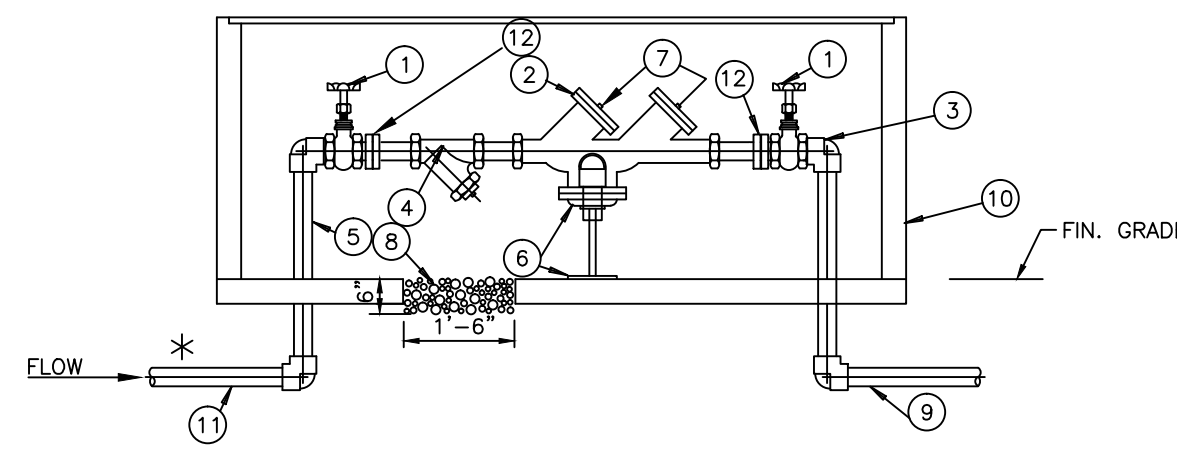


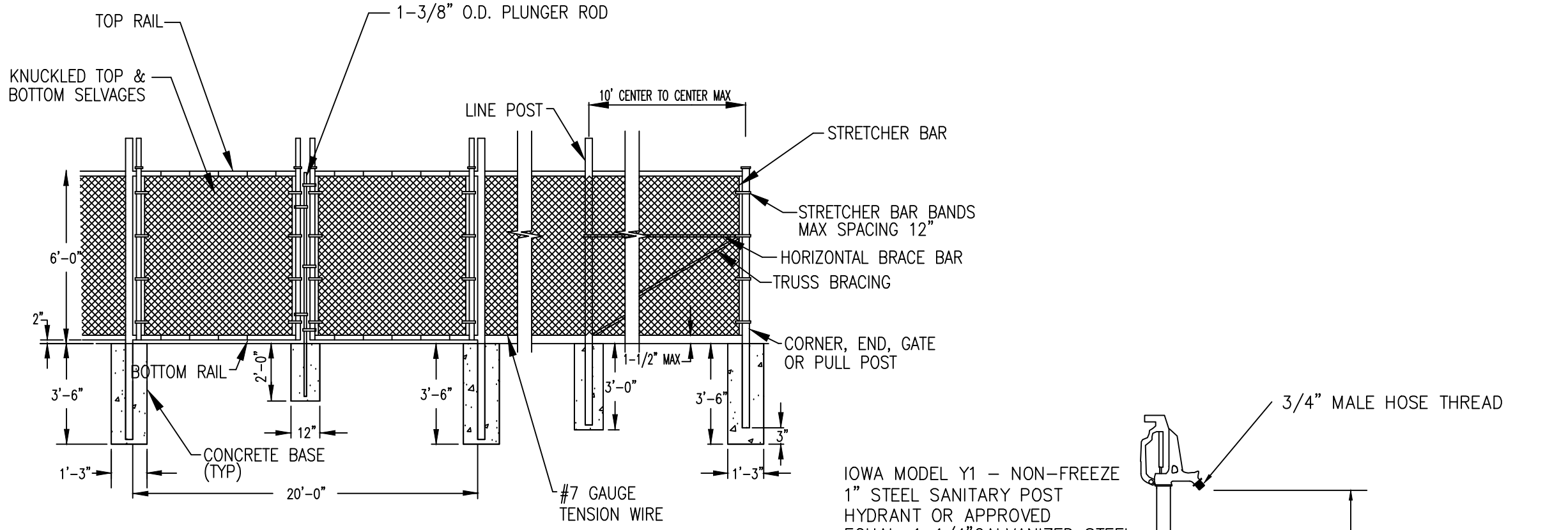
EFFINGHAM COUNTY LIFT STATION PLAN DETAIL

