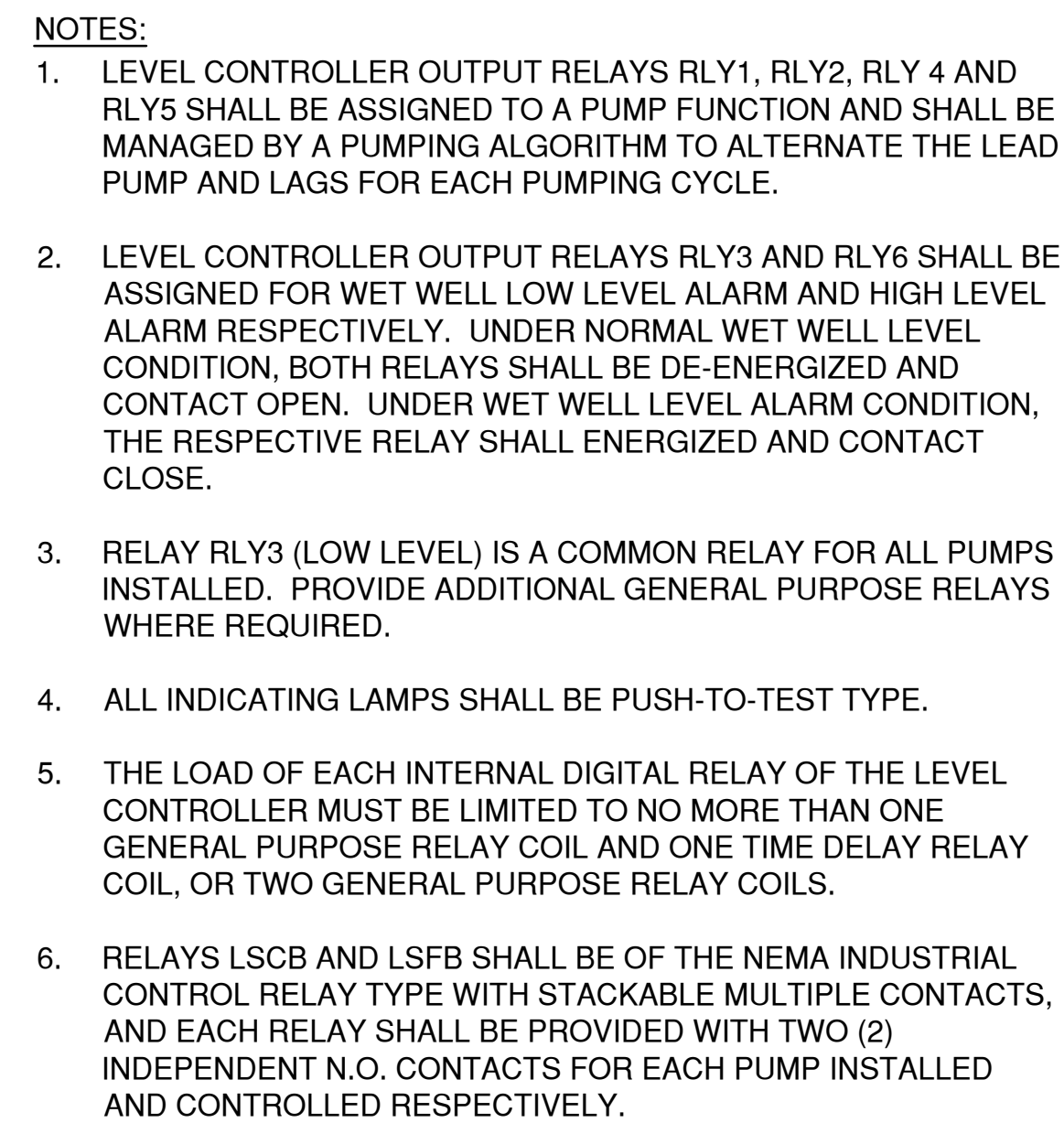
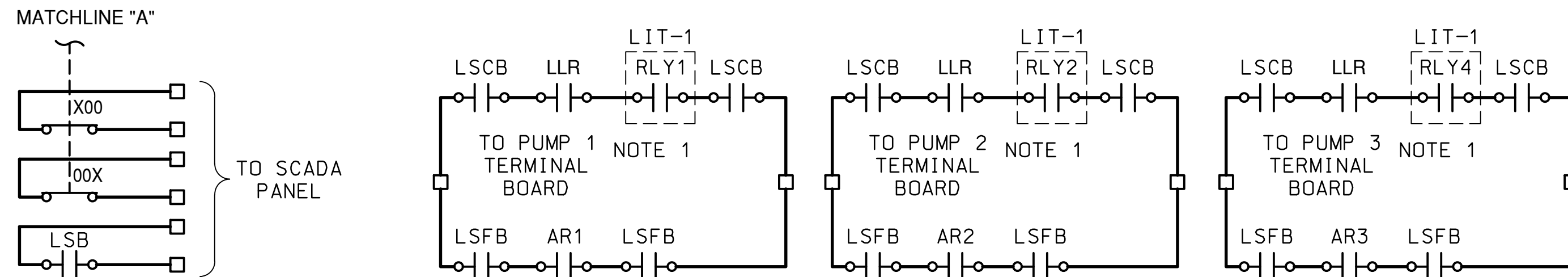
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PROJECT NUMBER: 22010003A		DRAWING NAME: W-TTLE-CEDL	

SHEET TITLE:

ELECTRICAL SCHEDULES SHEET 2

SHEET NUMBER: E-302



ELECTRICAL ABBREVIATIONS	
AR1	ALTERNATING RELAY PUMP 1 RUN COMMAND
AR2	ALTERNATING RELAY PUMP 2 RUN COMMAND
AR3	ALTERNATING RELAY PUMP 3 RUN COMMAND
HLR	HIGH LEVEL RELAY
LLR	LOW LEVEL RELAY
LSB	LEVEL SELECTION BOTH CONTROLLER AND BACKUP FLOATS RELAY
LSCB	LEVEL SELECTION CONTROLLER AND BOTH RELAY
LSFB	LEVEL SELECTION BACKUP FLOATS AND BOTH RELAY
SR	SILENCE RELAY
TRA	ALARM TIME DELAY RELAY



ELECTRICAL ABBREVIATIONS

NOTES:

- UNDER MOTOR HIGH TEMP CONDITION, THE N.O. HIGH TEMP CONTACT OPENS.

6.B. UNDER PUMP SEAL LEAK CONDITION, THE N.C. SEAL LEAK CONTACT OPENS.

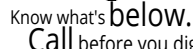
7. SOFT STARTER FAIL RELAY SHALL BE CLOSED UNDER NORMAL CONDITION AND SHALL OPEN UNDER SOFT STARTER FAIL CONDITION.



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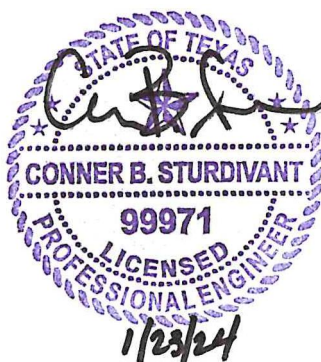
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PROJECT NUMBER: 22010003A		DRAWING NAME: W-TTLE-CEDL	

SHEET TITLE:

ELECTRICAL CONTROL
DIAGRAMS SHEET 2

SHEET NUMBER: E-402



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NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION



BPT	BYPASS MODE TIMING RELAY
CP	CONTROL POWER RELAY
CR	CONTROL RELAY
ETM	ELAPSED TIME METER
HT	HIGH TEMPERATURE RELAY
LC	RVSS LINE CONTACTOR
M	BYPASS STARTER CONTACTOR
MO	MOTOR OVERLOAD RELAY
PMR	POWER MONITORING RELAY
R	RUN AUXILIARY RELAY
RV	RVSS MODE AUXILIARY RELAY
RVT	RVSS MODE TIMING RELAY
RVC	RVSS MODE RUN COMMAND RELAY
SC	RVSS SHORTING CONTACTOR
SL	SEAL LEAK RELAY
SSF	RVSS FAULT RELAY
SSOL	SOLID STATE OVERLOAD RELAY
TR	TIMING RELAY

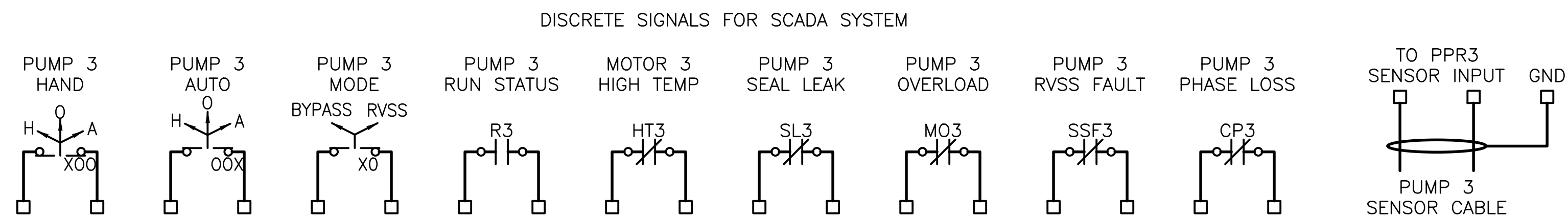
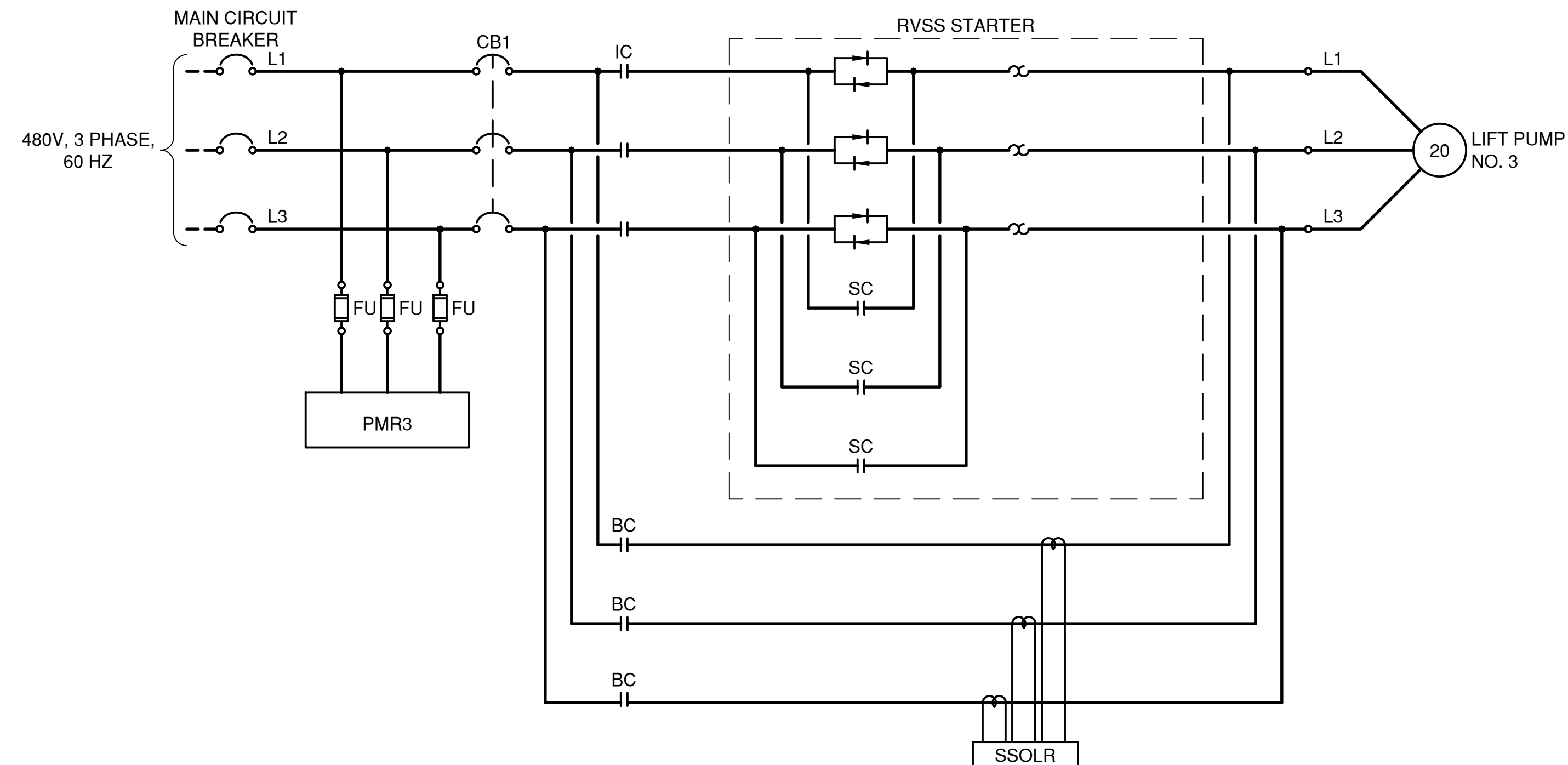
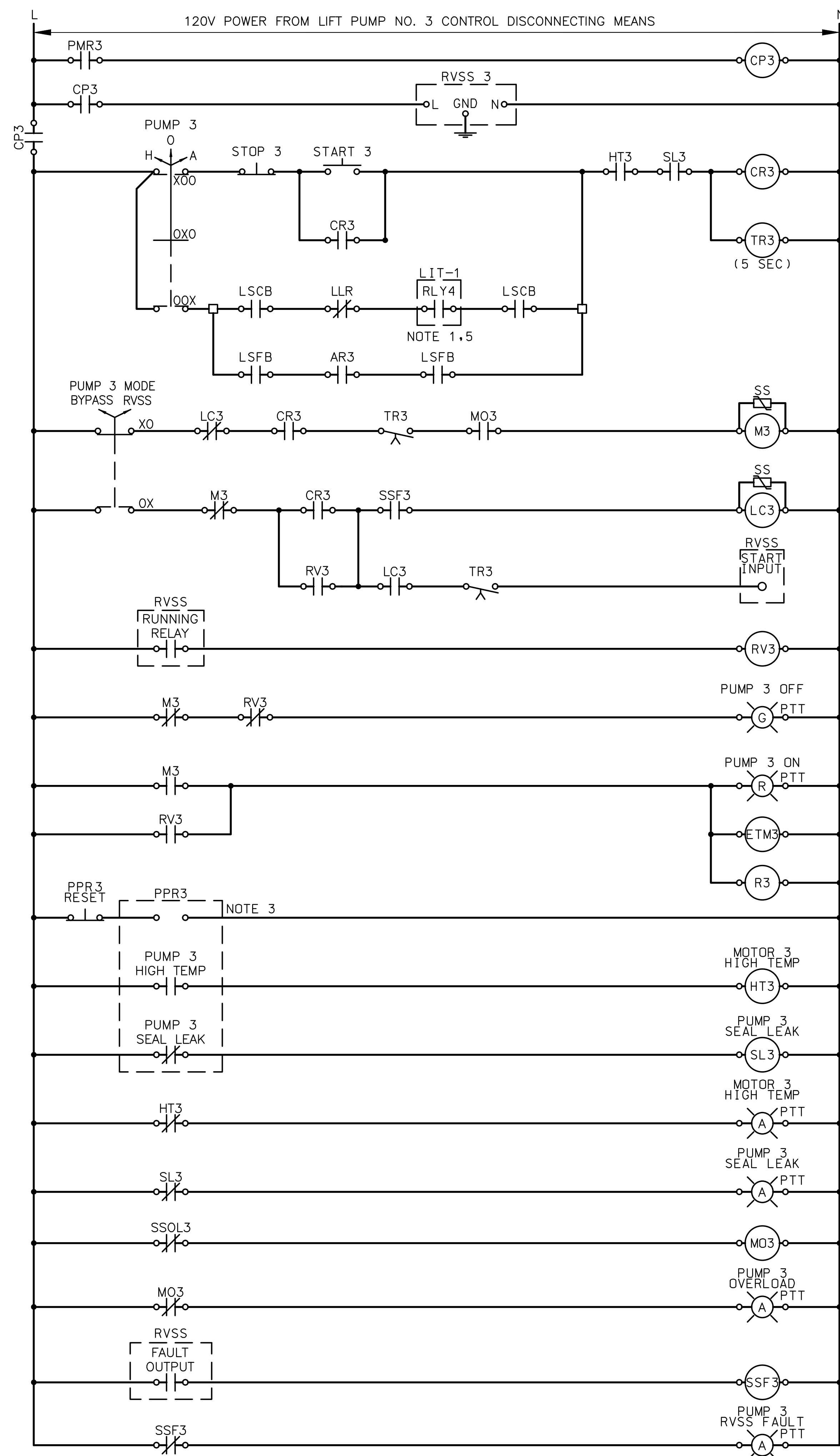
1. LEVEL CONTROLLER OUTPUT RELAYS RLY1, RLY2, RLY 4 AND RLY5 ARE ASSIGNED A PUMP FUNCTION AND ARE MANAGED BY A PUMPING ALGORITHM TO ALTERNATE THE LEAD PUMP AND LAGS FOR EACH PUMPING CYCLE.
2. ALL INDICATING LAMPS SHALL BE PUSH-TO-TEST TYPE.
3. PUMP PROTECTION RELAYS SHALL BE PROVIDED FOR EACH PUMP INSTALLED. AT A MINIMUM PROVIDE PROTECTION AGAINST MOTOR HIGH TEMPERATURE AND PUMP SEAL LEAK.
4. LEVEL SENSOR PROBES FOR PUMP CONTROL ARE NOT ALLOWED.
5. THE LOAD OF EACH INTERNAL DIGITAL RELAY OF THE LEVEL CONTROLLER MUST BE LIMITED TO NO MORE THAN ONE GENERAL PURPOSE RELAY COIL AND ONE TIME DELAY RELAY COIL, OR TWO GENERAL PURPOSE RELAY COILS.

