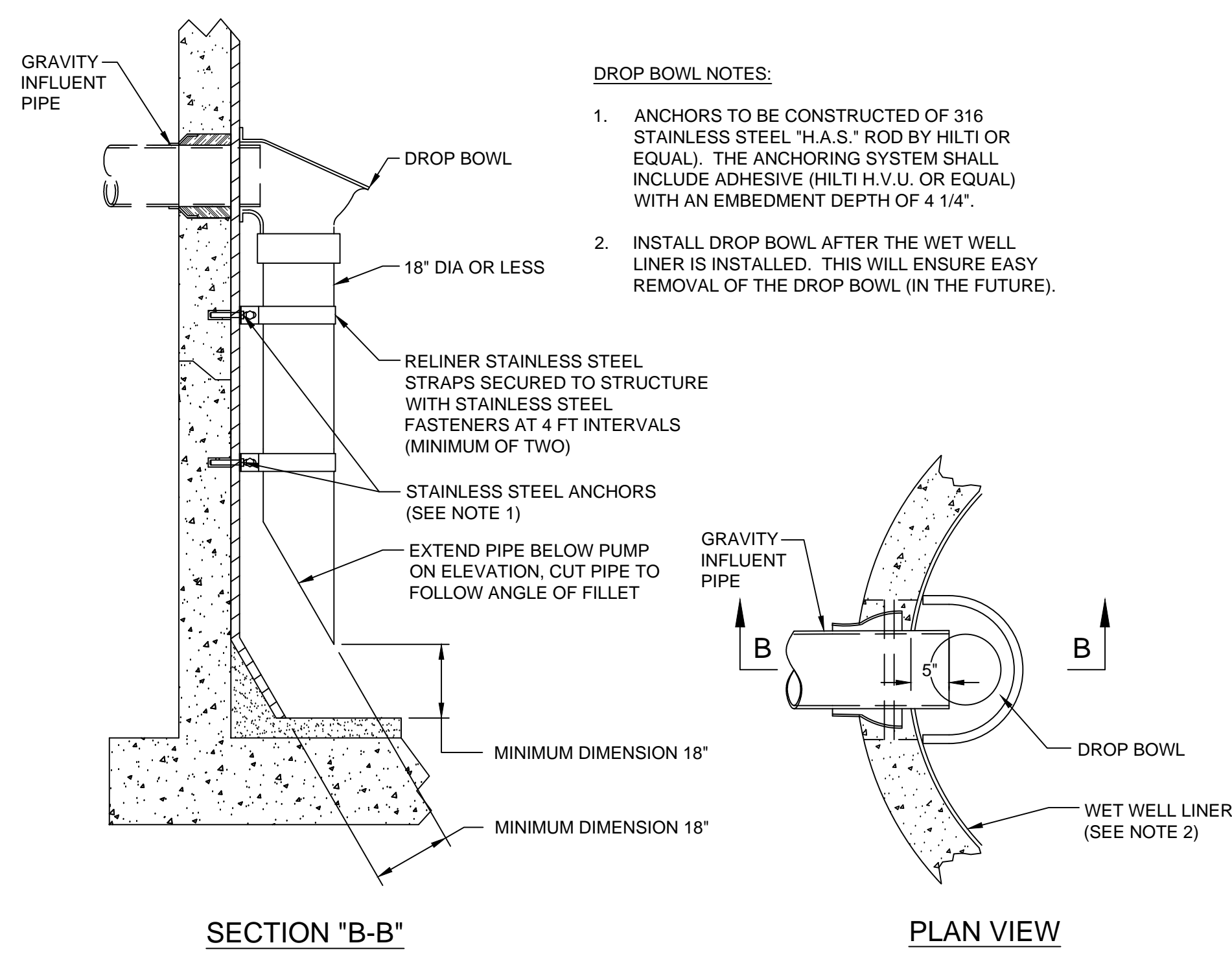
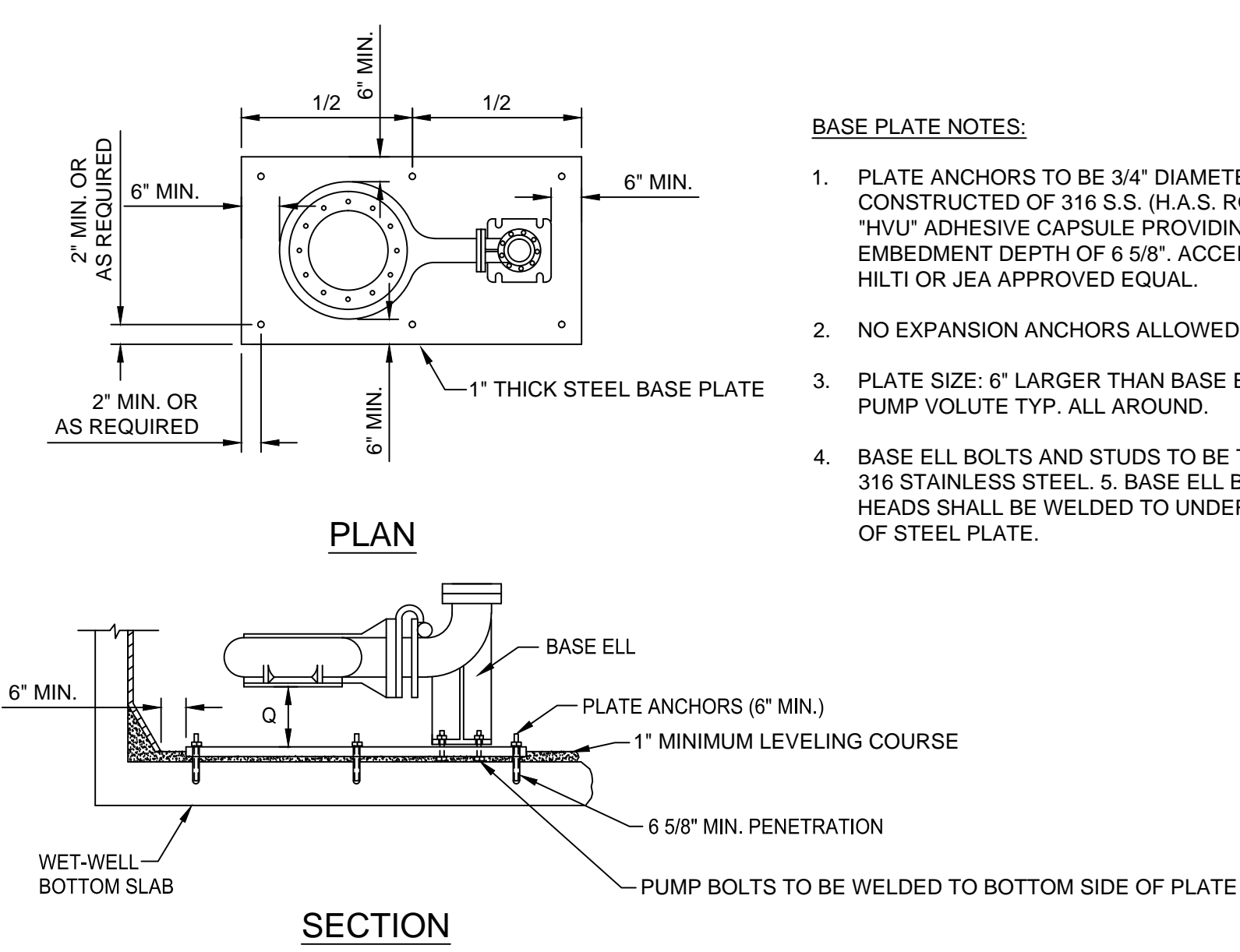


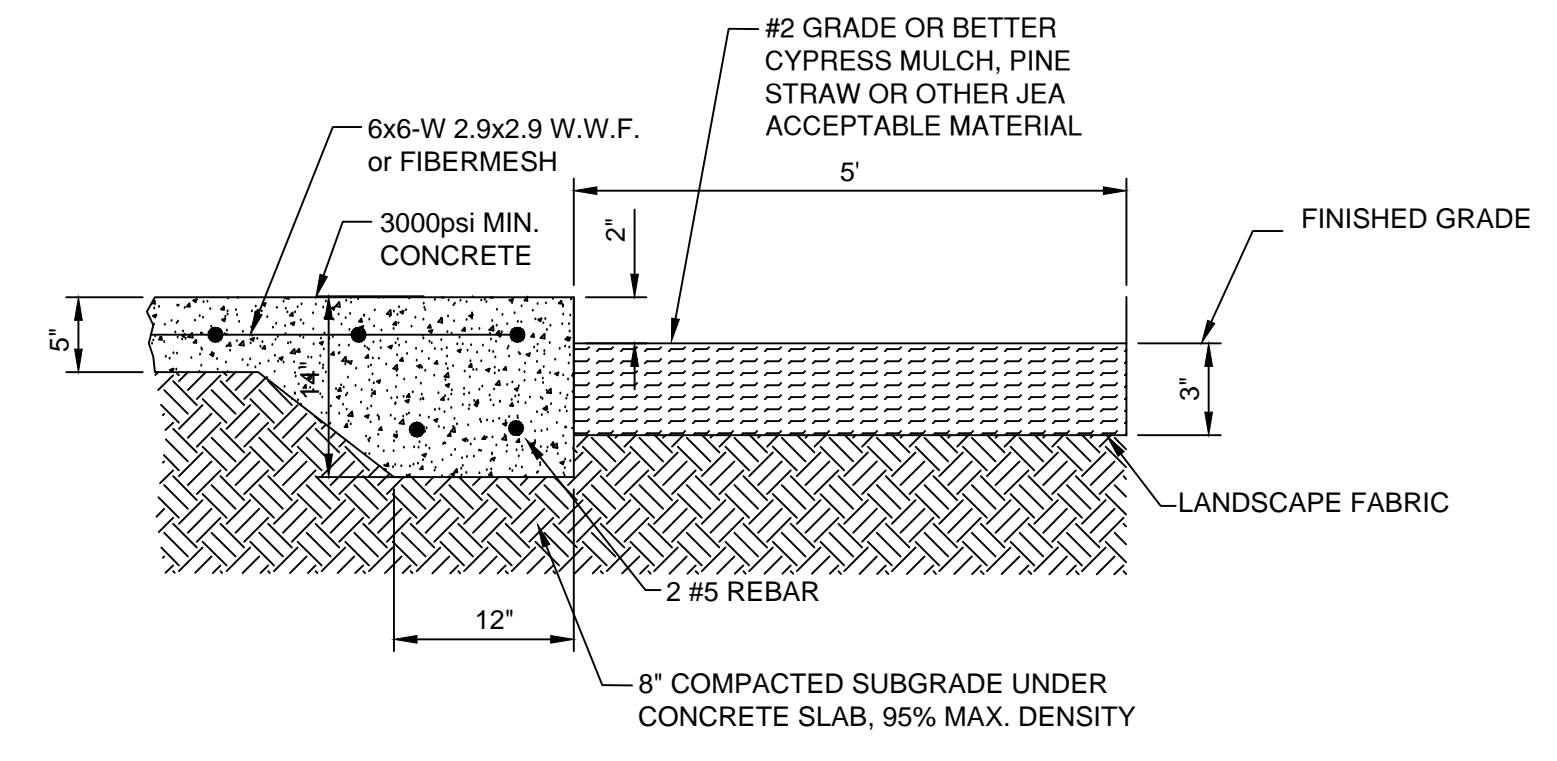
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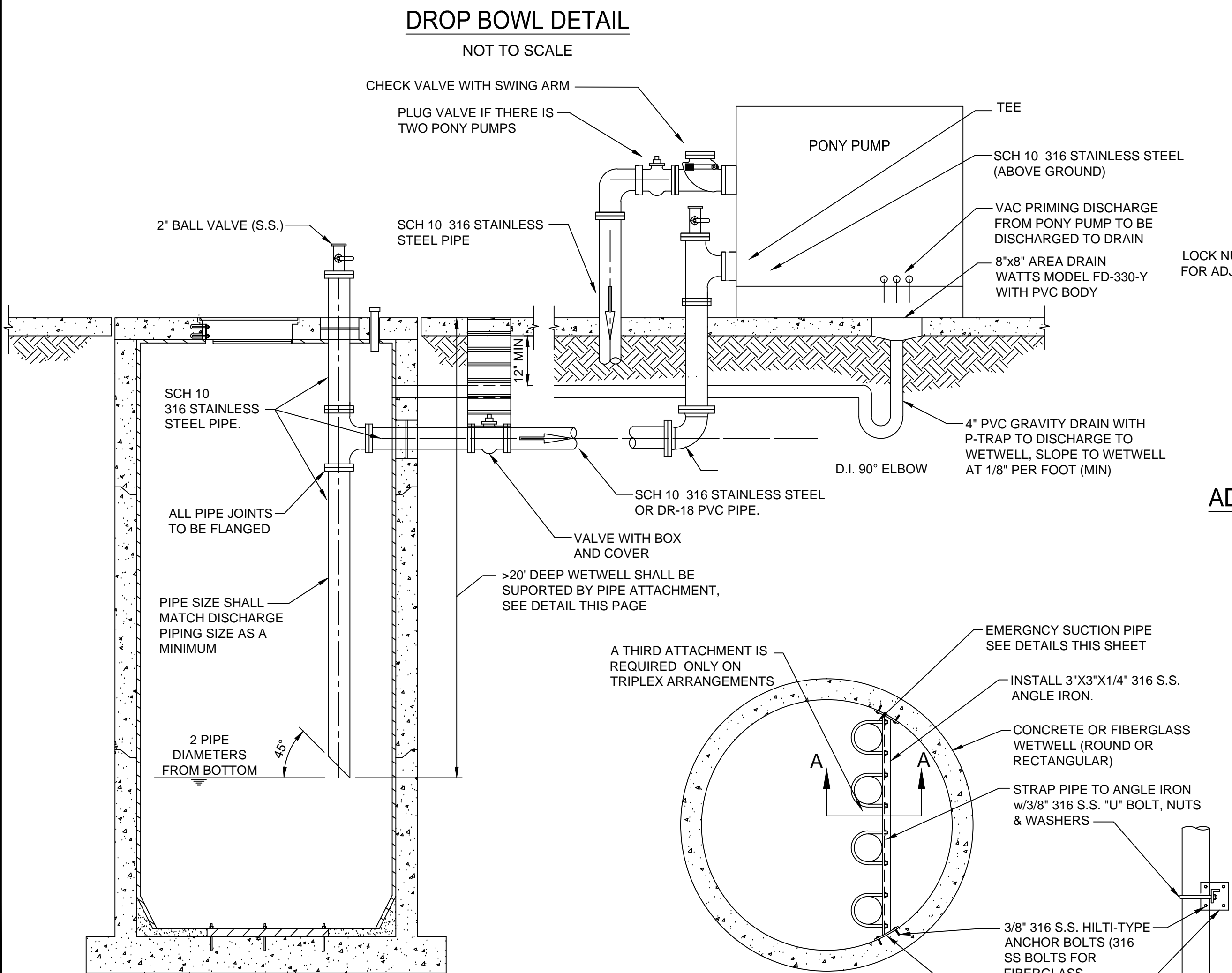
- DROP BOWL NOTES:**
1. ANCHORS TO BE CONSTRUCTED OF 316 STAINLESS STEEL "H.A.S." ROD BY HILTI OR EQUAL. THE ANCHORING SYSTEM SHALL INCLUDE ADHESIVE (HILTI H.V.U. OR EQUAL) WITH AN EMBEDMENT DEPTH OF 4 1/4".
 2. INSTALL DROP BOWL AFTER THE WET WELL LINER IS INSTALLED. THIS WILL ENSURE EASY REMOVAL OF THE DROP BOWL (IN THE FUTURE).



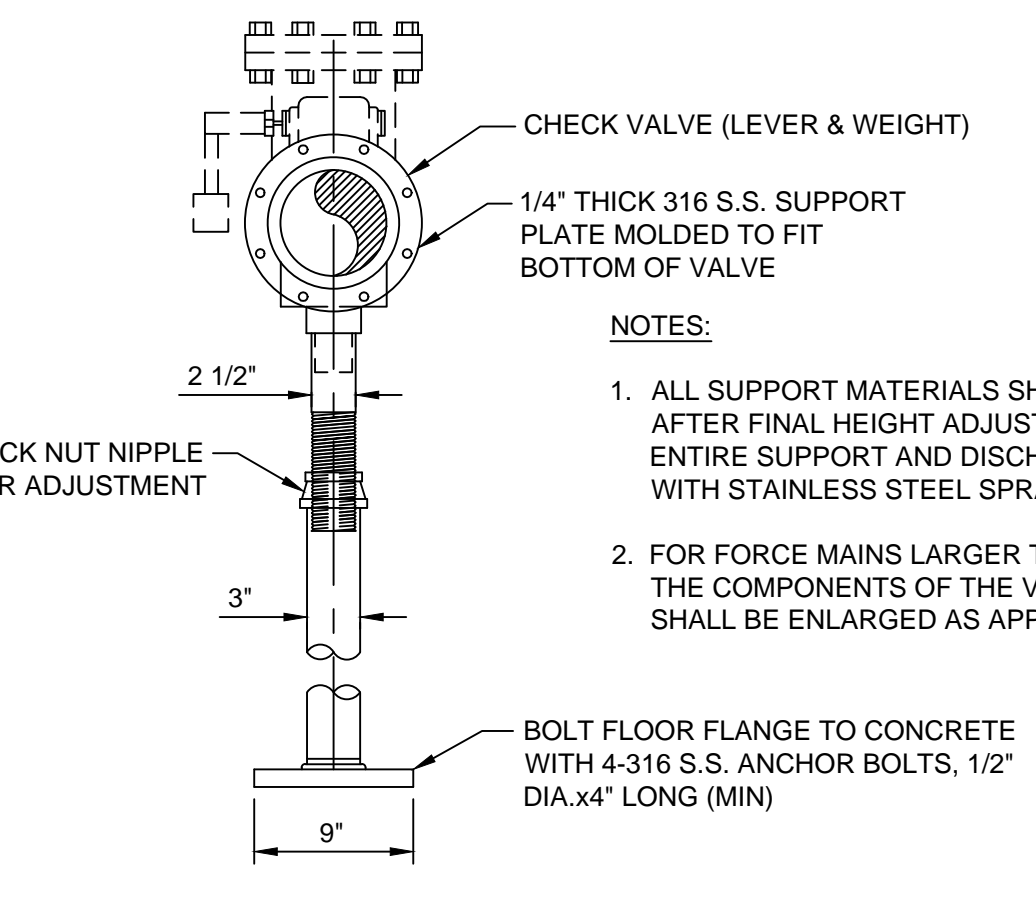
- BASE PLATE NOTES:**
1. PLATE ANCHORS TO BE 3/4" DIAMETER, CONSTRUCTED OF 316 S.S. (H.A.S. ROD) W/ "H.V.U" ADHESIVE CAPSULE PROVIDING AN EMBEDMENT DEPTH OF 6 5/8". ACCEPTABLE: HILTI OR JEA APPROVED EQUAL.
 2. NO EXPANSION ANCHORS ALLOWED.
 3. PLATE SIZE: 6" LARGER THAN BASE ELL & PUMP VOLUTE TYP. ALL AROUND.
 4. BASE ELL BOLTS AND STUDS TO BE TYPE 316 STAINLESS STEEL. 5. BASE ELL BOLT HEADS SHALL BE WELDED TO UNDER SIDE OF STEEL PLATE.