SCALE: N.T.S.  
DATE: August 2004  
S-8

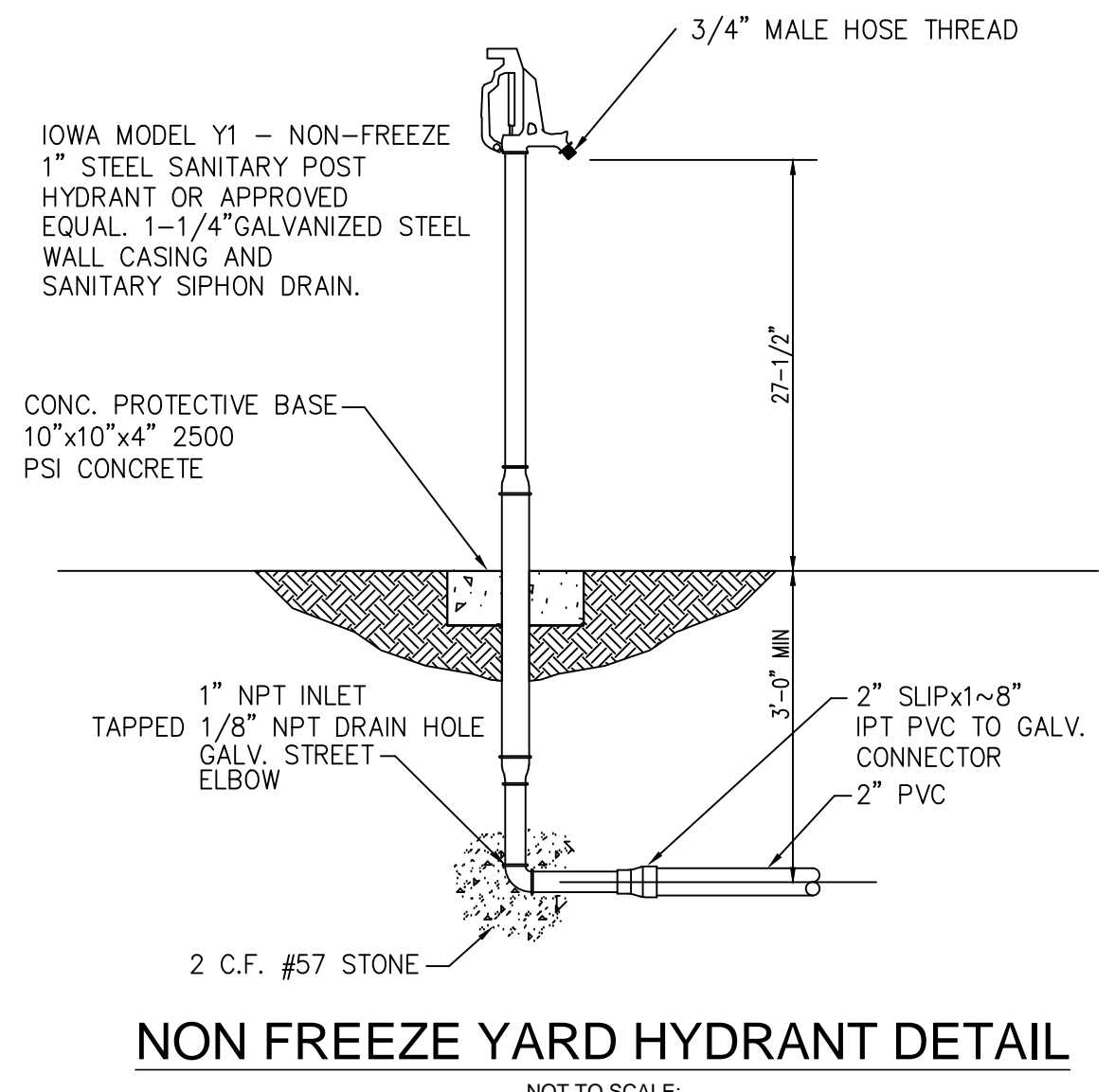


MATERIALS		
ITEM	QUAN.	DESCRIPTION
1	2	RESILIENT TYPE GATE VALVES OS&Y (FOR 2" & LARGER LESS THAN 2" BALL VALVE)
2	1	REDUCED PRESSURE ZONE DEVICE/DOUBLE CHECK VALVE
3	4	BRASS 90° (DOMESTIC MADE)
4	1	STRAINER
5	2	BRASS NIPPLE (DOMESTIC MADE)
6		MINIMUM 12" CLEARANCE
7	2	BRASS PLUGS INSERTED IN TEST COCKS
8		6" GRAVEL & DRAIN
9		POLYETHYLENE PIPE WITH COMPRESSION FITTINGS
10	*	COUNTY APPROVED ENCLOSURE WITH HATCH COVER FOR BFP
11		CUT BRASS (DOMESTIC MADE)
12		UNION

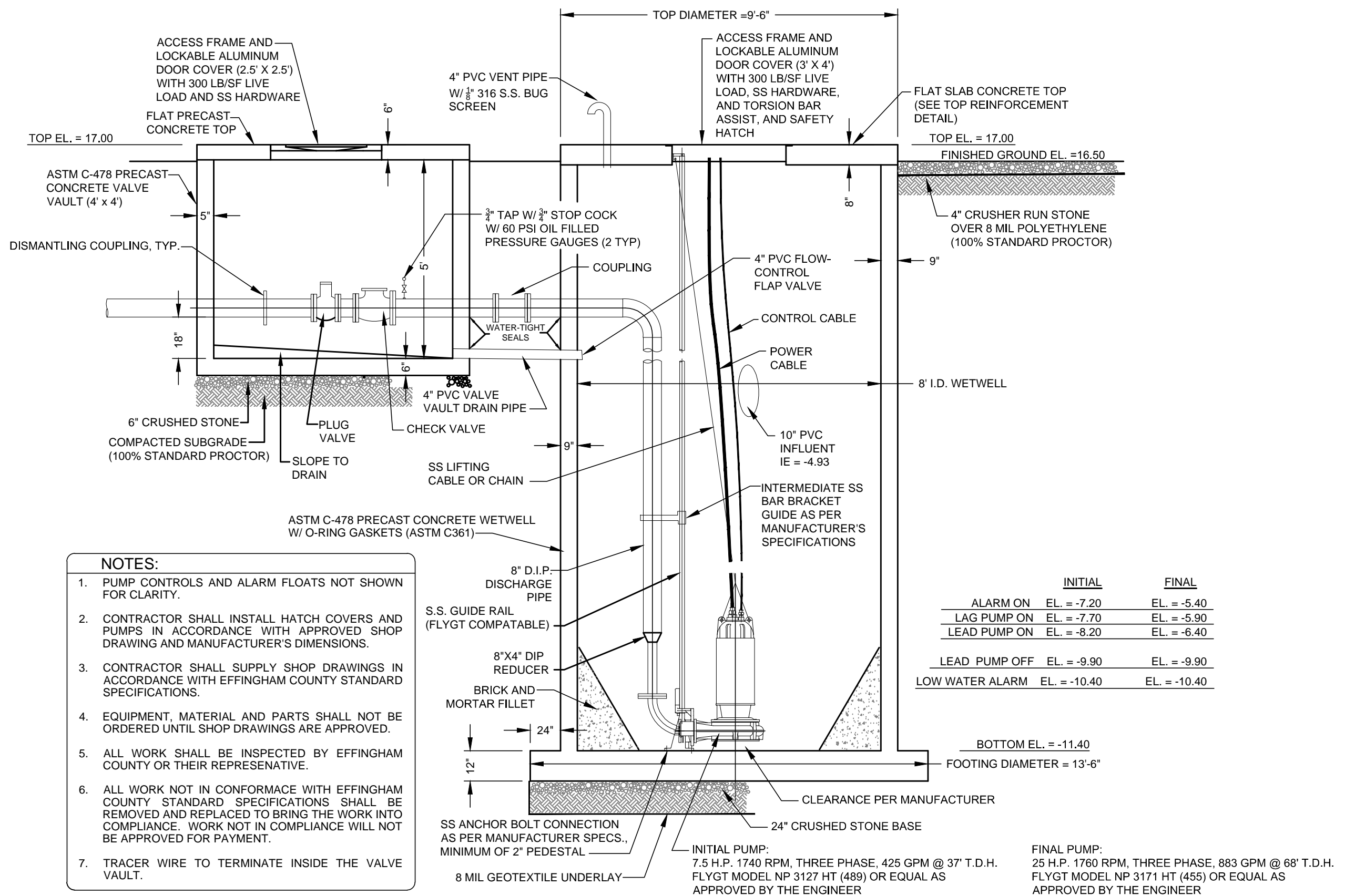
BACKFLOW PREVENTER DETAIL  
NOT TO SCALE.