7. SOFT STARTER FAIL RELAY SHALL BE CLOSED UNDER NORMAL CONDITION AND SHALL OPEN UNDER SOFT STARTER FAIL CONDITION.

SHEET NUMBER: E-403

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ELECTRICAL ABBREVIATIONS

BPT	BYPASS MODE TIMING RELAY
CP	CONTROL POWER RELAY
CR	CONTROL RELAY
ETM	ELAPSED TIME METER
HT	HIGH TEMPERATURE RELAY
LC	RVSS LINE CONTACTOR
M	BYPASS STARTER CONTACTOR
MO	MOTOR OVERLOAD RELAY
PMR	POWER MONITORING RELAY
R	RUN AUXILIARY RELAY
RV	RVSS MODE AUXILIARY RELAY
RVT	RVSS MODE TIMING RELAY
RVC	RVSS MODE RUN COMMAND RELAY
SC	RVSS SHORTING CONTACTOR
SL	SEAL LEAK RELAY
SSF	RVSS FAULT RELAY
SSOL	SOLID STATE OVERLOAD RELAY
TR	TIMING RELAY

NOTES:

1. LEVEL CONTROLLER OUTPUT RELAYS RLY1, RLY2, RLY 4 AND RLY5 ARE ASSIGNED A PUMP FUNCTION AND ARE MANAGED BY A PUMPING ALGORITHM TO ALTERNATE THE LEAD PUMP AND LAGS FOR EACH PUMPING CYCLE.
2. ALL INDICATING LAMPS SHALL BE PUSH-TO-TEST TYPE.
3. PUMP PROTECTION RELAYS SHALL BE PROVIDED FOR EACH PUMP INSTALLED. AT A MINIMUM PROVIDE PROTECTION AGAINST MOTOR HIGH TEMPERATURE AND PUMP SEAL LEAK.

4. LEVEL SENSOR PROBES FOR PUMP CONTROL ARE NOT ALLOWED.

5. THE LOAD OF EACH INTERNAL DIGITAL RELAY OF THE LEVEL CONTROLLER MUST BE LIMITED TO NO MORE THAN ONE GENERAL PURPOSE RELAY COIL AND ONE TIME DELAY RELAY COIL, OR TWO GENERAL PURPOSE RELAY COILS.

6. PUMP PROTECTION RELAY CONTACT LOGIC SHALL BE AS FOLLOW:

- 6.A. UNDER NORMAL CONDITIONS N.O. CONTACT HIGH TEMP CLOSURES AND N.C. SEAL LEAK CONTACT REMAINS CLOSED.

- UNDER MOTOR HIGH TEMP CONDITION, THE N.O. HIGH TEMP CONTACT OPENS.

- 6.B. UNDER PUMP SEAL LEAK CONDITION, THE N.C. SEAL LEAK CONTACT OPENS.

7. SOFT STARTER FAIL RELAY SHALL BE CLOSED UNDER NORMAL CONDITION AND SHALL OPEN UNDER SOFT STARTER FAIL CONDITION.



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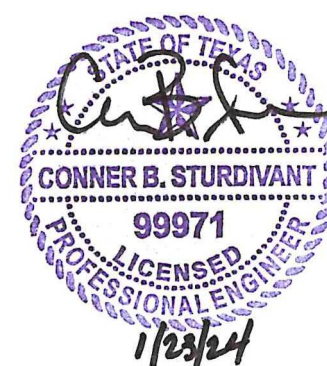
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PROJECT NUMBER: 22010003A		DRAWING NAME: W-TTLE-CEDL	

SHEET TITLE:

ELECTRICAL CONTROL
DIAGRAMS SHEET 4

SHEET NUMBER: E-404



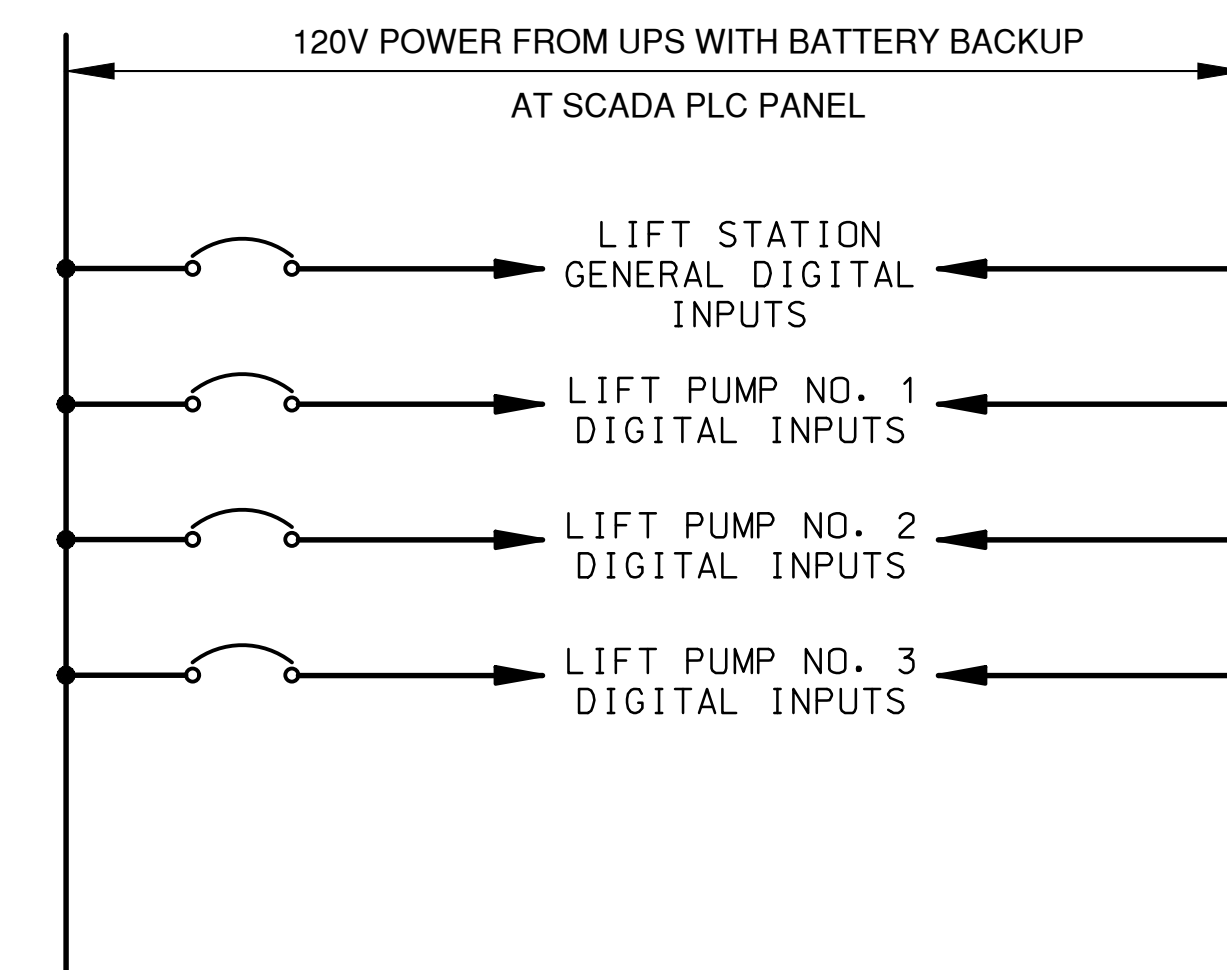
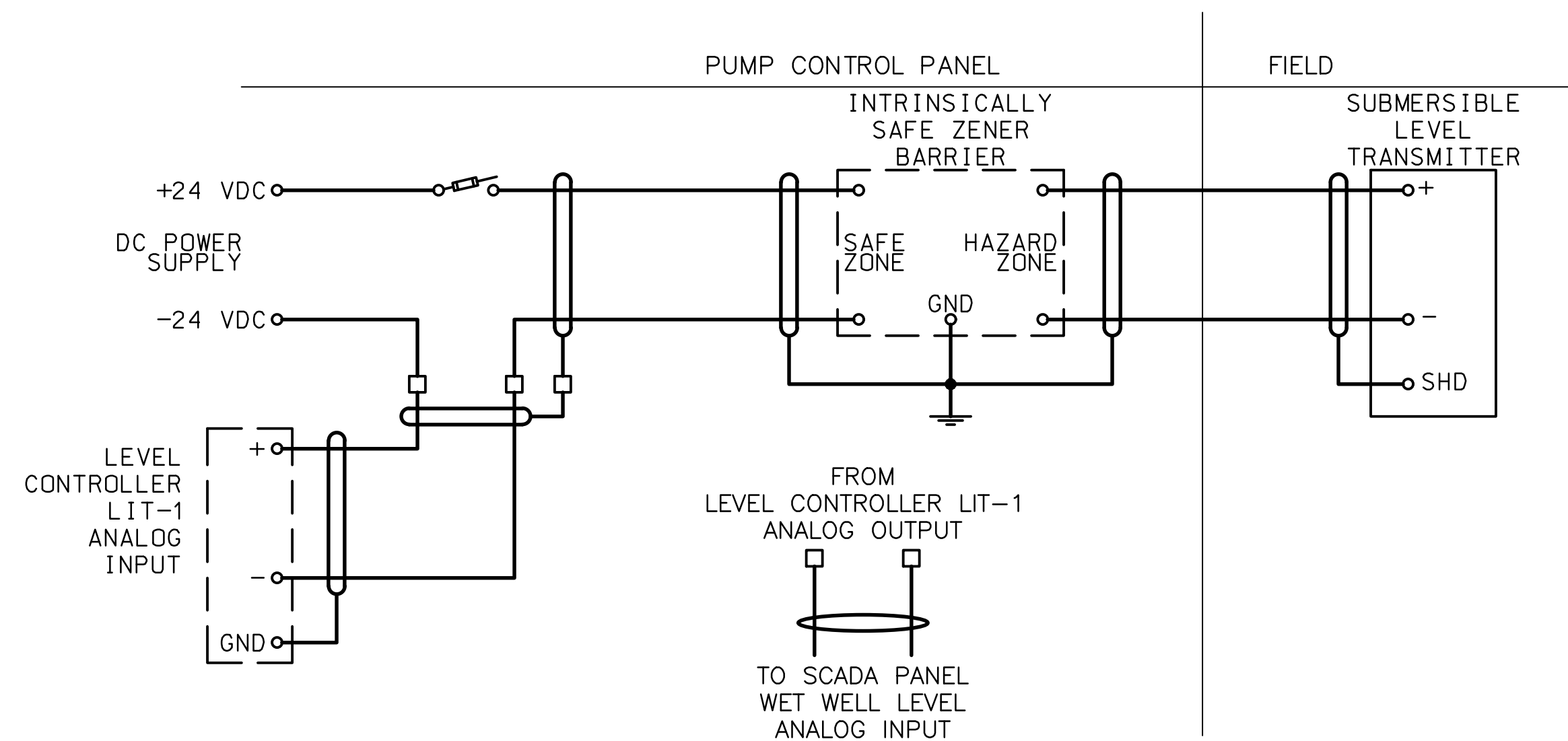
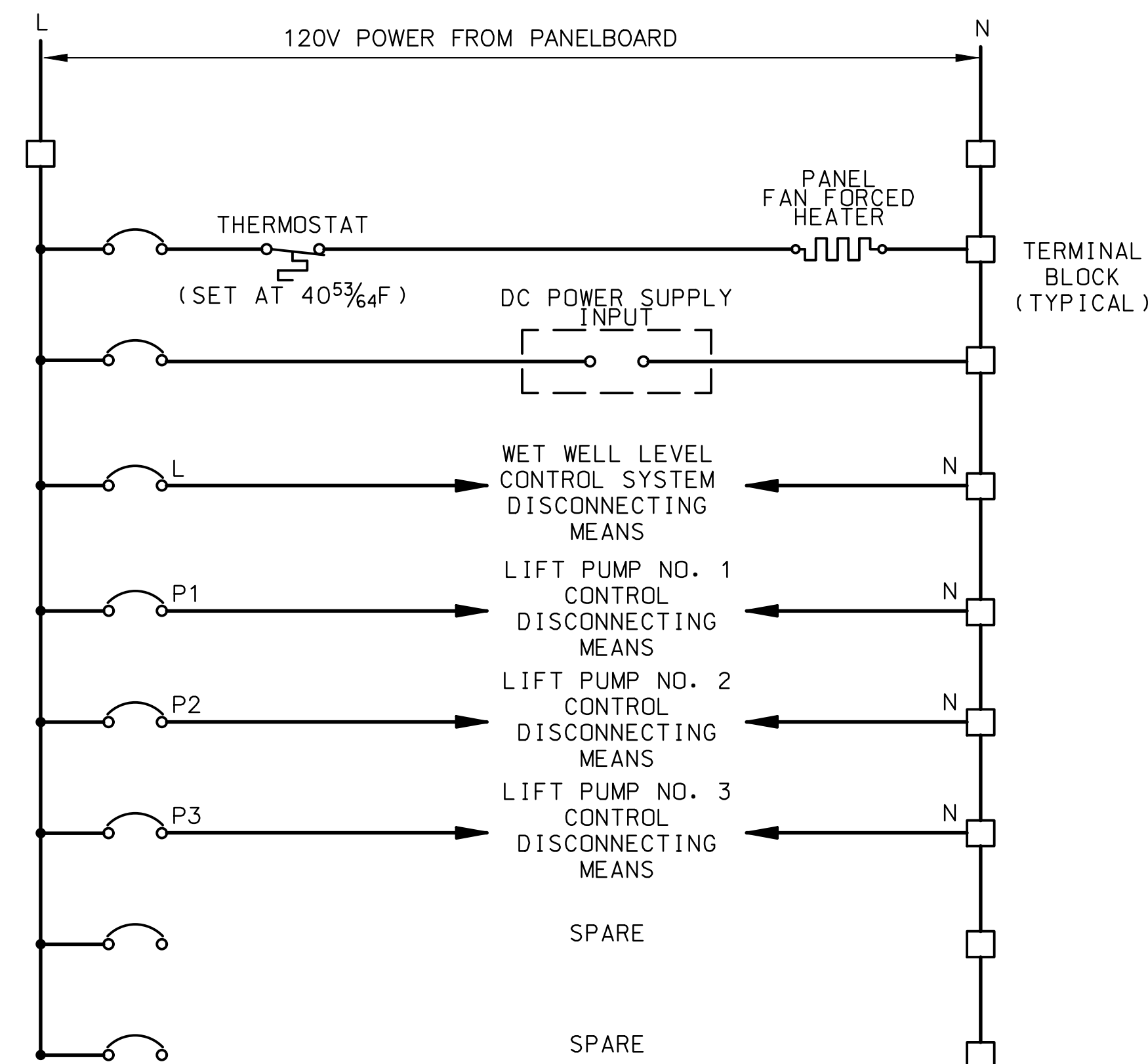
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NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION



1. ALL INDICATING LAMPS SHALL BE PUSH-TO-TEST TYPE.
2. THE BLOWER INTERNAL THERMAL SWITCH IS CLOSED UNDER NORMAL CONDITION AND SHALL OPEN UNDER BLOWER OVERTEMPERATURE CONDITION.

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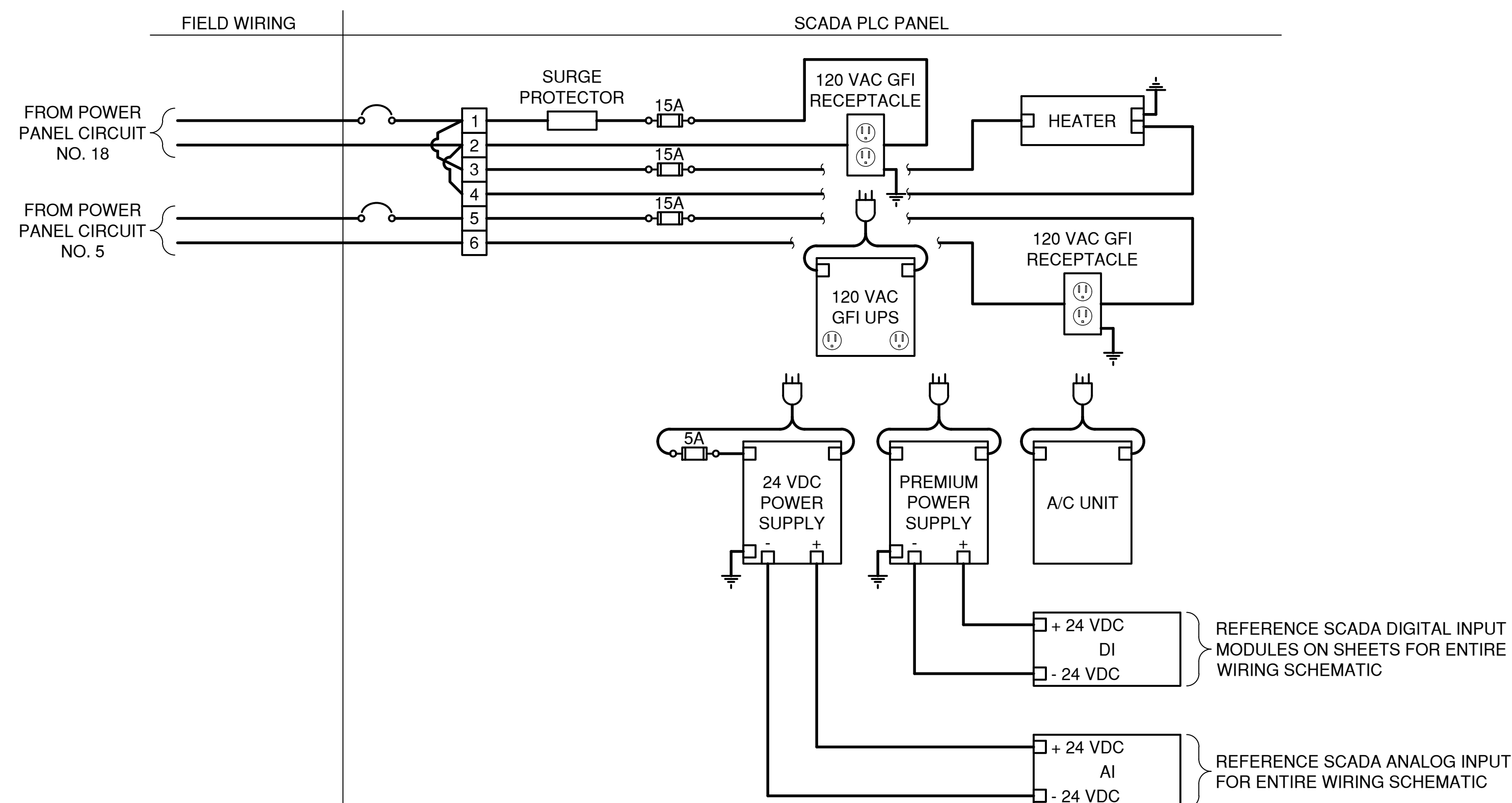
NOTE:

1. PROVIDE ONE MINIATURE BREAKER FOR DISCONNECTING MEANS OF THE DIGITAL CONTRLS WITHIN SCADA PANEL. AN ADDITIONAL MINIATURE BREAKER SHALL BE ADDED FOR EACH ADDITIONAL PUMP INSTALLED.