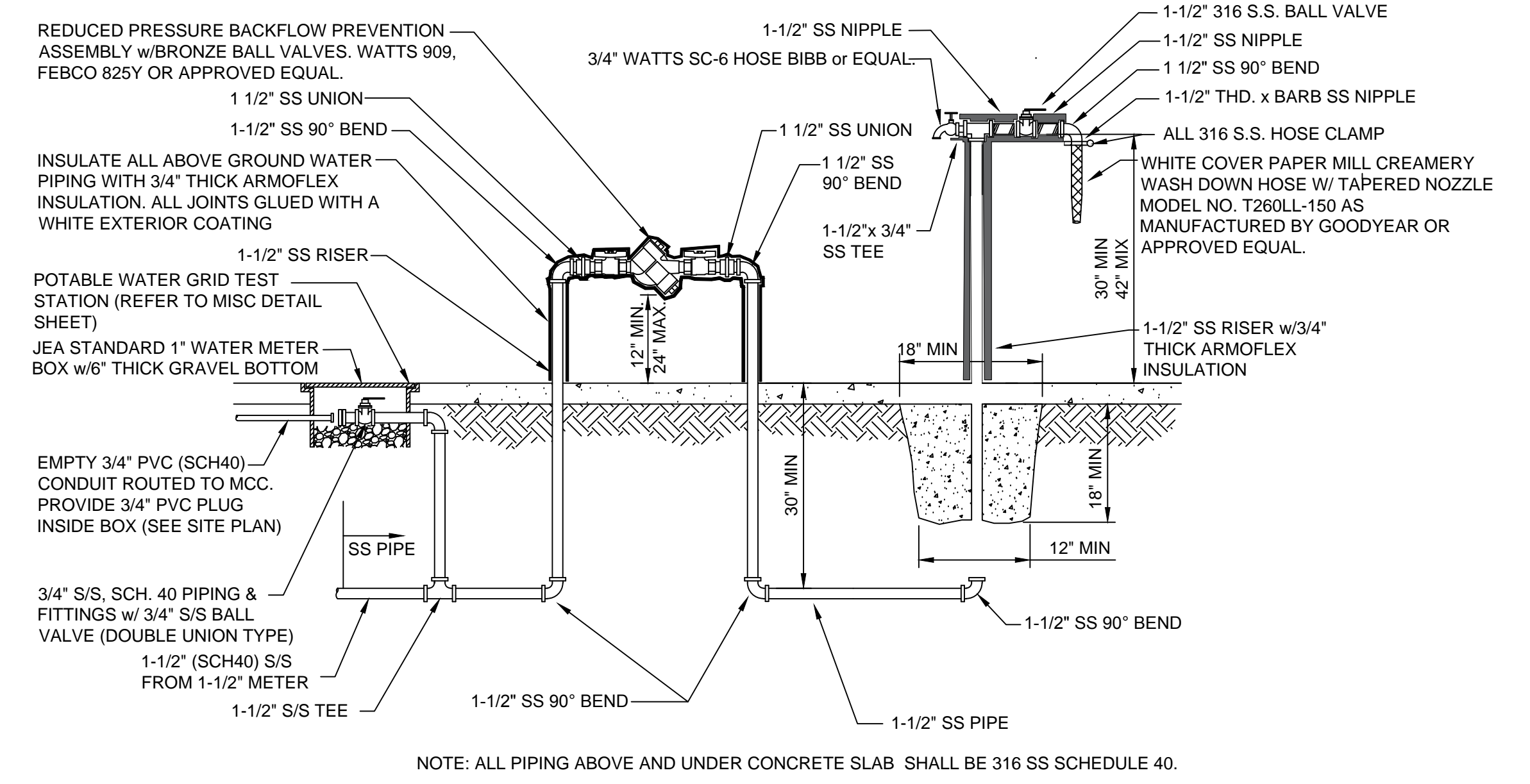
CONCRETE SLAB AND GROUND COVER DETAIL
NOT TO SCALE



DROP BOWL DETAIL
NOT TO SCALE



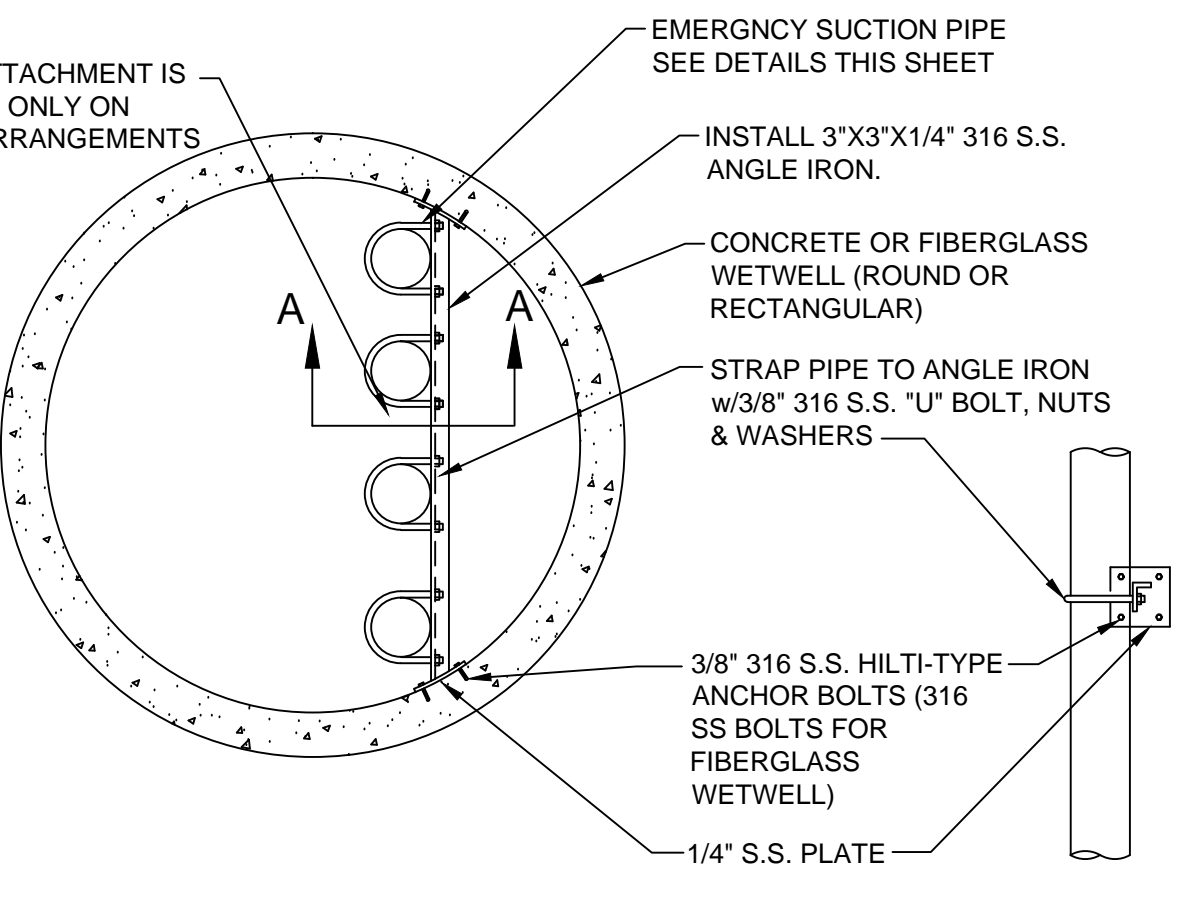
ADJUSTABLE VALVE SUPPORT DETAIL
NOT TO SCALE



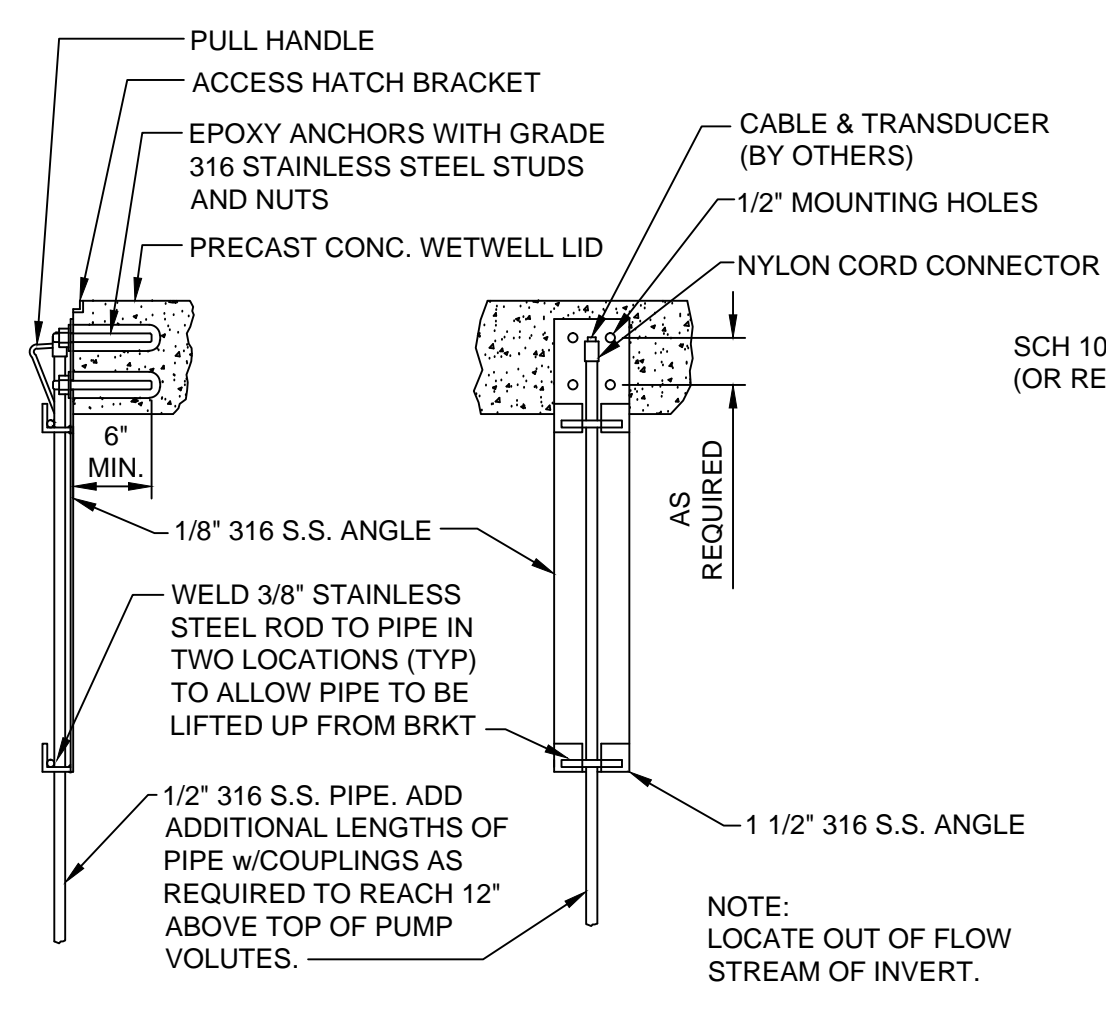
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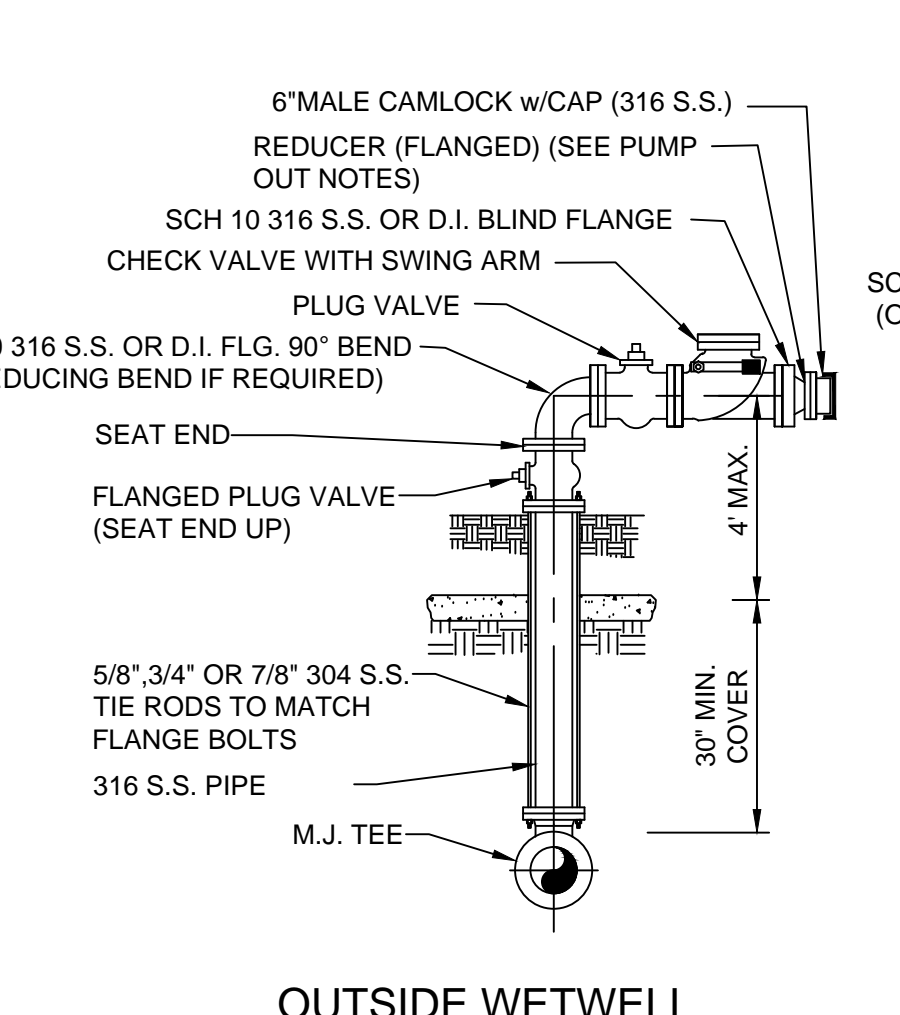
WETWELL CONNECTION TO PONY PUMP DETAIL
NOT TO SCALE



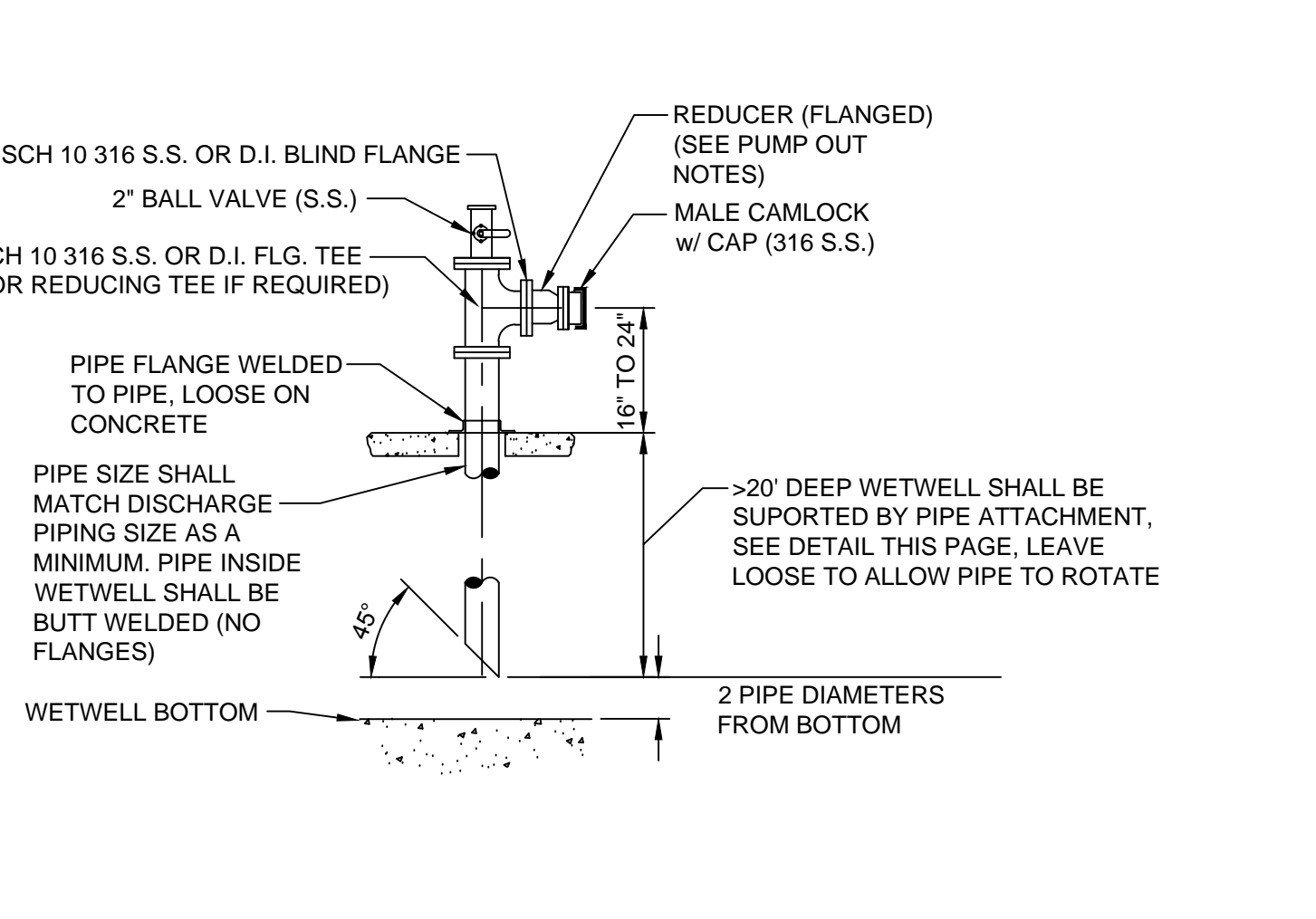
PIPE ATTACHMENT TO WALL DETAIL
REQUIRED FOR ALL PUMPING STATIONS WITH WETWELL 20\"/>



TRANSDUCER BRACKET DETAIL
NOT TO SCALE



FREE STANDING PUMP OUT DETAIL
NOT TO SCALE

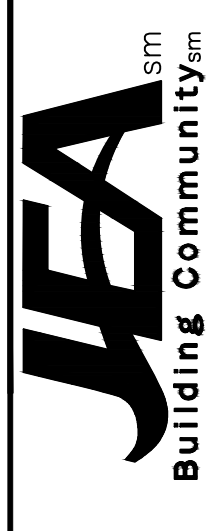


EMERGENCY SUCTION PIPE DETAIL
NOT TO SCALE

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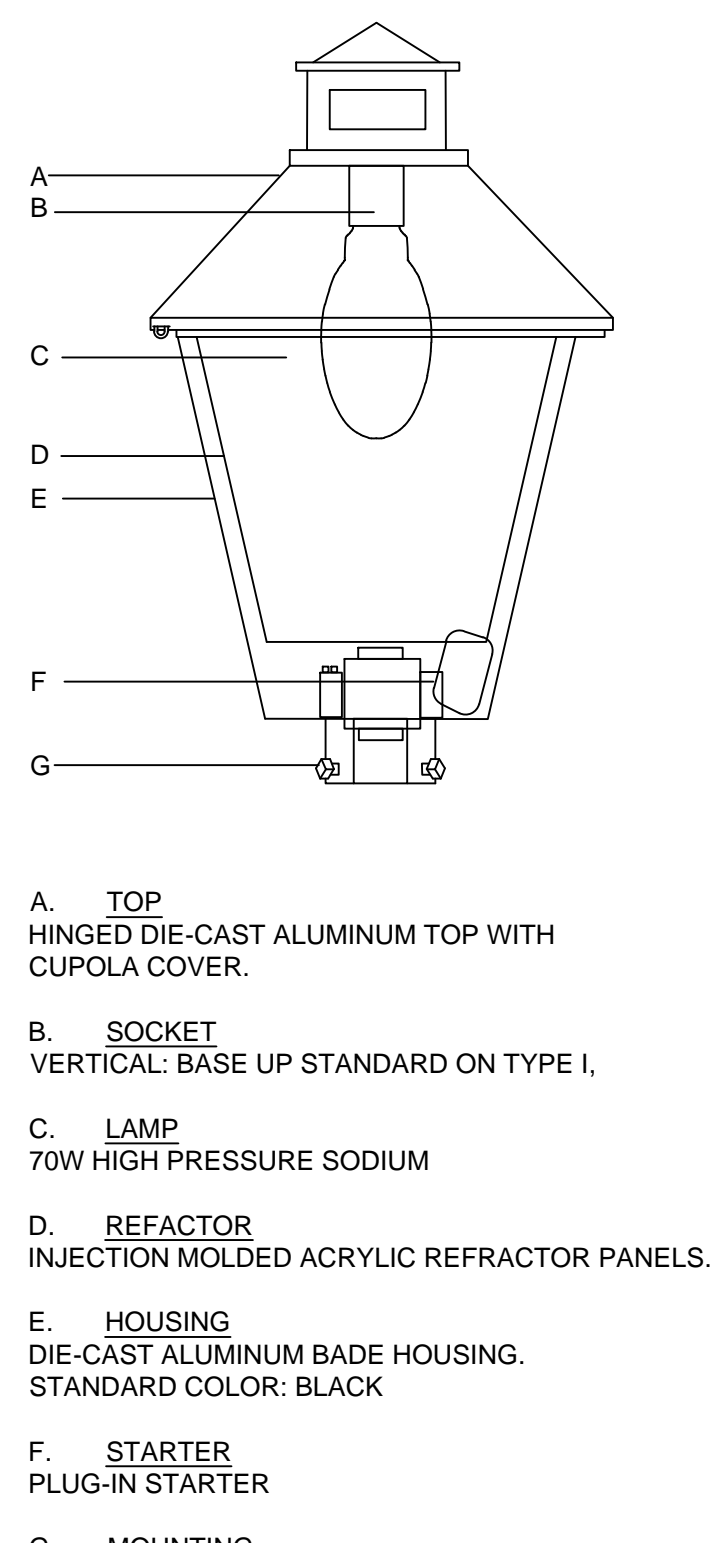
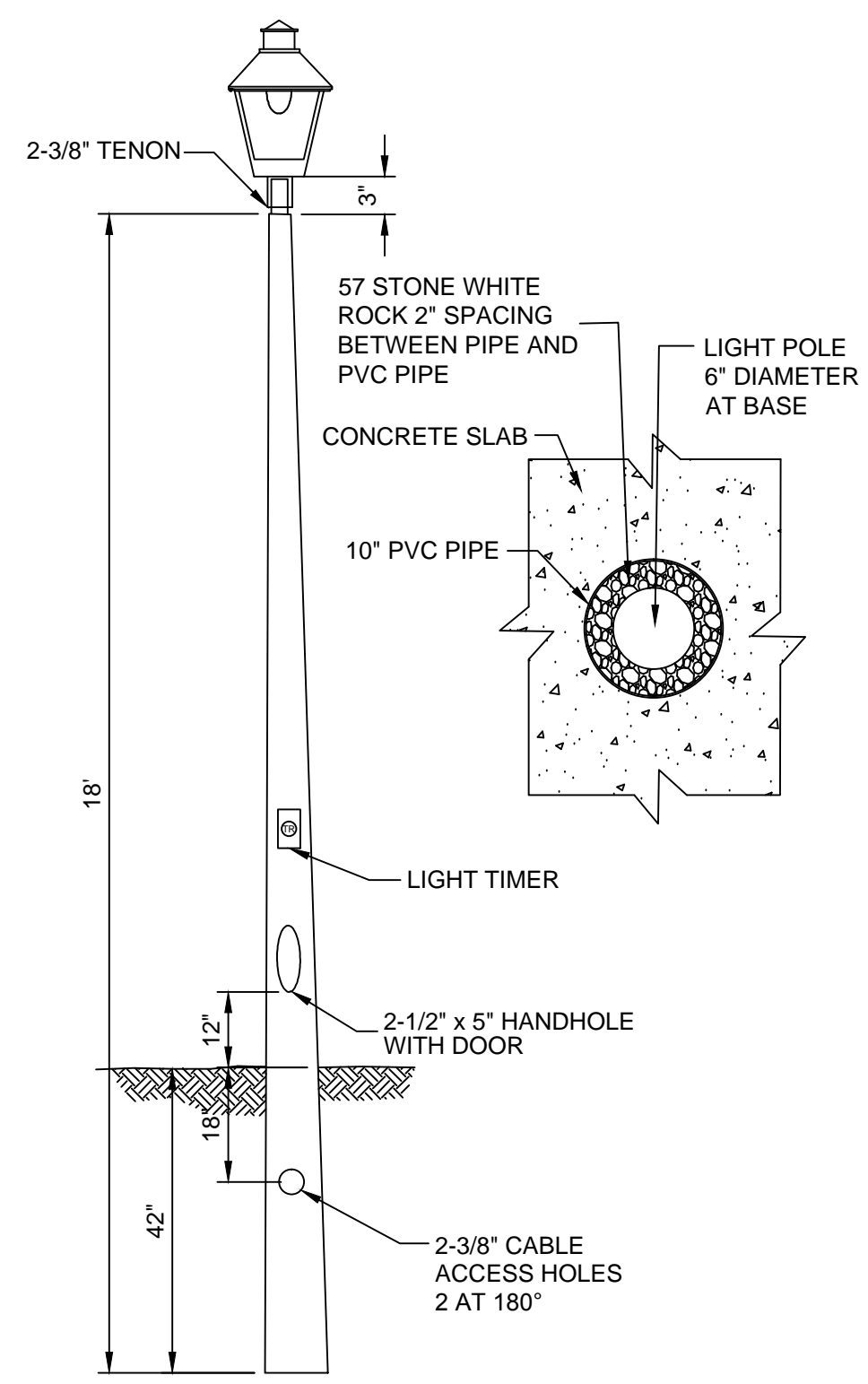