CHAIN LINK FENCE DETAIL  
NOT TO SCALE.



NON-FREEZE YARD HYDRANT DETAIL  
NOT TO SCALE.

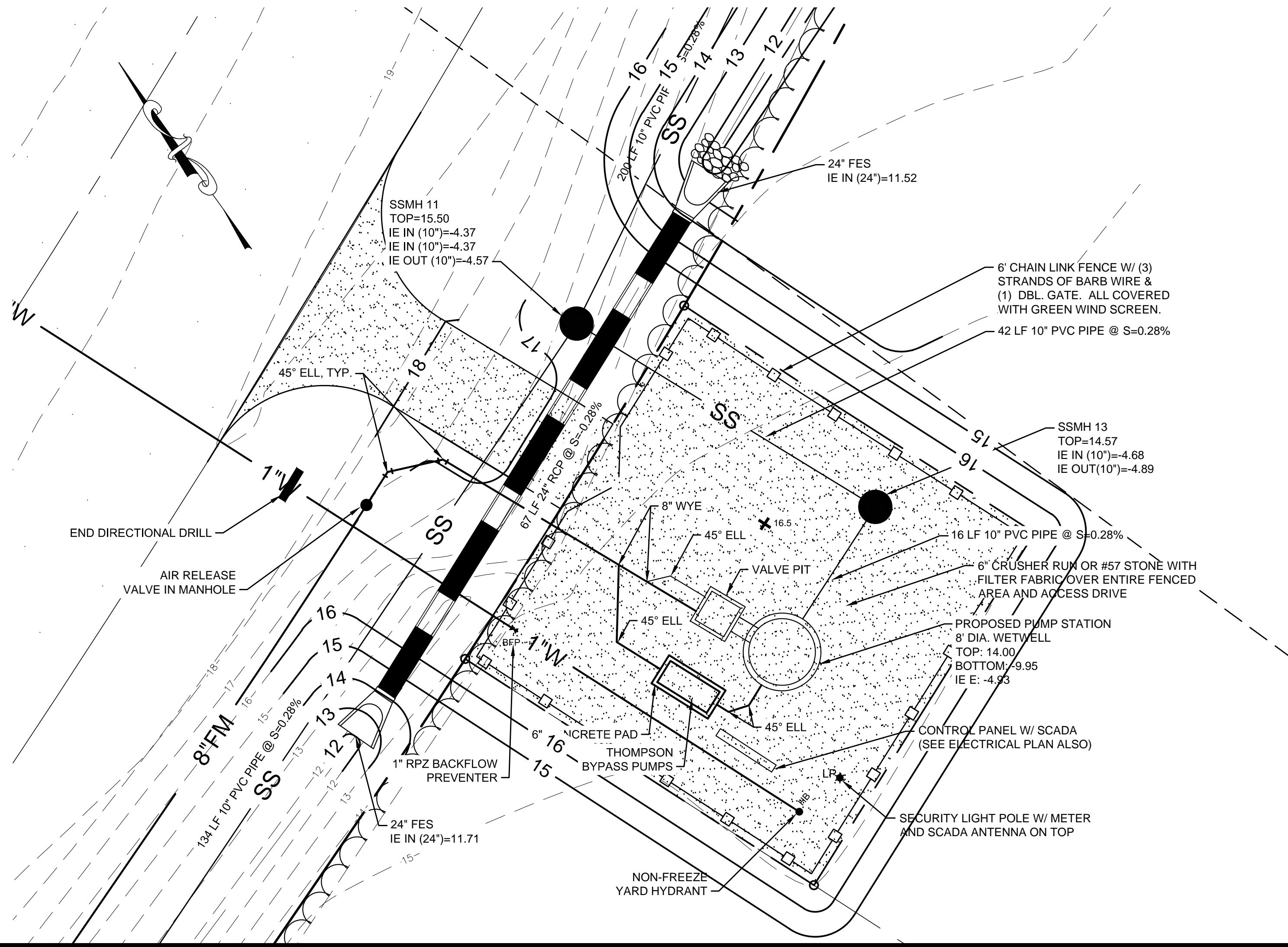


NOTES:  
1. PUMP CONTROLS AND ALARM FLOATS NOT SHOWN FOR CLARITY.  
2. CONTRACTOR SHALL INSTALL HATCH COVERS AND PUMPS IN ACCORDANCE WITH APPROVED SHOP DRAWINGS AND MANUFACTURER'S DIMENSIONS.  
3. CONTRACTOR SHALL SUPPLY SHOP DRAWINGS IN ACCORDANCE WITH EFFINGHAM COUNTY STANDARD SPECIFICATIONS.  
4. EQUIPMENT, MATERIAL AND PARTS SHALL NOT BE ORDERED UNTIL SHOP DRAWINGS ARE APPROVED.  
5. ALL WORK SHALL BE INSPECTED BY EFFINGHAM COUNTY OR THEIR REPRESENTATIVE.  
6. ALL WORK NOT IN CONFORMANCE WITH EFFINGHAM COUNTY STANDARD SPECIFICATIONS SHALL BE REMOVED AND REPLACED TO BRING THE WORK INTO COMPLIANCE. WORK NOT IN COMPLIANCE WILL NOT BE APPROVED FOR PAYMENT.  
7. TRACER WIRE TO TERMINATE INSIDE THE VALVE VAULT.

	INITIAL	FINAL
ALARM ON	EL. = -7.20	EL. = -5.40
LAG PUMP ON	EL. = -7.70	EL. = -5.90
LEAD PUMP ON	EL. = -8.20	EL. = -6.40
LEAD PUMP OFF	EL. = -9.90	EL. = -9.90
LOW WATER ALARM	EL. = -10.40	EL. = -10.40

FINAL PUMP:  
25 H.P. 1740 RPM. THREE PHASE, 883 GPM @ 68' T.D.H.  
FLYGT MODEL NP 3171 HT (455) OR EQUAL AS APPROVED BY THE ENGINEER

DUPLIX SUBMERSIBLE SEWAGE PUMP STATION SECTION  
NOT TO SCALE.