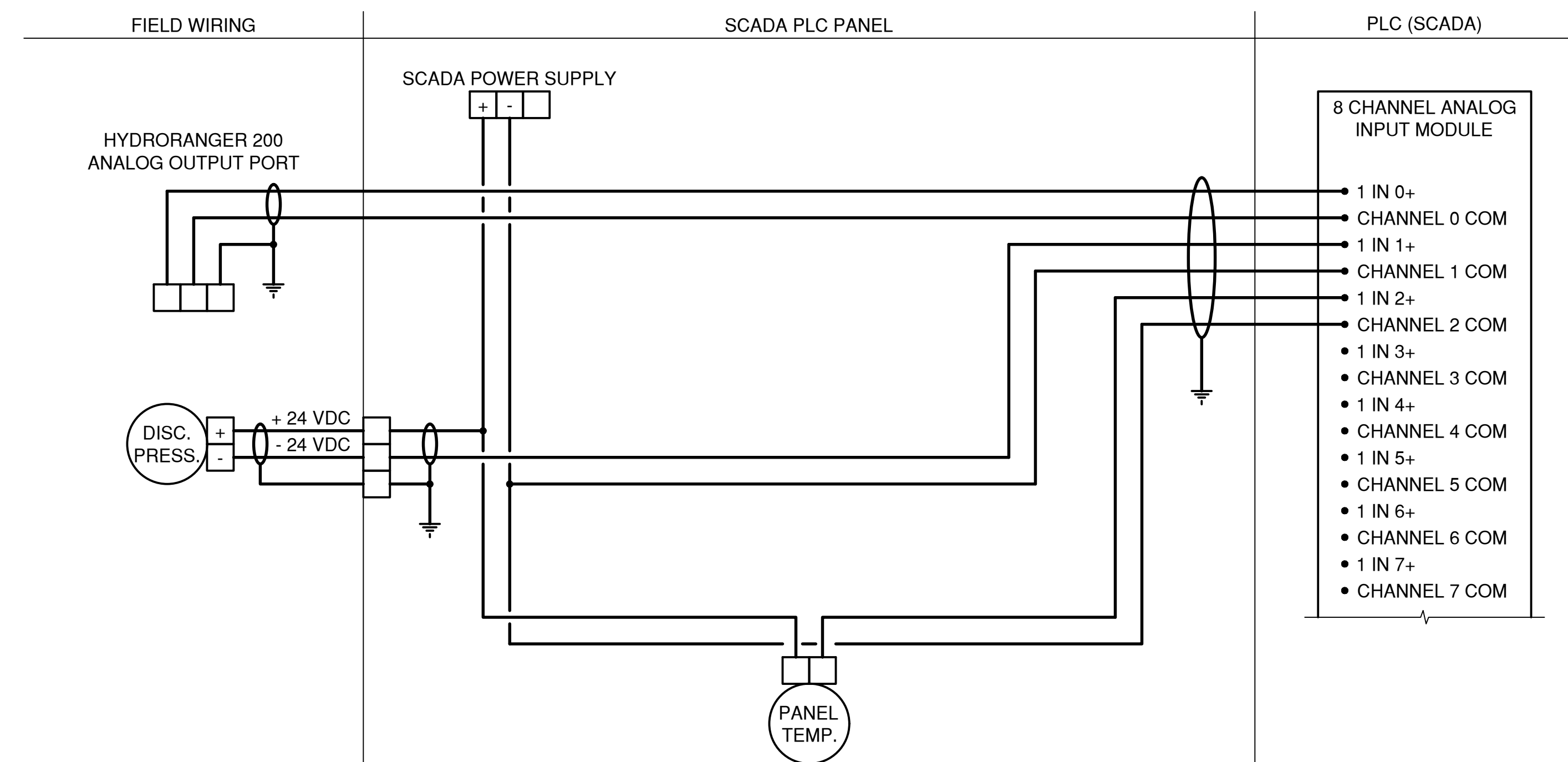
PUMP CONTROL PANEL CONTROL POWER DISTRIBUTION SCHEMATIC

NOTE:

1. PROVIDE ONE MINIATURE BREAKER FOR DISCONNECTING MEANS OF THE CONTROL POWER WITHIN EACH PUMP CONTROL PANEL.



NOTE:
1. PROVIDE MINIATURE BREAKERS FOR DISCONNECTING MEANS OF THE CONTROL POWER WITHIN SCADA PANEL.



SCADA ANALOG INPUT

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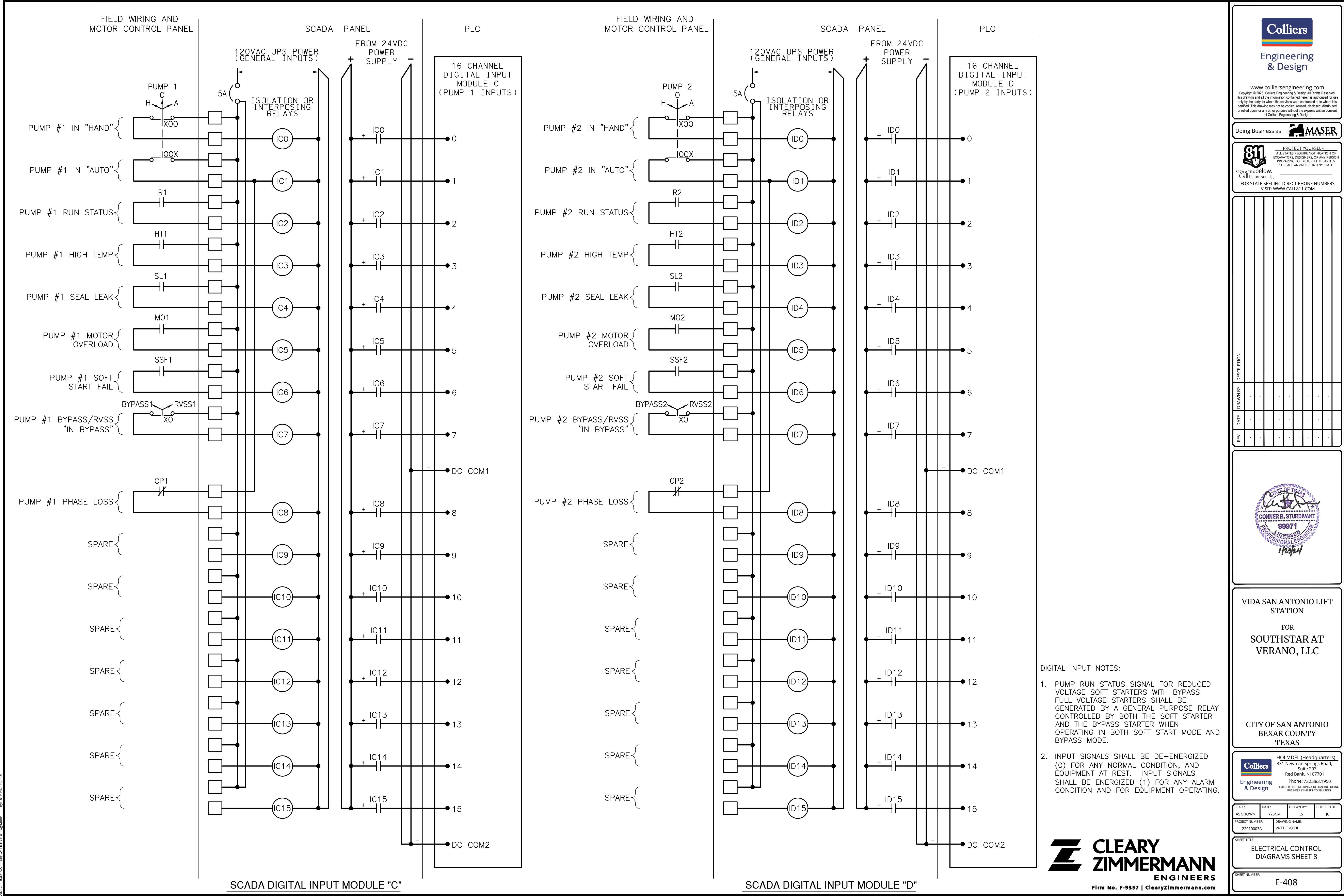
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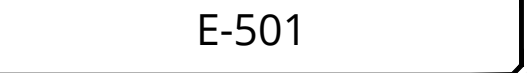


2023/201003A San Antonio WTLT CEDL.dwg Masdel By: CONNER B. STURDIVANT

1. ALL ENCLOSURES SHALL BE PAD-LOCKABLE. PUMP CONTROL PANEL SHALL BE SINGLE DOOR, WALL MOUNTED TYPE. INSTALL ONE PUMP CONTROL PANEL FOR EACH PUMP INSTALLED. LEVEL CONTROL PANEL SHALL BE COMMON TO ALL PUMP CONTROL PANELS FOR AUTOMATIC CONTROL.
2. ALL MOUNTING HARDWARE AND STRUT CHANNEL SHALL BE OF STAINLESS STEEL 316. ALL ENCLOSURES SHALL BE NEMA 4X, STAINLESS STEEL 316. PUMP CONTROL PANEL AND SCADA ENCLOSURES SHALL ALSO BE WHITE ENAMEL COATED ON EXTERIOR.
3. CONDUIT PENETRATION TO ALL ENCLOSURES AND JUNCTION BOXES, REGARDLESS OF LOCATION, SHALL BE MADE AT THE BOTTOM FACE ONLY. CONDUIT PENETRATIONS ON BACK, SIDES OR TOP SHALL BE PROHIBITED.
4. ALL SERVICE DISCONNECT SWITCHES SHALL BE NEMA RATED AND BE ENCLOSED IN NEMA 4X, STAINLESS STEEL 316 ENCLOSURE.
5. SERVICE RACK STRUTS SHALL BE OF STAINLESS STEEL 316 1-1/2 INCH MINIMUM, AND SHALL BE MOUNTED ON 4-INCH X 1/2-INCH THICK STRUCTURAL STEEL TUBE. ALL STRUT CHANNEL ENDS SHALL BE PROTECTED WITH END CAPS.
6. THERE SHALL BE 6" MINIMUM SPACING BETWEEN EQUIPMENT MOUNTED ON THE RACK. WHEN PANEL MOUNT CLIMATE CONTROL UNITS ARE INSTALLED, THERE SHALL BE A MINIMUM SPACE CLEARANCE OF 24 INCHES.
7. ELECTRIC RACK SHALL HAVE SUPPORT COLUMNS EVERY 10 FEET, UNLESS OTHERWISE DETERMINED BY THE STRUCTURAL ENGINEER.
8. PROVIDE SEALING FITTING FOR ALL CONDUITS LEAVING THE RACK AND CONDUITS FOR SURGE PROTECTIVE DEVICES.

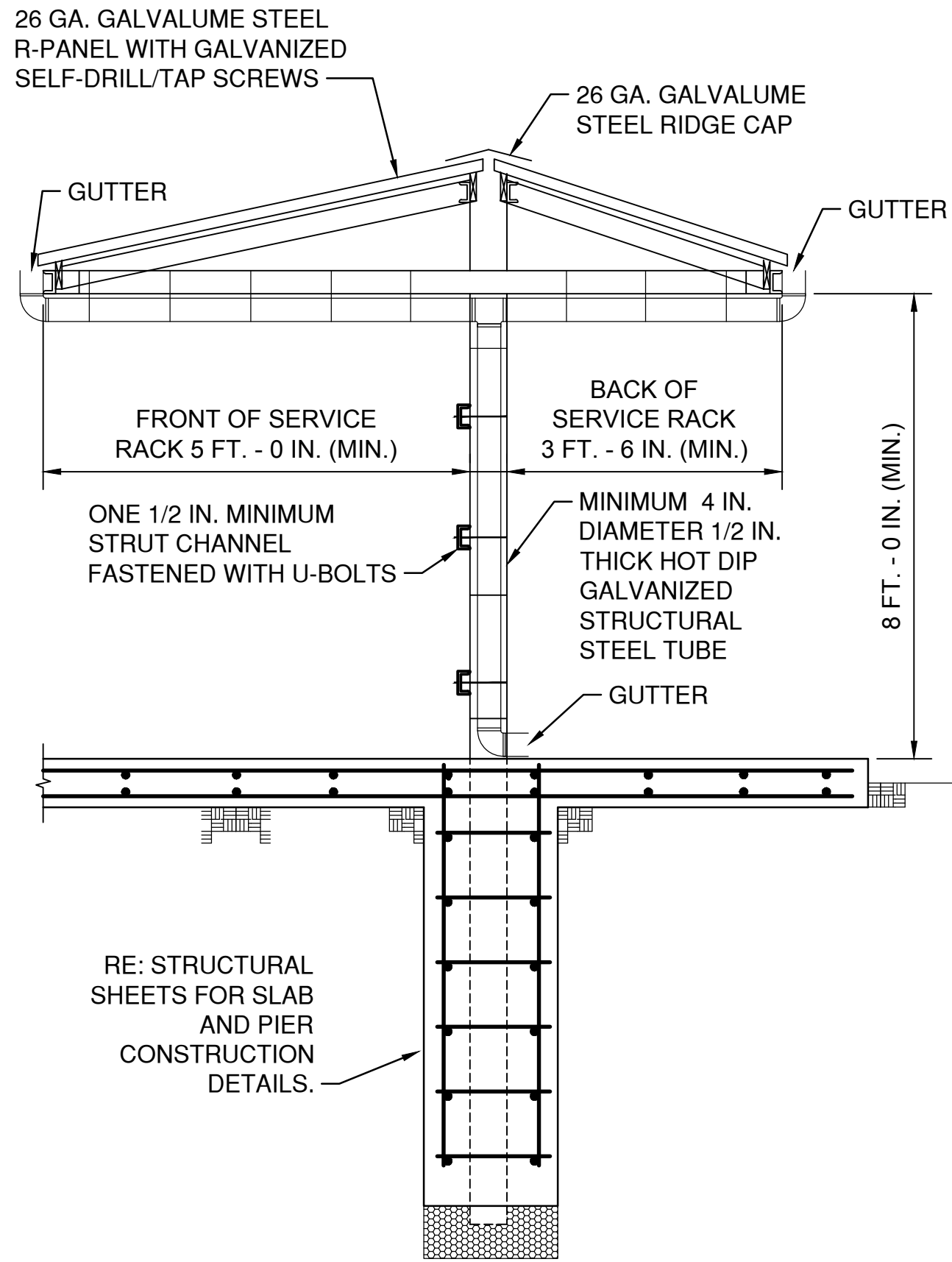
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1. STRUCTURAL FOUNDATION NOT SHOWN FOR CLARITY