JEA STANDARD
PUMP STATION CONSTRUCTION DETAILS
MISCELLANEOUS DETAILS

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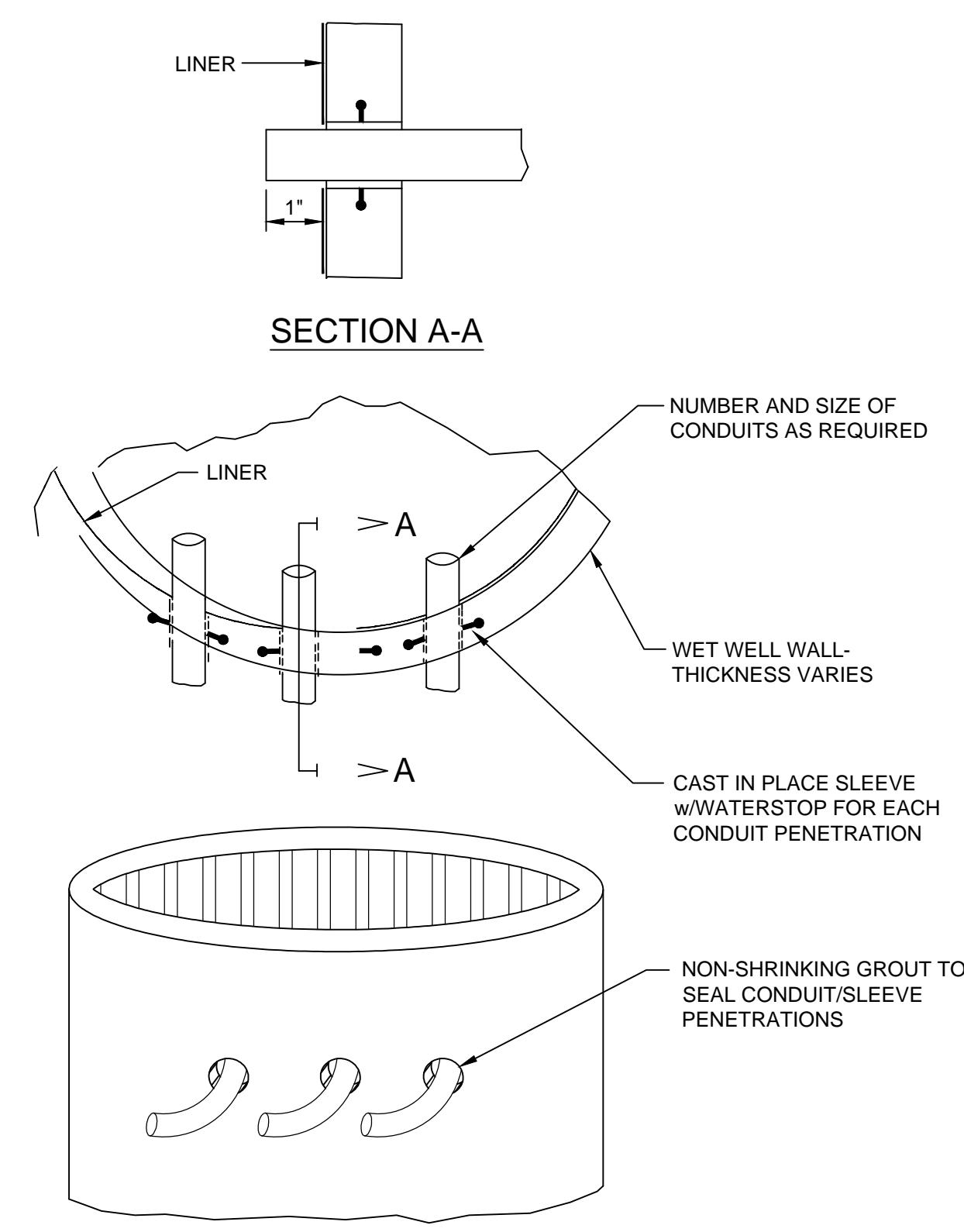
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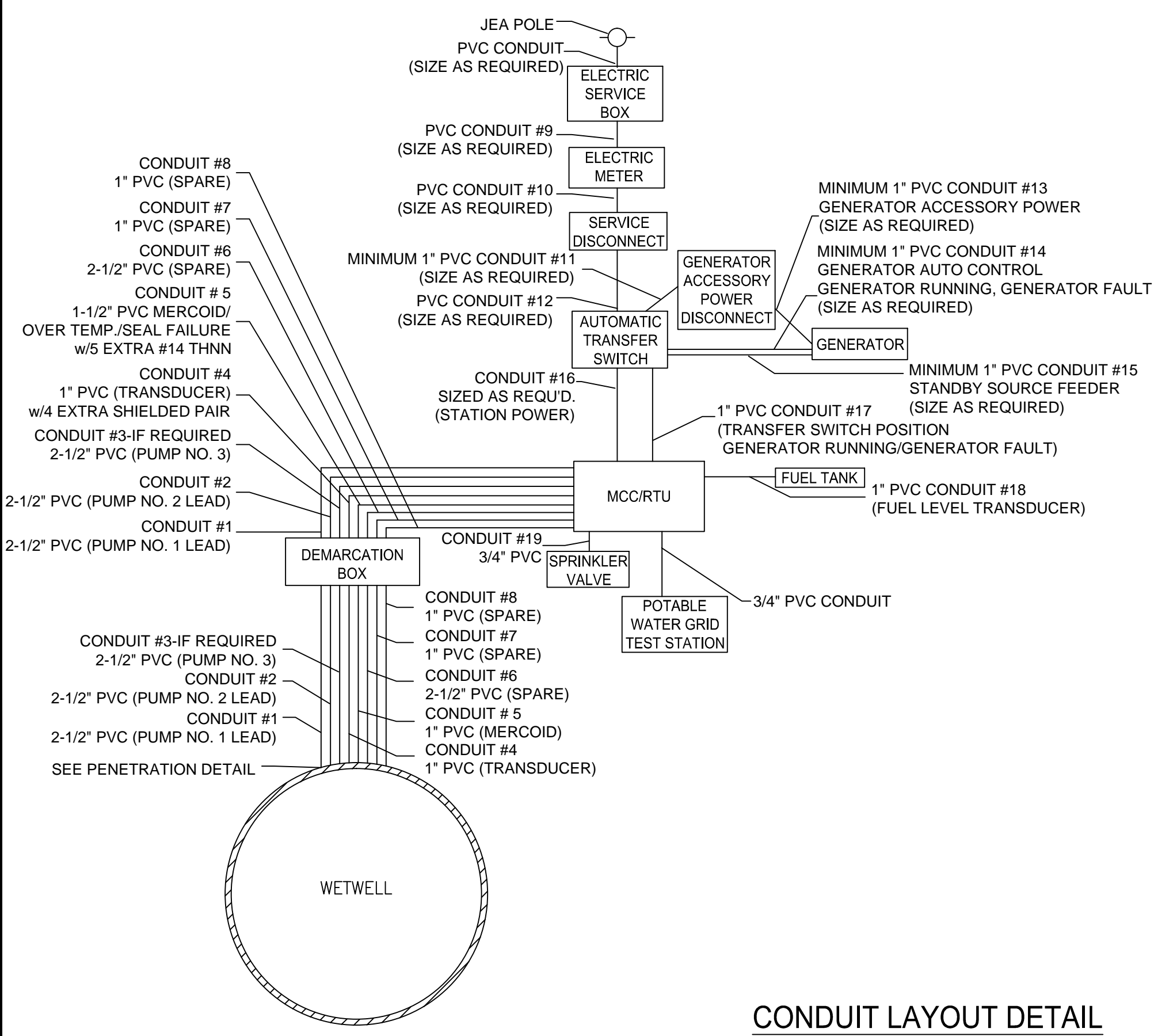
SPECIFICATION:
 COOPER LIGHTING
 LEXINGTON LXF
 CATALOG No.: LWF70SH233U0115
 70W HPS REC-HPF 120V PCR, TOOL-LESS
 70W
 HIGH PRESSURE SODIUM
 METAL HALIDE MERCURY

SITE LIGHT DETAIL
 NOT TO SCALE



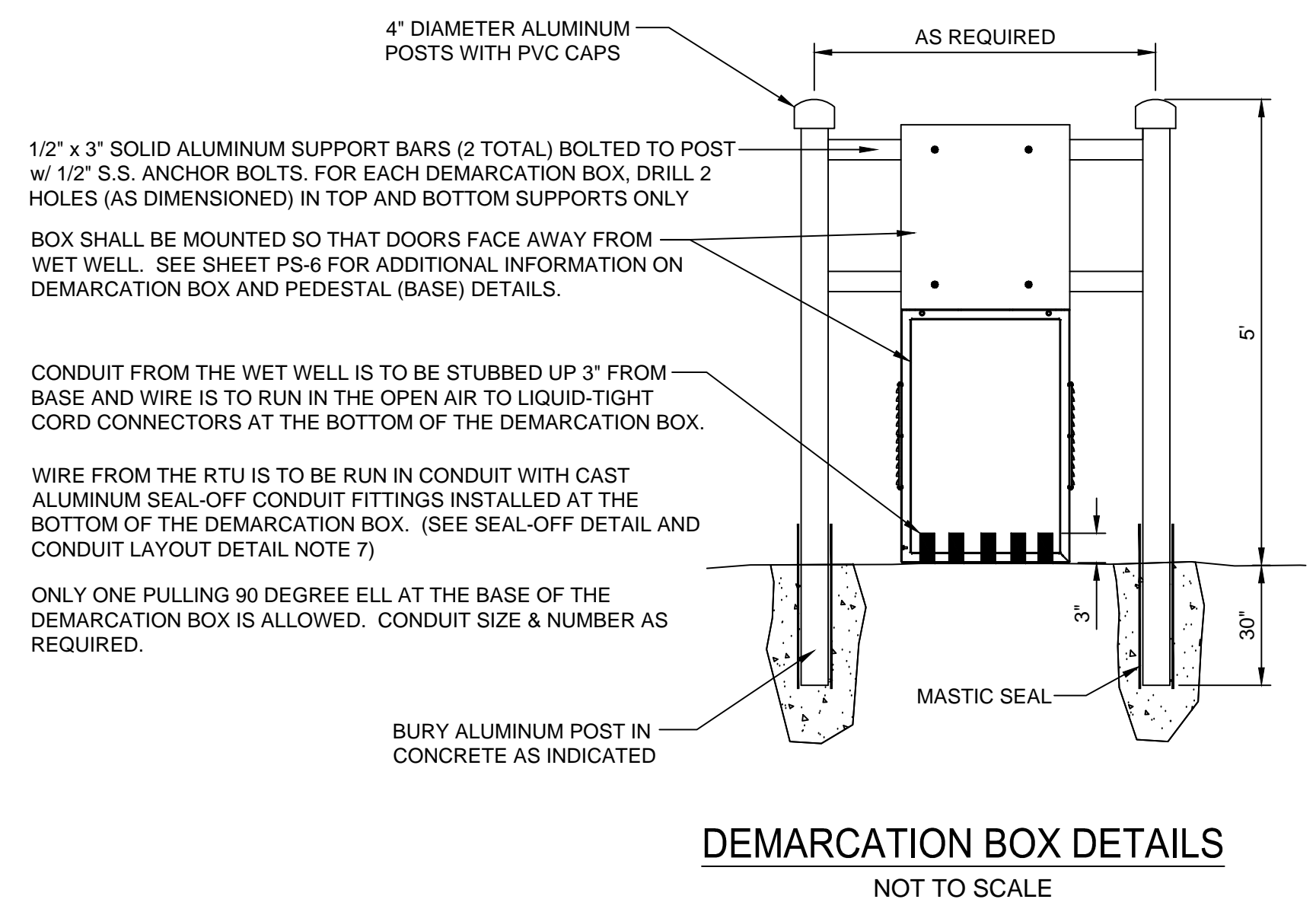
- NOTES:**
- CORE BORING FOR CONDUITS SHALL BE ALLOWED FOR EXISTING WET WELLS ONLY.
 - EXTEND CONDUITS 1" INSIDE WET WELL.
 - USE NON-SHRINKING GROUT TO SEAL AROUND CONDUIT PENETRATIONS. MANUFACTURER: QUIKRETE MODEL: 1585
 - IF INTERIOR OF THE WET WELL IS DAMAGED, REPAIR USING A SPECIAL LINING PRODUCT: SEE SPEC. SECTION #446.
 - SEAL CONDUIT AT THE WET WELL USING DUCT SEAL. MANUFACTURER: BLACKBURN MODEL: DXS, 5-1# DUCT SEAL
 - LOCATE CONDUIT SLEEVE SO AS NOT TO INTERFERE WITH WET WELL MAINTENANCE AND OPERATION.
 - MINIMUM FOUR 1-INCH AND THREE 2-1/2-INCH CONDUITS.

WET WELL PENETRATION DETAIL
 NOT TO SCALE



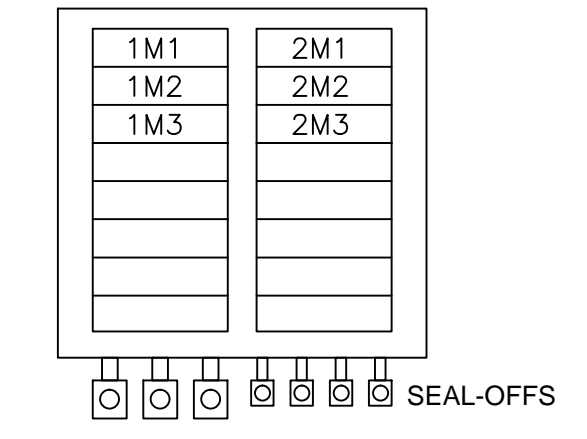
CONDUIT LAYOUT DETAIL
 NOT TO SCALE

- NOTES:**
- MINIMUM SCHEDULE 80 PVC CONDUIT SIZE AS SHOWN. CONDUIT SIZE MUST MEET NEC REQUIREMENTS FOR CONDUIT FILL.
 - ALL CONDUITS THAT RUN STRAIGHT FROM THE MCC TO THE DEMARCATION BOX SHALL BE ALLOWED TWO 90° BENDS. EACH CONDUIT SHALL ENTER THE BOTTOM OF THE CONTROL PANEL SEPARATELY.
 - A) 5-#14 THHN
 - B) 4-SHIELDED PAIR
 - INSTALL SPARE WIRE FROM DEMARCATION BOX TO MCC AND LABEL AS PER SPECS.
 - SPARE CONDUIT BETWEEN WETWELL AND DEMARCATION BOX TO BE THREADED, CAPPED AND TERMINATED INSIDE BOX.
 - SPARE CONDUIT BETWEEN DEMARCATION BOX AND MCC. CAP OFF BELOW DEMARCATION BOX AND TERMINATE INSIDE THE MCC CABINET
 - CONDUIT BETWEEN DEMARCATION BOX AND WETWELL SHALL HAVE ONLY ONE 90° BEND.
 - INSTALL MALLEABLE SEAL OFF'S AT DEMARCATION BOX END FOR CONDUITS BETWEEN DEMARCATION BOX AND MCC.
 - INSTALL END BELLS AND LARGE CABLE HOOKS ON PUMP LEAD CONDUITS.



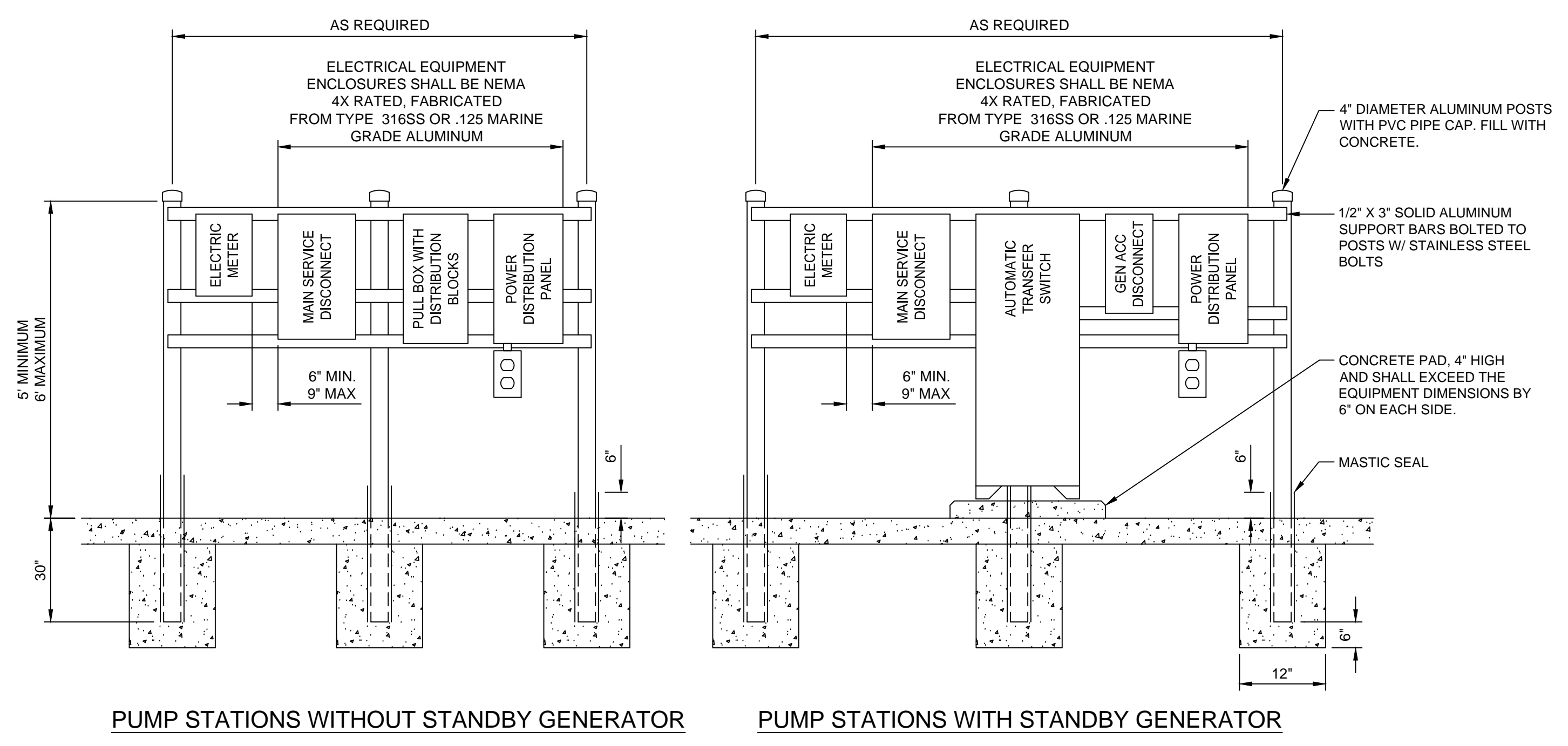
DEMARCATION BOX DETAILS
 NOT TO SCALE

MOTOR TERMINAL BLOCKS SHALL BE WAGO "POWER CAGE CLAMP" SERIES. CONDUCTOR AMPACITY, VOLTAGE, AND WIRE SIZE SHALL DETERMINE FINAL SELECTION.

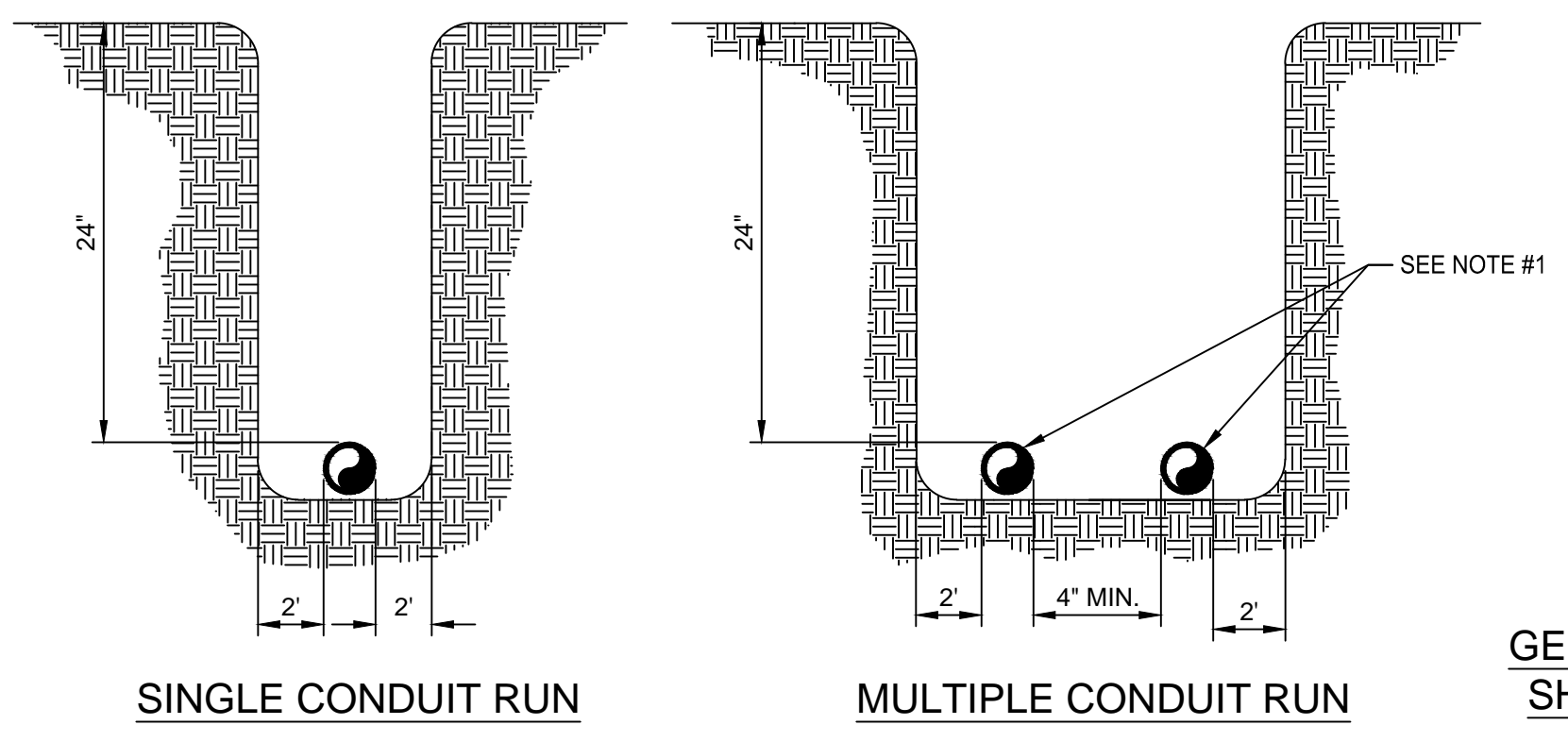


SEAL-OFF DETAIL

SEE DEMARCATION BOX DRAWINGS FOR ADDITIONAL INFORMATION



ELECTRICAL EQUIPMENT RACK DETAIL
 NOT TO SCALE



ABOVE AND UNDERGROUND ELECTRICAL RACEWAY DETAILS
 NOT TO SCALE

- NOTES:**
- UNDERGROUND CONDUIT SCHEDULE 80 PVC. MANUFACTURER: CARLON
 - CONDUIT ABOVE GROUND TO CABINETS SCHEDULE 80 PVC NEMA 1C-2 SUNLIGHT RESISTANT. MANUFACTURER: CARLON
 - UNDERGROUND PVC COUPLED TO ABOVE GROUND PVC WITH A PVC COUPLING. MANUFACTURER: CARLON
 - ABOVE GROUND PVC CONNECTED TO RTU AND MCC USING A PVC CONNECTOR. MANUFACTURER: CARLON