NO.	REVISION DESCRIPTION	BY	DATE

EMC ENGINEERING SERVICES, INC.  
10 CHATHAM CENTER SOUTH DR.  
SUITE 100 (31405)  
POST OFFICE BOX 810  
PHONE: (912) 232-6533  
FAX: (912) 233-4580  
www.emc-eng.com

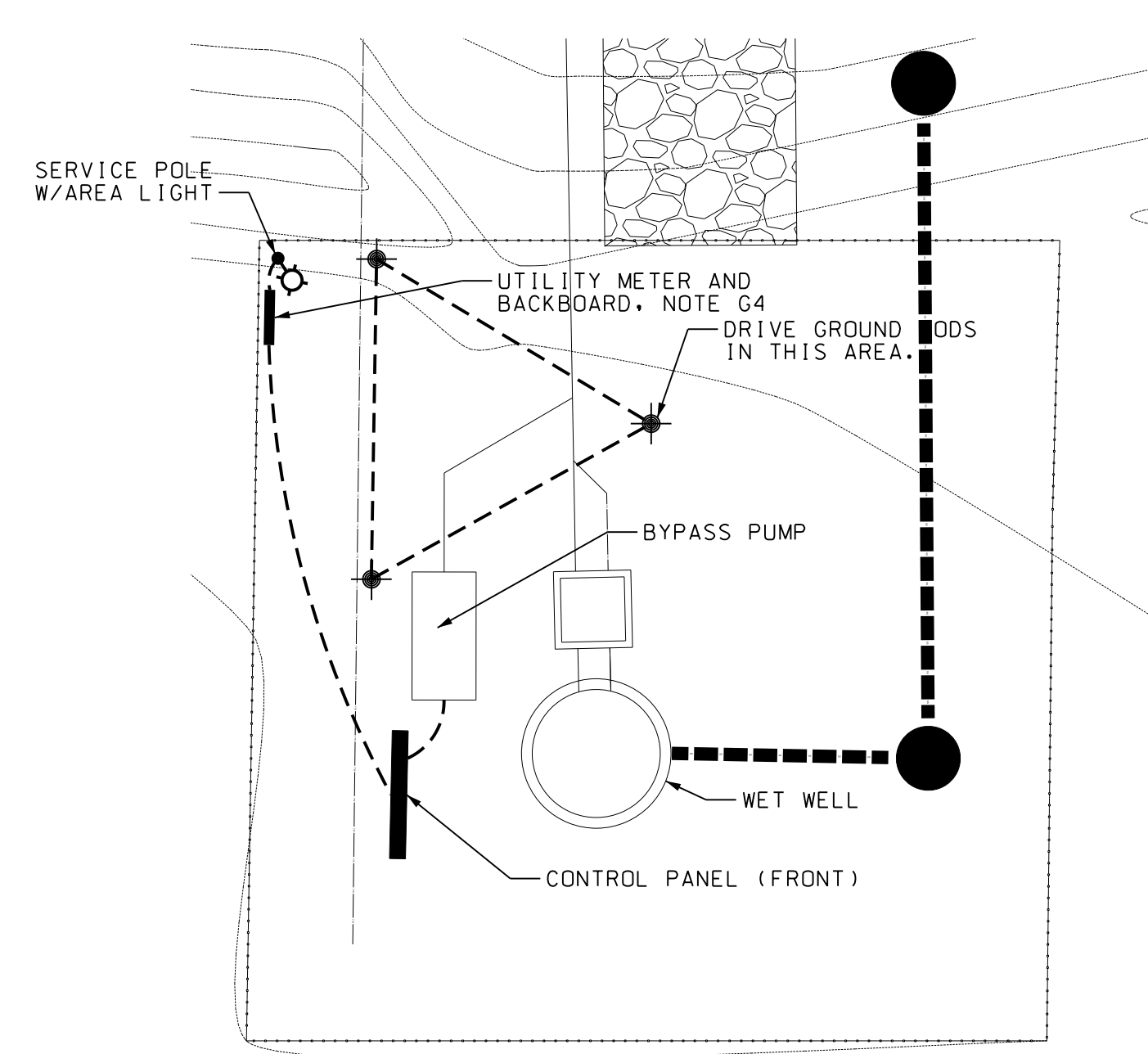
REGISTERED PROFESSIONAL ENGINEER  
No. PE30423  
ALEC B. METZGER

GRAPHIC SCALE: 1"=10'-0"

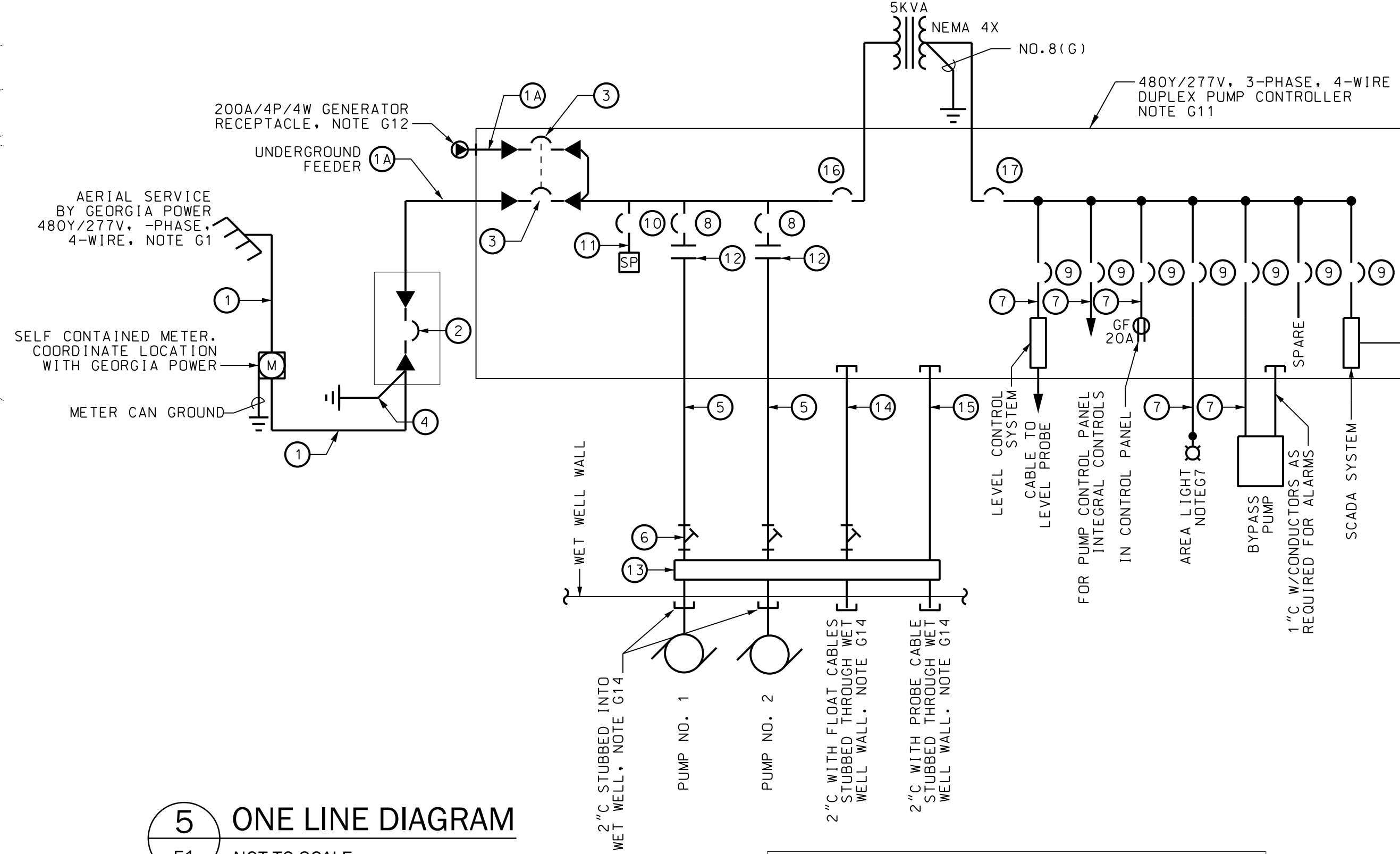
PUMP STATION PLAN  
OLD AUGUSTA ROAD UTILITY EXTENSION  
9TH G.M. DISTRICT  
EFFINGHAM COUNTY, GEORGIA  
Prepared for:  
EFFINGHAM COUNTY BOARD OF COMMISSIONERS

