

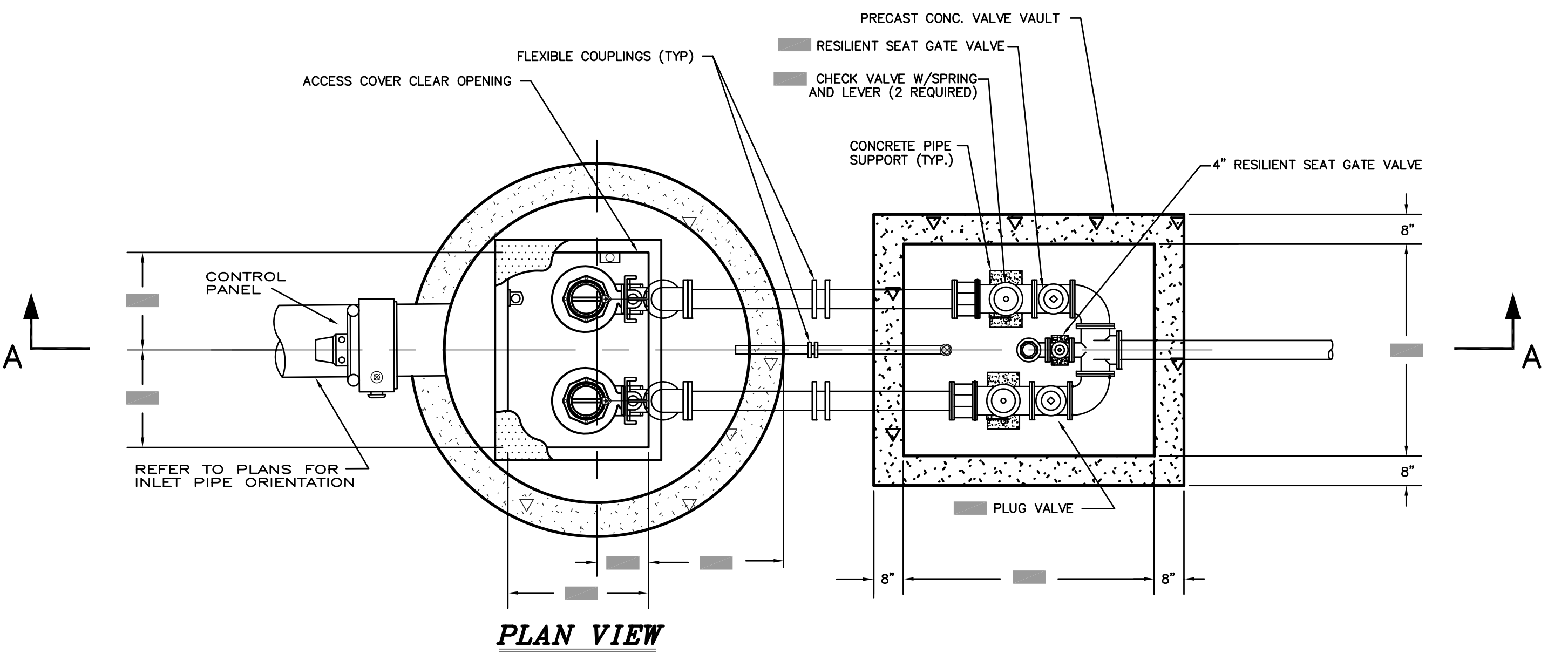
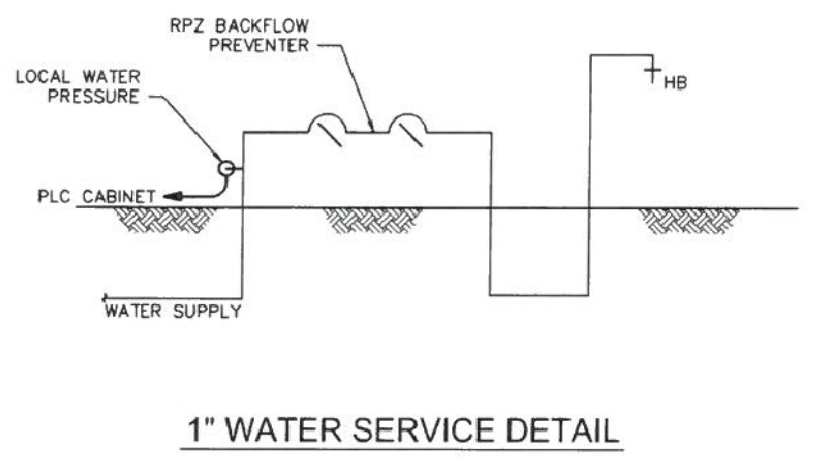
LIFT STATION SITE PLAN
N.T.S.