GENERAL ABOVE GROUND CONDUIT RUN SHOWING COUPLING AND CONNECTOR

STANDARD

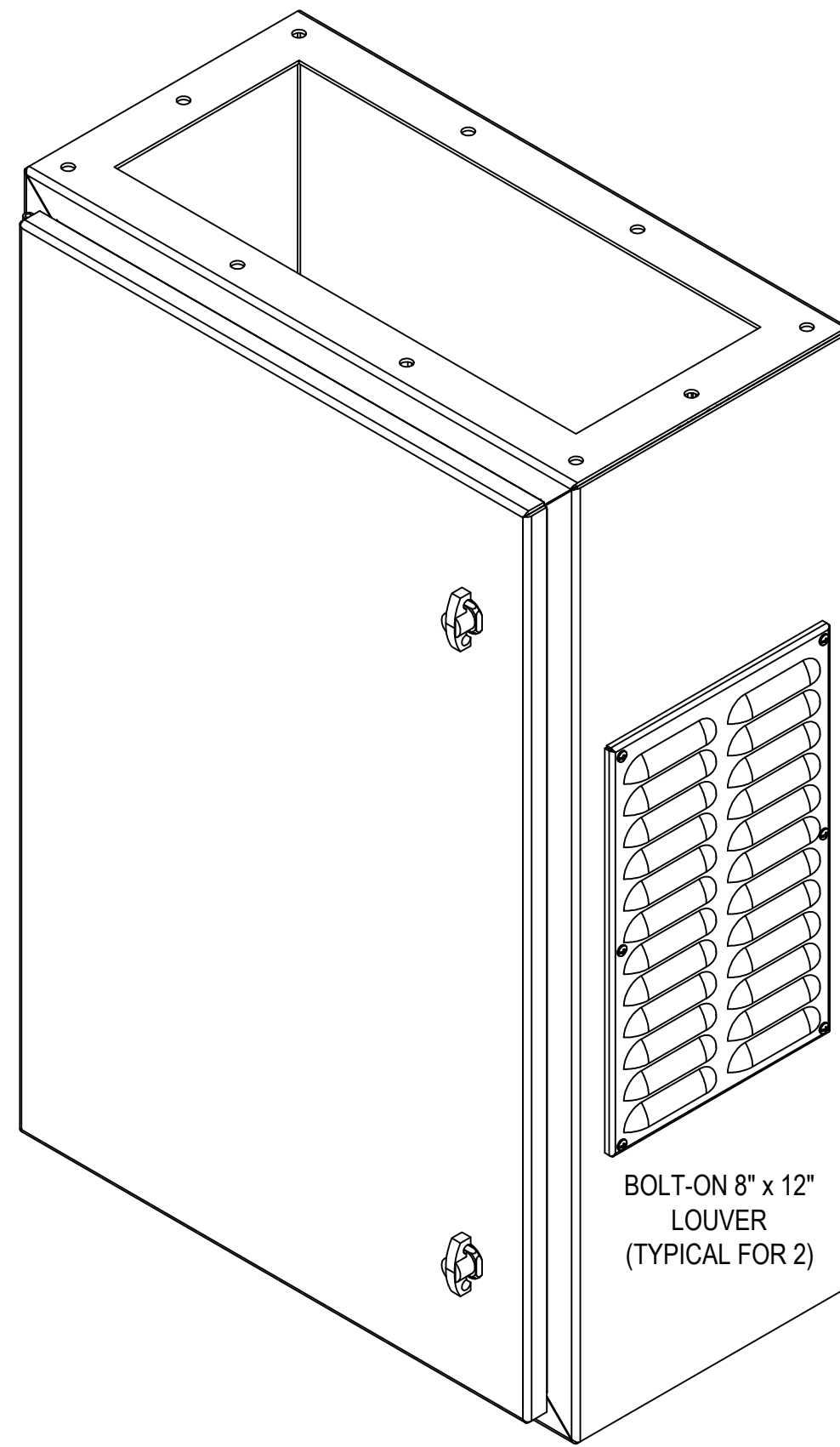
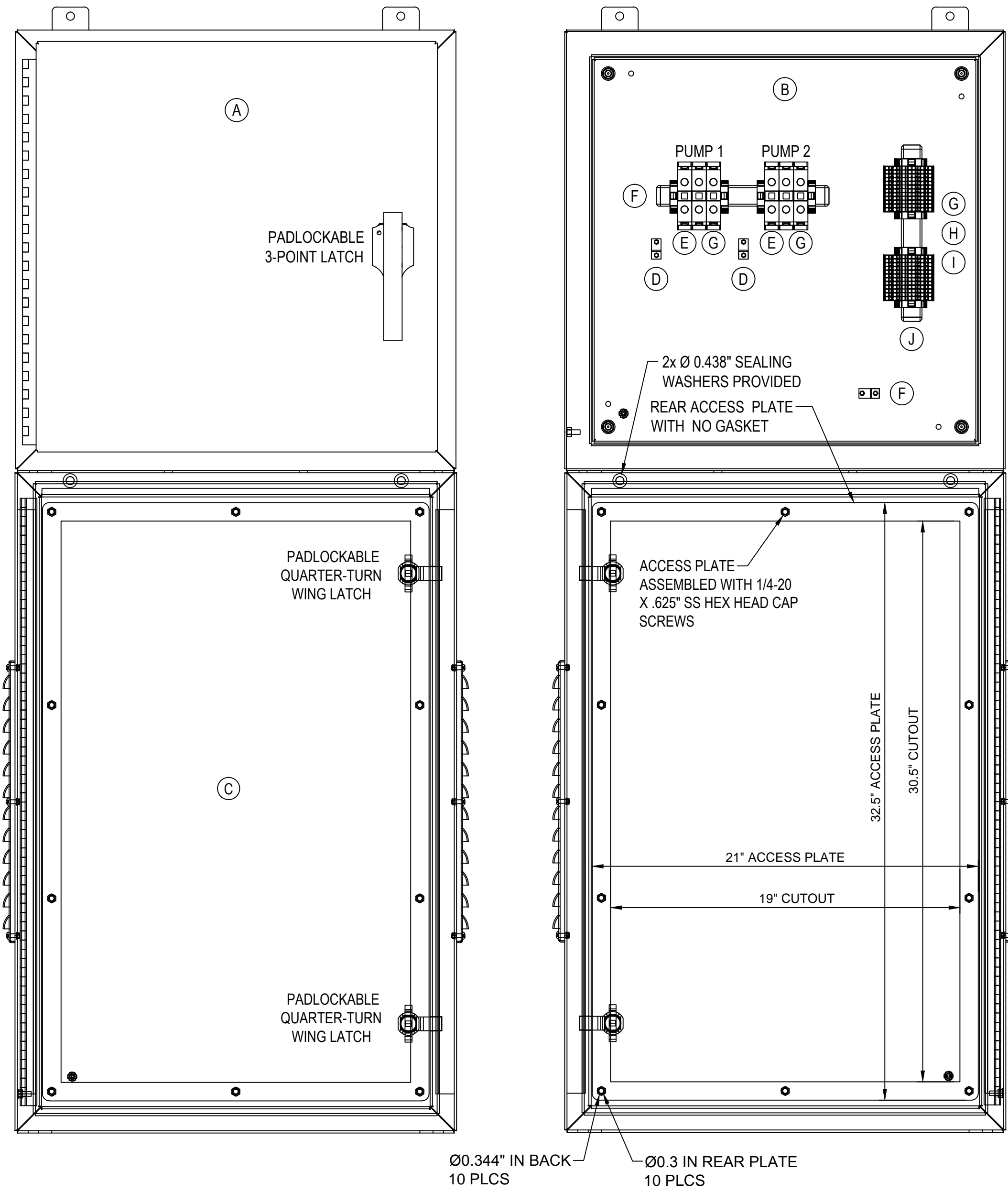
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NO. SHEETS	JEA STANDARD
SHEET NO.	PUMP STATION ELECTRIC DETAILS
DRAWING NO.	ELECTRIC DETAILS

PROJ. NO.	DATE:	SCALE:
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DEMARICATION BOX and PEDESTAL

ENCLOSURE:
SPN4AL-242412-L9 (24\"/>

BACK PANEL:
SPP-2424 (21\"/>

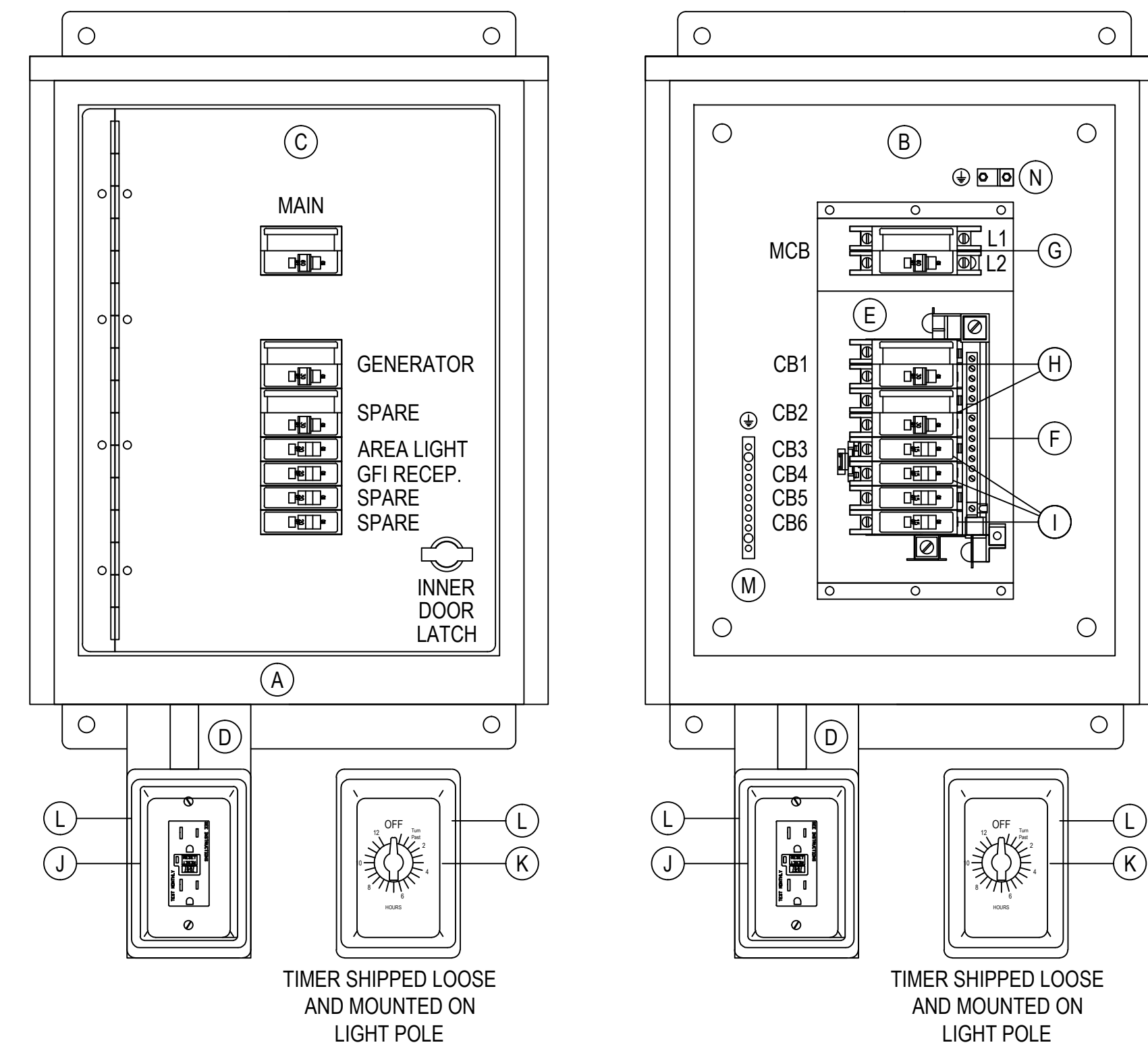
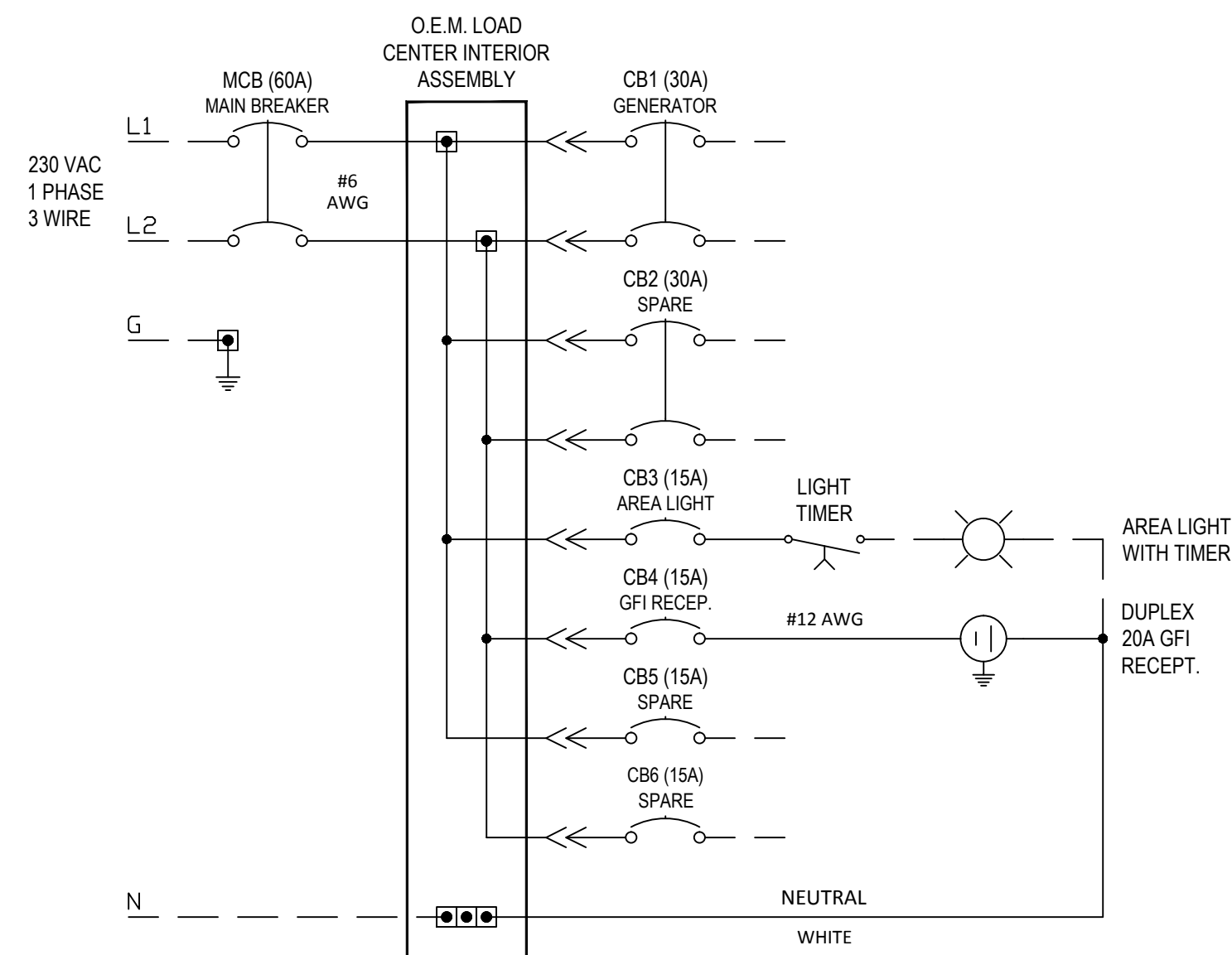
PEDESTAL:
SPN12AL-362412-215 (36\"/>

BILLS of MATERIAL

DEMARICATION BOX and PEDESTAL			
QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
A	SCHAEFER	SCHSPN12AL362412215B	ENCLOSURE, NEMA 4X ALUMINUM, 3-PT.
B	SCHAEFER	SPP-2424	MOUNTING PANEL, 12ga. PAINTED STEEL
C	SCHAEFER	SPN12AL-362412-215	PEDESTAL, NEMA 12 ALUMINUM, LOUVERS
D	PANDUIT	LAMA2-14-QY	GROUND LUG, DUAL-RATED, #2-14 AWG
E	WAGO	285-135	TERMINAL BLOCK, 1 POLE, 155A
F	WAGO	285-150	TERMINAL BLOCK, 1 POLE, 150A
G	WAGO	285-195	TERMINAL BLOCK, 1 POLE, 200A
H	WAGO	285-1185	TERMINAL BLOCK, 1 POLE, 310A
I	WAGO	210-118	2M CARRIER RAIL, STEEL, UNSLOTTED
J	WAGO	249-117	TERMINAL END STOP, GRAY
K	WAGO	2002-1401	CONTROL TERMINALS, 24A, 800V, SPRING
L	WAGO	2002-1492	TERMINAL END / PARTITION PLATE, ORANGE
M	WAGO	210-112	2M DIN RAIL, GALVANIZED, SLOTTED

POWER DISTRIBUTION PANEL (AS SHOWN)			
QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
A	SCHAEFER	SCHSPN12AL362412215B	ENCLOSURE, NEMA 12/3R, 316 SS, 3-PT.
B	SCHAEFER	SPP-2016	MOUNTING PANEL, 14ga. PAINTED STEEL
C	OEM	-	HINGED INNER DOOR, .125 ALUMINUM
D	OEM	-	TO RIGIDLY MOUNT EXTERNAL DEVICES
E	OEM	-	TO RAISE CBs FLUSH WITH INNER DOOR
F	SQUARE D	QO0816L100	100 AMP MAIN CIRCUIT BREAKER, 2 POLE, 60A
G	SQUARE D	QO0260	MCB MAIN CIRCUIT BREAKER, 2 POLE, 60A
H	SQUARE D	QO0230	CB1-CB2 GEN. BREAKER, 2 POLE, 30A
I	SQUARE D	QO0115	CB3-CB6 CONTROL BREAKER, 1 POLE, 15A
J	HUBBELL	GF20WLA	DUPLEX GFCI RECEPTACLE, 20A
K	INTERMATIC	FF30M/C	SPRING-WOUND TIMER, 30 min. NO HOLD
L	INTERMATIC	WP1030C	SINGLE GANG WEATHER-PROOF COVER, CLEAR
M	SQUARE D	PK9GTA	EQUIPMENT GROUND BAR, 9-POINT
N	PANDUIT	LAMA2-14-QY	GROUND LUG, DUAL-RATED, #2-14 AWG

NOTE 1: SELECT APPROPRIATE TERMINAL BLOCK BASED ON MOTOR LOAD
NOTE 2: ENGINEER APPROVED EQUAL COMPONENT MAY BE SUBSTITUTED



POWER DISTRIBUTION PANEL (TYPICAL 240VAC - 1 PHASE SHOWN)

ENCLOSURE:
SPLRHCS6-20168-L9 (20\"/>

BACK PANEL:
SPP-2016 (17\"/>

HINGED INNER DOOR:
FABRICATED FROM .125 ALUMINUM WITH CONTINUOUS HINGE AND TWIST LATCH.

240 VAC DISTRIBUTION PANEL NOTES:

- POWER DISTRIBUTION PANEL 120/240V 1 PHASE WITH 60A 2-POLE MAIN BREAKER.
- PANEL OUTER DOOR SHALL BE HINGED AND PADLOCKABLE.
- ALL LIVE PARTS SHALL BE ENCLOSED FOR PERSONNEL SAFETY AND EQUIPMENT PROTECTION.
- GROUNDING TERMINAL SHALL BE PROVIDED IN THE ENCLOSURE
- THE ENCLOSURE SHALL BE NEMA 3R RATED.
- IF ENCLOSURE IS FABRICATED WITHIN AN AUTHORIZED PANEL SHOP, .125 MARINE GRADE ALUMINUM SHALL BE USED.
- IF ENCLOSURE IS PURCHASED FROM AN AUTHORIZED DISTRIBUTOR, TYPE 316 STAINLESS STEEL MAY ALSO BE USED.
- THE LOAD CENTER MOUNTING BASE PLATE SHALL BE UL LISTED, RATED AT 240 VOLTS / 100 AMPS MINIMUM.
- THE LOAD CENTER BUS MATERIAL SHALL BE ALUMINUM OR TIN-PLATED ALUMINUM.
- THE LOAD CENTER SHALL HAVE EIGHT SPACES.
- BREAKERS MAY BE SNAP-IN; JEA DETERMINED LOCATIONS WITH HIGH-VIBRATION REQUIRE BOLT-IN TYPE BREAKERS.
- PANEL SHALL CONTAIN TWO 2-POLE 30-AMP BREAKERS: (1) GENERATOR USE, (1) SPARE.
- PANEL SHALL CONTAIN FOUR 1-POLE 15-AMP BREAKERS: (1) LIGHT, (1) GFI, (2) SPARES.
- PANEL SHALL HAVE A 20-AMP OUTDOOR RATED GFCI RECEPTACLE AND SPRING-WOUND COMMERCIAL RATED LIGHT TIMER.
- GFCI AND TIMER SHALL BE MOUNTED ACCORDING TO N.E.C. STANDARDS.
- GFCI AND TIMER SHALL BE RIGIDLY MOUNTED ON THE EXTERIOR OF THE PANEL USING TYPE 316 SS OR ALUMINUM BRACKETS.

480 VAC DISTRIBUTION PANEL NOTES:

- STANDARD PANEL: 3 KVA TRANSFORMER 480V-120/480V WITH 2-POLE 20-AMP MAIN BREAKER.
- PANEL WITH ODOR CONTROL: 5 KVA TRANSFORMER 480V-120/480V WITH 2-POLE 30-AMP MAIN BREAKER.
- PANEL WITH GENERATOR: 10 KVA TRANSFORMER 480V-120/480V WITH 2-POLE 60-AMP MAIN BREAKER.
- PANEL OUTER DOOR SHALL BE HINGED AND PADLOCKABLE.
- ALL LIVE PARTS SHALL BE ENCLOSED FOR PERSONNEL SAFETY AND EQUIPMENT PROTECTION.
- GROUNDING TERMINAL SHALL BE PROVIDED IN THE ENCLOSURE
- THE ENCLOSURE SHALL BE NEMA 3R RATED.
- IF ENCLOSURE IS FABRICATED WITHIN AN AUTHORIZED PANEL SHOP, .125 MARINE GRADE ALUMINUM SHALL BE USED.
- IF ENCLOSURE IS PURCHASED FROM AN AUTHORIZED DISTRIBUTOR, TYPE 316 STAINLESS STEEL MAY ALSO BE USED.
- THE LOAD CENTER MOUNTING BASE PLATE SHALL BE UL LISTED, RATED AT 240 VOLTS / 100 AMPS MINIMUM.
- THE LOAD CENTER BUS MATERIAL SHALL BE ALUMINUM OR TIN-PLATED ALUMINUM.
- THE LOAD CENTER SHALL HAVE EIGHT SPACES.
- BREAKERS MAY BE SNAP-IN; JEA DETERMINED LOCATIONS WITH HIGH-VIBRATION REQUIRE BOLT-IN TYPE BREAKERS.
- PANEL SHALL CONTAIN TWO 2-POLE 30-AMP BREAKERS: (1) GENERATOR USE, (1) SPARE.
- PANEL SHALL CONTAIN FOUR 1-POLE 15-AMP BREAKERS: (1) LIGHT, (1) GFI, (2) SPARES.
- PANEL SHALL HAVE A 20-AMP OUTDOOR RATED GFCI RECEPTACLE AND SPRING-WOUND COMMERCIAL RATED LIGHT TIMER.
- GFCI AND TIMER SHALL BE MOUNTED ACCORDING TO N.E.C. STANDARDS.
- GFCI AND TIMER SHALL BE RIGIDLY MOUNTED ON THE EXTERIOR OF THE PANEL USING TYPE 316 SS OR ALUMINUM BRACKETS.