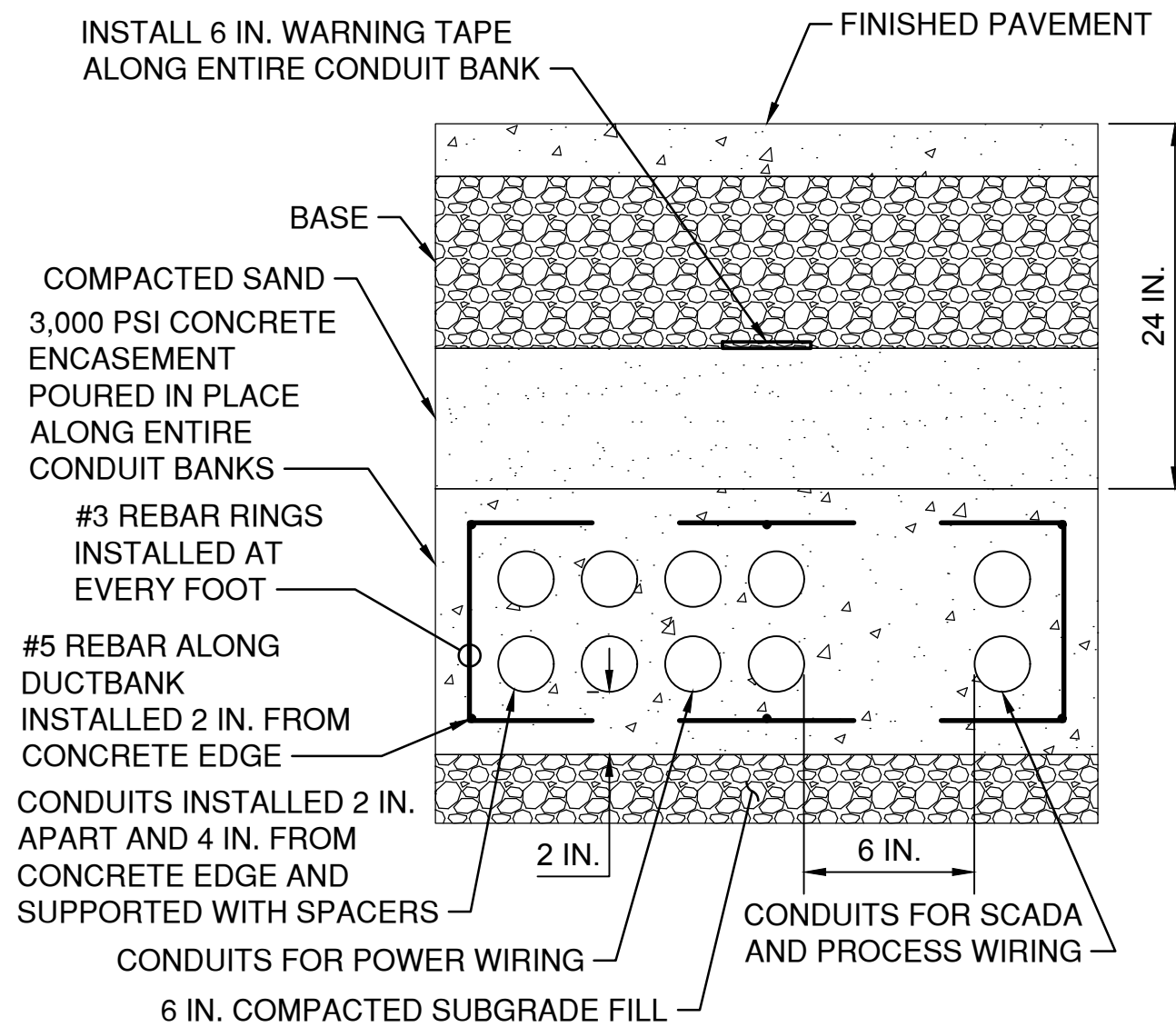
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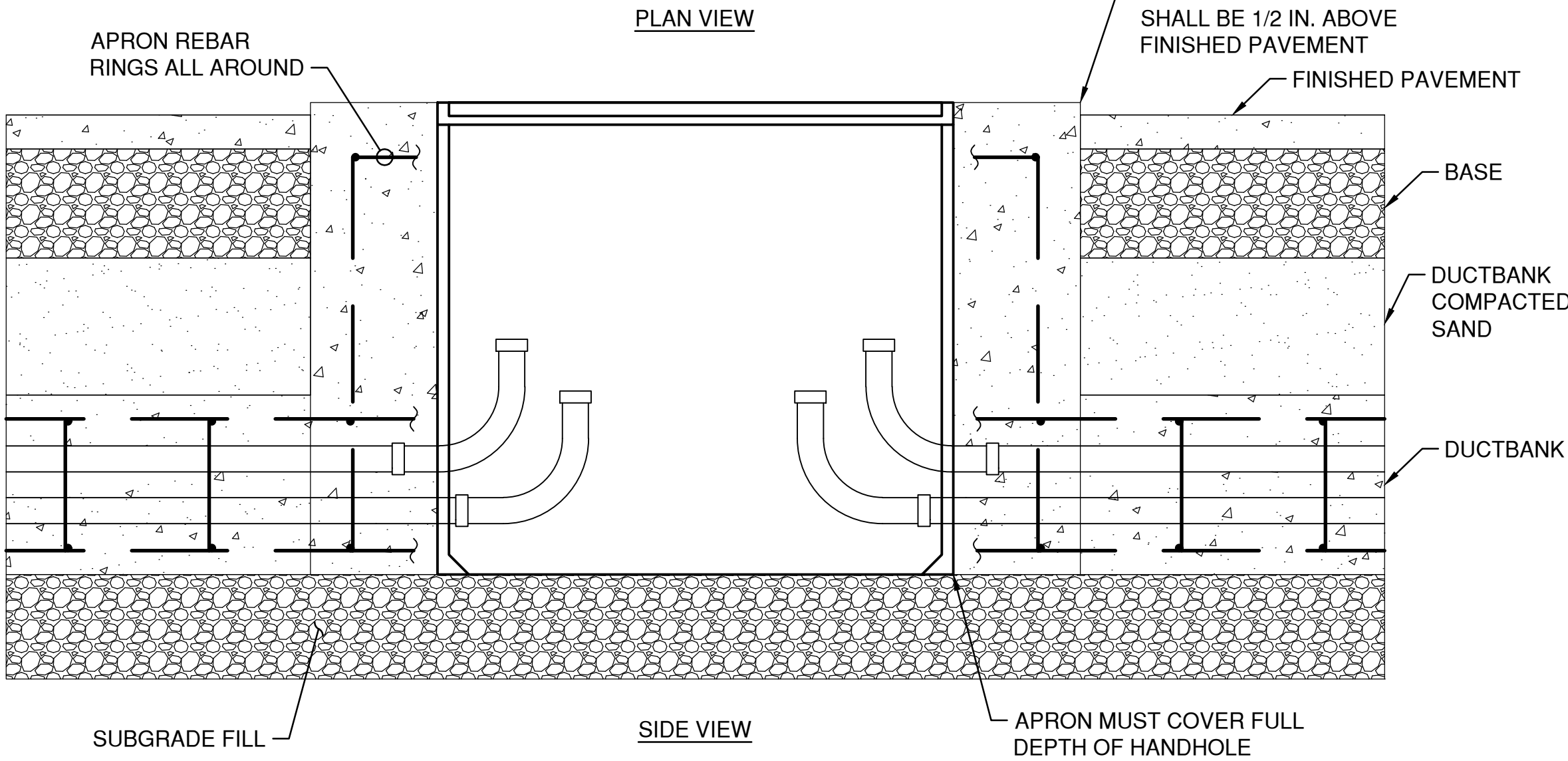
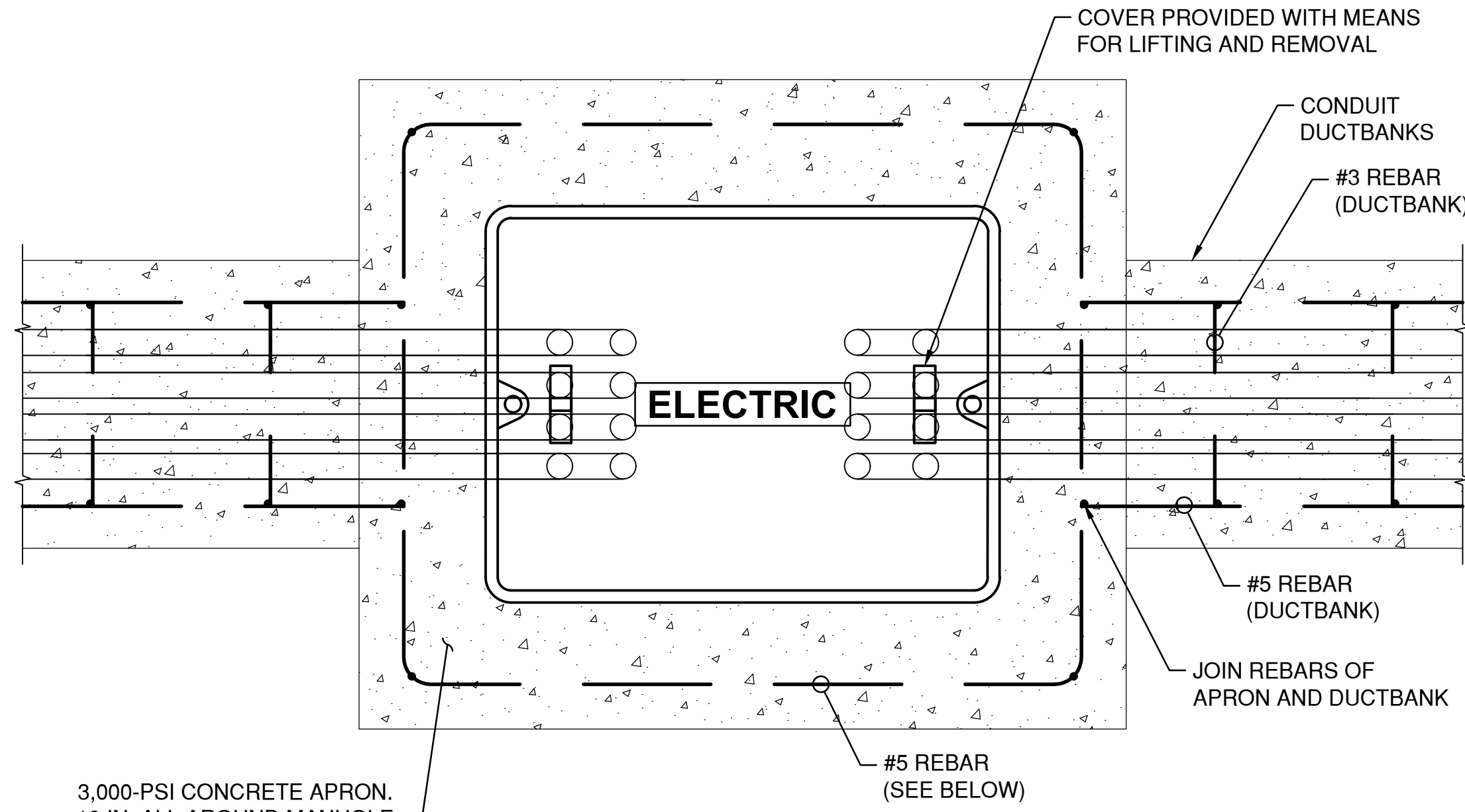


- NOTES:
- DESIGN ENGINEER TO VERIFY SOIL PROPERTIES IN ORDER TO DESIGN FOUNDATION OF CANOPY PROPERLY.
 - ALL STRUCTURAL MEMBERS OF CANOPY SHALL BE SOLIDLY WELDED.
 - INSTALL GUTTERS TO DRAIN STORM WATER.
 - SERVICE RACK STRUT CHANNEL AND ALL FASTENERS SHALL BE STAINLESS STEEL 316.

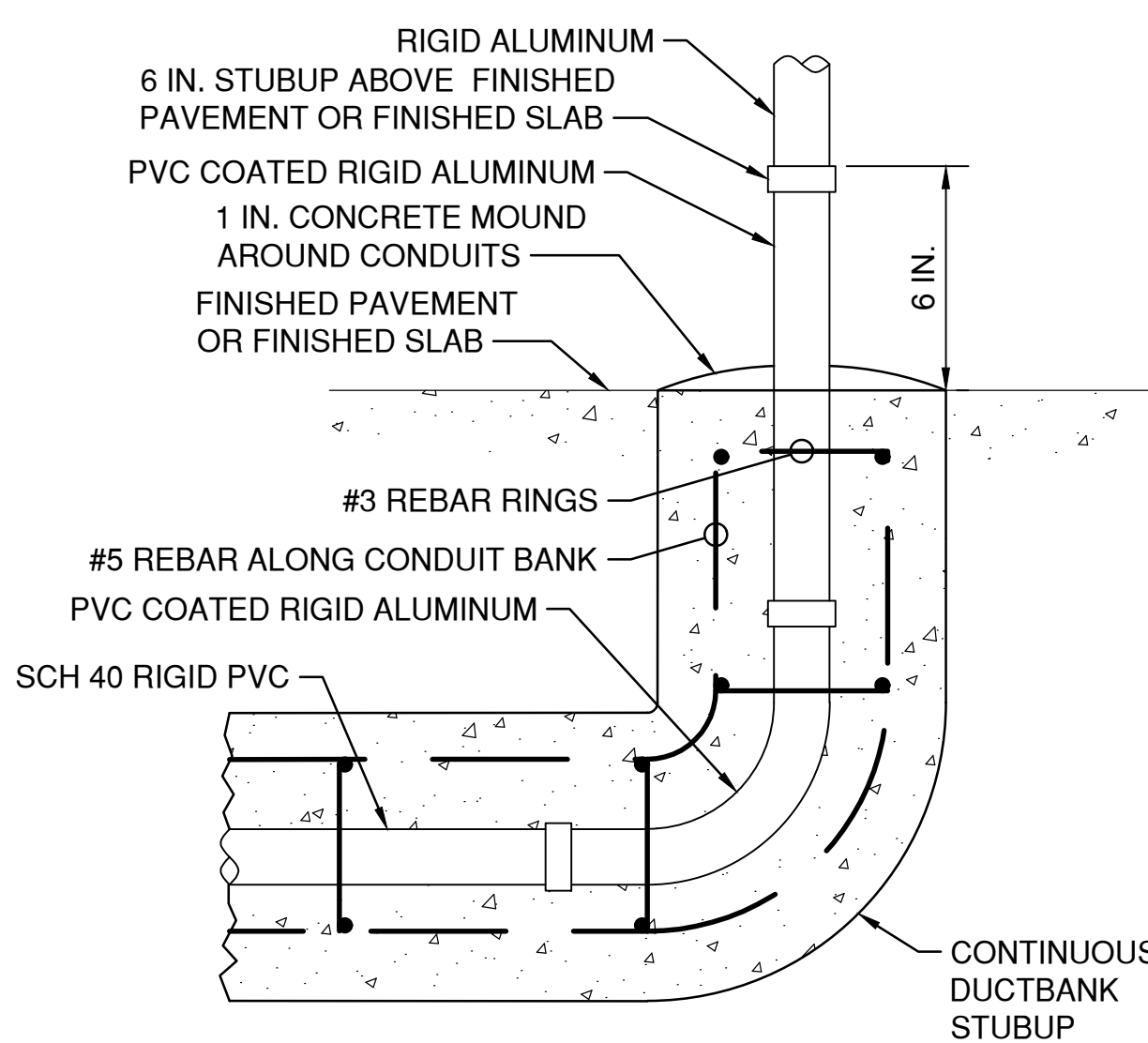
TYPICAL ELECTRICAL SERVICE RACK SIDE VIEW DETAIL
N.T.S.



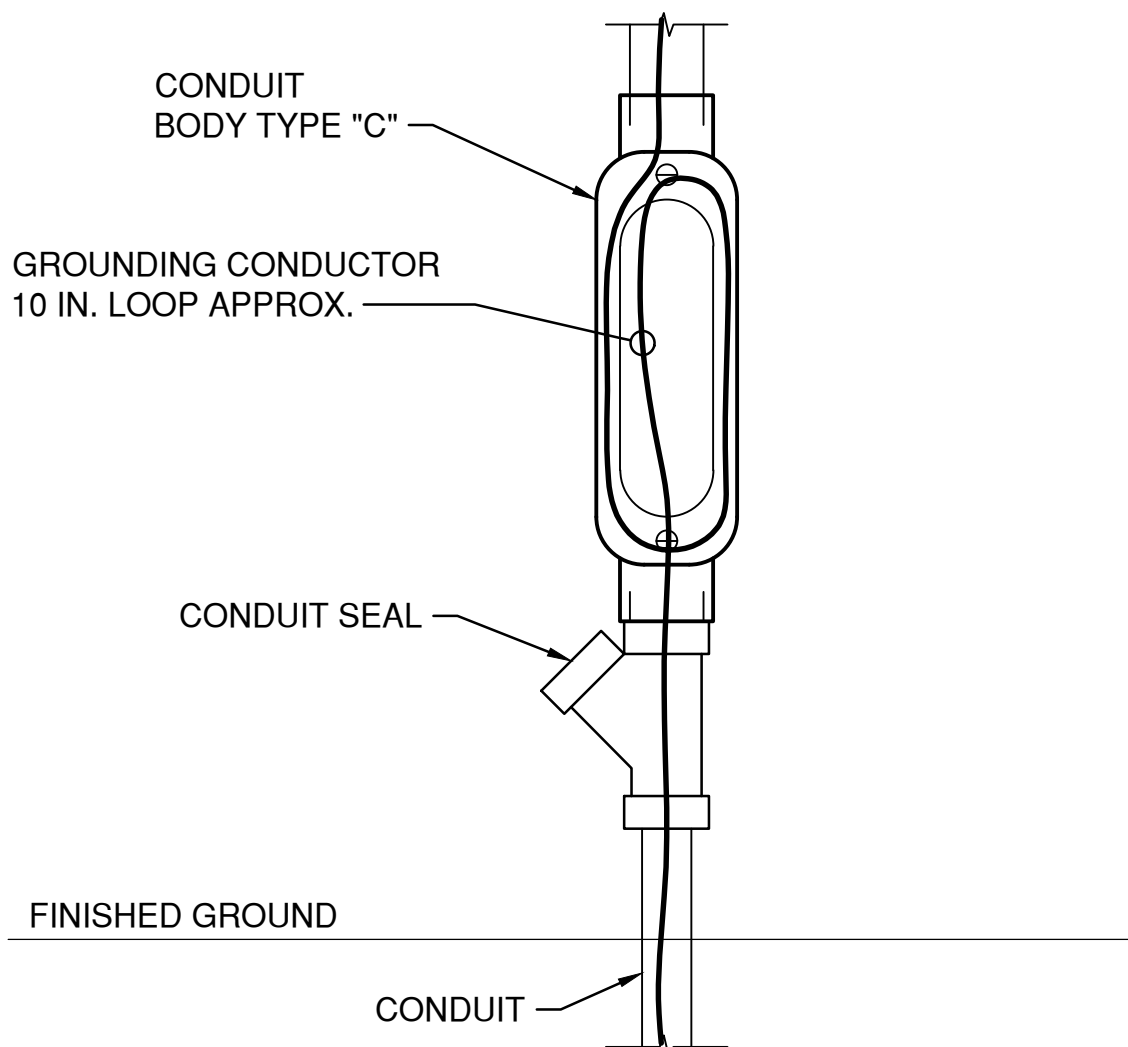
CONDUIT DUCTBANK DETAIL
N.T.S.