PUMP DATA AND DESIGN CHARACTERISTICS	
NUMBER OF PUMPS	██████████
DESIGN CAPACITY PER PUMP, G.P.M.	██████████
TOTAL DYNAMIC HEAD, FT.	██████████
MIN. EFF. AT DESIGN CAPACITY, %	██████████
DESIGN SPEED, MAX R.P.M.	██████████
MAX. HORSEPOWER PER PUMP, H.P.	██████████
MIN. SHUTOFF HEAD, FT.	██████████
MIN. SIZE SOLIDS, IN.	██████████
MIN. DISCHARGE SIZE, IN.	██████████
SECONDARY CAPACITY PER PUMP, G.P.M.	██████████
SECONDARY HEAD, FT.	██████████
PUMP MANUF. & MODEL NUMBER	██████████
IMPELLER DIAMETER	██████████
PUMP R.P.M.	██████████
ELECT. SVC. - VOLTAGE & PHASE	██████████

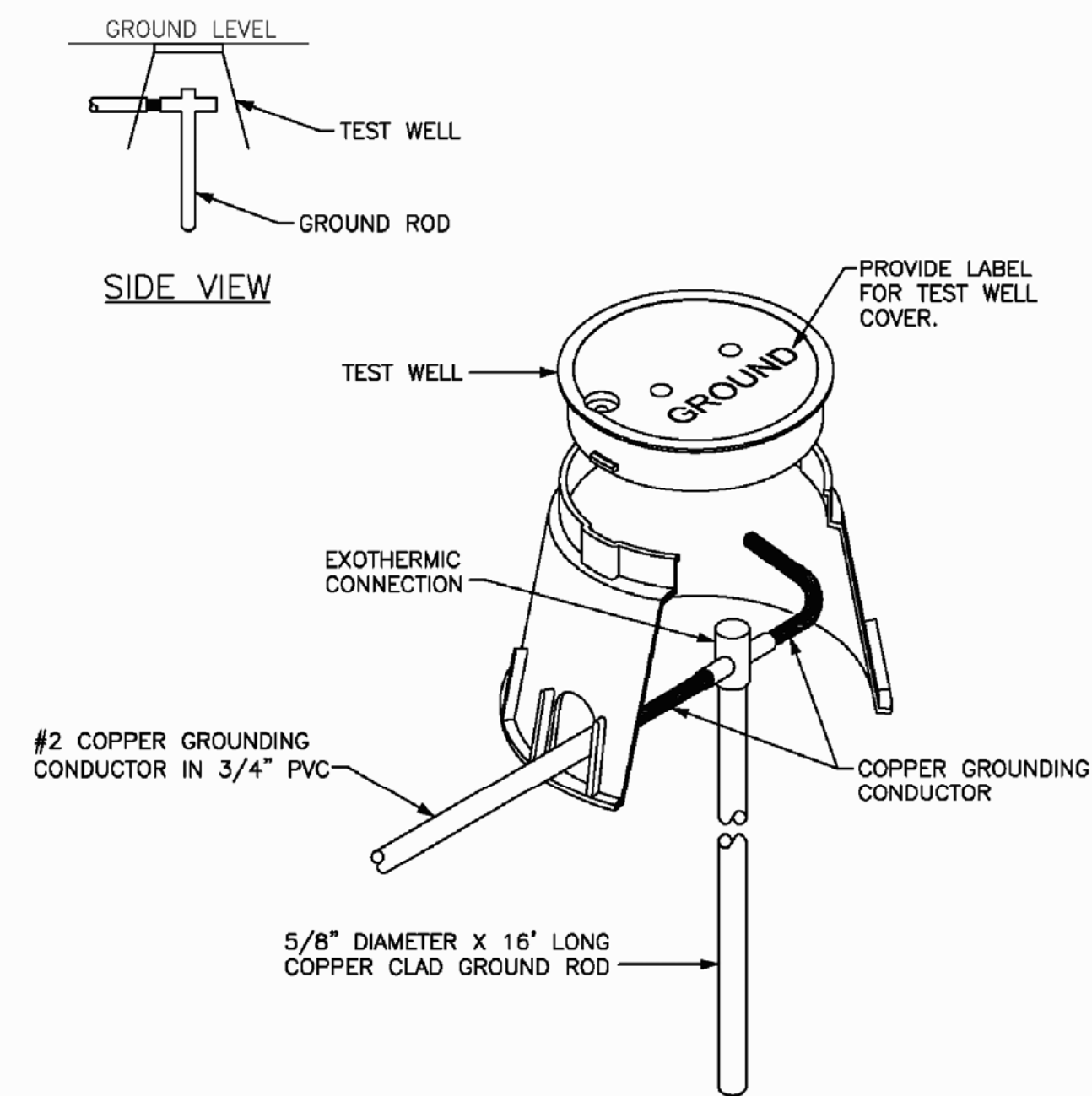
SECTION A-A

NOTE TO DESIGN ENGINEER:

