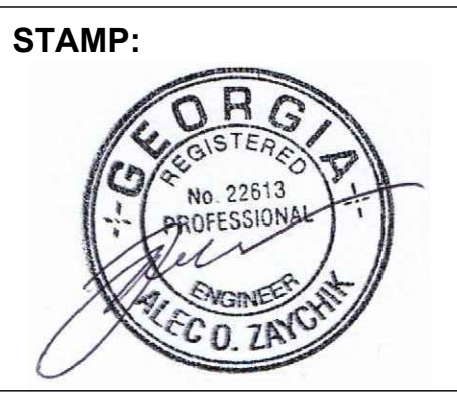


SCHEMATIC DIAGRAM SYMBOLS	ONE LINE DIAGRAM SYMBOLS	GENERAL ABBREVIATIONS	GENERAL NOTES:
<p>CONDUCTORS CONNECTED</p> <p>CONDUCTORS NOT CONNECTED</p> <p>CONNECTION POINT</p> <p>TERMINAL POINT FOR OUTGOING CONDUCTORS, WITH IDENTIFICATION. "XX" DENOTES CONTRACTOR ASSIGNED.</p> <p>MCPXXX-XX XXA</p> <p>MAGNETIC-ONLY CIRCUIT BREAKER (MCP), WITH CURRENT RATING</p> <p>CBXXX-XX XXA</p> <p>CIRCUIT BREAKER, THERMAL-MAGNETIC UNLESS OTHERWISE NOTED, WITH FRAME SIZE AND TRIP RATING</p> <p>FUXXX-XX [XXA]</p> <p>FUSE WITH SIZE AND OPTIONAL IDENTIFICATION.</p> <p>DSXXX-XX XXXXA</p> <p>DISCONNECT SWITCH, RATING OPTIONAL. 30 AMP, 600V RATED MINIMUM UNLESS OTHERWISE NOTED.</p> <p>FUXXX-XX [XXA]</p> <p>FUSE DISCONNECT SWITCH, RATING OPTIONAL. 30 AMP, 600V MINIMUM UNLESS OTHERWISE NOTED.</p> <p>XX M-XXX</p> <p>MOTOR (HP AS SHOWN, PHASES AS REQUIRED)</p> <p>MSR-XXX</p> <p>MOTOR STARTER COIL</p> <p>OL</p> <p>THERMAL MOTOR OVERLOAD</p> <p>M-XXX</p> <p>MOTOR CONTACT</p> <p>LSXXX-XX LSXXX-XX</p> <p>LIMIT SWITCH NORMALLY CLOSED AND NORMALLY OPEN</p> <p>PSXXX-XX PSXXX-XX</p> <p>PRESSURE SWITCH NORMALLY CLOSED AND NORMALLY OPEN</p> <p>TSXXX-XX TSXXX-XX</p> <p>TEMPERATURE SWITCH NORMALLY CLOSED AND NORMALLY OPEN</p> <p>FSXXX-XX FSXXX-XX</p> <p>FLOW SWITCH NORMALLY CLOSED AND NORMALLY OPEN</p> <p>FLTXXX-XX FLTXXX-XX</p> <p>LEVEL SWITCH NORMALLY CLOSED AND NORMALLY OPEN</p> <p>PRXXX-XX PRXXX-XX</p> <p>PROXIMITY SWITCH NORMALLY CLOSED AND NORMALLY OPEN</p> <p>PCSXXX-XX PCSXXX-XX</p> <p>PULLCORD SWITCH NORMALLY CLOSED AND NORMALLY OPEN</p> <p>SVXXX-XX</p> <p>SOLENOID VALVE</p> <p>PBXXX-XX PBXXX-XX</p> <p>MOMENTARY PUSHBUTTON NORMALLY CLOSED AND NORMALLY OPEN</p> <p>SSXXX-XX SSXXX-XX</p> <p>SELECTOR SWITCH NORMALLY NORMALLY CLOSED AND NORMALLY OPEN</p> <p>LTXXX-XX</p> <p>PILOT LIGHT X = LENS COLOR</p> <p>A = AMBER B = BLUE G = GREEN R = RED W = WHITE</p> <p>CRXXX-XX</p> <p>CONTROL RELAY</p> <p>CRXXX-XX CRXXX-XX</p> <p>CONTROL RELAY CONTACT NORMALLY CLOSED AND NORMALLY OPEN</p> <p>ALXXX-XX</p> <p>ALARM LIGHT</p> <p>AHXXX-XX</p> <p>ALARM HORN</p> <p>H1 H2 X1 X2</p> <p>TFRXXX-XX</p> <p>CONTROL POWER TRANSFORMER, PRIMARY AND SECONDARY VOLTAGE SHOWN, SIZE AS SHOWN OR SPECIFIED.</p> <p>C.T.</p> <p>CTXXX-XX</p> <p>CURRENT TRANSFORMER. PRIMARY/SECONDARY TURNS RATIO AS SHOWN.