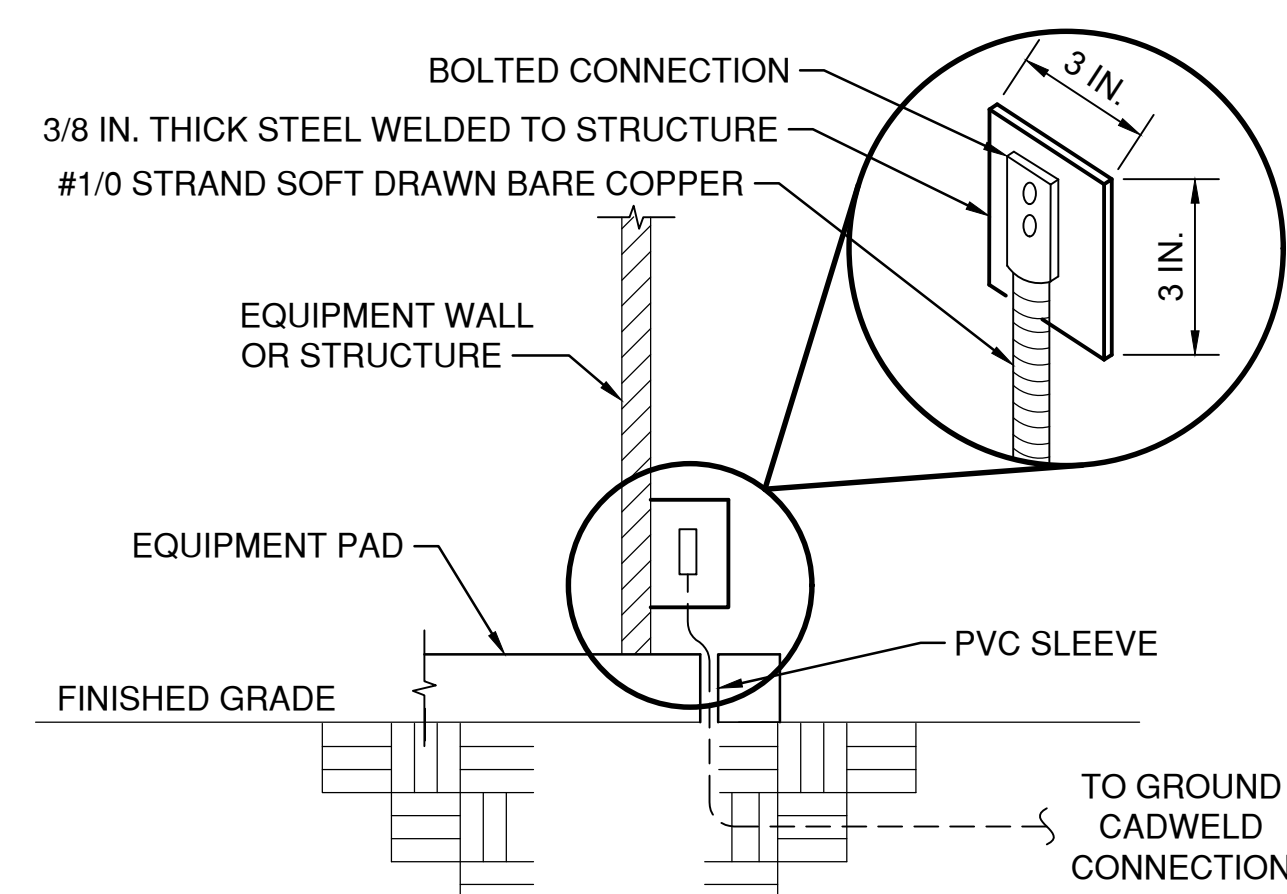
HANDHOLE INSTALLATION DETAIL
N.T.S.



CONDUIT STUB-UP DETAIL
N.T.S.

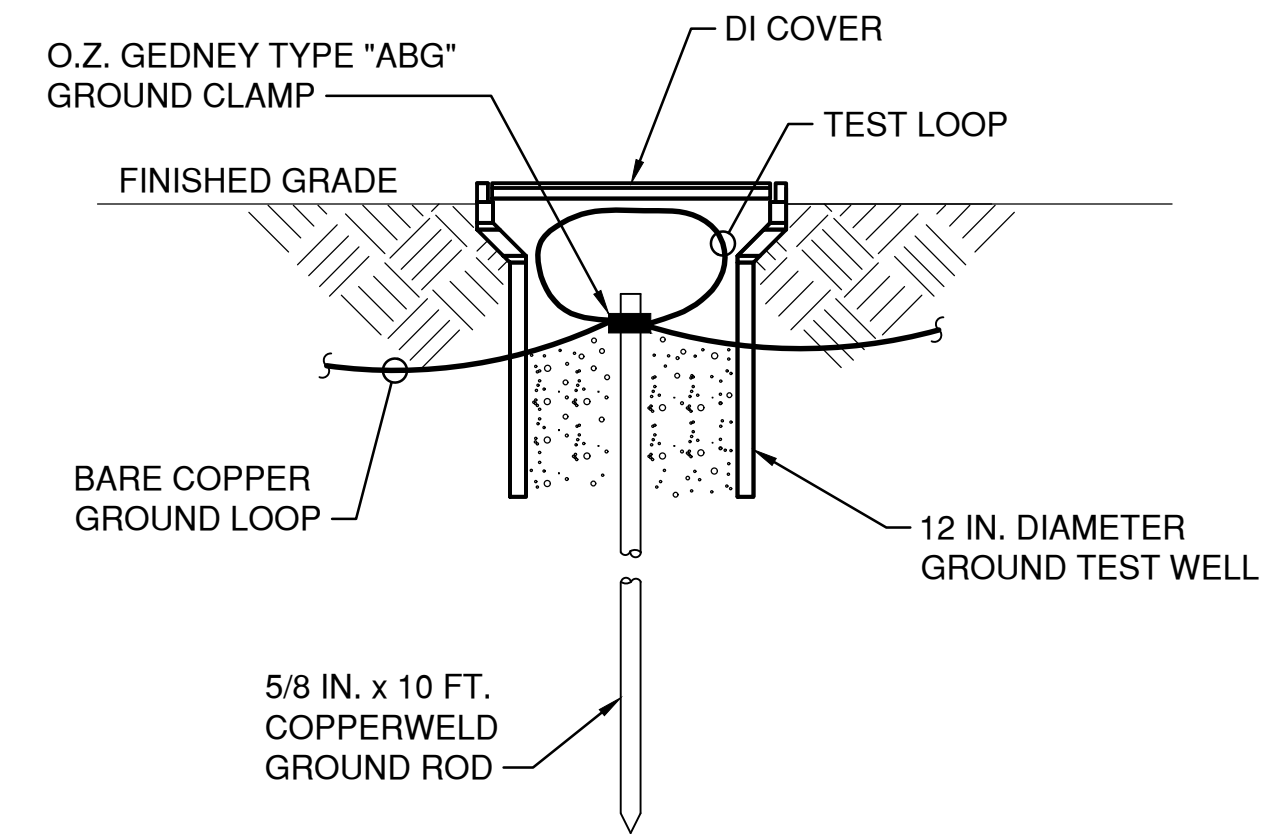


CONDUIT BODY FOR GROUND RESISTANCE TEST DETAIL
N.T.S.

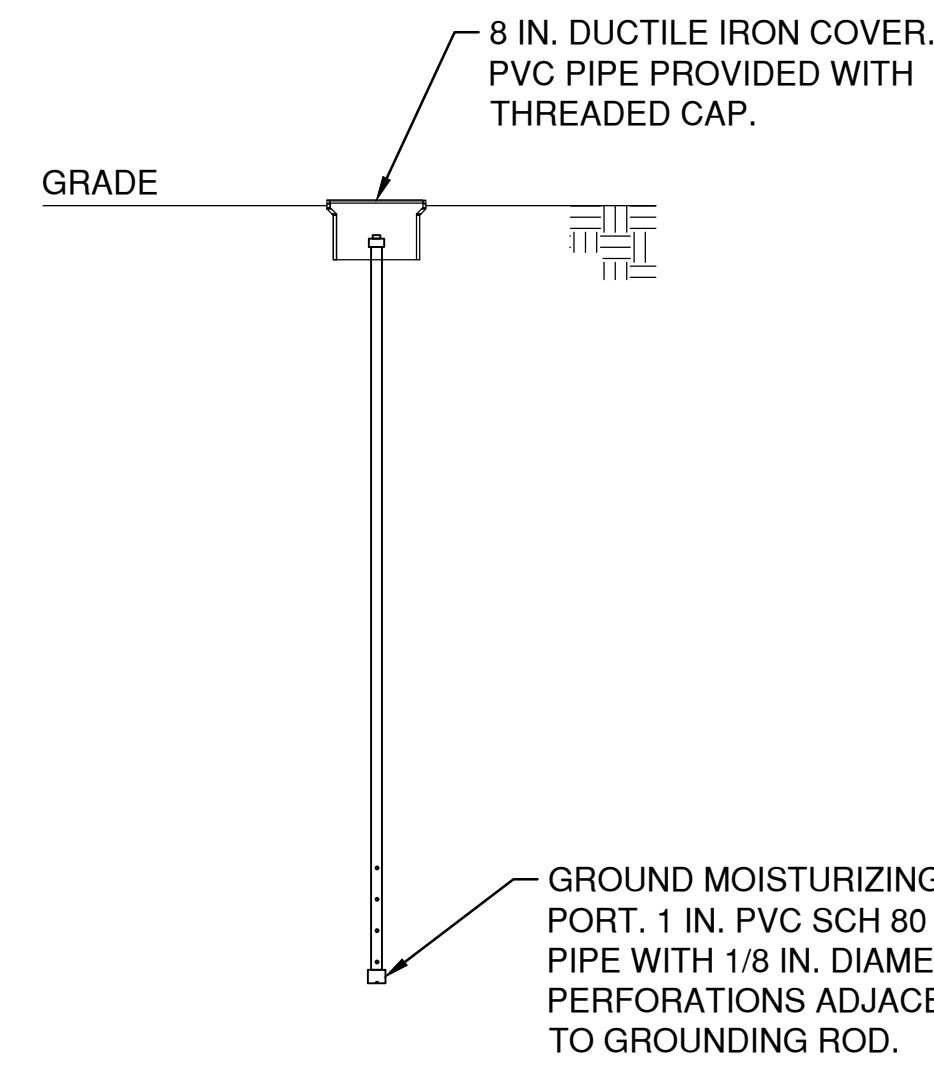


- NOTE:
- IF METAL STRUCTURES ARE NOT FURNISHED WITH PROVISION FOR BOLTED CONNECTION TO GROUNDING SYSTEM CONTRACTOR SHALL PROVIDE WELDED PAD FOR GROUND CONNECTION.

TYPICAL STRUCTURE GROUND DETAIL
N.T.S.



GROUND TEST WELL ARRANGEMENT DETAIL
N.T.S.



MOISTURIZING PORT DETAIL
N.T.S.



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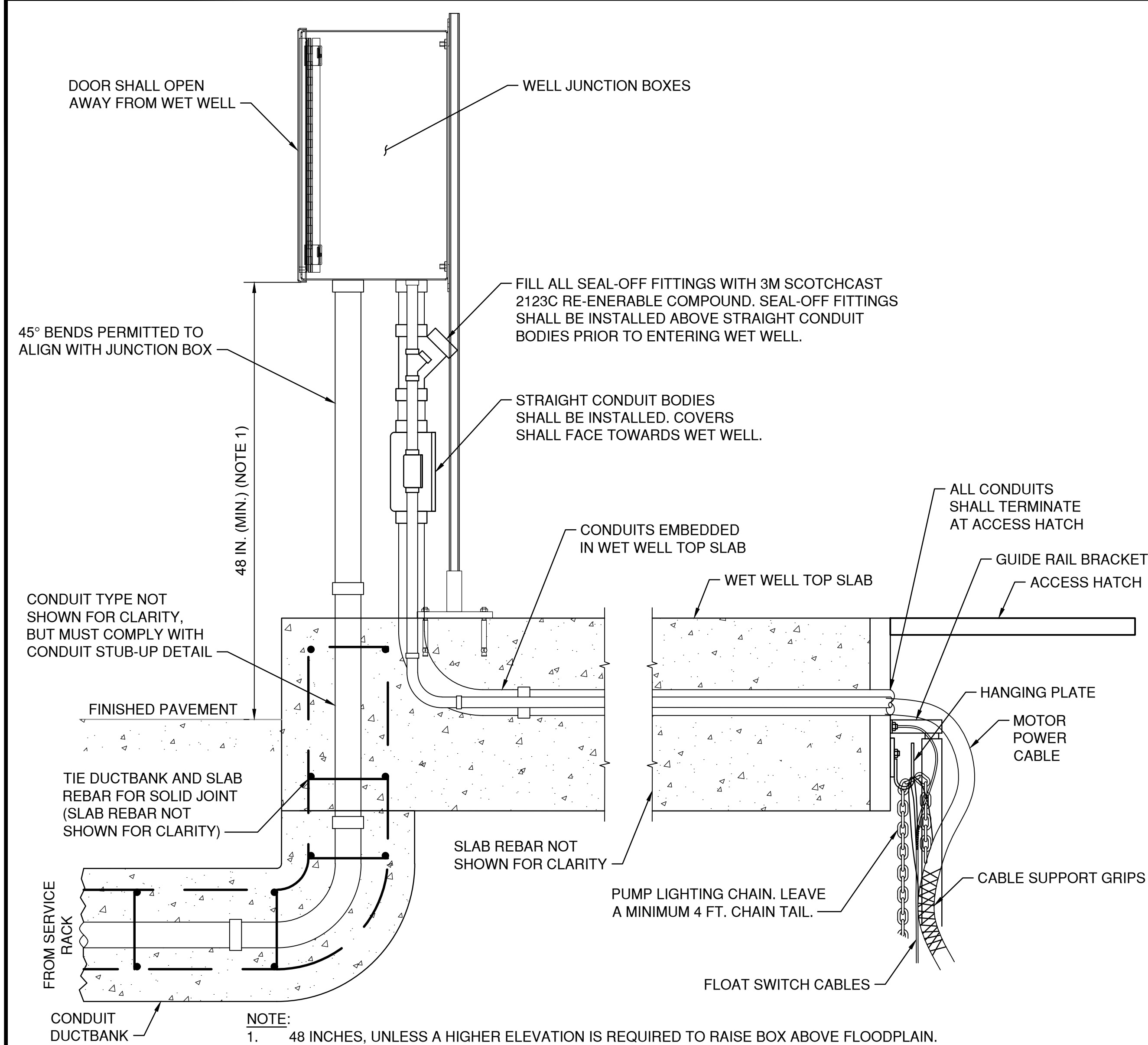
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ELECTRICAL DETAILS SHEET 2