- SHADED BOXES (████) INDICATE INFORMATION REQUIRED TO BE PROVIDED BY DESIGN ENGINEER (e.g., ELEVATIONS, DIMENSIONS OR PIPE SIZES)
- ENGINEER IS REQUIRED TO SHOW UNDERGROUND PIPING ARRANGEMENT (SANITARY, F.M., WATER) IN THE SITE PLAN
- MINIMUM VALVE VAULT DIMENSION ALLOWED IS 5'-0" x 5'-0"
- MINIMUM SITE DIMENSION IS 30' x 30' FOR FENCE AREA.
- BOTTOM SLAB THICKNESSES SHALL BE A MINIMUM OF 18" AND 7" FOR THE WETWELL AND VALVE VAULT, RESPECTIVELY. ENGINEER TO VERIFY IF ADDITIONAL THICKNESS IS REQUIRED.
- PUMPS ≥ 20HP REQUIRE DIP OR C900 DR-18 GREEN PVC WET WELL PIPING.
- MINIMUM WET WELL INNER DIAMETER ALLOWED IS 6 FEET

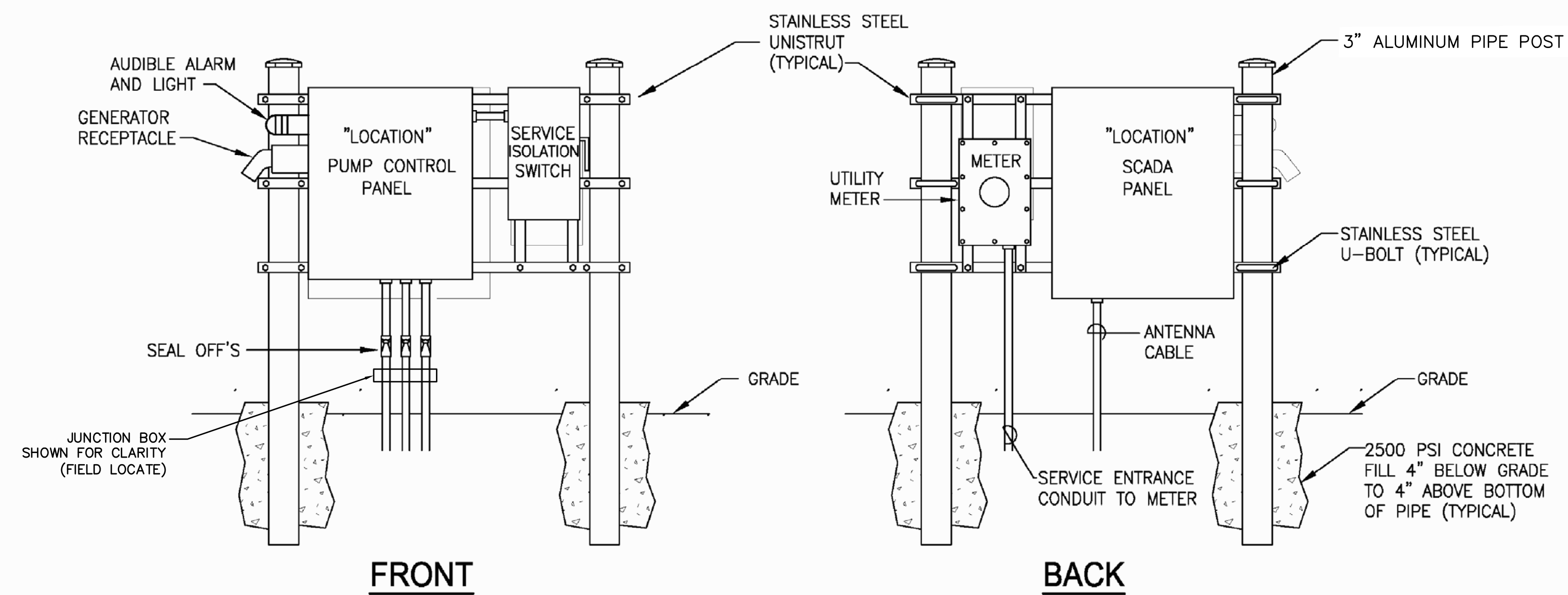


PLAN VIEW

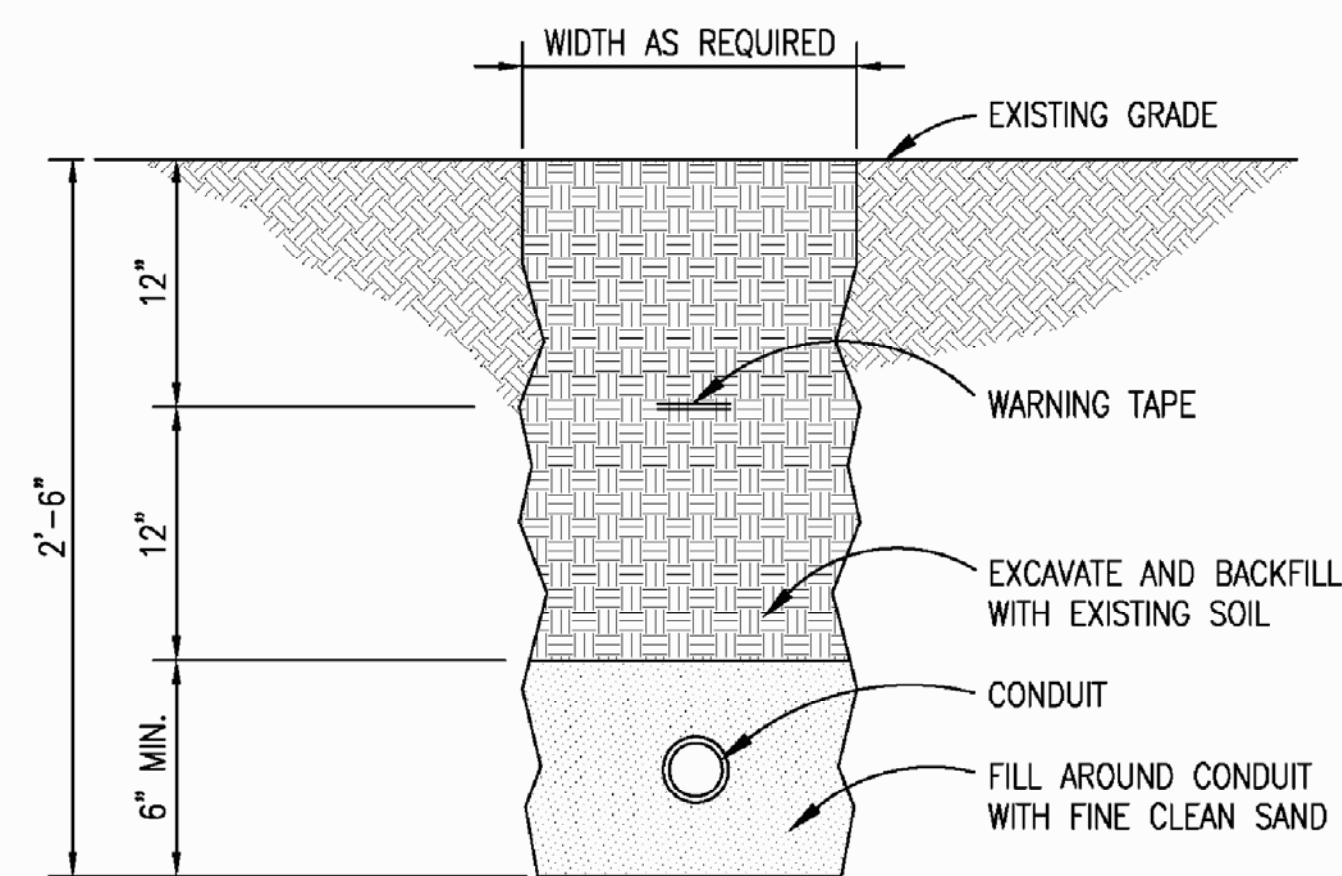


- NOTES:**
1. TEST GROUND PRIOR TO INSTALLATION OF GROUND ROD TO DETERMINE SOIL RESISTIVITY.
 2. REFER TO GROUNDING NOTES FOR REQUIREMENTS.