STANDARD

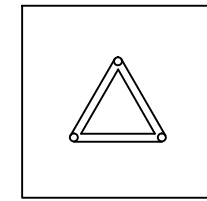
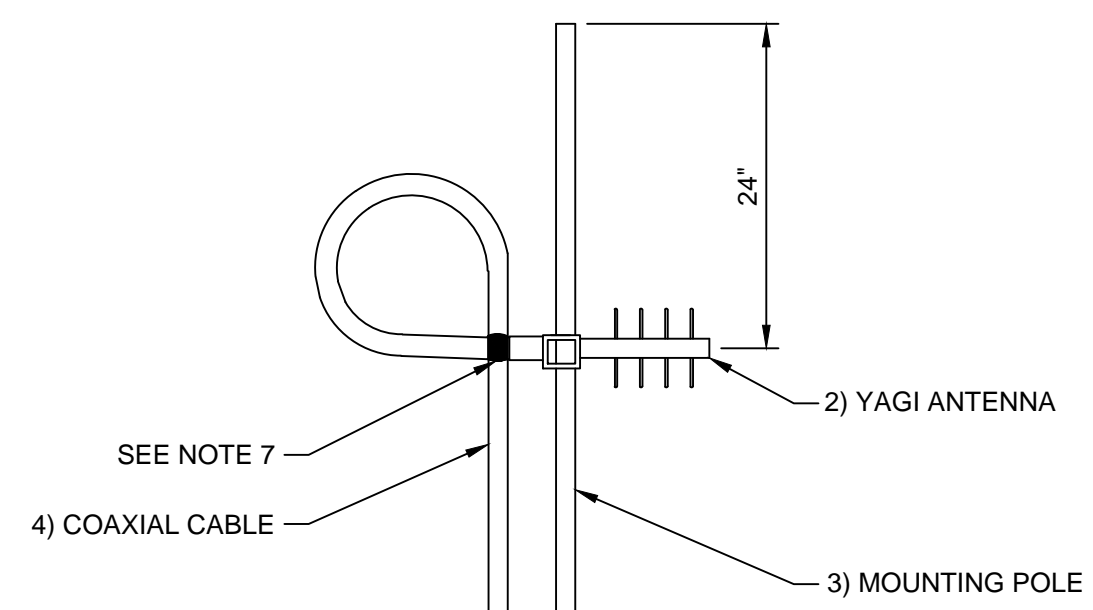
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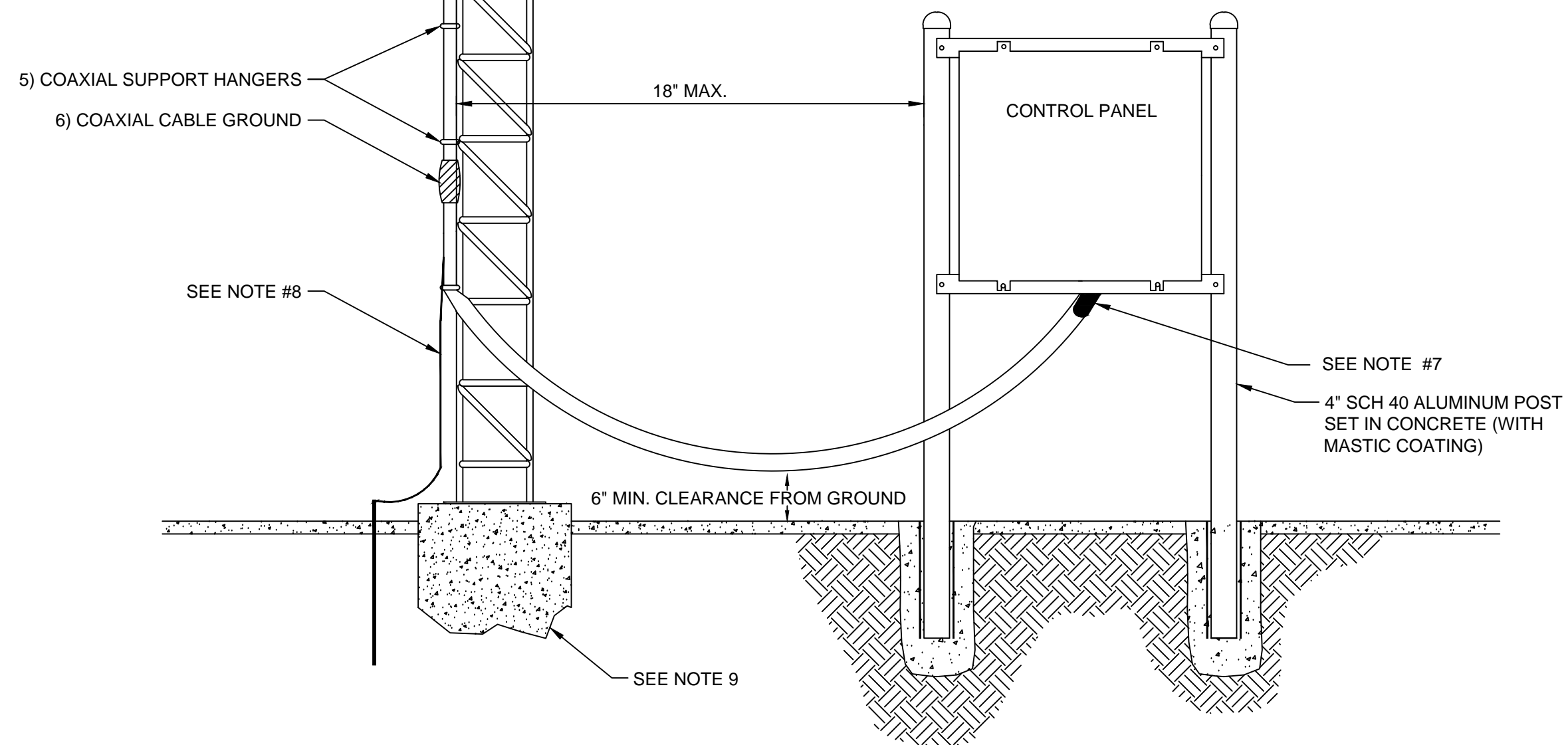


JEA STANDARD
PUMP STATION ELECTRIC DETAILS
DEMARICATION BOX & POWER DISTRIBUTION PANEL

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PLAN

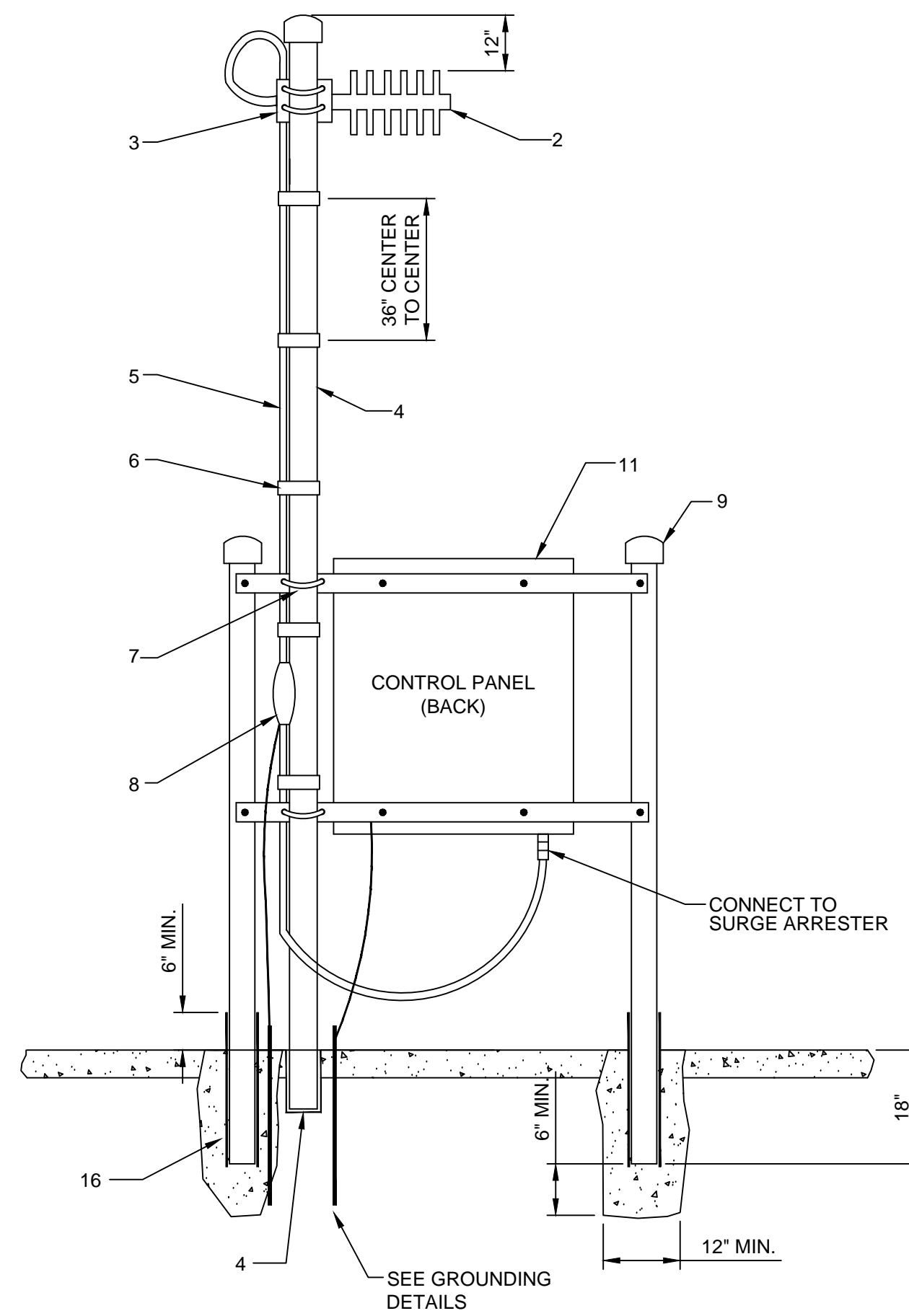


ALTERNATE POLE SCADA INSTALLATION

FOR POLE HEIGHTS 20 FEET AND ABOVE
NOT TO SCALE

NOTES:

1. ACCEPTABLE MANUFACTURERS OF TOWERS ARE ROHN OR UNIVERSAL TOWERS. SEE PUMP STATION SITE DRAWINGS FOR POLE OR TOWER SPECIFICATIONS.
2. YAGI ANTENNA: MANUFACTURER: SCALA MODEL #: TY-900
3. MOUNTING POLE: MANUFACTURER: SCALA MODEL #: WPM-2
4. COAXIAL CABLE SHALL BE ONE CONTINUOUS CABLE: MANUFACTURER: ANDREW MODEL #: LDF4-50A
COAXIAL CABLE CONNECTORS: MANUFACTURER: ANDREW MODEL #: L4TNM-PSA
5. COAXIAL SUPPORT HANGERS: MANUFACTURER: ANDREW MODEL #: 43211
6. COAXIAL CABLE GROUND: MANUFACTURER: TESSCO MODEL #: 41669
7. WEATHER PROOFING KIT: MANUFACTURER: TESSCO MODEL #: 18264
8. REFERENCE GROUNDING DETAILS SHEET.
9. TOWER BASE IS TO BE DESIGNED PER MANUFACTURERS RECOMMENDATIONS.



SCADA INSTALLATION DETAIL

FOR POLE HEIGHTS LESS THAN 20 FEET
NOT TO SCALE

NOTES:

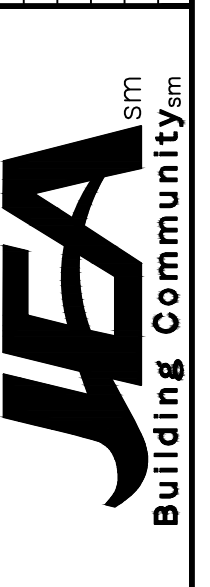
1. SEE PUMP STATION SITE DRAWINGS FOR POLE OR TOWER SPECIFICATIONS.
2. YAGI ANTENNA, COMES W/ MOUNTING HARDWARE(MAST SHALL BE SLEEVED THRU CONCRETE TO ALLOW ROTATION (DO NOT USE WOOD POLE MOUNT) MANUFACTURE: SCALA MODEL NUMBER: TY-900
3. COAX CONNECTOR MANUFACTURE: WIRELESS SOLUTIONS MODEL NUMBER: NM50V-1/2
4. 2 AND 3/8" O.D. SCD. 40 ALUMINUM 20' POLE. POLE SHALL BE SLEEVED THROUGH CONCRETE TO ALLOW FOR ROTATION
5. COAXIAL CABLE SHALL BE ONE CONTINUOUS CABLE MANUFACTURER: ANDREW MODEL #: LDF4-50A
6. STAINLESS STEEL STRAPS 3' O/C MANUFACTURE: WIRELESS SOLUTIONS MODEL NUMBER: RM-A300
7. 316 STAINLESS STEEL U-BOLTS MANUFACTURE: ANY DOMESTIC BRAND MODEL NUMBER: N/A
8. COAXIAL CABLE GROUND MANUFACTURER: TESSCO MODEL #: 41669
9. 4" PVC CAPS
10. 4" DIA. ALUMINUM POST
11. 1/2"x3" SOLID ALUMINUM SUPPORT BARS (2 TOTAL) BOLTED TO POST W/ 5/8" S.S. ANCHOR BOLTS. DRILL 2 HOLES (AS DIMENSIONED ON DETAIL) IN TOP & BOTTOM SUPPORTS ONLY
12. BURY ALUMINUM POST IN CONCRETE AS SHOWN ON DRAWING.
13. INSTALL RTU MOUNT SO THAT WHEN CABINET IS ATTACHED DOOR IS FACING NORTH UNLESS DOOR HAS SUN SHIELD. IN ALL INSTANCES JEA PREFERS THE DOOR TO FACE NORTH IF POSSIBLE.
14. CABINET SHALL HAVE CLEARANCE TO OPEN DOOR COMPLETELY.
15. SCADA SYSTEM WOOD POLE ALTERNATE DETAIL TO BE USED ONLY WHEN ADDITIONAL ANTENNA HEIGHT IS REQUIRED, AND APPROVED.
16. MASTIC SEAL ALL POSTS WHICH ARE EMBEDDED IN CONCRETE.
17. ALL MATERIALS MUST MEET OR EXCEED JEA SPECIFICATIONS

STANDARD

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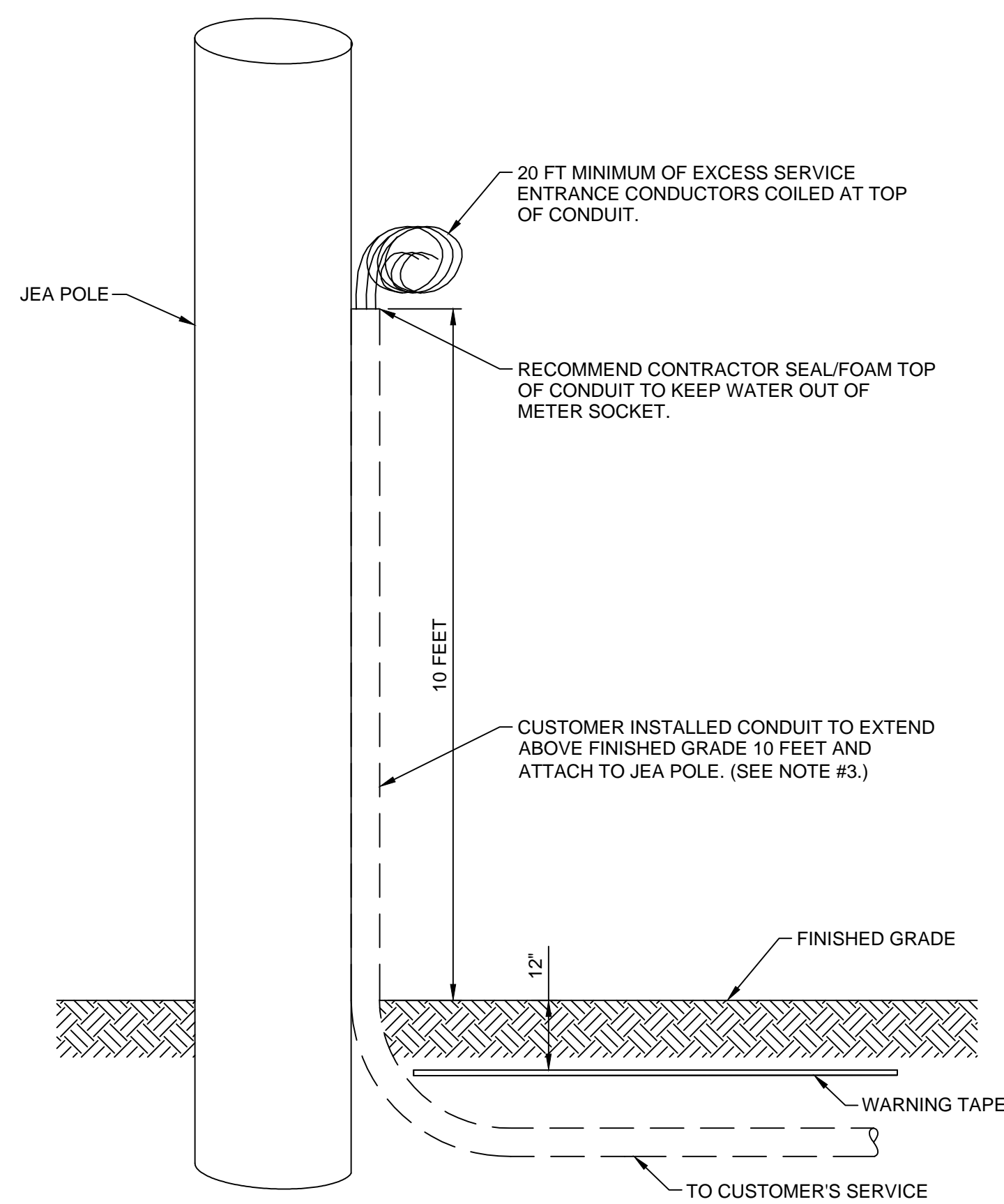
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JEA STANDARD
PUMP STATION ELECTRIC DETAILS
SCADA INSTALLATION

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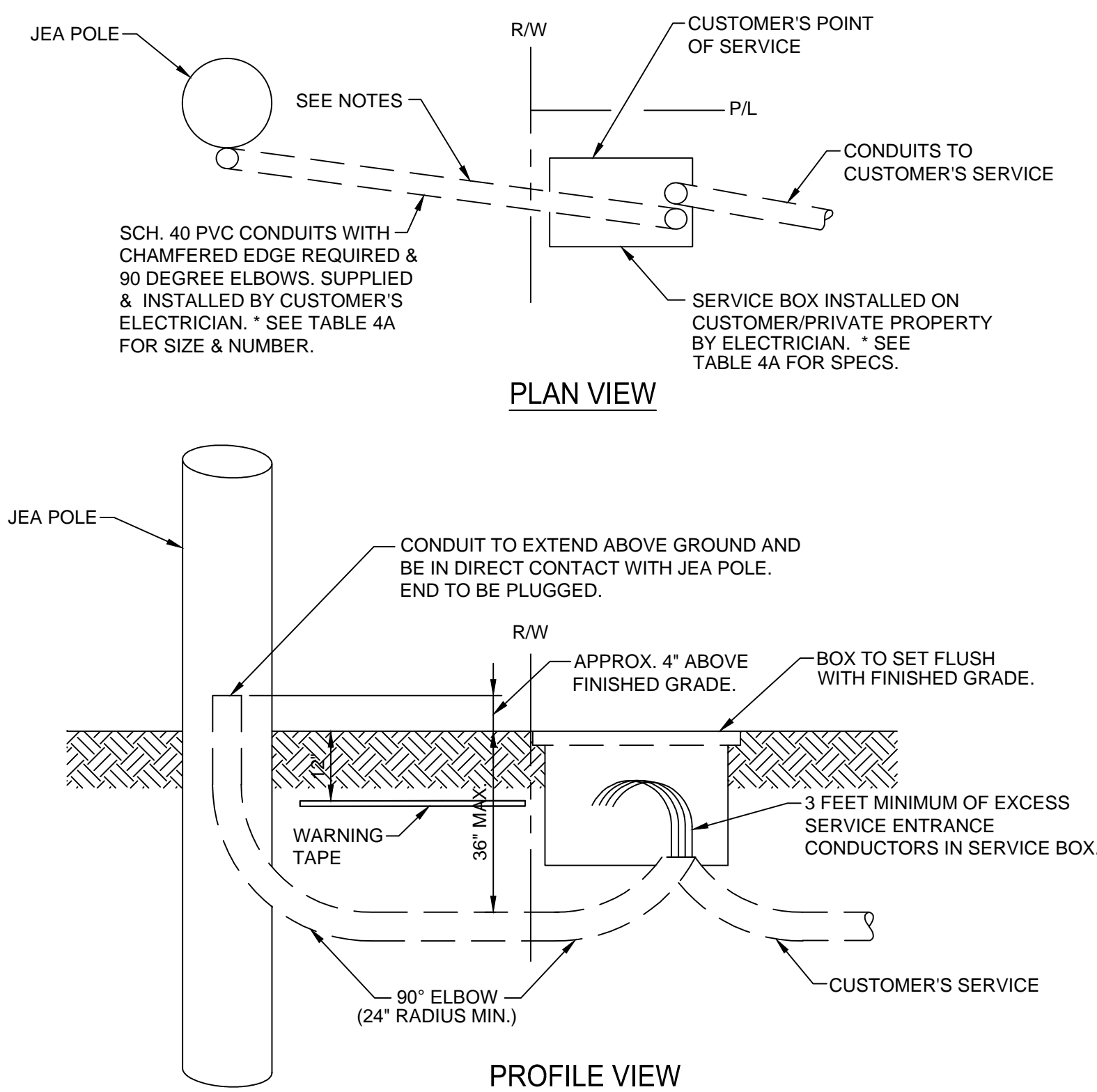


NOTES:

1. 100 AMP MAXIMUM SERVICE SIZE.
2. THE CUSTOMER WILL MAINTAIN THE WARNING TAPE, CONDUIT AND CONDUCTORS SHOWN.
3. THE CUSTOMER MUST PICK A CLEAR SIDE OF THE JEA POLE TO EXTEND UP CONDUIT. CLEAR FROM PHONE OR COMMUNICATION CABLES, OR ANY OTHER EQUIPMENT, FROM FINISHED GRADE TO JEA POINT OF SERVICE. CALL JEA DISTRIBUTION ENGINEER IF LOCATION IS REQUIRED.
4. THE JEA WILL MAKE ALL CONNECTIONS TO CUSTOMER'S SERVICE WIRE ON THE JEA POLE.
5. THE JEA WILL INSTALL CABLE GUARD ON JEA POLE AND COVER CUSTOMER'S SERVICE WIRE AND CONDUIT TO FINISHED GRADE.