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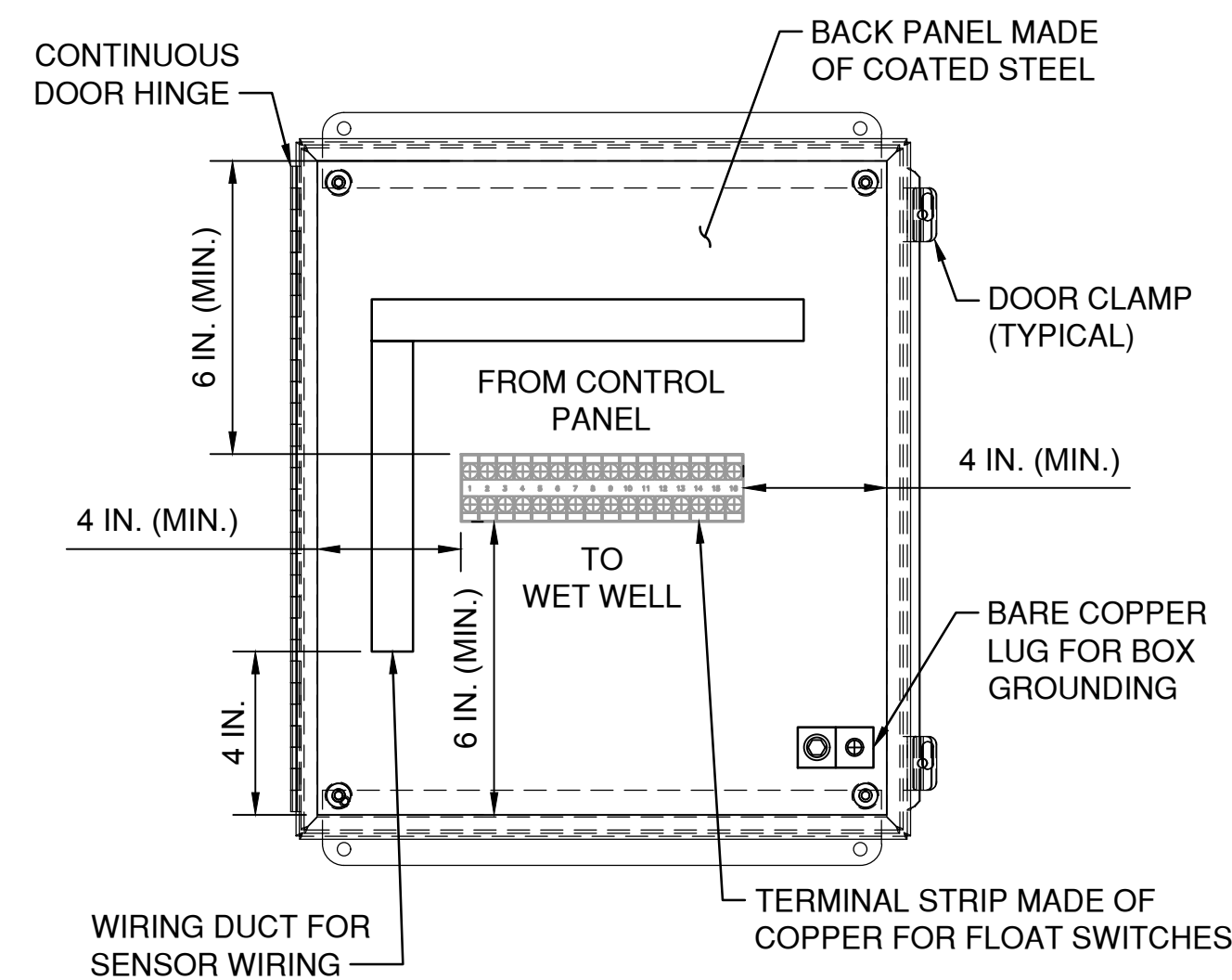
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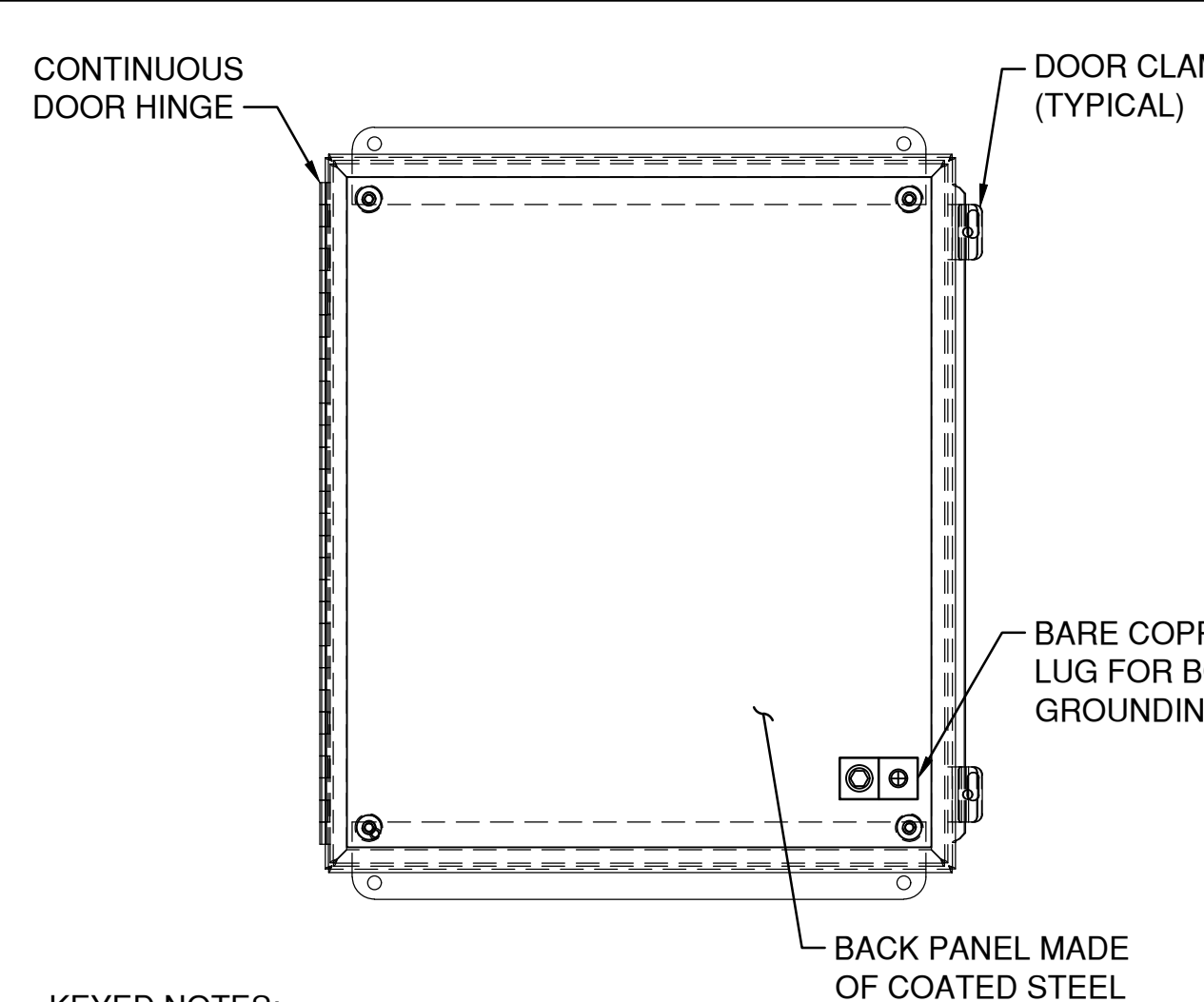
WET WELL JUNCTION BOX DETAIL

N.T.S.



FLOAT CONTROLS JUNCTION BOX INTERNAL DETAIL

N.T.S.



KEYED NOTES:

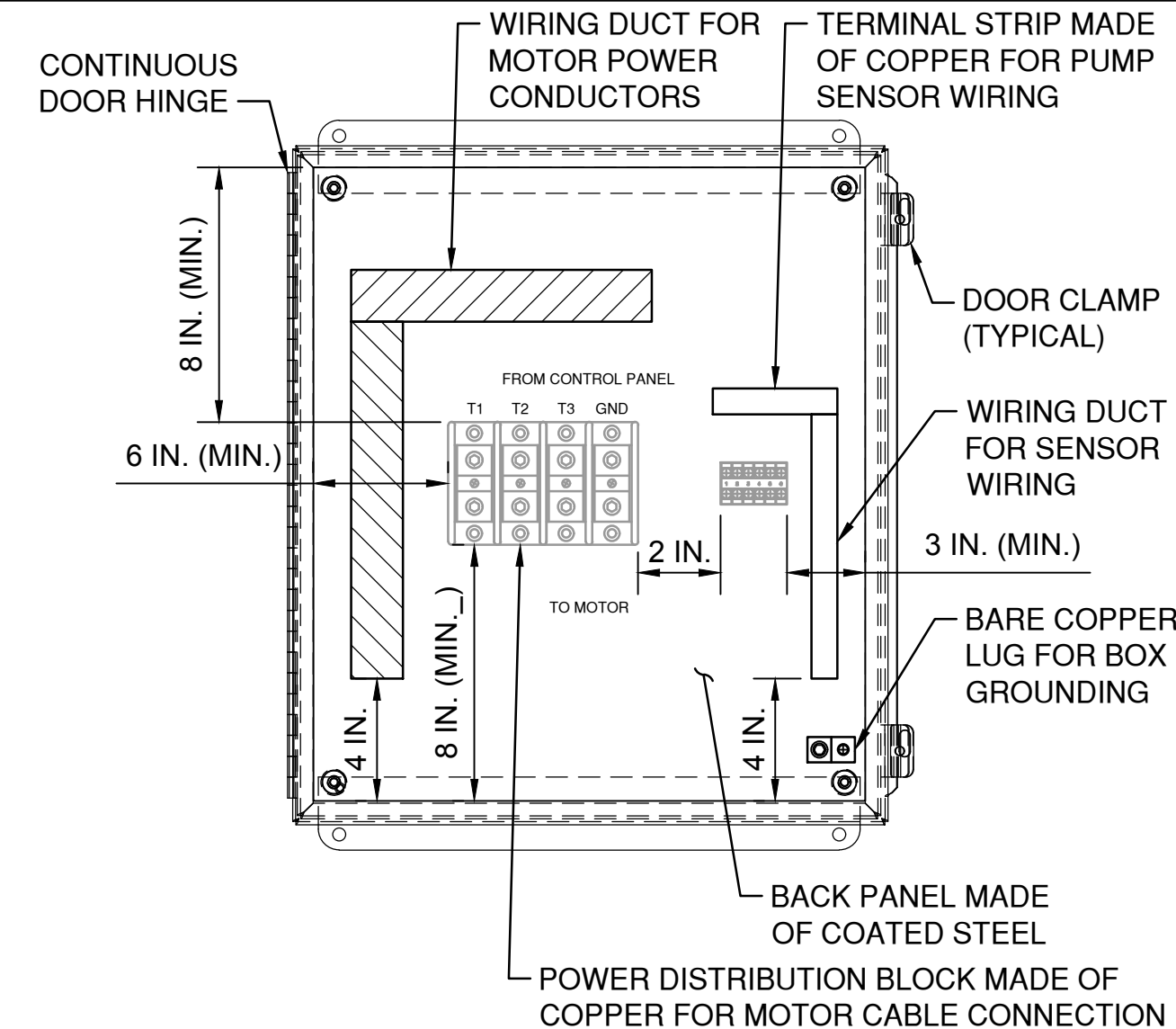
 WIRING DUCT FOR PUMP SENSOR WIRING.

NOTES:

1. THIS JUNCTION BOX DETAIL APPLIES TO ALL JUNCTION BOXES INSTALLED FOR ANALOG SIGNAL WIRING FOR INSTRUMENTATION AND CONTROL DEVICES SUCH AS SUBMERSIBLE LEVEL TRANSMITTERS, DISCHARGE PRESSURE TRANSMITTERS, OR ANY INSTRUMENTATION AND CONTROL DEVICE THAT IS INSTALLED BUT NOT SHOWN ON THESE STANDARD DRAWINGS.
2. ANALOG SIGNAL CABLES SHALL BE CONTINUOUS AND WITHOUT SPLICES, FROM INSTRUMENT, THROUGH JUNCTION BOX, TO RESPECTIVE ANALOG I/O MODULE OR DEVICE. ANALOG SIGNAL CABLE SHALL BE LOOPED AND TIED IN A NEAT MANNER AND WITHOUT OVER BENDING.
3. ANALOG SIGNAL WIRING SHALL NOT BE MIXED WITH ANY OTHER POWER, CONTROL OR SIGNAL WIRING.
4. JUNCTION BOXES SHALL BE SIZED BASED ON THE SIZE, BENDING RADIUS, NUMBER OF LOOPS, AND TOTAL NUMBER OF ANALOG SIGNAL CABLES CONTAINED, BUT IN NO CASE SHALL THE INSTRUMENTATION AND CONTROL JUNCTION BOXES BE SMALLER THAN 16 IN. H. x 12 IN. W x 8 IN. D..
5. ALL ALUMINUM CONDUITS SHALL BE PROVIDED WITH GROUNDING BUSHINGS AND SHALL BE GROUNDED.
6. A DEDICATED GROUNDING CABLE SHALL BE INSTALLED TO GROUND THE JUNCTION BOX AND EACH CONDUIT BUSHINGS.

ANALOG SIGNAL WIRING JUNCTION BOX DETAIL

N.T.S.



KEYED NOTES:

 WIRING DUCT FOR PUMP SENSOR WIRING.

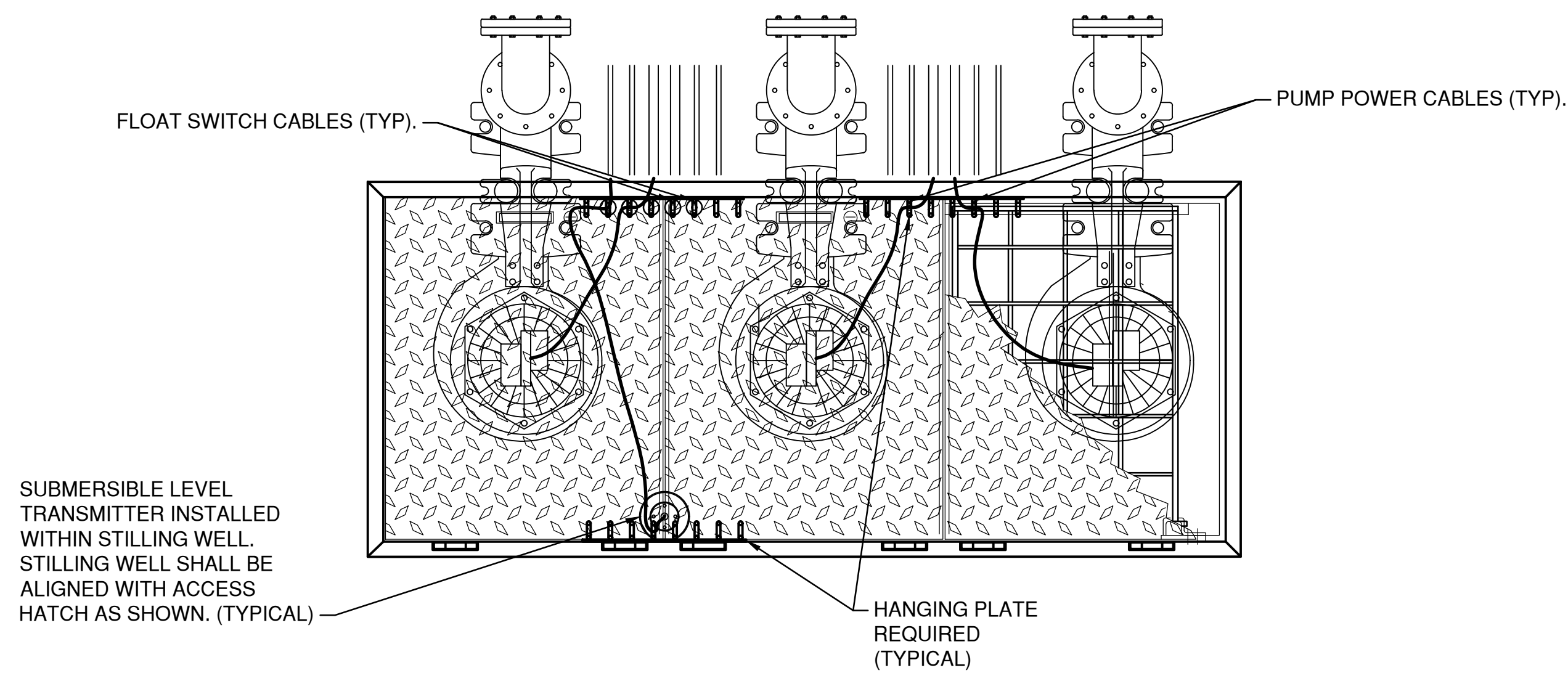
 WIRING DUCT FOR MOTOR POWER WIRING.

NOTES:

1. THIS JUNCTION BOX DETAIL APPLIES TO ALL JUNCTION BOXES INSTALLED TO CONNECT MOTORS SUCH AS PUMPS, BLOWERS, OR ANY SPECIAL MOTOR APPLICATION REQUIRED BUT NOT SHOWN ON THESE STANDARD DRAWINGS.
2. JUNCTION BOXES SHALL BE SIZED TO MEET THE INTERNAL DIMENSIONS, BASED ON THE REQUIRED SIZE OF POWER DISTRIBUTION BLOCK, WIRING DUCTS AND NUMBER OF TERMINAL STRIPS FOR PUMP SENSOR SIGNALS, BUT IN NO CASE SHALL THE PUMP JUNCTION BOXES BE SMALLER THAN 20 IN. H. x 16 IN. W. x 8 IN. D.
3. SHOWN INTERNAL DIMENSIONS SHALL BE MEASURED FROM EDGE OF BACK PANEL AND NOT FROM THE ENCLOSURE BODY.
4. POWER DISTRIBUTION BLOCKS SHALL HAVE A SHORT CIRCUIT RATING THAT EXCEED THE MAXIMUM AVAILABLE FAULT CURRENT AT THE SERVICE ENTRANCE.
5. ALL ALUMINUM CONDUITS SHALL BE PROVIDED WITH GROUNDING BUSHINGS AND SHALL BE GROUNDED.

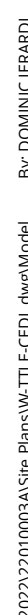
MOTOR JUNCTION BOX INTERNAL DETAIL

N.T.S.