GROUND ROD INSTALLATION DETAIL
NOT TO SCALE



TYPICAL ELECTRIC EQUIPMENT MOUNTING DETAIL
NOT TO SCALE

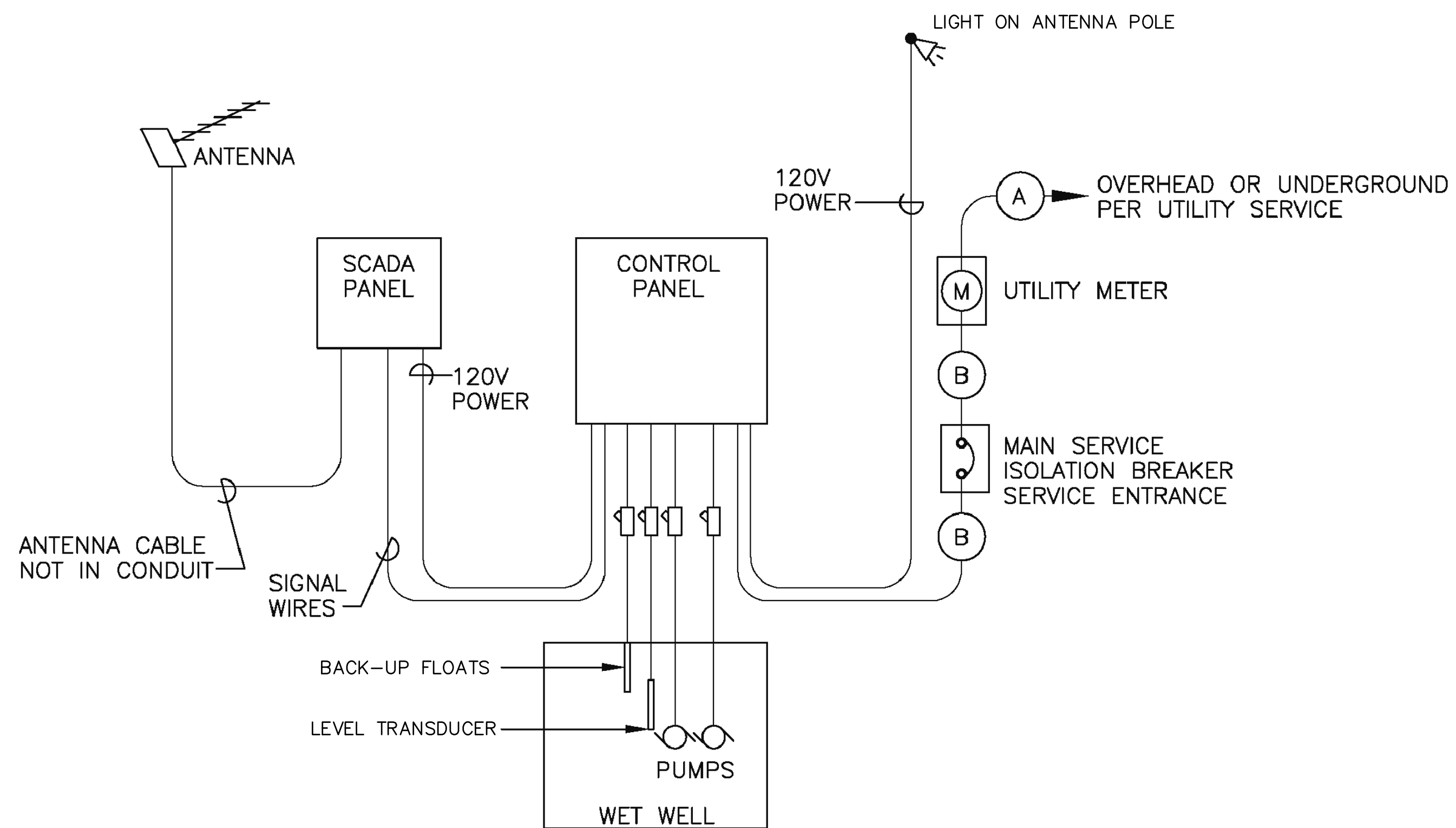


THE CONTRACTOR SHALL, AT A MINIMUM, UTILIZE NPDES EROSION AND SEDIMENT CONTROL METHODS.

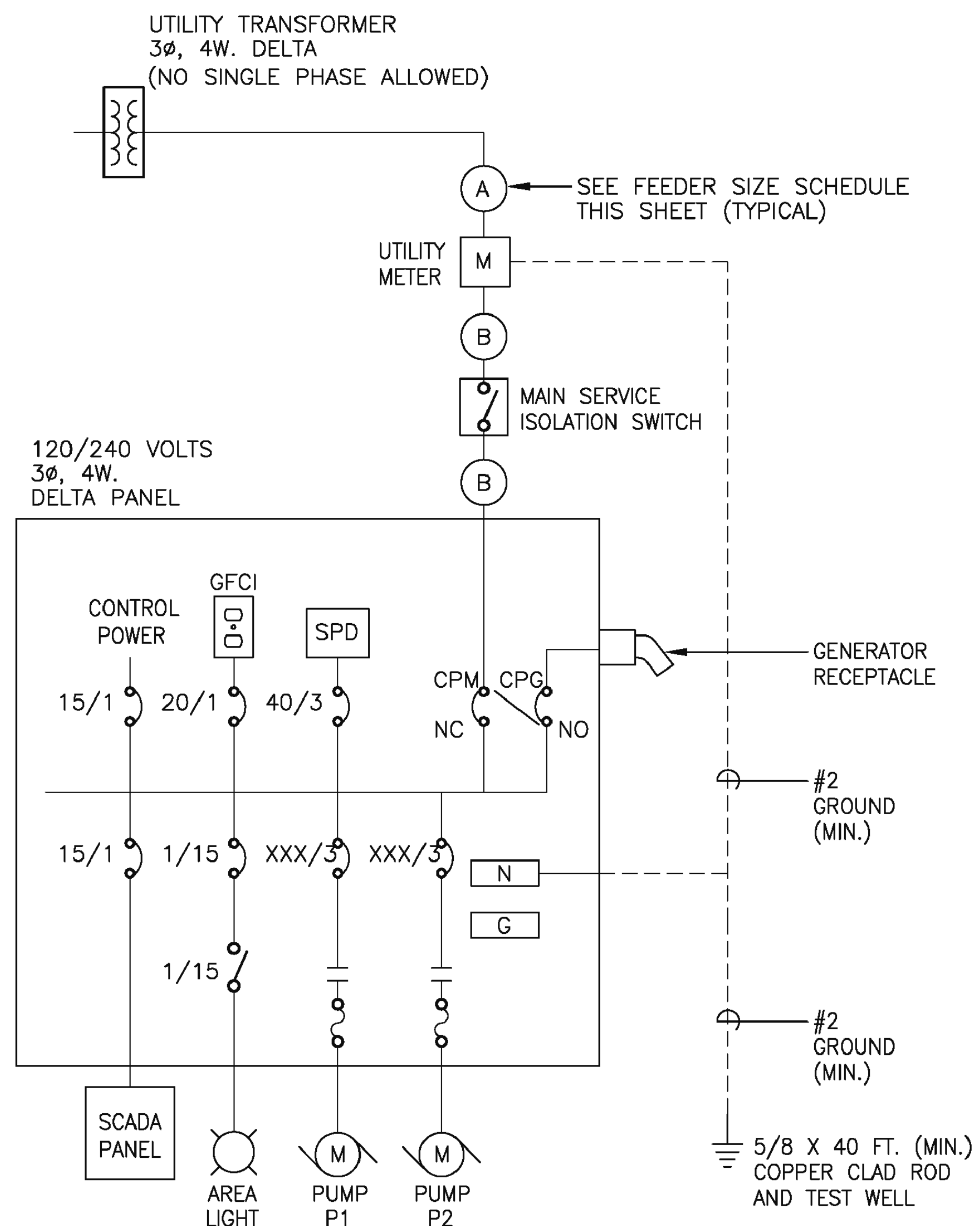
DIRECT BURIED CONDUIT DETAIL
NOT TO SCALE