PROJECT NO.: 16-0004  
DRAWN BY: CPR  
DESIGNED BY: ABM  
SURVEYED BY: EMC  
SURVEY DATE: MARCH 2016  
CHECKED BY: ABM  
SCALE: 1"=10'  
DATE: MAY 2016

O:\2016\16-0004 OLD AUGUSTA ROAD UTILITY\DWG\16-0004C\_E01.DWG 5/20/2016 11:57 AM



**1 SITE PLAN**  
E1 SCALE: 1" = 10'



**5 ONE LINE DIAGRAM**  
E1 NOT TO SCALE

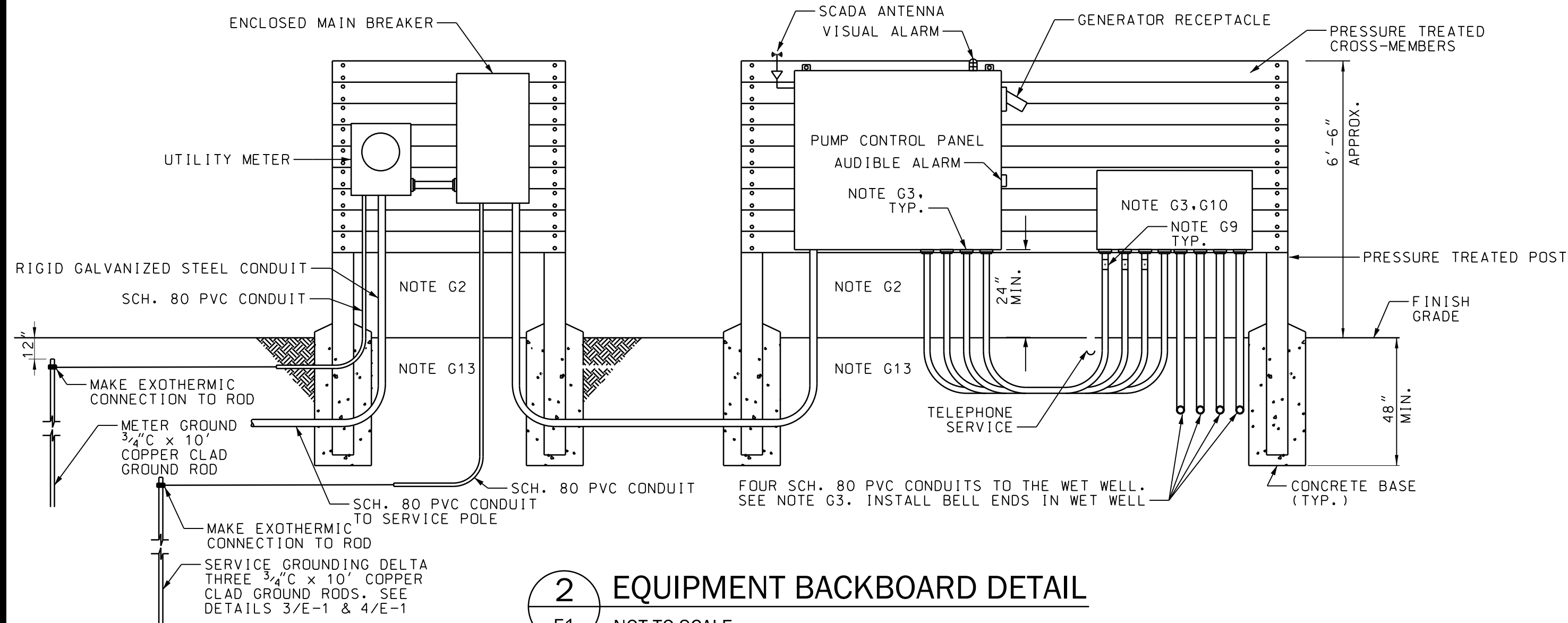
DUPLIX PUMP STATION ONE LINE SCHEDULE	
ITEM#	PUMPS 460V 3PH: 7.5HP 9.9FLA / 25HP 31FLA
1	2" C W/4NO.1
1A	2" C W/4NO.1, 1NO.8(G)
2	125A/3P MAIN CIRCUIT BREAKER W/ SERVICE LABEL, 18 000 MIN. A.I.C. @ 480V, LOCKABLE
3	125A/3P EMERGENCY CIRCUIT BREAKER W/ MECHANICAL WALKING BEAM INTERLOCK 18 000 MIN. A.I.C. @ 480V
4	3/4" C.W/ 1 NO. 6(G)
5	2" C W/3NO.8, 1NO.10(G), 4NO.12(CNTLS)
6	SEAL-OFF FITTING, C-H TYPE EYS, NOTE G9
7	3/4" C.W/2NO.12, 1NO.12(G)
8	25A/3P MOTOR CIRCUIT BREAKER 18 000 MIN. A.I.C. @ 480V, NOTE G15
9	20A/1P CIRCUIT BREAKER, 10 000 MIN. A.I.C. @ 120V
10	40A/3P CIRCUIT BREAKER 14 000 MIN. A.I.C. @ 480V.
11	3NO.8, 1NO.8(G), CONDUCTORS SHALL NOT EXCEED 18" IN LENGTH
12	REDUCED VOLTAGE SOLID STATE STARTER FOR 25HP, 460V 3PH 31FLA MOTOR, NOTE G15
13	NEMA 4X STAINLESS STEEL JUNCTION BOX WITH POWER BLOCKS AND TERMINAL STRIPS AS REQUIRED SEE NOTE G10
14	2" C W/4NO.12, 1NO.12(G)
15	2" C W/LEVEL PROBE CABLE
16	15A/2P CIRCUIT BREAKER 14 000 MIN. A.I.C. @ 480V.
17	30A/2P CIRCUIT BREAKER 10 000 MIN. A.I.C. @ 240V.