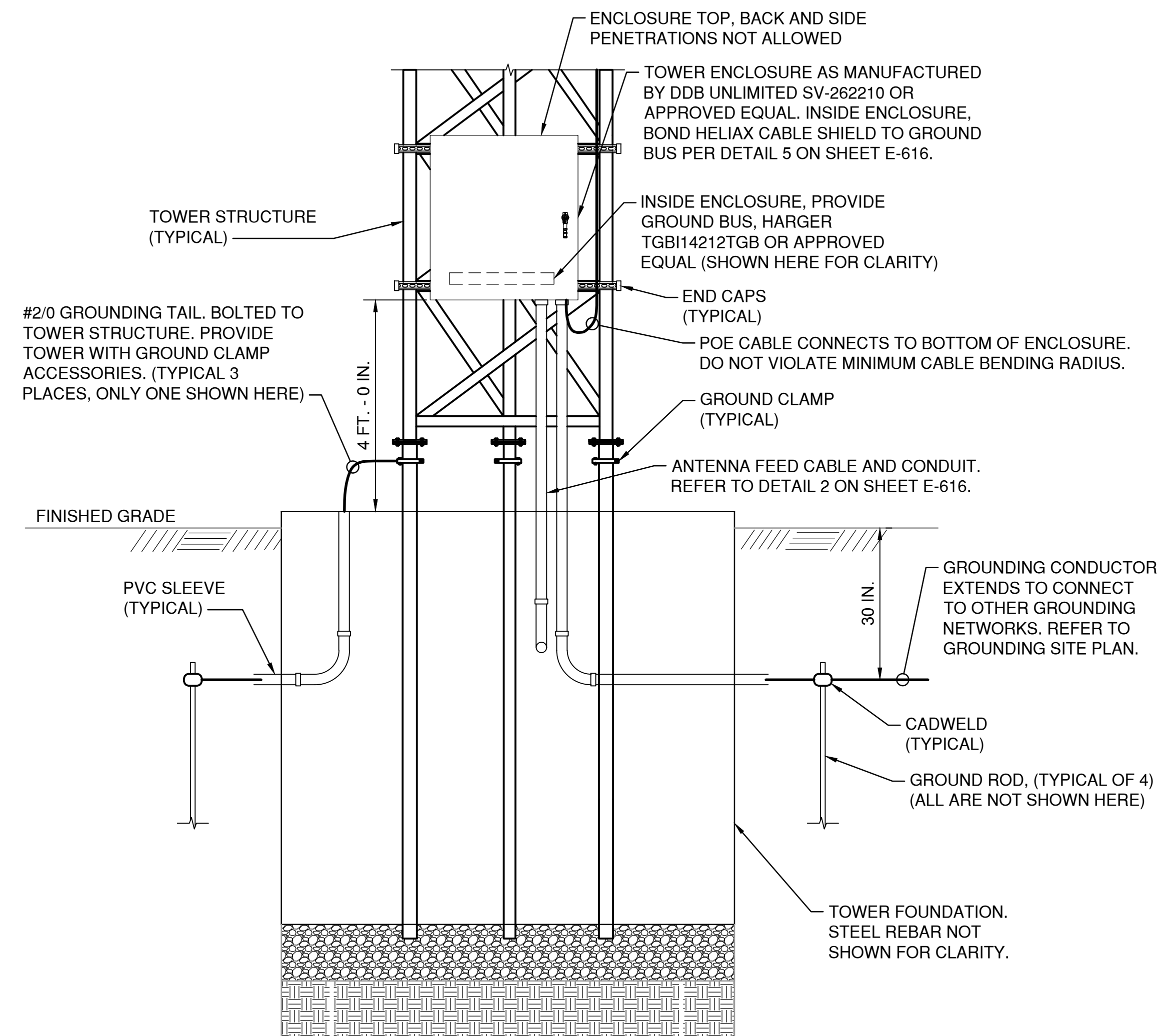


CONDUITS, HANGING PLATES, AND CONTROL DEVICES DETAIL

NTS

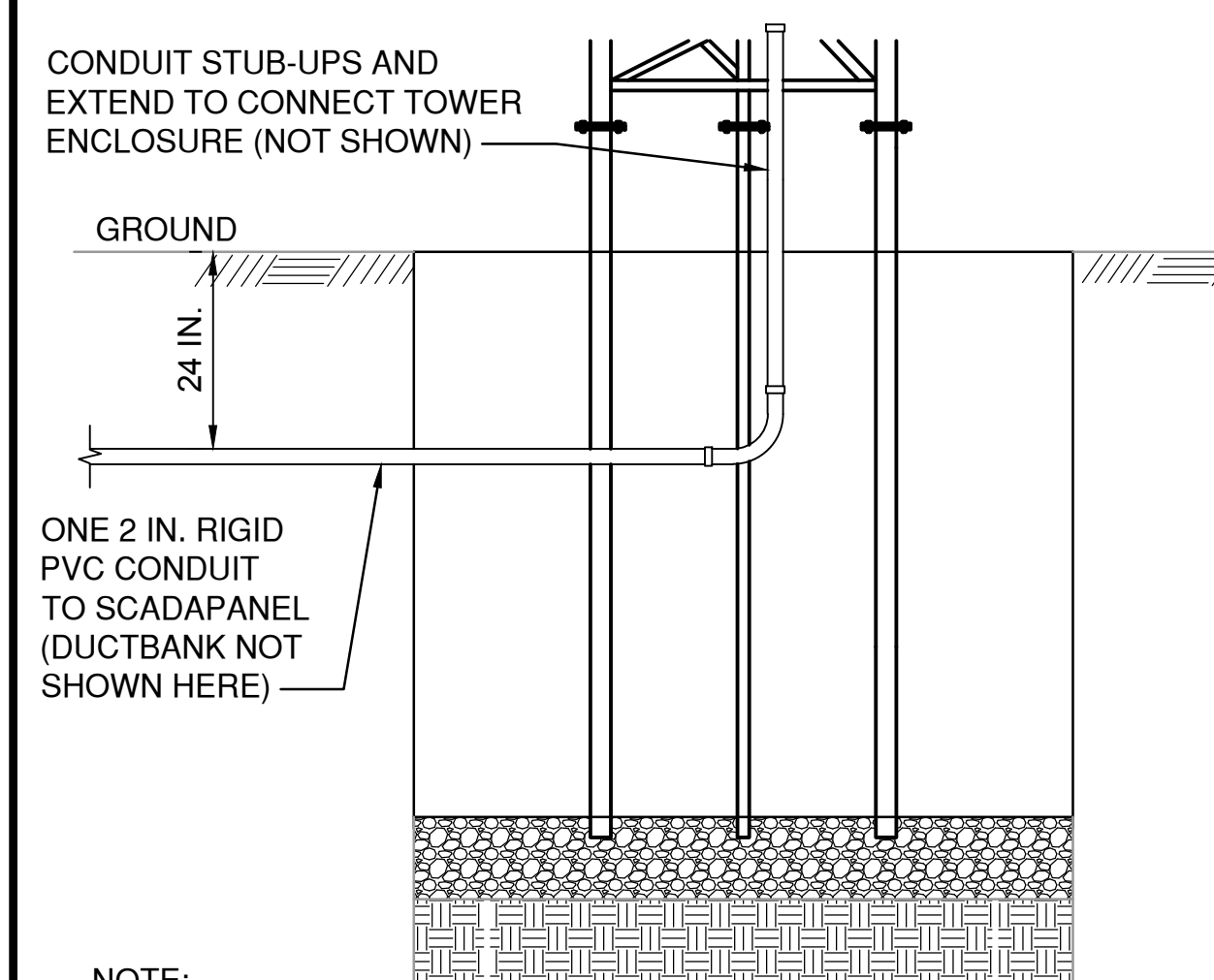






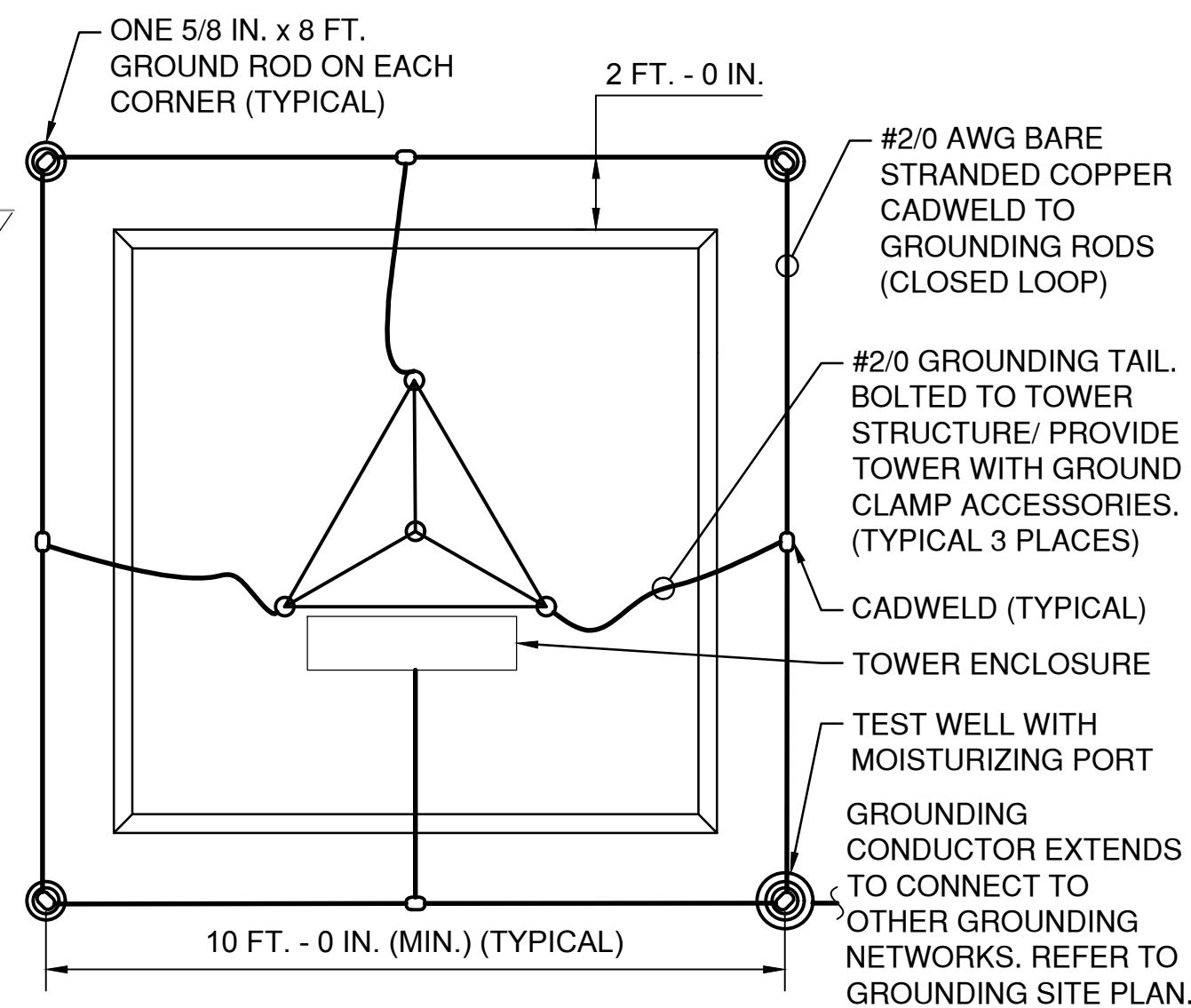
TOWER BASE GROUNDING DETAIL

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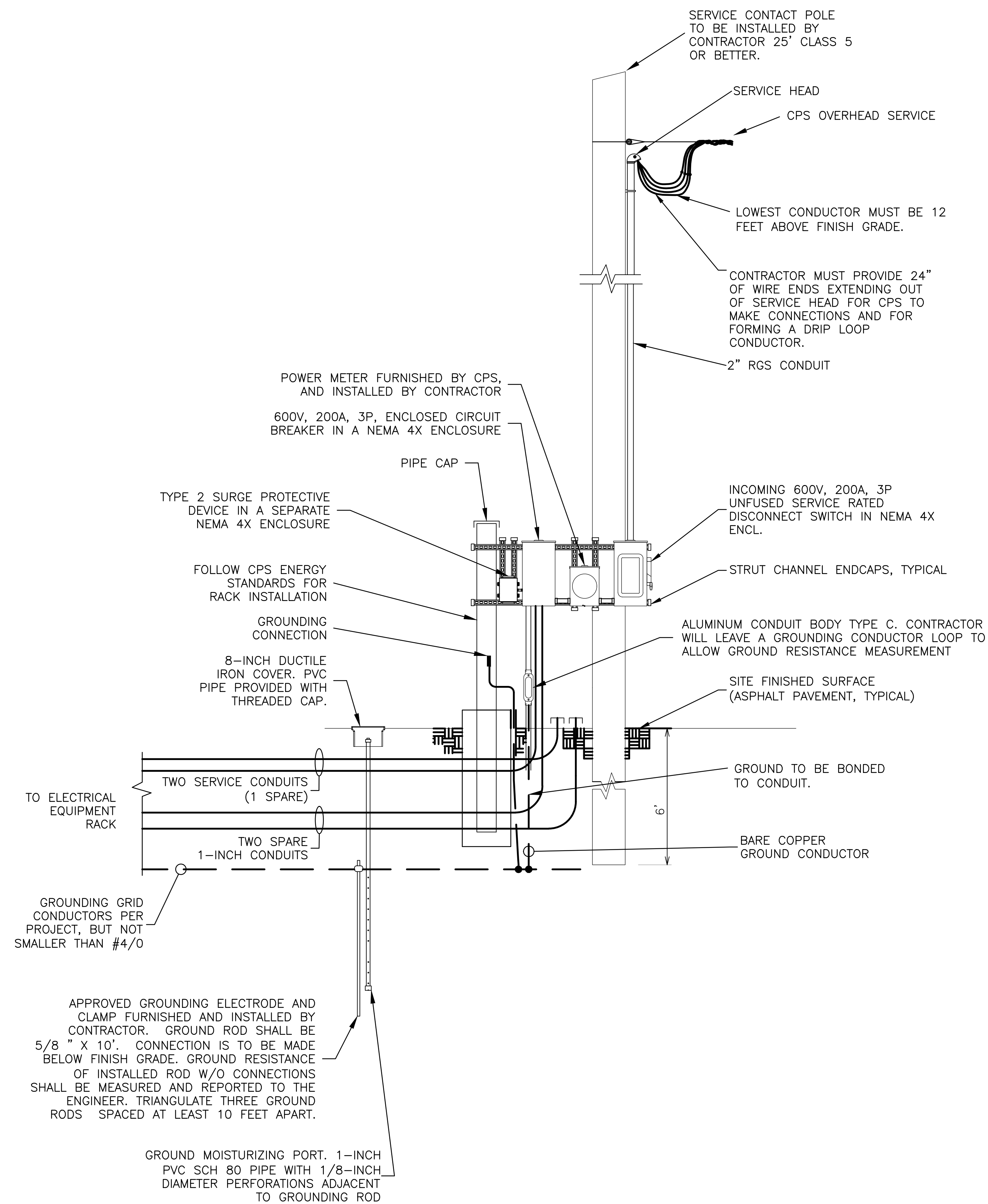
COMMUNICATIONS CABLE CONDUIT RUN DETAIL

N.T.S.