ELECTRICAL NOTES:

- ① CONTRACTOR SHALL APPLY FOR PERMIT FROM ORMOND BEACH BUILDING DEPARTMENT FOR EACH PUMP STATION SITE.
- ② SPD SHALL BE LEVITON #57120-M3 OR APPROVED EQUAL.
- ③ ALARM LIGHT AND AUDIBLE ALARM SHALL BE INSTALLED ON THE PUMP CONTROL PANEL USING A WEATHER TIGHT CONNECTION. ALARM LIGHT SHALL BE RUSSELL STOLL TYPE VLP CATALOG # 6345A. AUDIBLE ALARM SHALL BE FEDERAL SIGNAL MODEL # 350 OR APPROVED EQUAL.
- ④ REQUIREMENTS FOR PUMP CONTROL AND SCADA PANELS ARE NOTED ON ORMOND BEACH STANDARD DETAILS AS INCLUDED IN THIS DRAWING SET.
- ⑤ SEAL-OFFS SHALL BE FILLED USING CHICO FIBER.



EQUIPMENT RISER DIAGRAM
NOT TO SCALE



TYPICAL POWER ONE-LINE DIAGRAM
NOT TO SCALE
XX-SEE CIRCUIT BREAKER TRIP SCHEDULE.

CIRCUIT BREAKER TRIP SCHEDULE						
MOTOR CIRCUIT PROTECTORS	PUMP HORSEPOWER DUPLEX PUMP SYSTEM	5	7.5	10	15	20
		AMPS @ 230 VOLTS (EACH PUMP)	15.2	22	28	42
	PUMP BREAKER P1 CB	30	40	50	100	100
	PUMP BREAKER P2 CB	30	40	50	100	100
	SERVICE ISOLATION SWITCH	125	125	125	200	200
	PANEL MAIN & GEN. BREAKER CPM & CPG	125	125	125	150	200
	GENERATOR RECEPTACLE	100	100	200	200	200

GENERATOR RECEPTACLE:
100A, 600VAC, 3 POLE, 4 WIRE, WITH SPRING DOOR; CROUSE-HINDS #AR1042 WITH AJA6 ANGLE ADAPTER OR APPROVED EQUAL.
200A, 600VAC, 3 POLE, 4 WIRE, WITH SPRING DOOR; CROUSE-HINDS #2042 WITH AJA1 ANGLE ADAPTER OR APPROVED EQUAL.