**COMMERCIAL SERVICE
100AMP MAXIMUM UNDERGROUND
SERVICE FROM AN OVERHEAD POLE**

NOT TO SCALE



NOTES:

1. THE MINIMUM DISTANCE BETWEEN THE SERVICE BOX AND SERVICE POLE IS 4 FEET.
2. THE CUSTOMER MUST PICK A CLEAR SIDE OF THE JEA POLE FOR THE JEA TO EXTEND UP THE POLE RISER. CLEAR FROM PHONE OR COMMUNICATION CABLES, OR ANY OTHER EQUIPMENT, FROM FINISHED GRADE TO CONNECTIONS TO OVERHEAD FACILITIES. CALL JEA DISTRIBUTION ENGINEER IF LOCATION IS REQUIRED.
3. THE JEA WILL MAINTAIN THE POLE RISER AND CONDUCTOR FROM THE OVERHEAD FACILITIES TO A CUSTOMER-PROVIDED SERVICE BOX.
4. THE JEA WILL MAKE ALL CONNECTIONS TO THE CUSTOMER'S SERVICE WIRE IN THE SERVICE BOX. SAID CONNECTIONS WILL BE THE CUSTOMER'S POINT OF SERVICE.

**COMMERCIAL SERVICE
ABOVE 100 AMPS AND MULTI-METERED UNDERGROUND
SERVICE FROM AN OVERHEAD POLE**

NOT TO SCALE

**TABLE 4A
CONDUIT AND SERVICE BOX REQUIREMENTS
FOR UNDERGROUND COMMERCIAL SERVICES FROM AN OVERHEAD POLE**

SERVICE SIZE	CONDUIT SIZE (From Service Box to JEA Overhead Pole)	SERVICE BOX SIZE
20A - 150A	1-2 in	13" x 24" x 18" d
151A - 200A	1-3 in	17" x 30" x 18" d
201A - 399A	1-3 in	24" x 36" x 18" d
400A-800A	400A=1-4 in 401-800A=2-4 in	30" x 48" x 24" d manhole
801A-1400A	801-1000A=2-4 in 1001-1400A=3-4 in	36" x 60" x 36" d manhole

- NOTE:**
1. ALL CONDUITS TO BE SCHEDULE 40 PVC WITH CHAMFERED EDGES REQUIRED. CONDUIT SIZE AND NUMBER DOES NOT HAVE TO MATCH CUSTOMERS' SERVICE CONDUIT SIZE, TYPE, AND NUMBER.
 2. ALL CONDUIT RADIUS TO BE 24 INCH MINIMUM.
 3. JEA WILL ALLOW THE OPTION OF PURCHASING THESE BOXES FROM AN ELECTRICAL SUPPLY HOUSE. THESE BOXES MUST MEET THE FOLLOWING SPECIFICATIONS.
 4. SERVICE BOX SIZE MAY VARY FOR 3 PHASE APPLICATIONS.
 5. CONTACT JEA SERVICE ENGINEER FOR CONDUIT AND BOX LOCATION.

TECHNICAL SPECIFICATIONS

- MATERIAL SPECIFICATIONS:**
- SERVICE BOX**
1. TOP: COMPRESSION MOLDED POLYMER CONCRETE WITH MINIMUM THICKNESS OF TWO INCHES.
 2. BODY: REINFORCED PLASTIC MORTAR (RPM) CONSISTING OF FIBERGLASS AND ISOPHOLIC RESIN. THE BASE WILL HAVE A FLANGE OF TWO INCHES FROM THE INSIDE WALL.
 3. RING: THE RING WILL BE OF POLYMER CONCRETE AND WILL BE PERMANENTLY FUSED TO THE BODY DURING THE CURING PROCESS.
- MANHOLE**
1. MANHOLE BODY SHALL BE OF ONE PIECE CONSTRUCTION WITH A SOLID COVER.
 2. MANHOLE DIMENSIONS SHALL BE 60" L X 36" W X 36" D.
- LOAD RATING:**
1. LOAD RATING: H-10 (INCIDENTAL TRAFFIC).
 2. LOAD RATINGS SHALL BE IN ACCORDANCE WITH ASTM, C-857-87 (STD. PRACTICE FOR MINIMUM STRUCTURAL DESIGN LOADING FOR UG PRECAST CONCRETE UTILITY STRUCTURES) AASHTO AND WESTERN UNDERGROUND COMMITTEE RECOMMENDED GUIDELINES RULE 3.6 DATED 6-15-87.
- MISCELLANEOUS REQUIREMENTS:**
1. HARDWARE: TWO CAPTIVE STAINLESS PENTA HEAD BOLTS FOR SECURING TOP. BOLT HEADS WILL BE FLUSH WITH TOP OF COVER.
 2. IDENTIFICATION: EACH TOP WILL HAVE THE WORD "ELECTRIC" PERMANENTLY MARKED INTO THE TOP.

ELECTRICAL NOTES

1. GROUND WIRE SHALL RUN FROM THE CHASSIS CONTINUOUS THROUGH THE METER CAN TO 2 GROUND RODS SPACED 8 FEET APART AND TERMINATE ON A FENCE POST IN CONCRETE.
2. ELECTRICAL ENCLOSURES SHALL BE ORIENTED SUCH THAT THE FRONT OF THE ENCLOSURE FACES THE INTERIOR OF THE PUMP STATION SITE.
3. QUANTITY AND SIZE OF NEMA 4x 316-STAINLESS STEEL ENCLOSURES AS REQUIRED FOR STATION OPERATION.
4. SERVICE DISCONNECT SHALL BE MANUAL FUSE 3 PHASE-4 WIRE

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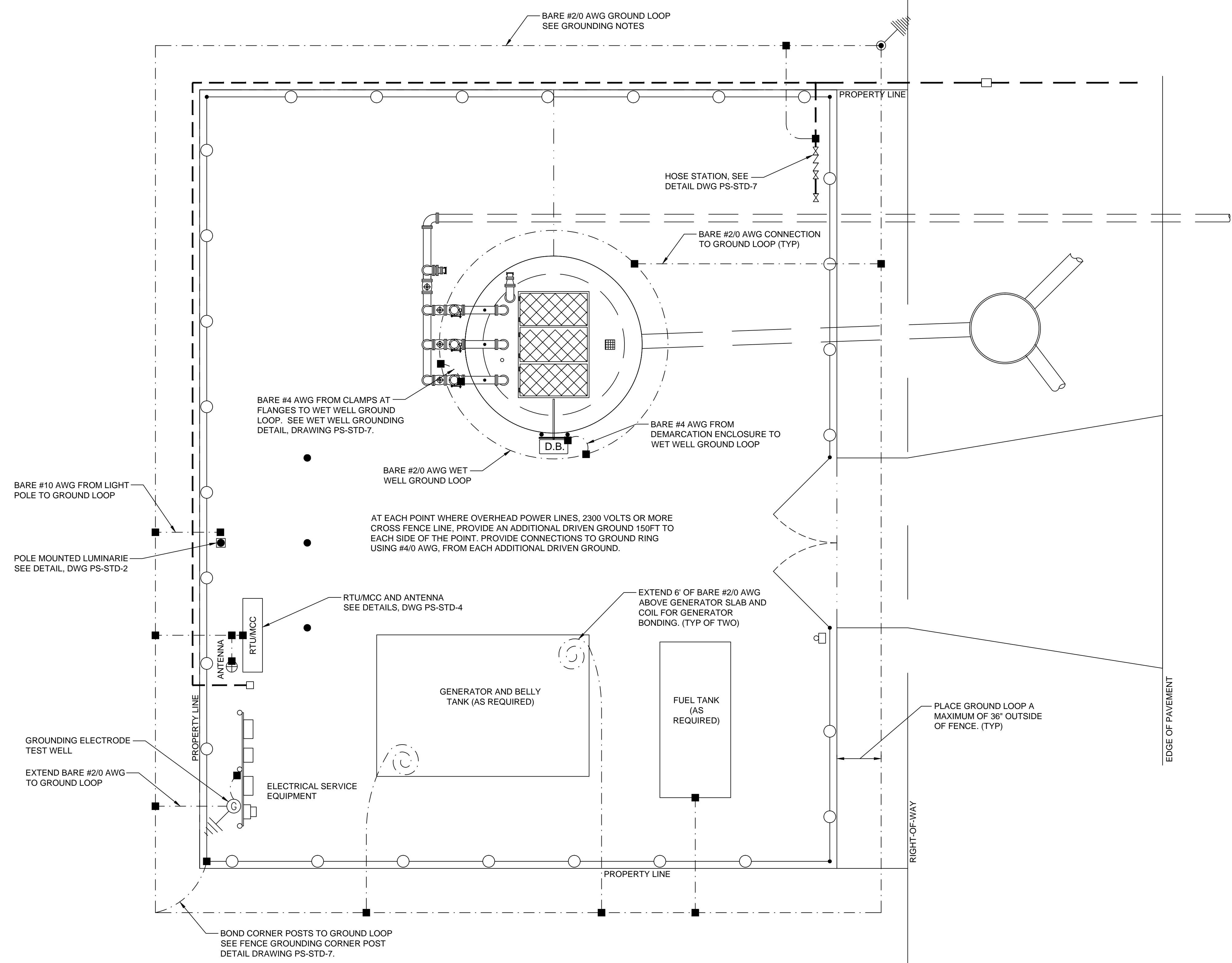
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JEA STANDARD
PUMP STATION ELECTRIC DETAILS
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PUMP STATION GROUNDING SITE PLAN
NOT TO SCALE

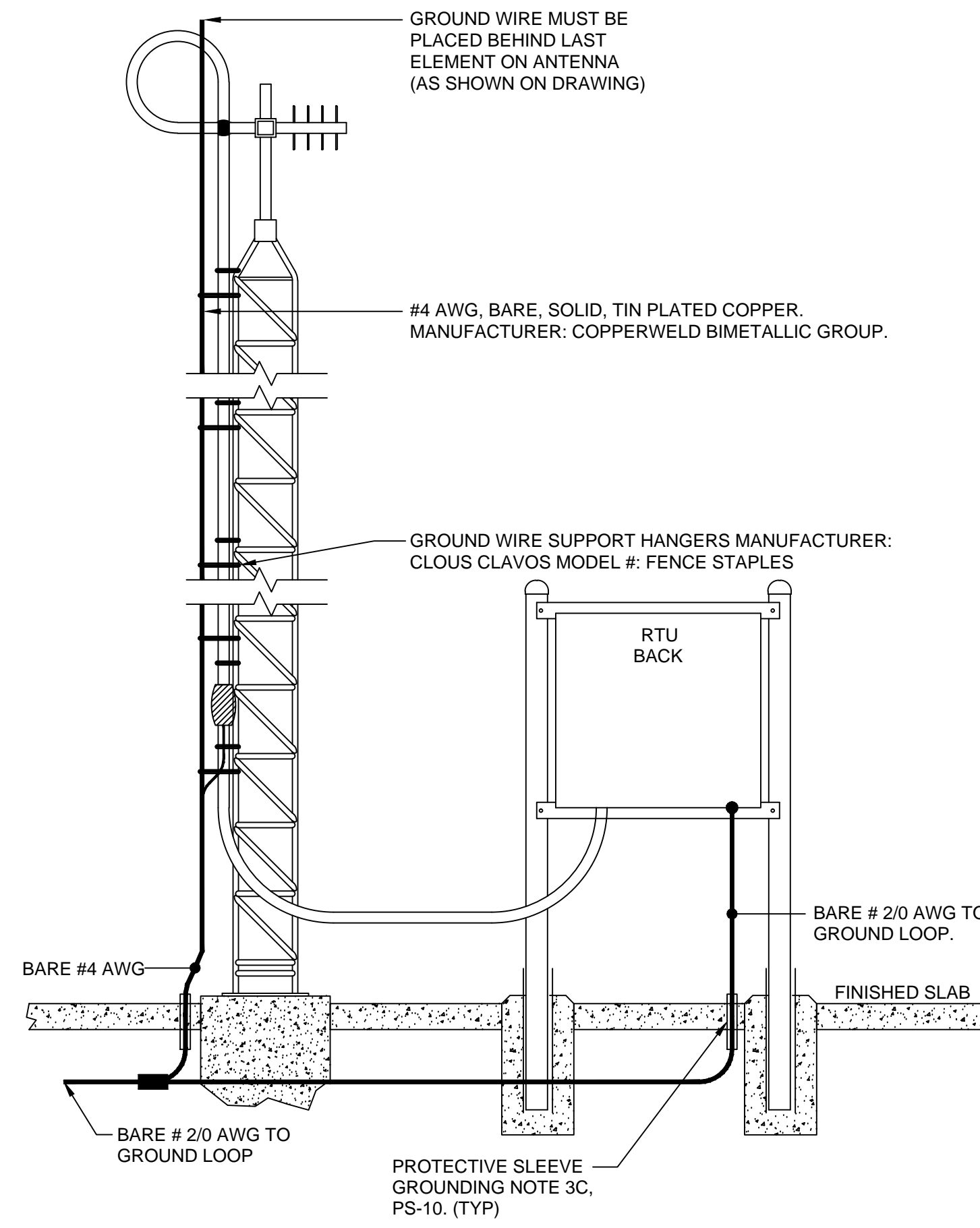
GROUNDING SYMBOL LEGEND	
	GROUND CONDUCTOR (SIZE AS REQUIRED BY NOTES)
	EXOTHERMIC OR COMPRESSION CONNECTION
	GROUND ROD AND CONNECTION
	GROUND TEST WELL WITH GROUND ROD
	GROUND CONDUCTOR COILED ABOVE GRADE OR SLAB FOR FUTURE CONNECTION

GROUNDING NOTES:

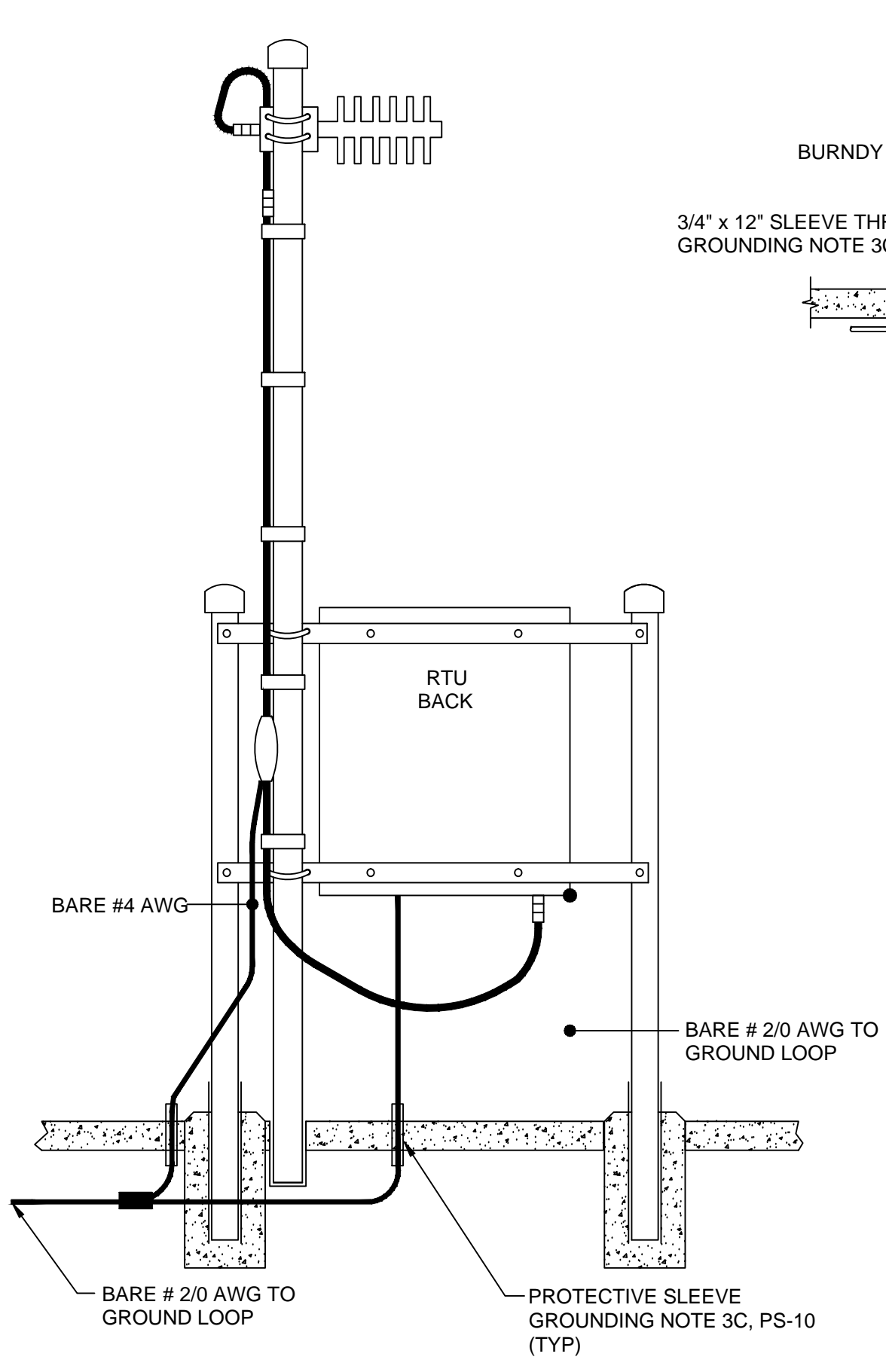
- PROVIDE A COMPLETE ELECTRICAL GROUNDING SYSTEM WITH A MEASURED GROUND RESISTANCE OF 5 OHMS OR LESS.
- GROUNDING COMPONENTS AND MATERIALS SHALL BE NEW AND UNDAMAGED.
- INSULATED GROUND CONDUCTOR SHALL BE SOFT DRAWN, TIN PLATED, STRANDED COPPER CONFORMING TO THE REQUIREMENTS OF UL 83. INSULATED GROUND CONDUCTOR SHALL BE TYPE TW OR THW, AND GREEN COLORED INSULATION. MINIMUM SIZE FOR INSULATED GROUND CONDUCTORS, REGARDLESS OF APPLICATION SHALL BE #12 AWG.
- BURIED GROUND LOOP CONDUCTORS
 - GROUND LOOP CONDUCTOR SHALL BE BARE #2/0 AWG, SOFT DRAWN, TIN PLATED STRANDED COPPER CONDUCTOR UNLESS OTHERWISE NOTED.
 - BARE GROUND CONDUCTORS BELOW GRADE, SHALL HAVE A MINIMUM OF 18 INCHES AND A MAXIMUM OF 30 INCHES COVER FROM FINISHED GRADE. BARE GROUND CONDUCTORS UNDER FOUNDATIONS OR SLABS, SHALL HAVE A MINIMUM OF 6 INCHES OF EARTH COVER BETWEEN THE TOP OF CONDUCTOR CONDUCTOR AND THE FOUNDATION OR SLAB.
 - BARE GROUND CONDUCTORS THAT PENETRATE THROUGH EXPOSED SLABS OR WET WELL WALL, SHALL DO SO THROUGH A 3/4" x 12" (MIN), SCHED 40 PVC SLEEVE, WITH GROUND WIRE CENTERED IN SLEEVE. FILL TOP OF SLEEVE WITH APPROVED SEALANT TO A DEPTH AT LEAST 3 TIMES THE OUTSIDE DIAMETER OF THE SLEEVE. ALL WIRES PROTRUDING TO THE SURFACE SHALL BE TIN PLATED.
 - BARE GROUND CONDUCTOR SHALL BE DIRECTLY BURIED IN EARTH; TO WITHIN 24 TO 36 INCHES FROM BASE OF STRUCTURES OR EQUIPMENT IDENTIFIED FOR GROUNDING.
- GROUND RODS
 - SHALL BE COPPER CLAD MIN 13MIL, COLD DRAWN CARBON STEEL MANUFACTURED IN ACCORDANCE WITH UL 467, WITH THE COPPER CLADDING BONDED TO THE STEEL ROD BY ELECTROLYTIC, OR MOLTEN WELDING PROCESS. GROUND RODS SHALL HAVE A CONICAL TAPER ON PENETRATING END. EACH GROUND ROD SHALL BE 10-FOOT BY 3/4 INCH DIAMETER SECTIONS.
 - THERE SHALL BE A MINIMUM OF 2 GROUND RODS THAT SHALL BE DRIVEN TO A MINIMUM OF 60FT EACH. IF GROUND RODS ARE UNABLE TO BE DRIVEN 60FT OR 5 OHMS IS NOT ACHIEVED THEN ADDITIONAL GROUND RODS MUST BE DRIVEN TILL THE 5 OHMS IS REACHED. IF AN ADDITIONAL GROUND ROD IS REQUIRED IT MUST BE DRIVEN IN A CORNER THAT DOESN'T HAVE A ROD.
 - GROUND RODS SHALL BE CONNECTED BY COMPRESSION COUPLINGS, SCREW COUPLINGS WILL NOT BE ACCEPTED.
- GROUNDING SYSTEM HARDWARE
 - GROUNDING SYSTEM HARDWARE, INCLUDING CLAMPS, CONNECTORS, BOLTS, WASHERS, AND NUTS, SHALL BE TIN PLATED COPPER.
 - SPLICES, JOINTS, AND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC OR IRREVERSIBLE COMPRESSION TYPE. THREADED OR BOLTED COUPLINGS ARE NOT ACCEPTABLE EXCEPT WHERE NOTED IN GROUNDING DETAILS.
 - PREPARE CONDUCTORS AND CONNECTORS PER MANUFACTURERS REQUIREMENTS. REMAKE CONNECTIONS THAT FAIL MANUFACTURER'S RECOMMENDED TESTS.
 - GROUNDING CONNECTIONS SHALL ENCOMPASS 100 PERCENT OF THE GROUND CONDUCTOR AND CONDUCTOR ENDS.
 - GROUND LUGS SHALL BE SINGLE OR TWO-HOLE, HEAVY-DUTY, TIN PLATED COPPER BARS CONFORMING TO THE REQUIREMENTS OF IEEE 837 AND UL 467. TWO-HOLE GROUND LUGS SHALL HAVE NEMA CENTERLINE HOLE SPACING. GROUND LUGS USING AN EXOTHERMIC PROCESS SHALL BE SIMILAR TO TYPE LA AS MANUFACTURED BY ERICO.
 - MAKE CABLE CONNECTIONS TO BUS BARS USING HIGH-COMPRESSION LUGS. GROUND LUGS USED WITH THE COMPRESSION PROCESS SHALL BE TYPE YGHA AS MANUFACTURED BY BURNDY ELECTRICAL.
- BOND PIPING TO GROUNDING SYSTEM VIA CONNECTION AT THE LAST FLANGE BEFORE PIPES RETURN UNDERGROUND. USING A BOLTED CONNECTION (BURNDY TYPE GAR-TC, OR APPROVED EQUAL) SEE WET WELL GROUNDING DETAIL.
- GROUNDING BY USE OF ANCHOR BOLTS, AGAINST GASKETS, ON PAINTED OR VARNISHED SURFACES, OR ON BOLTS HOLDING REMOVABLE ACCESS COVERS WILL NOT BE ACCEPTABLE.
- GROUND RESISTANCE SHALL BE CERTIFIED BY AN INDEPENDENT GROUNDING SYSTEM TESTING ORGANIZATION. TESTING SHALL BE DONE AT EACH TEST WELL USING THE 3-POINT FALL OF POTENTIAL METHOD. THIS DOCUMENT MUST BE SUBMITTED AT THE TIME OF STARTUP FOR FINAL ACCEPTANCE.
- NO CHEMICALS SHALL BE USED TO REDUCE THE RESISTANCE UNLESS APPROVED BY JEA.
- A MINIMUM OF 5 OHMS OF SHALL BE GUARANTEED BY THE CONTRACTOR FOR 3 YEARS FROM THE SITES ACCEPTANCE. IF THE RESISTANCE FAILS IN THIS TIME THE CONTRACTOR WILL BE RESPONSIBLE FOR ADDING ADDITIONAL GROUND RODS AT THE CONTRACTORS EXPENSE.