**LEGEND**

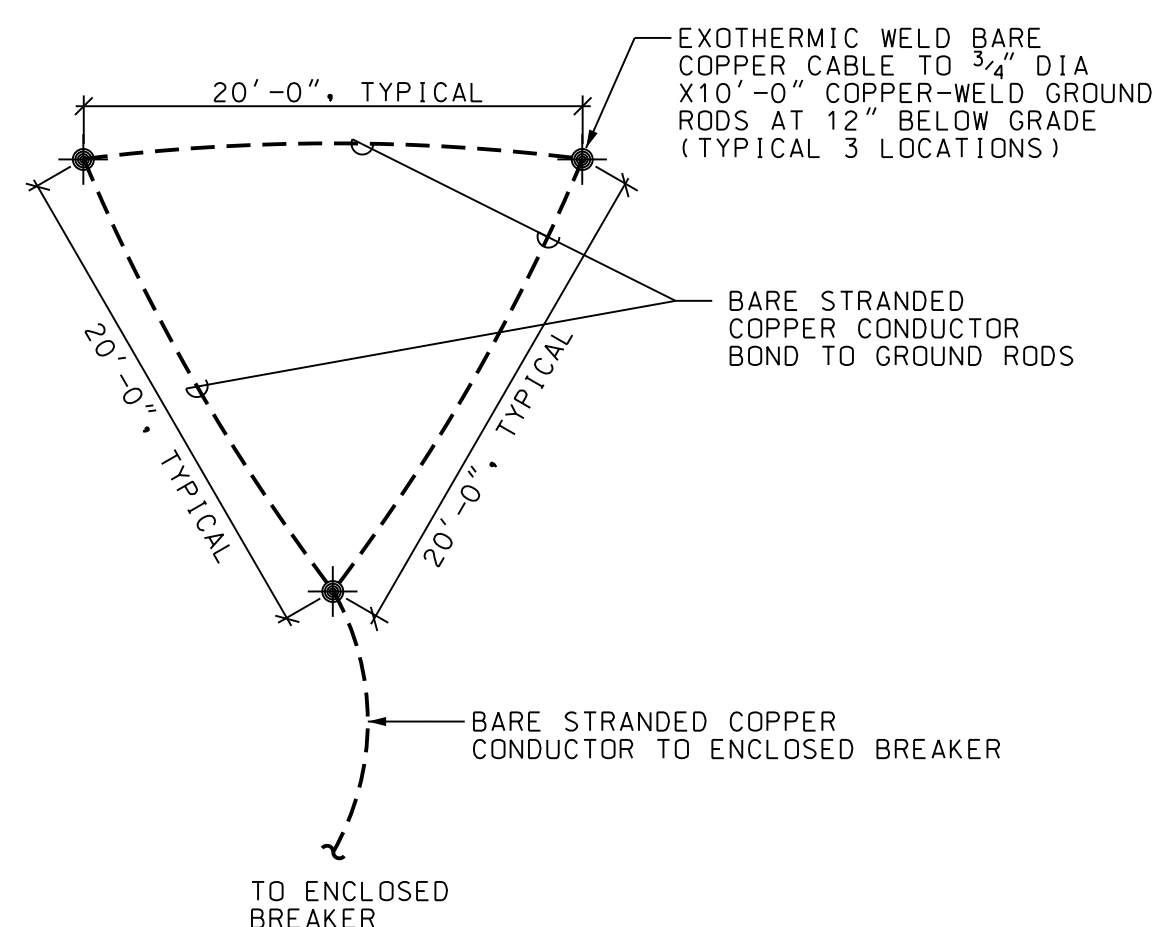
- EQUIPMENT AS NOTED
- MOTOR CIRCUIT BREAKER AND REDUCED VOLTAGE SOLID STATE STARTER
- DUPLEX RECEPTACLE, NEMA 5-20R
- WP WEATHERPROOF
- GROUND TO GROUND ROD SYSTEM
- GF GROUND FAULT CIRCUIT INTERRUPTER PROTECTION
- AIC INTERRUPTING CAPACITY IN AMPS
- CONDUIT SYSTEM CONCEALED BELOW GRADE
- PUMP MOTOR, HORSEPOWER INDICATED
- EMERGENCY GENERATOR RECEPTACLE, NOTE G12
- SEAL OFF FITTING, NOTE G9
- AREA LIGHT: LUMARK NAVION AREA LIGHT, NOTE G7.G11
- SURGE SUPPRESSION UNIT - APT MODEL TE-04-XDS-15-4X-A
- GROUND ROD LOCATION