FEEDER SCHEDULE			
SYMBOL	DUPLEX PUMP HP	CONDUIT	CONDUCTOR
(A)	5 - 10	PER FPL	3 #1 & 1 #1 NEUTRAL
(B)	5 - 10	1-1/2"	3 #1 & 1 #1 NEUTRAL
(A)	15 - 20	PER FPL	3 #3/0 & 1 #3/0 NEUTRAL
(B)	15 - 20	2"	3 #3/0 & 1 #3/0 NEUTRAL

GENERAL NOTES
LIFT STATION CONSTRUCTION

1. NEW WET WELLS SHALL BE CONSTRUCTED USING CONCRETE PROTECTIVE LINERS (AGRU SURE GRIP OR EQUIVALENT). EXISTING WET WELLS SHALL BE LINED WITH SPECTRA-SHIELD, SEWPERCOAT, GREEN MONSTER OR APPROVED EQUAL. WET WELL EXTERIOR SHALL BE COATED WITH COAL TAR EPOXY.
2. BASE AND FIRST RISER UNIT TO BE CAST MONOLITHIC.
3. VALVE VAULT AND ACCESS COVERS SHALL BE SIZED TO PERMIT EASY REMOVAL OF CHECK VALVE.
4. VALVE VAULT SHALL HAVE SEALED FLOOR W/DRAIN TO WET WELL – TRAP REQUIRED.
5. ALL LOCATIONS WHERE PIPES ENTER OR LEAVE THE WET WELL OR VALVE VAULT SHALL BE MADE WATERTIGHT WITH WALL SLEEVE OR NON-SHRINK GROUT.
6. PUMP LIFTING DEVICE SHALL BE 304 SS LIFTING CABLE.
7. THERE SHALL BE NO ELECTRICAL JUNCTION BOXES IN WET WELL OR VALVE VAULT.
8. CHECK VALVES SHALL BE OUTSIDE LEVER & SPRING.
9. WET WELL & VALVE VAULT COVERS SHALL BE ALUMINUM WITH 304S.S HARDWARE, AS RECOMMENDED AND REQUIRED BY PUMP MANUFACTURER (LOADING 300 P.S.F.) AND PROVIDED WITH RECESSED LOCKS.
10. CONTROL PANEL SHALL BE AS MANUFACTURED BY THE PUMP SUPPLIER OR APPROVED EQUAL.
11. WET WELL DIAMETER SHALL BE 6' NOMINAL.
12. ACCESS HATCH DIMENSIONS ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE PUMPING EQUIPMENT, PIPING AND CONCRETE STRUCTURES TO ENSURE ADEQUATE ACCESS OPENINGS FOR INSTALLATION, OPERATION AND MAINTENANCE OF ALL EQUIPMENT.
13. VALVE VAULT AND WET WELLS SHALL BE PRECAST CONCRETE. SUBMIT SHOP DRAWINGS WITH REINFORCING DETAILS FOR APPROVAL PRIOR TO FABRICATION.
14. IF CITY FORCEMAIN IS INSTALLED PRIOR TO LIFT STATION COMPLETION, PROVIDE NECESSARY WET TAP AND ALL MATERIAL AND LABOR FOR CONNECTION IN ACCORDANCE WITH CITY STANDARDS. IF FORCEMAIN HAS NOT BEEN INSTALLED PRIOR TO COMPLETION, CAP FORCEMAIN INSTALLED UNDER THIS PROJECT AT R.O.W. LINE AND PROVIDE 4x4 POST MARKER. ISSUE OWNER CREDIT FOR WET TAP AND CONNECTION.
15. PROVIDE LOCKS KEYED TO THE CITY'S MASTER KEY.
16. CHAIN LINK FENCE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:
 - A. POSTS SHALL BE SCHEDULE 40, GALVANIZED STEEL (2" OUTSIDE DIAMETER MIN.), MAXIMUM 10 FOOT SPACING
 - B. FABRIC FOR FENCING AND GATES SHALL BE 9 GAUGE 2" MESH, CLASS 1, CONFORMING TO A.S.T.M. A-3920, 1.2 OZ. GALVANIZED COATING.
 - C. POSTS SHALL BE SET IN 2500 PSI CONCRETE IN AN 8" DIAMETER HOLE WITH A DEPTH OF 36 INCHES.
 - D. FENCING SHALL BE SCREENED WITH PVC SLATS, WINGED-SLATS OR APPROVED EQUAL. COLOR SHALL BE GREEN.
18. PUMPS SHALL BE XYLEM / FLYGT, GRUNDFOS, ABS OR COMPARABLE
19. MIX & FLUSH VALVE SHALL BE INSTALLED ON ONE PUMP.
20. FURNISH & INSTALL E-Z WRAP FILTER FABRIC AROUND JOINTS OF WET WELL RISER RING & TOP SLAB.
21. COAL TAR EPOXY SHALL BE APPLIED TO THE CONCRETE, DUCTILE IRON PIPE, AND VALVES WITHIN THE VALVE VAULT
22. FURNISH AND INSTALL EMERGENCY GENERATOR CONNECTION WITH MALE END COMPATIBLE WITH CITY OF SOUTH DAYTONA EQUIPMENT.
23. SEAL GRAVITY PIPE AT WET WELL WITH RUBBER BOOT SEAL