</p>	<p>LOW VOLTAGE POWER CIRCUIT AND BREAKER DRAWOUT TYPE, FRAME TRIP SHOWN</p> <p>CB-XXX</p> <p>MOLDED CASE CIRCUIT BREAKER, FRAME AND TRIP ID SHOWN</p> <p>LIGHTNING ARRESTOR AND GROUND</p> <p>DS-XXX</p> <p>DISCONNECT OR ISOLATING SWITCH: CONTINUOUS RATING SHOWN</p> <p>MCP-XXX</p> <p>MAGNETIC-ONLY CIRCUIT BREAKER (MCP), DRAWOUT TYPE, WITH CURRENT RATING</p> <p>FS-XXX</p> <p>FUSED SWITCH: FUSE AND SWITCH CONTINUOUS RATINGS SHOWN</p> <p>TFR-XXX</p> <p>POWER TRANSFORMER: PRIMARY & SECONDARY VOLTAGES, %Z, SIZE SHOWN</p> <p>XS</p> <p>CURRENT TRANSFORMER: RATIO SHOWN (3 INDICATES NO. OF CT'S) METER SWITCH, XS: AS - AMMETER SWITCH VS - VOLTMEER SWITCH FS - FREQUENCY SWITCH</p> <p>PT</p> <p>POTENTIAL TRANSFORMER PRIMARY & SECONDARY VOLTAGES & WINDINGS SHOWN. (X) UNITS</p> <p>METER:</p> <p>A - AMMETER W - WATTMETER KWH - WATT-HOUR METER F - FREQUENCY METER VAR - VAR METER V - VOLTMETER</p> <p>FVNR SIZE X</p> <p>FULL VOLTAGE, NON-REVERSING MAGNETIC MOTOR STARTER. NEMA SIZE INDICATED</p> <p>FVR SIZE X</p> <p>FULL VOLTAGE, REVERSING MAGNETIC MOTOR STARTER. NEMA SIZE INDICATED</p> <p>XXHP</p> <p>VFD-XXX</p> <p>VARIABLE FREQUENCY DRIVE. NEMA SIZE INDICATED</p> <p>XXHP</p> <p>RVSS-XXX</p> <p>REDUCED VOLTAGE SOLID STATE DRIVE (SOFT START). NEMA SIZE INDICATED</p> <p>XX M-XXX</p> <p>MOTOR (HP AS SHOWN, PHASES AS REQUIRED)</p> <p>GENERATOR RECEPTACLE</p> <p>MTS-XXX</p> <p>MANUAL TRANSFER SWITCH</p> <p>P-XXX-X</p> <p>CABLE TAG: P - POWER CABLE C - CONTROL CABLE S - SHIELDED SIGNAL CABLE</p> <p>CIRCUIT AND RACEWAY SYMBOLS</p> <p>RACEWAY OR WIRING SYSTEM ABOVE FLOOR LEVEL BELOW CEILING, EXPOSED. (UNLESS OTHERWISE NOTED)</p> <p>RACEWAY OR WIRING SYSTEM BELOW FLOOR LEVEL, ABOVE CEILING, HIDDEN, OR EXISTING CABLE/CONDUIT. (UNLESS OTHERWISE NOTED)</p> <p>SCHEMATIC DIAGRAM FIELD WIRING. (UNLESS OTHERWISE NOTED)</p> <p>ONE LINE DIAGRAM EQUIPMENT ENCLOSURE. (UNLESS OTHERWISE NOTED)</p> <p>GROUNDING CONDUCTOR (CONCEALED), #4/0 AWG BARE COPPER</p> <p>GROUNDING CONDUCTOR (EXPOSED), #4/0 AWG INSULATED COPPER</p> <p>HOME RUN - SEE PANELBOARD SCHEDULE FOR CIRCUIT INFORMATION</p> <p>EXAMPLE: HOME TO PANELBOARD PBD A, CIRCUITS 1, 3, AND 5</p>	<p>GENERAL ABBREVIATIONS</p> <p>AR ALARM RELAY AS AMMETER SELECTOR SWITCH A, AMP AMP(S), AMPERE(S) AC ALTERNATING CURRENT AFP ABOVE FINISHED FLOOR AHAP AS HIGH AS POSSIBLE AIC AMPS INTERRUPTING CAPACITY, SYMM. AL ALUMINUM AT AMPERE TRIP AF AMPERE FRAME AUTO AUTOMATIC AUX AUXILIARY AWG AMERICAN WIRE GAUGE BC BARE COPPER CONDUCTOR BKR BREAKER C CONDUCTOR/CONTACTOR CB CIRCUIT BREAKER CJB CIRCUIT JUNCTION BOX CKT CIRCUIT CLG CEILING CR CONTROL RELAY CND CONDUIT CONC CONCRETE CS CONTROL SWITCH CONT CONTROL CPT CONTROL POWER TRANSFORMER CT CURRENT TRANSFORMER CU COPPER D DIAMETER DB DUCT BANK DC DIRECT CURRENT DET DETAIL DIAG DIAGRAM