TOWER GROUNDING DETAIL

N.T.S



ELECTRICAL SERVICE POLE

NTS



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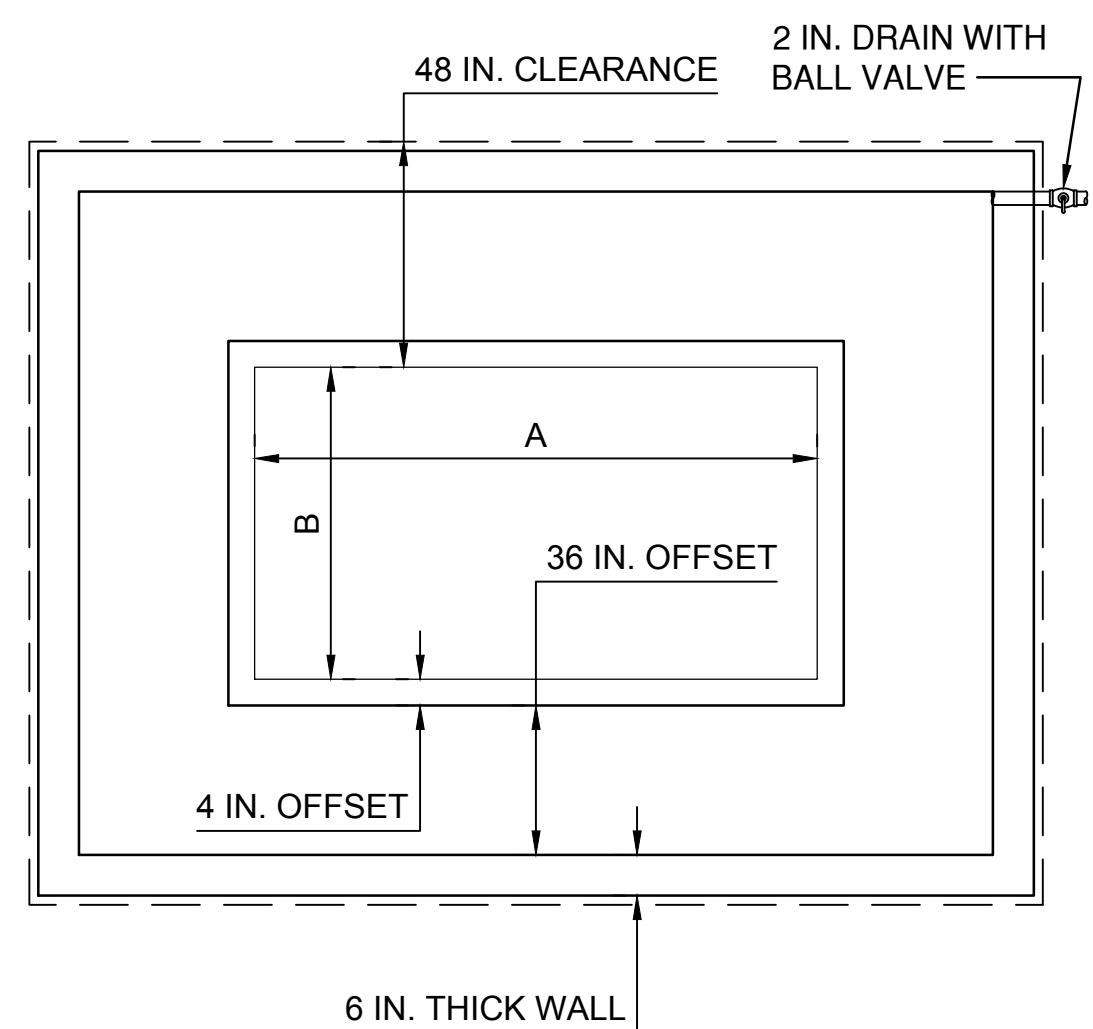
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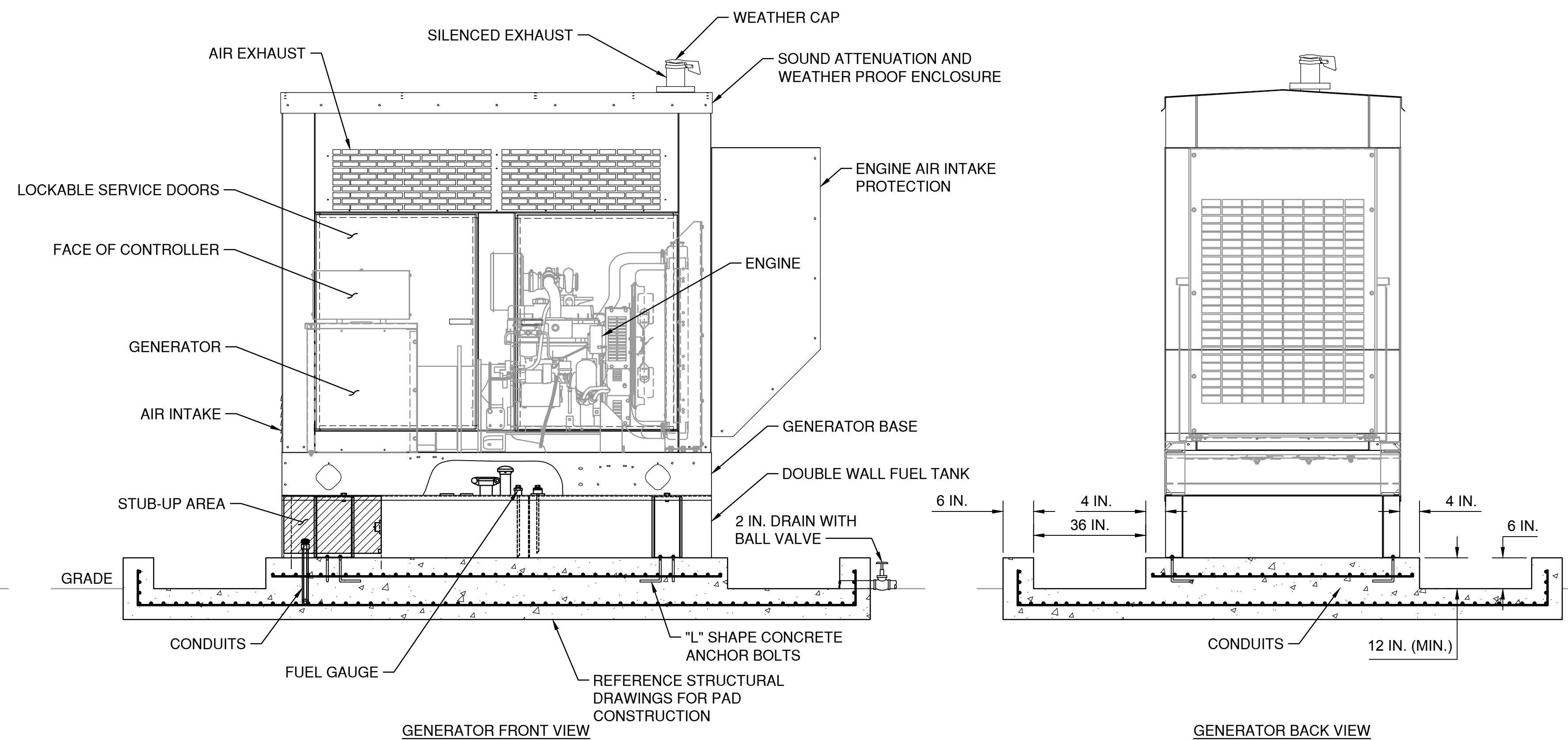
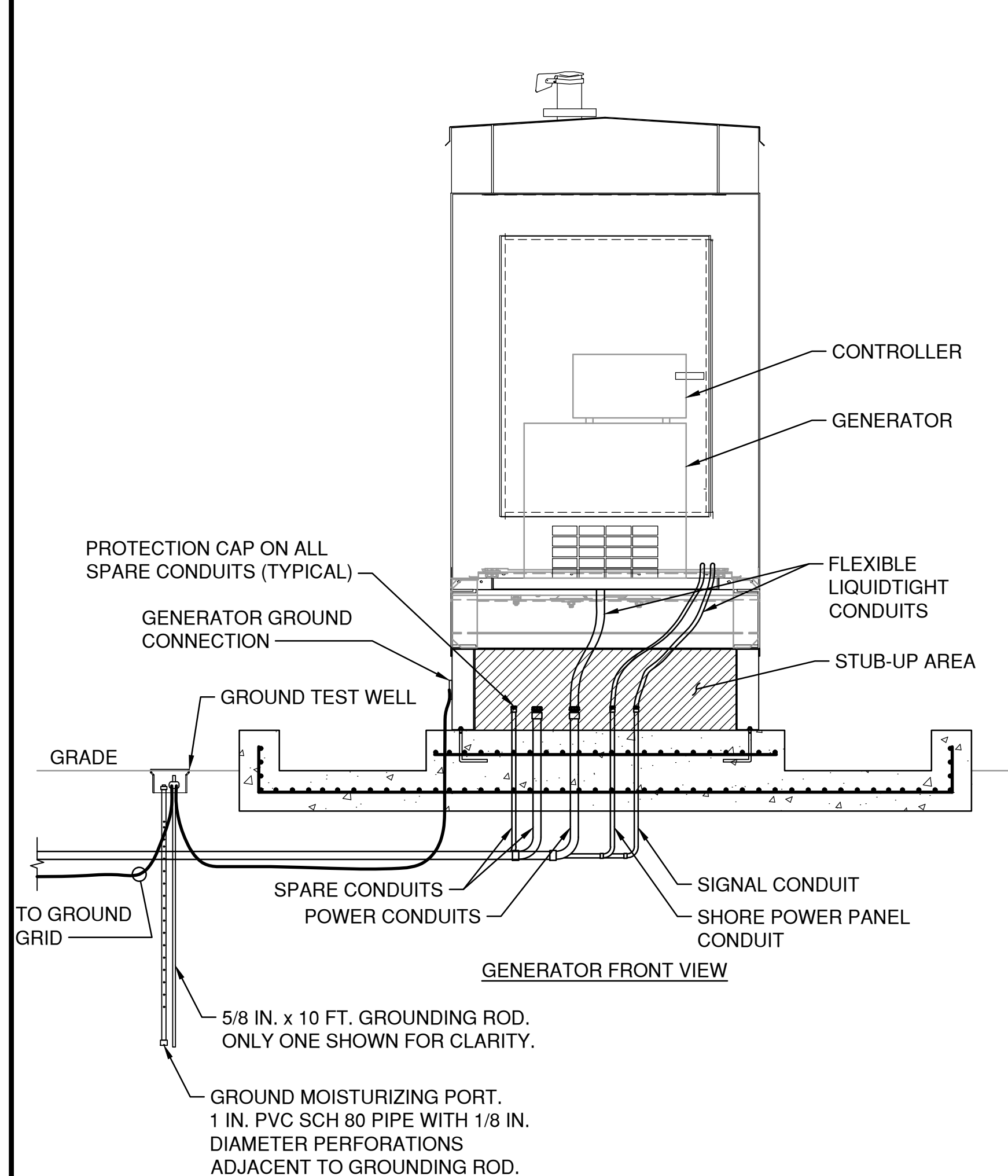


CONTAINMENT BASE DETAIL

N.T.S.

GENERATOR & TANK DATA	
ITEMS	DATA
GENERATOR*	125 KW (MIN.), 156.3 KVA, 188A FUEL CONSUMPTION RATE 1/2 LOAD - 5 GPH FUEL CONSUMPTION RATE FULL LOAD - 9 GPH WT = 7,676 LBS. (GENERATOR AND ENCLOSURE)
ENCLOSURE*	LEVEL 2 SOUND ATTENUATING DIM. 157 IN. L x 51 IN. W x 75.8 IN. H
NFPA 110	CLASS 24, TYPE 10, LEVEL 2

* VERIFY EQUIPMENT PARAMETERS WITH THE SPECIFIC MANUFACTURER



STANDBY GENERATOR INSTALLATION DETAIL

N.T.S.

- GENERAL NOTES:

1. GENERATOR GROUND AND FRAME SHALL BE SOLIDLY BONDED TO THE REST OF THE GROUNDING SYSTEM. GROUND RESISTANCE MEASURED AT THE GENERATOR SHALL HAVE THE SAME MAGNITUDE AS THE REST OF THE GROUNDING SYSTEM, AND IT SHALL NOT EXCEED 5 OHMS.
2. GENERATOR SHALL BE PROVIDED WITH SOUND ATTENUATION ENCLOSURE AND EXHAUST AND MUST BE WEATHER PROOF. SEE TEXT DOCUMENT FOR OTHER GENERATOR REQUIREMENTS.
3. GENERATOR FRAME SHALL BE SOLIDLY ANCHORED TO CONCRETE SLAB. ALL COMPONENTS USED TO FASTEN THE GENERATOR SHALL BE MADE OF STAINLESS STEEL 304.
4. CONDUITS SHALL INCLUDE SPACE HEATER, BATTERY CHARGER, ENGINE BLOCK HEATER, SIGNAL AND SPARE.
5. FUEL TANK SHALL BE DOUBLE WALL TYPE, UL142 RATED.
6. CONCRETE SLAB SHALL BE MADE OF CONCRETE MIX WITH A COMPRESSIVE STRENGTH OF 3,000 PSI. CONCRETE SLAB MUST INCLUDE A CONTAINMENT STRUCTURE AS SHOWN IN DETAIL B OF THIS SHEET. A 2-INCH DRAIN PIPE AND BALL VALVE SHALL BE PROVIDED.
7. A 4-FOOT CLEARANCE AROUND GENERATOR IS REQUIRED, EXCLUDING CONTAINMENT STRUCTURE.
8. CONDUIT STUB-UP AREA SHOWN IN THIS DRAWING IS FOR ILLUSTRATION PURPOSES ONLY.



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VIDA SAN ANTONIO LIFT
STATION

FOR
SOUTHSTAR AT
VERANO, LLC

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS



Engineering
& Design

HOLMDEL (Headquarters)

331 Newman Springs Road,
Suite 203
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Phone: 732.383.1950
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PROJECT NUMBER:	DRAWING NAME:
220100034	W-TITLE-CEDL

SHEET TITLE:

GENERATOR DETAILS SHEET 1

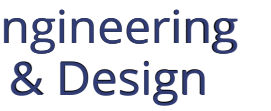
SHEET NUMBER: F-509



Firm No. F-9357 | ClearyZimmermann.com

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0226220100034 Site Plans\W.T.H. E.C.F.D. dhwed Model



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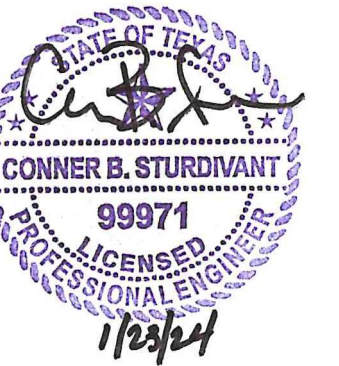
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VIDA SAN ANTONIO LIFT
STATION

FOR
SOUTHSTAR AT
VERANO, LLC

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS



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22010003A		W-TTLE-CEDL	

SHEET TITLE:

GENERATOR & ELECTRICAL
DETAILS SHEET 2

SHEET NUMBER: E-510




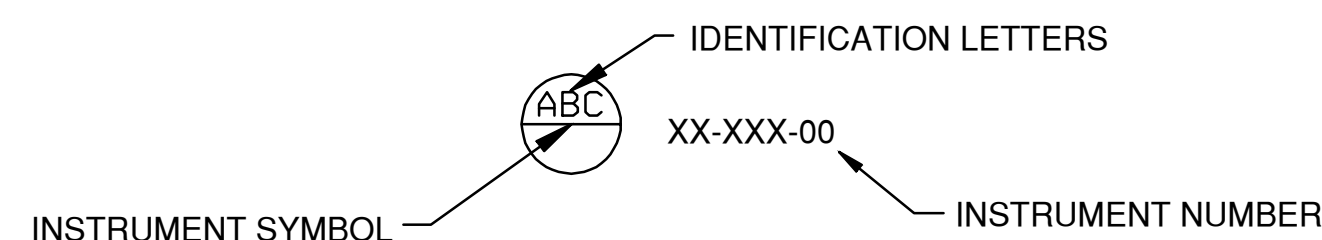
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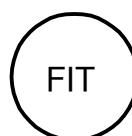

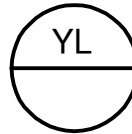

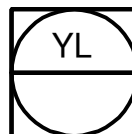
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CONSTRUCTION



INSTRUMENT IDENTIFICATION LEGEND				
LETTER	PROCESS OR INITIATING VALUE	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS (*)	ALARM		
B	BURNER FLAME	USERS CHOICE (*)	USERS CHOICE (*)	USERS CHOICE (*)
C	CONDUCTIVITY		CONTROL	
D	DENSITY (3.0)			
E	VOLTAGE	PRIMARY ELEMENT		
F	FLOW RATE			
G	GAUGE	GLASS	GATE	
H	HAND (MANUEL)			HIGH
I	CURRENT	INDICATE		
G	POWER			
K	TIME OR SCHEDULE		CONTROL STATION	
L	LEVEL	LIGHT (PILOT)		LOW
M	MOTION			MIDDLE
N	USERS CHOICE (*)	USERS CHOICE (*)	USERS CHOICE (*)	USERS CHOICE (*)
O	USERS CHOICE (*)	ORIFICE		
P	PRESSURE (OR VACUUM)	POINT (TEST CONNECTION)		
Q	QUANTITY OR EVENT	INTEGRATE		
R		RECORD OR PRINT		
S	SPEED OR FREQUENCY		SWITCH	
T	TEMPERATURE			
U	MULTIVARIABLE (*)	MULTIFUNCTION (*)	MULTIFUNCTION (*)	MULTIFUNCTION (*)
V	VISCOSITY		VALVE OR DAMPER	
W	WEIGHT OR FORCE	WELL		
X	UNCLASSIFIED (*)	UNCLASSIFIED (*)	UNCLASSIFIED (*)	UNCLASSIFIED (*)
Y	USERS CHOICE(*)		RELAY OR COMPUTE (*)	
Z	POSITION		DRIVE ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT	

(*) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL. SEE ABBREVIATIONS AND LETTER SYMBOLS.

SYMBOLS		INSTRUMENT SYMBOLS		ABBREVIATION INDEX	
	SWING CHECK VALVE		FIELD MOUNTED INSTRUMENT	CR	CONTROL RELAY
	GATE VALVE		LOCAL CONTROL PANEL MOUNTED INSTRUMENT	EMT	ELAPSED TIME METER
	PUMP		POINT MONITORED BY SCADA	HOA	HAND-OFF-AUTO SWITCH
				HTR	HIGH TEMPERATURE RELAY
				ILP	INFLUENT LIFT PUMP
				LDR	LEAK DETECTION RELAY
				LOC/REM	LOCAL-REMOTE SWITCH
				LR	LEVEL RELAY
				LS	LIFT STATION
				OL	MOTOR OVERLOAD
				OT	OVERTEMPERATURE
				PFR	PHASE FAILURE RELAY
				PR	MOTOR FAILURE RELAY
				SL	SEAL LEAK
				SS	START-STOP STATION
				TFR	TRANSFER FAIL RELAY
				TI	TEMPERATURE INDICATOR
				TR	TIMING RELAY

[illegible]

VIDA SAN ANTONIO LIFT
STATION

FOR
SOUTHSTAR AT
VERANO, LLC

CITY OF SAN ANTONIO
BEXAR COUNTY
TEXAS



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PROJECT NUMBER: 22010003A		DRAWING NAME: W-TTLE-CEDL	

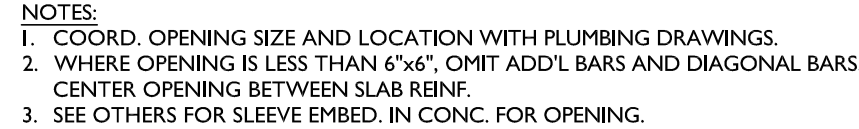
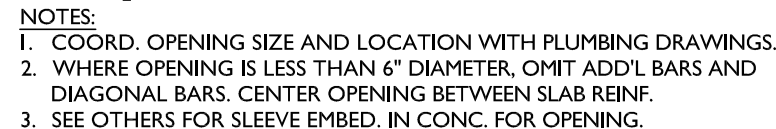
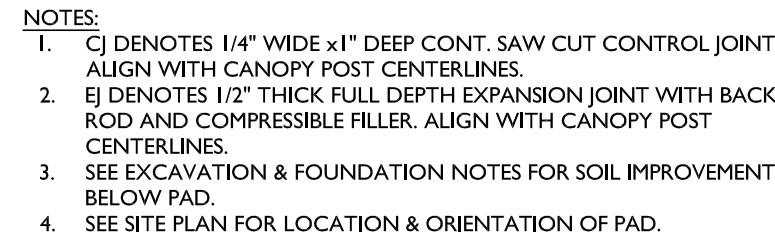
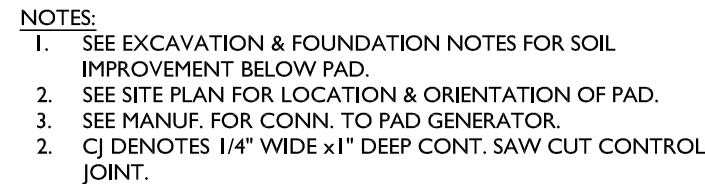
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SHEET NUMBER: E-600

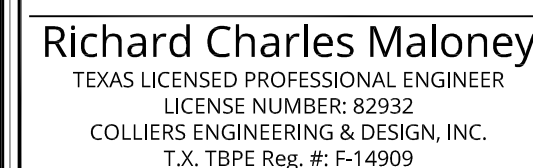


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