STANDARD CONSTRUCTION DETAIL
GENERAL NOTES
LIFT STATION CONSTRUCTION

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SLS-1A

JAN - 2024

CITY OF SOUTH DAYTONA
LIFT STATION REQUIREMENTS

1. AUXILIARY POWER CONNECTION:
 - A. FOR PUMPS < 10HP – CROUSE-HINDS CAT. NO. AR1042, 100 AMP, 230 VOLT WITH AJA5 ANGLE ADAPTER OR APPROVED EQUAL
 - B. FOR PUMPS ≥ 10HP – CROUSE-HINDS CAT. NO. 2042, 200 AMP, 600 VAC, 3 POLE, 4 WIRE WITH AJA1 ANGLE ADAPTER OR APPROVED EQUAL
 - C. RECEPTACLE SHALL BE FITTED WITH MALE END.
2. PUMP STATION MUST HAVE ACCESS AT ALL TIMES FOR CITY MAINTENANCE VEHICLES.
3. HAND – (ON-OFF) – AUTOMATIC SWITCHES ON ALL PUMPS.
4. MANUAL – (ON-OFF) – SWITCH ON ALL ALTERNATORS.
5. ONE ELAPSED TIME METER FOR EACH PUMP.
6. 120 VOLT RECEPTACLE INSIDE CONTROL BOX.
7. 3 PHASE CURRENT (WILL NOT ACCEPT ADD A PHASE OR CAPACITOR PHASE CHANGERS).
8. SWITCH FROM PLC TO BYPASS ON CONTROL PANEL.
9. THERE SHALL BE A SEPARATE CONDUIT FOR EACH PUMP POWER CABLE. CONTROL CABLE SHALL BE IN A SEPARATE CONDUIT.
10. LIQUID FILLED PRESSURE GAUGE ON FORCE MAIN.
11. THE CITY WILL NOT ACCEPT 120 VOLT TO FLOAT SWITCHES, AND MUST BE TRANSFORMER ISOLATED–24 VOLT MAX. ALL CONNECTIONS MUST TERMINATE IN CONTROL PANEL OUTSIDE OF WET WELL.
12. AS-BUILTS ON UNDERGROUND POWER SERVICE IF NOT INSTALLED BY F.P.& L.
13. MUST HAVE APPROVED LIFT STATION MANUALS, SHOP DRAWINGS, ETC.
14. KNIFE SWITCH DISCONNECT BETWEEN F.P.& L. AND LIFT STATION CONTROL PANEL – STAINLESS STEEL.
15. FURNISH FOR SOUTH DAYTONA STANDARD RTU, MOUNTED AND CONNECTED IN CONFORMANCE WITH CITY STANDARDS TYPICAL SCADA WIRING INTERFACE AT LIFT STATION:
 - A. PUMP STATUS: NORMALLY OPEN DRY CONTACT ON EACH MOTOR STARTER.
 - B. PHASE ALARM: NORMALLY OPEN DRY CONTACT ON PHASE FAILURE RELAY.
 - C. HIGH LEVEL ALARM: NORMALLY OPEN DRY CONTACT ON HIGH LEVEL ALARM RELAY.
 - D. IF AVAILABLE – PROVIDE CURRENT TRANSFORMER AND TRANSMITTER TO PROVIDE 4–20 mA OUTPUT PROPORTIONAL TO THE TOTAL STATION AMPERAGE. (SELECT ONE LEAD OF 3-PHASE POWER).
 - E. PROVIDE 120 VAC SOURCE – 5 AMPS – FOR RTU POWER.
 - F. ALL CONNECTIONS BROUGHT TO BARRIER TERMINAL STRIP.
16. PUMP CONTROL AND MONITORING ACCOMPLISHED THROUGH RTU.
17. THE ELECTRICAL SUBCONTRACTOR AND/OR THE CONTRACTOR SHALL BE RESPONSIBLE FOR AN RF PATH STUDY BETWEEN THE PROPOSED SITE AND THE ELEVATED TANK AT THE WATER PLANT. THE STUDY IS TO ESTABLISH THE REQUIRED ANTENNAE HEIGHT, AZIMUTH AND ESTIMATED SIGNAL STRENGTH (MINIMUM OF –85DBM).
18. THE ELECTRICAL SUBCONTRACTOR SHALL COORDINATE WORK WITH THE CONTRACTOR TO ENSURE THAT ALL RADIO TRANSMISSION SIGNALS ARE PROPERLY TRANSMITTED AND RECEIVED WITHOUT ERRORS. RADIO TRANSMISSION SIGNALS MUST BE A MINIMUM OF –85 DBM.
19. BACK-UP FLOAT SYSTEM FOR PUMP CONTROL SHALL BE INSTALLED AND CONNECTED TO THE PUMP CONTROL PANEL THIS SYSTEM SHALL BE AUTOMATICALLY ACTIVATED IN THE EVENT OF LOSS OF CONTROL FROM THE RTU.



STANDARD CONSTRUCTION DETAIL

CITY OF SOUTH DAYTONA
LIFT STATION REQUIREMENTS

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SLS-1B

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