**GENERAL NOTES**

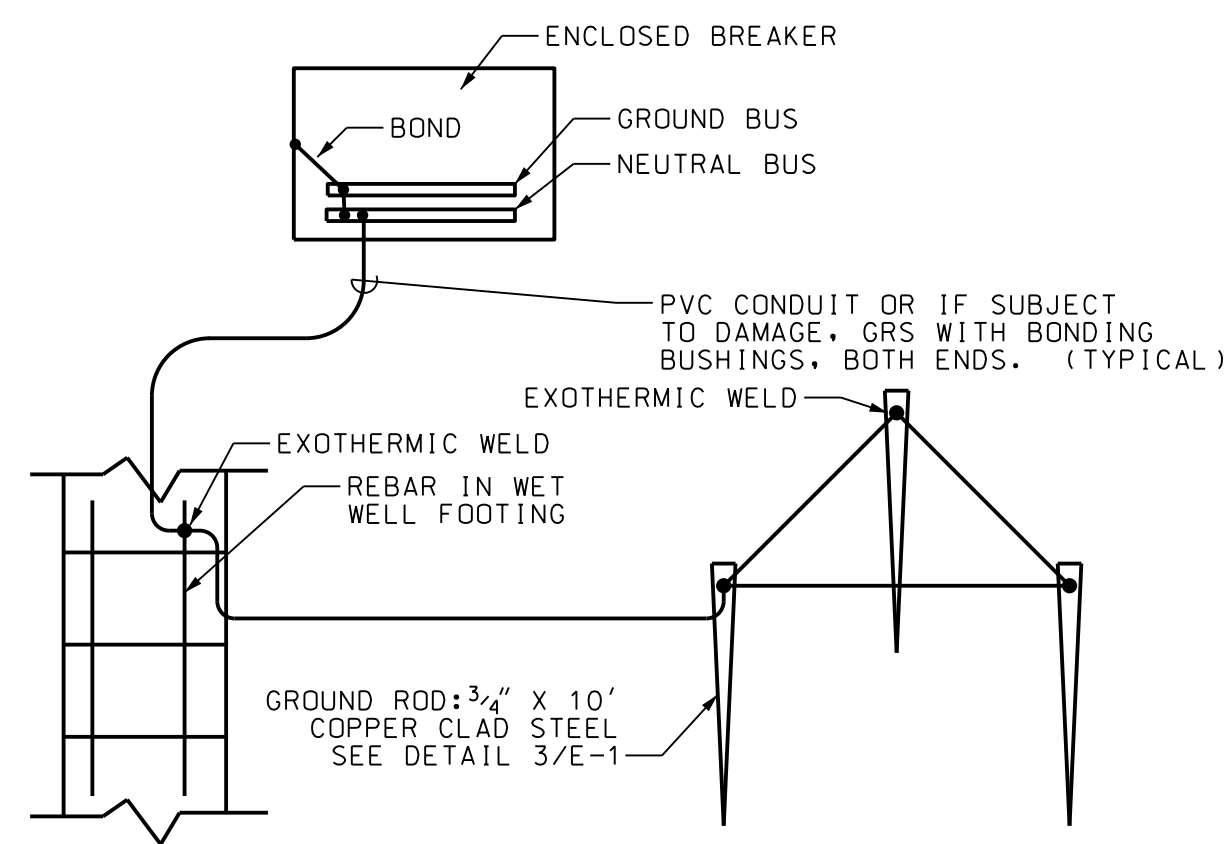
- G1. FIELD COORDINATE THE LOCATION OF THE SERVICE POLE WITH GEORGIA POWER CONTACT JOSHUA GWINN, DISTRIBUTION ENGINEER, (912)306-2631, AND OSMAN BHOJAT, AREA SALES EXECUTIVE, (912)306-2326.
- G2. UNLESS NOTED OTHERWISE, ALL CONDUITS INSTALLED EXPOSED TO ATMOSPHERE SHALL BE RIGID GALVANIZED STEEL CONDUIT. ALL CONDUITS INSTALLED BELOW GRADE SHALL BE SCHEDULE 80 PVC. ALL ELBOWS BELOW GRADE TO BE RIGID GALVANIZED STEEL.
- G3. SEAL BOTH ENDS OF EACH CONDUIT ENTERING THE CONTROL CABINET FROM THE WET WELL WITH ELECTRICAL DUCT SEAL. SEAL ALL CONDUITS ENTERING CONTROL PANEL FROM BELOW GRADE WITH DUCT SEAL.
- G4. THE EXACT LOCATION OF THE METER AND SERVICE SHALL BE COORDINATED IN THE FIELD WITH THE UTILITY COMPANY AND WITH OTHER WORK ON THE PROJECT SITE.
- G5. CIRCUIT BREAKER AND SWITCH OPERATING HANDLES SHALL BE A MAXIMUM OF 66" ABOVE FINISHED GRADE. LOCATE DUPLEX PUMP CONTROL PANEL AND ENCLOSED CIRCUIT BREAKER WHERE INDICATED.
- G6. POSITION ELECTRICAL EQUIPMENT SO THAT ALARM LIGHT CAN BE SEEN FROM THE NEAREST ROAD. EXACT ORIENTATION AND LOCATION OF ELECTRICAL EQUIPMENT STRUCTURE SHALL BE DETERMINED IN FIELD FOR BEST VIEW OF ALARM LIGHT & ACCESS TO ELECTRICAL EQUIPMENT.
- G7. MOUNT AREA LIGHT TO THE TOP OF THE SERVICE POLE. REFER TO DETAIL 6/E1, THIS SHEET.
- G8. ALL ATTACHMENT HARDWARE SHALL BE HOT DIPPED GALVANIZED.
- G9. PROVIDE TYPE EYS TYPE EQUIPMENT SEAL-OFF. SEAL WITH SEALING COMPOUND. MAKE POWER & FLOAT CONNECTIONS IN THE JUNCTION BOX. LEVEL PROBE SHALL EXTEND TO CONTROL PANEL WITHOUT SPLICES OR INTERMEDIATE TERMINATIONS.
- G10. 18" X 48" X 8" D MINIMUM NEMA 4X S.S. JUNCTION BOX W/ GASKETED SCREW COVER AND ALUMINUM BACKPLATE.
- G11. PROVIDE A LUMARK NAVION SERIES AREA LIGHT WITH A WOOD POLE BRACKET: CAT. NO. NAV-AE-02-E-UNV-T4W-10K-PER-AP WITH 0A/RA1014 AND WP218 BRACKET.
- G12. THE CONTRACTOR SHALL FIELD COORDINATE THE EXACT CONFIGURATION OF THE GENERATOR RECEPTACLE WITH THE OWNER'S GENERATOR. THE SUBMITTAL SHALL INDICATE THE CONTRACTOR HAS COORDINATED THE RECEPTACLE PRIOR TO SUBMITTING SHOP DRAWINGS.
- G13. ALL METALLIC CONDUITS BELOW GRADE AND/OR ENCASED IN CONCRETE SHALL BE PROTECTED AGAINST CORROSION. APPLY TWO COATS OF 3M SCOTCHPAPE PRIMER, ALLOWING EACH COAT TO DRY BETWEEN APPLICATIONS. THEN APPLY TWO OVERLAPPING LAYERS OF 3M SCOTCHPAPE 51 TAPE (20 MILS). CORROSION PROTECTION SHALL EXTEND FROM 6" ABOVE GRADE TO THE END OF THE METALLIC CONDUIT.
- G14. 2" SCH. 80 PVC STUBBED INTO THE WET WELL. PROVIDE STAINLESS STEEL SUPPORT HOOK AND NON-CONDUCTIVE, CLOSED MESH, ARAMID FIBER CABLE SUPPORT GRIPS FOR ALL CABLES. GRIPS FOR FLOAT AND PROBE CABLES SHALL BE SINGLE WEAVE, SINGLE EYE TYPE; GRIPS FOR PUMP CABLES SHALL BE DOUBLE WEAVE DOUBLE EYE TYPE. COORDINATE GRIP SIZE WITH CABLES SUPPORTED. ATTACH GRIP WITH TWO HEAVY-DUTY PLASTIC ZIP TIES. PROVIDE PRODUCTS OF SLINGCO AMERICA, TYRONE, GA. NO SUBSTITUTIONS PERMITTED. CONTACT CAROLE SYDES, SALES ACCOUNT MANAGER, (888)685-9478.
- G15. THE CONTROL PANEL SHALL BE PROVIDED WITH MOTOR CIRCUIT BREAKERS SIZED FOR THE INITIAL PUMPS (7.5 HP) AND SHALL ALLOW SPACE FOR FUTURE/BUILD-OUT CONDITION PUMPS (25 HP). THE REDUCED VOLTAGE SOLID STATE STARTER SHALL BE SIZED AND PROVIDED FOR THE BUILD-OUT CONDITION PUMPS.
- G16. THE SCADA SYSTEM FOR THE STATION SHALL BE PROVIDED AS AN INTEGRAL PART OF THE CONTROL PANEL. SCADA EQUIPMENT SHALL BE PROVIDED AND TESTED BY SILVER LAKE AUTOMATION, RINCON, GA. CONTACT ROB LANHAM, GENERAL MANAGER, (912)826-9700. COORDINATE WITH SILVER LAKE AUTOMATION FOR PANEL CONTROL CONFIGURATION AND ANNUNCIATED ALARM POINTS. SCADA ANTENNA SHALL BE MOUNTED ON THE EQUIPMENT BACKBOARD.