DPSH DIFFERENTIAL PRESSURE SWITCH DS DISCONNECT SWITCH DWG DRAWING EA EACH EC ELECTRICAL CONTRACTOR EF EXHAUST FAN ELEV ELEVATION ELEC ELECTRIC(AL) EMER EMERGENCY ENCL ENCLOSURE/ENCLOSED EP EXPLOSION PROOF EQUIP. EX EXISTING EX, E FURNISHED WITH EQUIPMENT PANEL FCP FEEDER FDR FULL LOAD AMPS FLA FIBER OPTIC DISTRIBUTION PANEL FPP FLOW SWITCH FU FUTURE FUT FUTURE FVNR FULL VOLTAGE NON-REVERSING FVR FULL VOLTAGE REVERSING GALV GALVANIZED GEN GENERATOR GFR GROUND FAULT RELAY GRD GROUND GRS GALVANIZED RIGID STEEL H HIGH HGT HEIGHT HH HANDHOLE HID HIGH INTENSITY DISCHARGE HP HORSEPOWER HS HAND STATION (SWITCH) HVAC HEATING, VENTILATION AND AIR CONDITIONING HZ HERTZ (CYCLES PER SECOND) HOA HAND/OFF/AUTO HOR HAND/OFF/REVERSE HMH HIGH VOLTAGE MANHOLE ID INSIDE DIAMETER IMC INDIVIDUAL MOTOR CONTROLLER INTLK INTERLOCK INST INSTANTANEOUS INSTR INSTRUMENT I/O INPUT-OUTPUT JB JUNCTION BOX KV KILOVOLT KVA KILOVOLT-AMPERE KYAR KILOVOLT-AMPERE REACTIVE KW KILOWATT KWH KILOWATT-HOUR KAIC KILO AMPERE INTERRUPTING CURRENT L-O-R LOCAL-OFF-REMOTE L LONG LC LIGHTING CONTACTOR LCP LOCAL CONTROL PANEL LP LIGHTING PANEL LOS LOCK-OUT STOP LSIG LONG, SHORT, INSTANTANEOUS TRIP SETTING AND GROUND FAULT PROTECTION</p> <p>LSL LEVEL SWITCH LOW LSO LIMIT SWITCH OPEN LSC LIMIT SWITCH CLOSED LTG LIGHTING LV LOW VOLTAGE LSH LEVEL SWITCH HIGH M MOTOR CONTACTOR mA MILLIAMPERE MAX MAXIMUM MCB MAIN CIRCUIT BREAKER</p> <p>GROUNDING SYMBOLS</p> <p>GROUND ROD, 3/4" x 10'-0", COPPERCLAD (UNLESS OTHERWISE NOTED)</p> <p>GROUND ROD AND WELL</p> <p>COMPRESSION TYPE GROUNDING BOND TO MOTOR CASING OR EQUIPMENT</p> <p>EXOTHERMIC TYPE GROUNDING BOND TO MOTOR CASING OR EQUIPMENT</p> <p>MCC MOTOR CONTROL CENTER MCP MOTOR CONTROL PANEL/MOTOR CIRCUIT PROTECTOR MECH MECHANICAL MFR MANUFACTURE(R) MH MANHOLE MIC MICROPHONE MIN MINIMUM MISC MISCELLANEOUS mV MILLIVOLT MCM MILLI CIRCULAR MILLS MOP MOTOR OPERATOR PANEL MPR MOTOR PROTECTION RELAY MCB MAIN CIRCUIT BREAKER MTR MOTOR MVS MEDIUM VOLTAGE STARTER N/A NOT APPLICABLE NC NORMALLY CLOSED NEUTRAL NIC NOT IN CONTRACT NO NORMALLY OPEN NOM NOMINAL NP NAMEPLATE NTS NOT TO SCALE OC ON CENTER OD OUTSIDE DIAMETER OH OVERHEAD OL'S OVERLOADS OT OIL TIGHT P POLE PA PUBLIC ADDRESS PB PUSHBUTTON, PULLBOX PE PHOTO ELECTRIC CELL PF POWER FACTOR PH PHASE PJB POWER JUNCTION BOX PLC PROGRAMMABLE LOGIC CONTROLLER PNL PANEL PP POWER PANEL PR PAIR PRI PRIMARY PS PRESSURE SWITCH PT POTENTIAL TRANSFORMER PVC POLYVINYL CHLORIDE PWR POWER QSH SHEAR PIN LIMIT SWITCH RCPT RECEPTACLE RCT REACTOR REF REFERENCE REQ'D REQUIRED RMS ROOT MEAN