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JEA STANDARD PUMP STATION ELECTRIC DETAILS GROUNDING PLAN				
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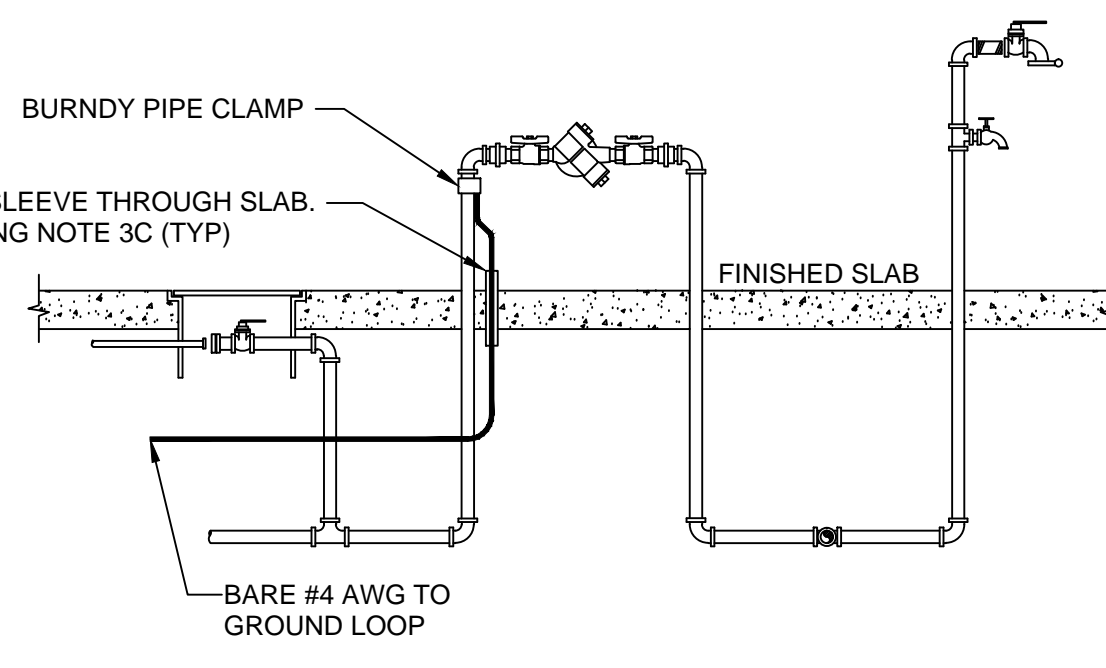
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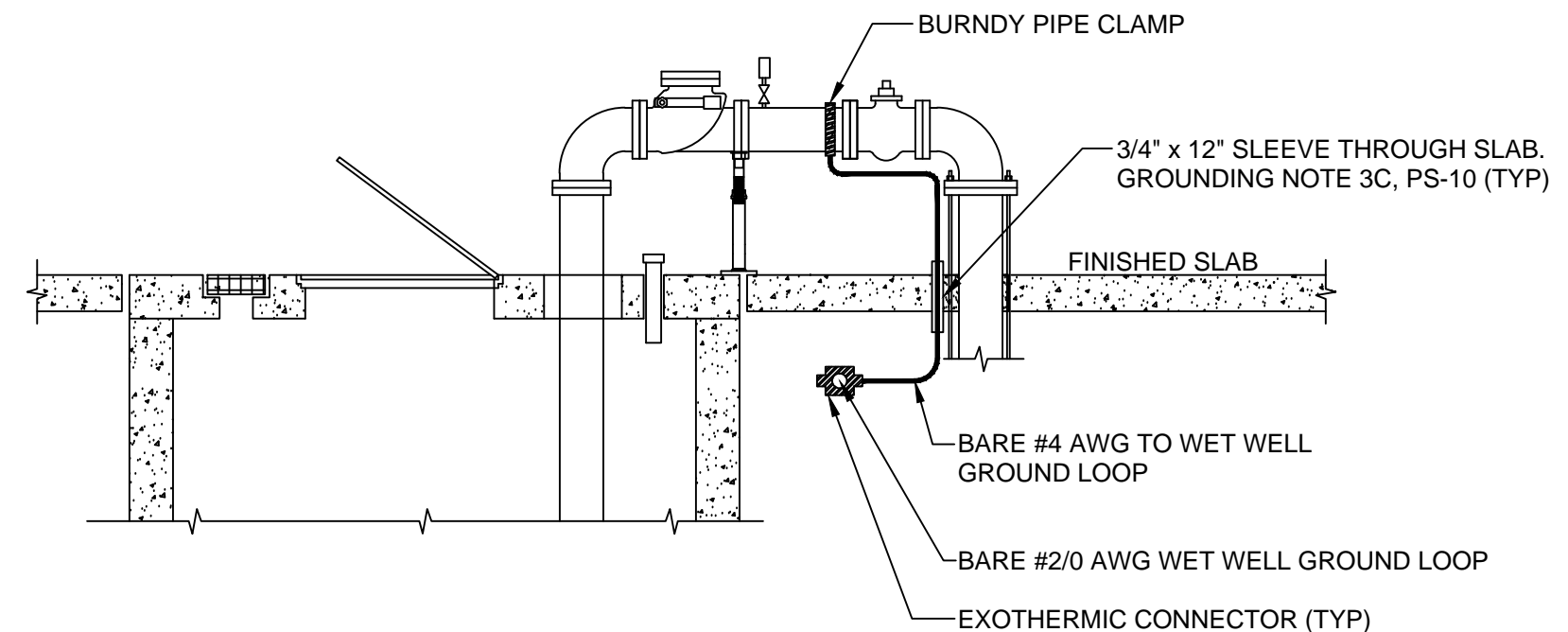
ALTERNATE ANTENNA - GROUNDING DETAIL
FOR POLE HEIGHTS 20 FEET AND ABOVE
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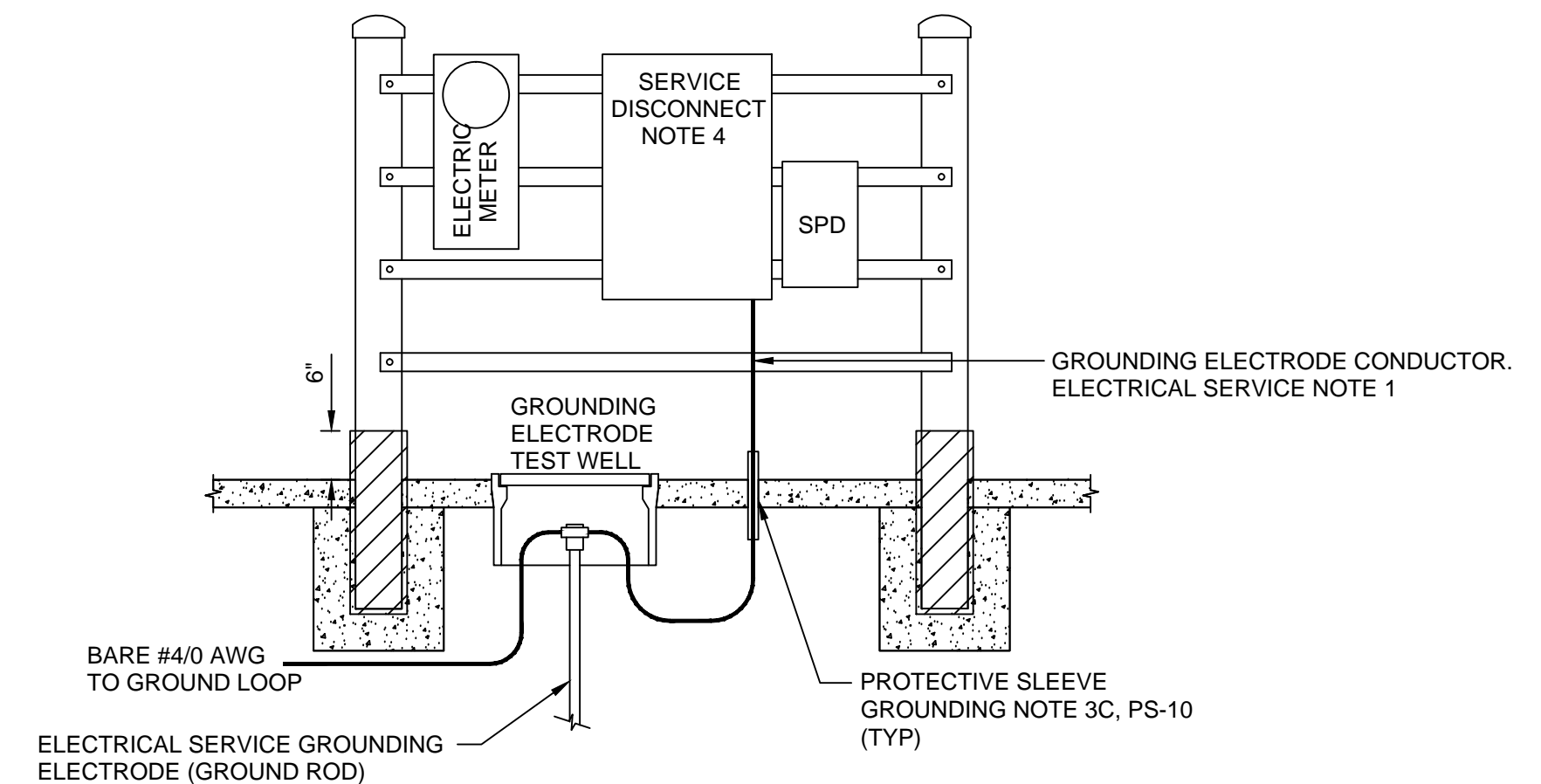
STANDARD ANTENNA - GROUNDING DETAIL
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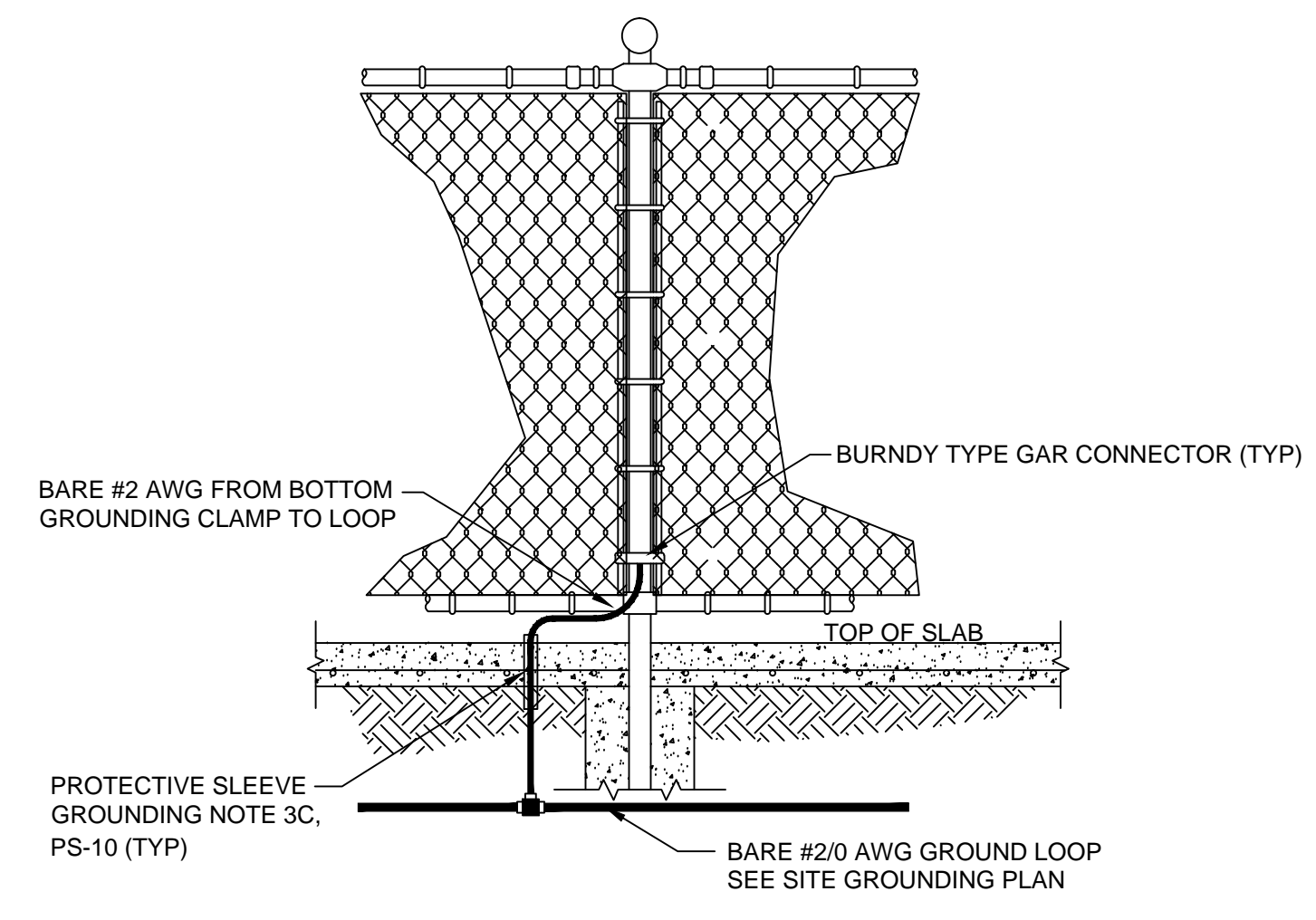
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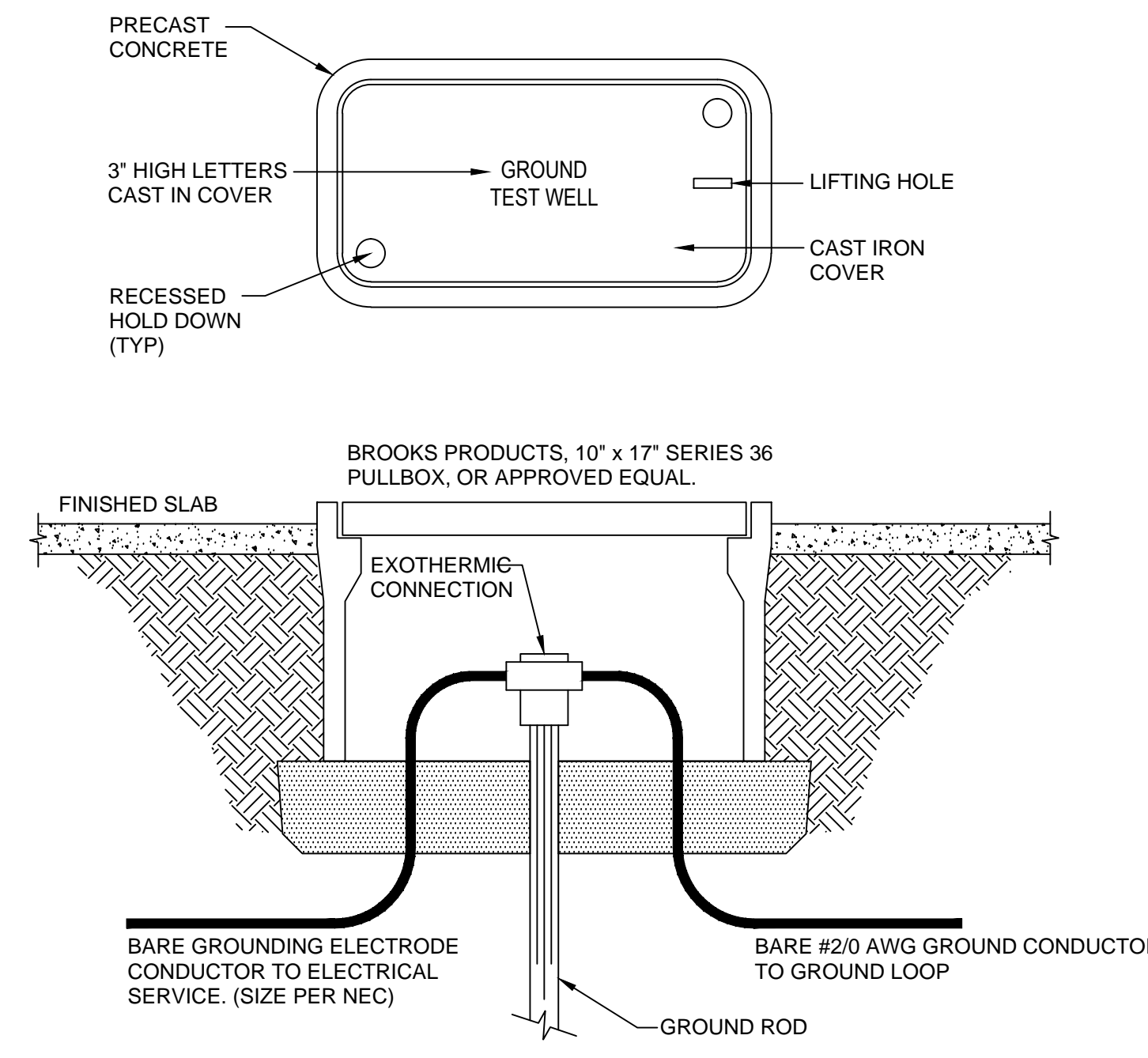
WETWELL GROUNDING DETAIL
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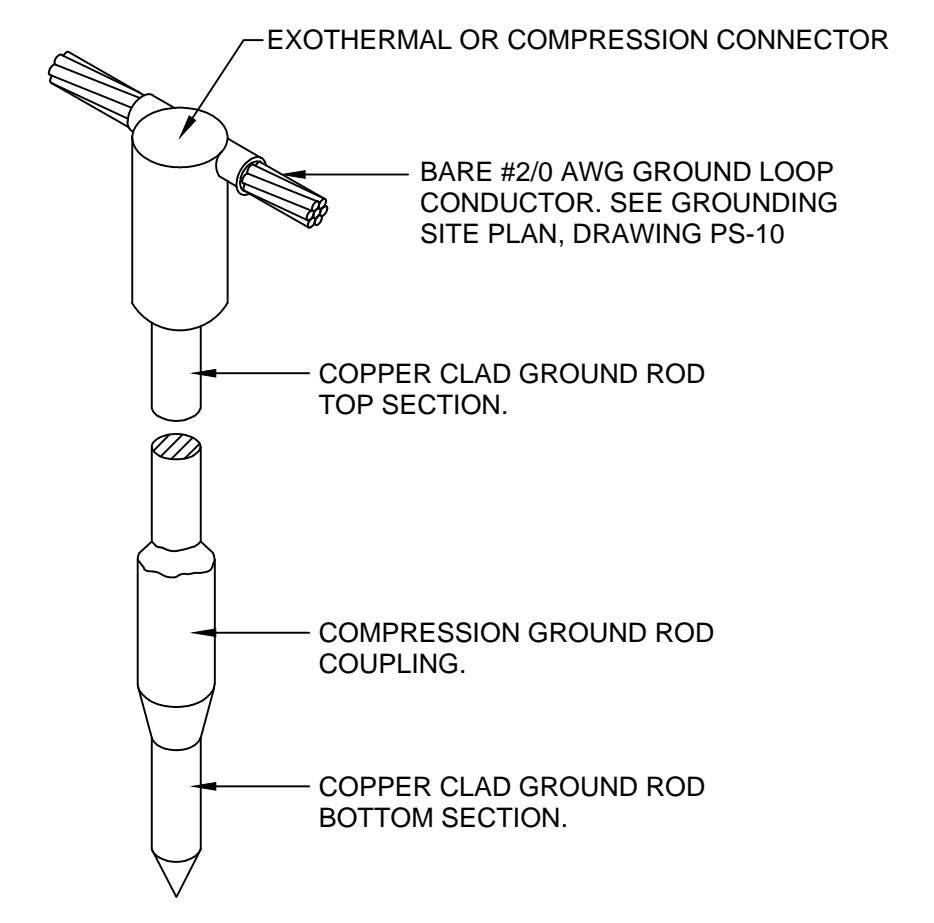
ELECTRICAL METER AND MAIN DISCONNECT
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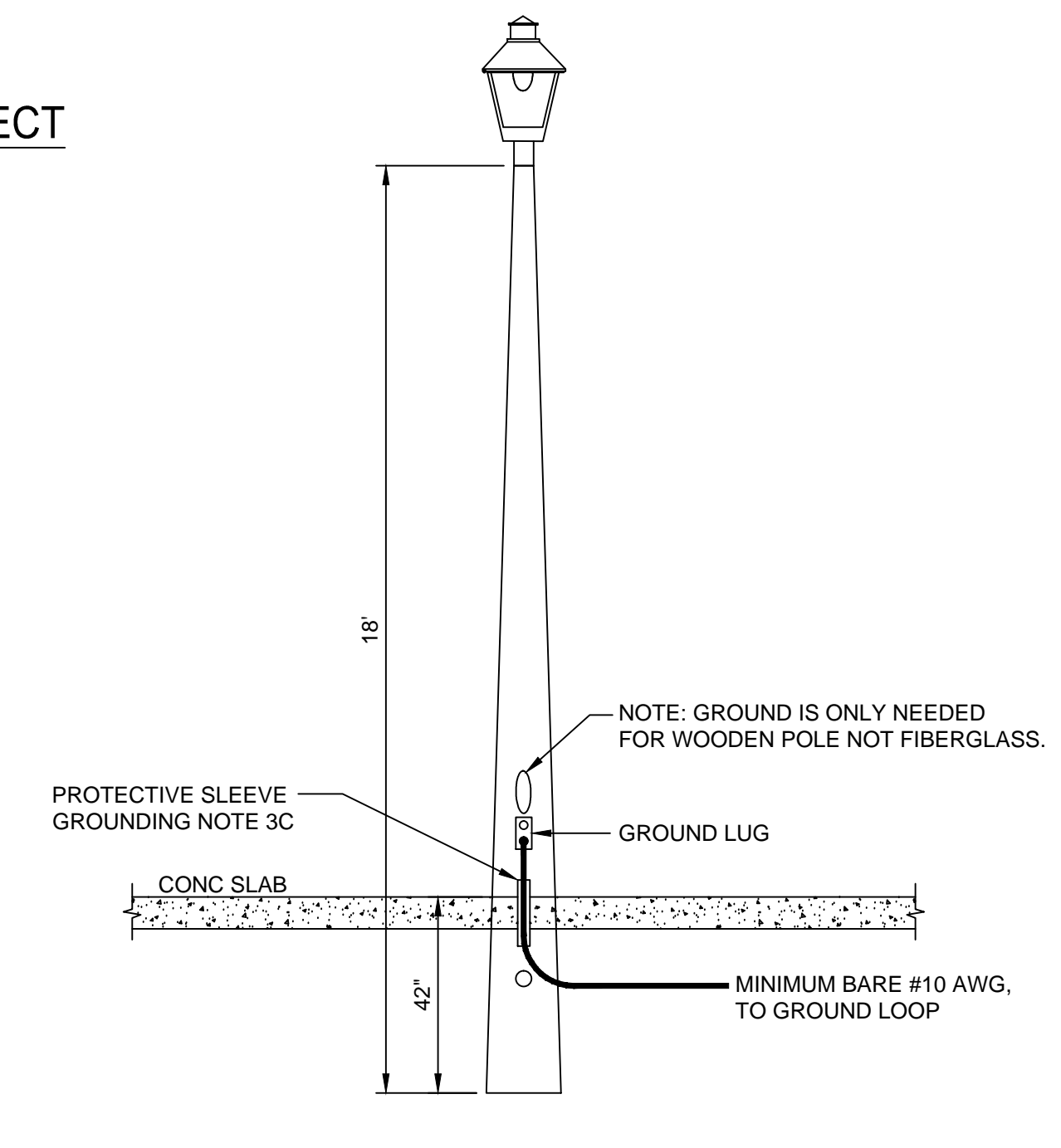
FENCE GROUNDING CORNER POST
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GROUND SYSTEM TEST WELL
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TYPICAL GROUND ROD & CONNECTION DETAIL
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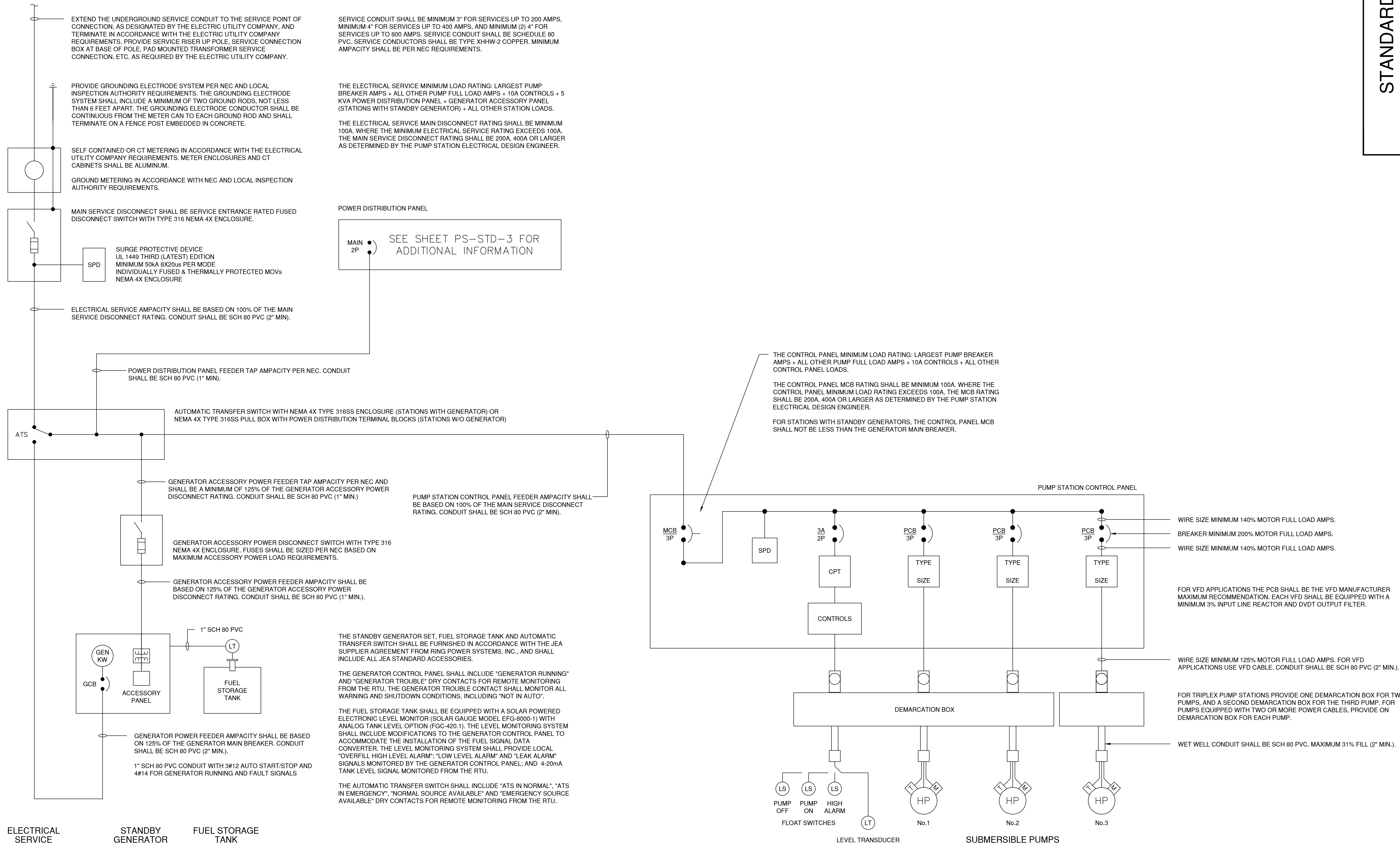
SITE LIGHT GROUNDING DETAIL
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JEA STANDARD
PUMP STATION ELECTRIC DETAILS
GROUNDING DETAILS