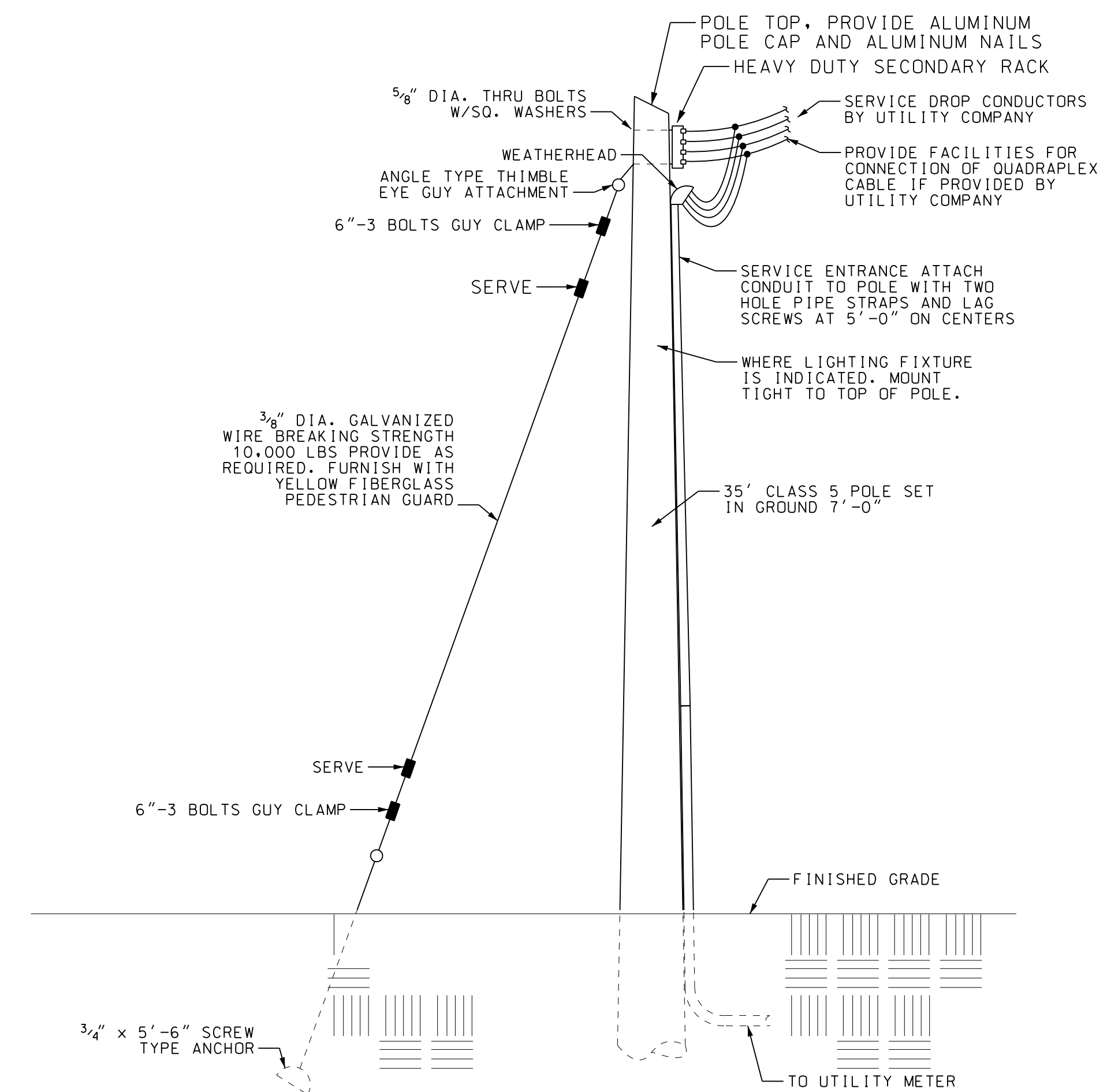
**2 EQUIPMENT BACKBOARD DETAIL**  
E1 NOT TO SCALE



**3 SECONDARY ELECTRICAL GROUNDING**  
E1 NOT TO SCALE



**4 PUMP STATION SERVICE GROUNDING**  
E1 NOT TO SCALE



**6 SERVICE POLE DETAIL**  
E1 NOT TO SCALE

NO.	REVISION DESCRIPTION	BY	DATE

**EMC ENGINEERING SERVICES, INC.**  
10 CHATHAM CENTER SOUTH DR.  
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SAVANNAH, GEORGIA 31412  
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CIVIL  
MARINE  
ENVIRONMENTAL  
SURVEY

ALBANY, ATLANTA, AUGUSTA, BRUNSWICK,  
COLUMBUS, SAVANNAH, STATESBORO & VALDOSTA

**PUMP STATION ELECTRICAL PLAN**

**OLD AUGUSTA ROAD UTILITY EXTENSION**  
9TH G.M. DISTRICT  
EFFINGHAM COUNTY, GEORGIA

Prepared for:  
**EFFINGHAM COUNTY BOARD OF COMMISSIONERS**

PROJECT NO.:	16-0004
DRAWN BY:	CC
DESIGNED BY:	CC
SURVEYED BY:	N/A
SURVEY DATE:	N/A
CHECKED BY:	PM
SCALE:	1"=10'
DATE:	MAY 2016