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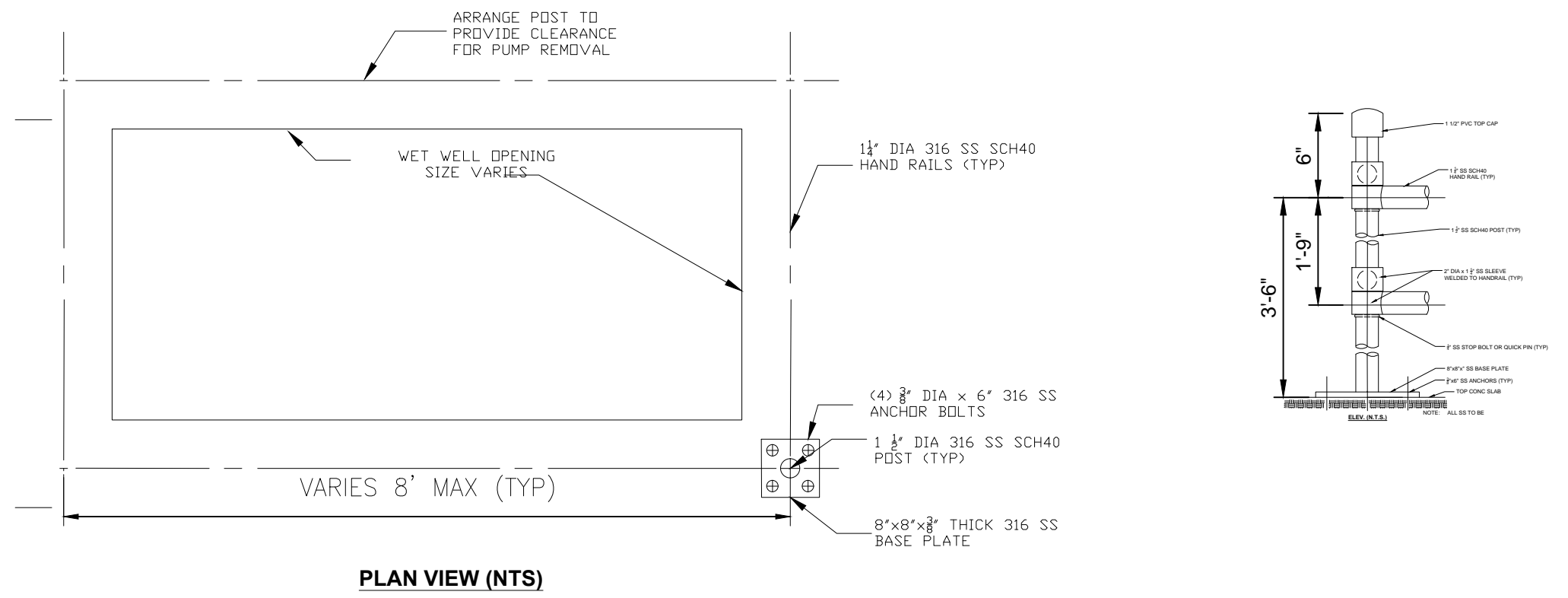
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JEA STANDARD
PUMP STATION ELECTRIC DETAILS
ELECTRIC SINGLE LINE DIAGRAM

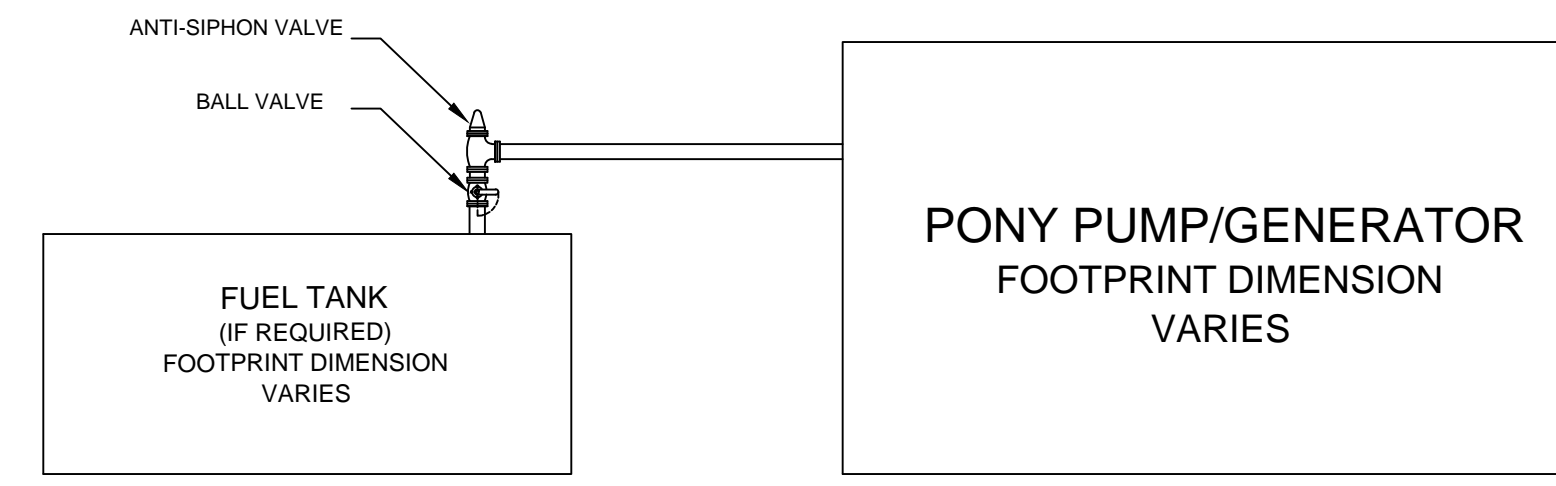
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HAND RAILS FOR PUMP STATION

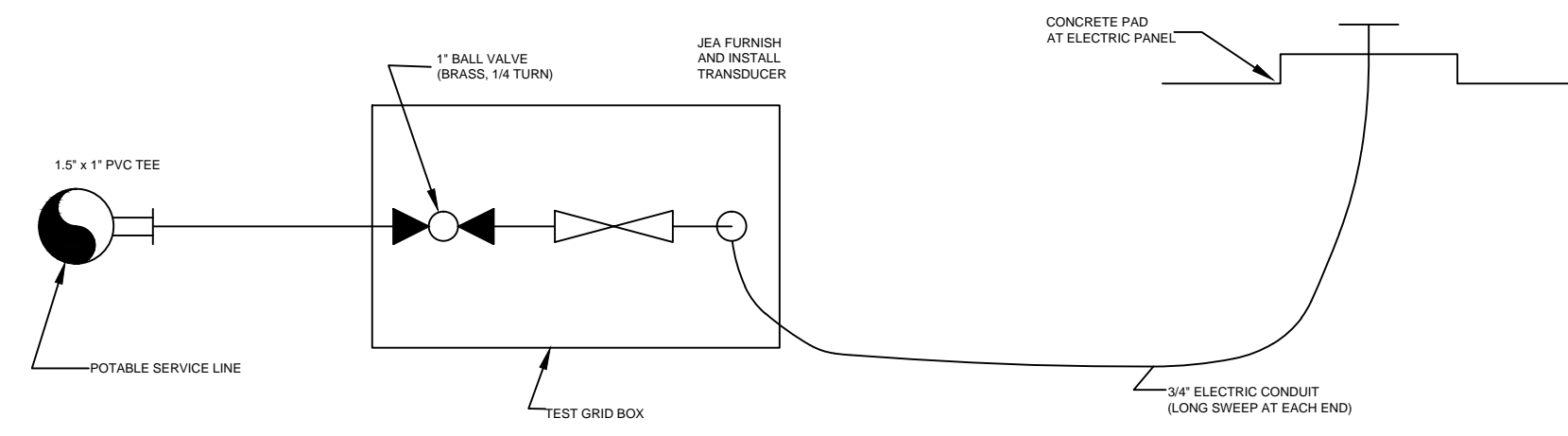
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FUEL TANK PIPING

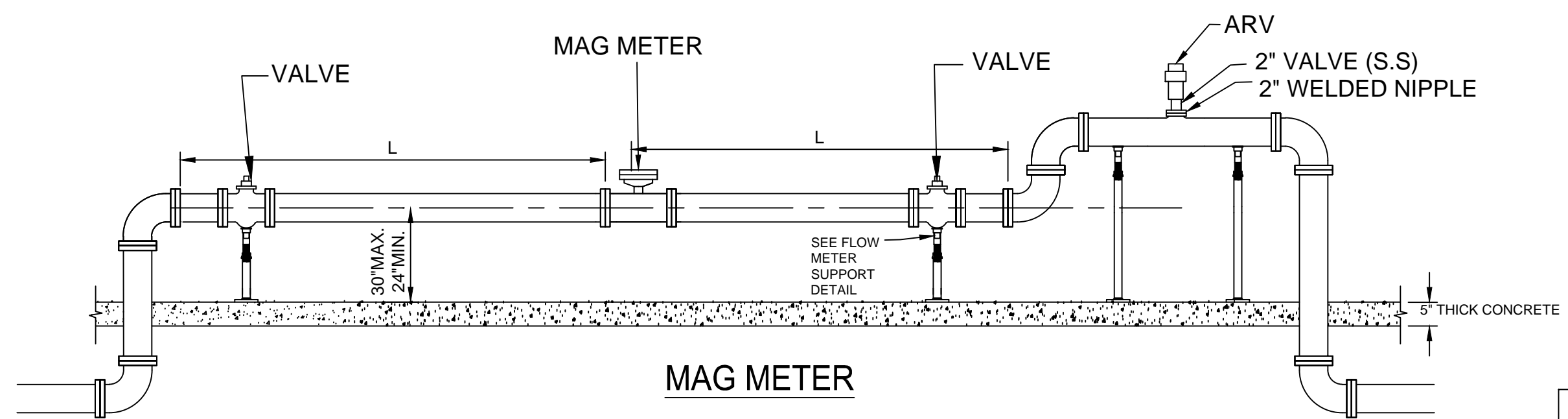
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- FUEL TANK NOTES:**
- CONTRACTOR SHALL FURNISH AND INSTALL FUEL TANK, MARINE GRADE ALUMINUM ENCLOSURE, ENGINE FOUNDATION AND FUEL TANK FOUNDATION AND ALL ACCESSORIES NECESSARY FOR COMPLETE AND OPERABLE INSTALLATION.
 - MATERIAL
 - THE ENCLOSURE SHALL BE WEATHERPROOF, CONSTRUCTED WITH EITHER 304 STAINLESS STEEL OR 5000 MARINE GRADE ALUMINUM. ALL MATERIALS SHALL BE NEW UNLESS SPECIFICALLY CALLED FOR OTHERWISE.
 - VENTING
 - THE TANK SYSTEM SHALL BE FURNISHED WITH A 2 INCH NORMAL VENT AND AN EMERGENCY PRESSURE RELIEF SYSTEM. ALL VENTS AND FITTINGS UTILIZED ON THE FUEL TANK SHALL BE CONSTRUCTED OF STAINLESS STEEL.
 - FUEL PIPING
 - ALL FUEL PIPING SHALL BE SCHEDULE 40, 316 STAINLESS STEEL WELDED SOCKET JOINTS AND BRASS UNION SEATS AT EACH END CONNECTING THE FUEL TANK TO THE PUMP ENGINE. A 316 STAINLESS STEEL BALL VALVE SHALL BE INSTALLED ON SUPPLY LINE AT THE TANK. 550 GALLON TANKS AND LARGER SHALL HAVE INSTALLED DOWNSTREAM FROM BALL VALVE AT THE TANK AN ADJUSTABLE ANTI-SIPHON VALVE.
 - ELECTRICAL
 - ELECTRICAL GROUNDING IS REQUIRED FOR FLAMMABLE LIQUID FUEL TANKS.

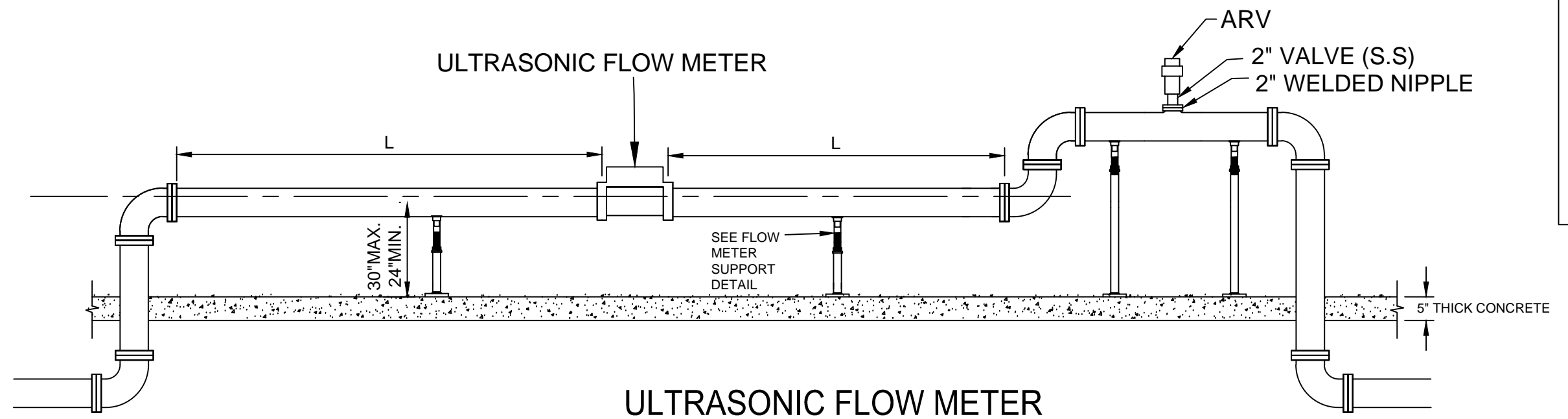


WATER TEST STATION

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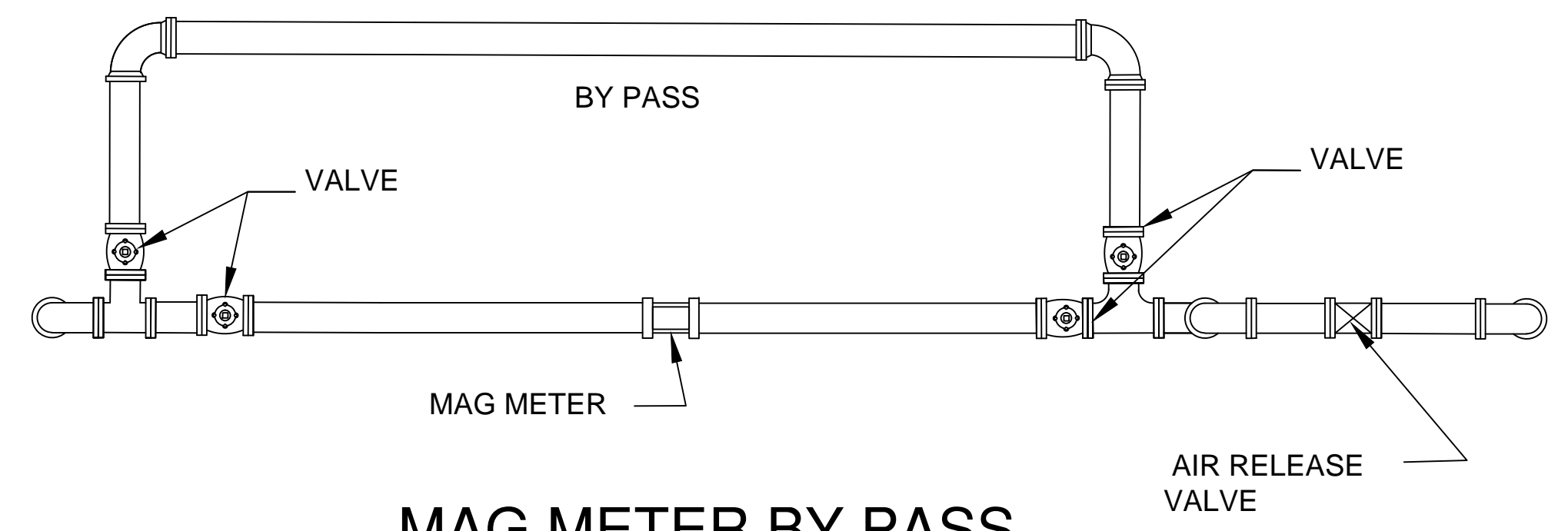


MAG METER



ULTRASONIC FLOW METER

- METER NOTES:**
- L TO BE DESIGNED BY ENGINEER.
 - MAG METER BALANCE: ALL ROTATING PARTS SHALL BE ACCURATELY MACHINED AND SHALL BE ROTATIONAL BALANCE. EXCESSIVE VIBRATION SHALL BE SUFFICIENT FOR REJECTION OF THE EQUIPMENT. THE IMPELLERS SHALL BE REBALANCED AFTER BEING TRIMMED.



MAG METER BY PASS

NOT TO SCALE

FLOW METERS

NOT TO SCALE

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JEA STANDARD
PUMP STATION CONSTRUCTION DETAILS
MISCELLANEOUS DETAILS 2