SQUARE RTD RESISTANCE TEMPERATURE DETECTOR SCH SCHEDULE SE SPEED SENSOR SEC SECONDARY SEL SELECTOR SER SERVICE ENTRANCE RATED SPDT SINGLE POLE DOUBLE THROW SPEC SPECIFICATION SPHTR MOTOR SPACE HEATER SPKR SPEAKER SSL SPEED SWITCH SUB SUBSTATION SW SWITCH SYMM SYMMETRICAL SYS SYSTEM SV SOLENOID OPERATED VALVE SPB SIGNAL PULL BOX STP SHIELDED TWISTED PAIR TB TERMINAL BOX TEL TELEPHONE TEMP TEMPERATURE TFR TRANSFORMER TH THERMOSTAT TJB TERMINAL JUNCTION BOX TSH TEMPERATURE SWITCH HIGH TV TELEVISION TYP TYPICAL TR TIMING RELAY TVSS TRANSIENT VOLTAGE SURGE SUPPRESSOR TSP TWISTED SHIELDED PAIR UG UNDERGROUND UH UNIT HEATER UON UNLESS OTHERWISE NOTED UOV VOLT VA VOLT AMPERE VAR VOLT AMPERE REACTIVE VFD VARIABLE FREQUENCY DRIVE VSH VIBRATION SWITCH W WATT, WIRE, WIDE WITH W/O WITHOUT WE WEIGHT WIP WEIGHT INDICATING TRANSMITTER WP WEATHERPROOF XL WARNING HORN/LIGHT XT ANEMOMETER ZS POSITION (LIMIT) SWITCH ZSO POSITION (LIMIT) SWITCH OPEN ZSC POSITION (LIMIT) SWITCH CLOSED ZT POSITION TRANSMITTER</p>	<p>1. SCOPE:</p> <p>A. FURNISH ALL LABOR, MATERIAL, EQUIPMENT AND TOOLS REQUIRED TO COMPLETE INSTALLATION OF THE ELECTRICAL SYSTEM INCLUDING BUT NOT LIMITED TO WIRING, BOXES, LIGHT FIXTURES, PANELS, SWITCHES, RECEPTACLES, DISCONNECTS, STARTERS, AND ALL OTHER WORK INDICATED ON THE DRAWINGS OR AS SPECIFIED HEREIN.</p> <p>B. OBTAIN ALL PERMITS, INSPECTIONS, AND APPROVALS AS REQUIRED BY THE LOCAL AUTHORITIES HAVING JURISDICTION AND DELIVER CERTIFICATE OF APPROVAL TO THE GENERAL CONTRACTOR. ALL ASSOCIATED FEES SHALL BE PAID BY THE CONTRACTOR.</p> <p>C. ALL MATERIALS AND EQUIPMENT OF THE ELECTRICAL SYSTEM NECESSARY FOR ITS PROPER AND SAFE OPERATION OR OTHERWISE REQUIRED BY CODE, BUT NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS, SHALL BE FURNISHED AND INSTALLED WITHOUT ADDITIONAL CHARGE.</p> <p>D. WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF NATIONAL ELECTRICAL CODE, THE LATEST STANDARD BUILDING CODE, NFPA, ANY OTHER LOCALLY ADOPTED CODES AND LOCAL AUTHORITIES HAVING JURISDICTION.</p> <p>2. ALL SUBSTITUTIONS FOR EQUIPMENT AND MATERIAL SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO INSTALLATION.</p> <p>3. CONTRACTOR SHALL COORDINATE ALL WORK WITH ALL OTHER TRADES. IT IS THE RESPONSIBILITY OF CONTRACTOR TO VERIFY THE ACTUAL LOCATION OF EQUIPMENT, DUCTWORK, PIPING, ETC. AND COORDINATED THE INSTALLATION ACCORDINGLY. THE EQUIPMENT WIRING SHALL INCLUDE ALL NECESSARY CABLES AND CONDUIT REQUIRED FOR THE PROPER AND SAFE EQUIPMENT OPERATION.</p> <p>4. ALL CONDUCTORS SHALL BE COPPER #12 AWG MINIMUM CONDUCTOR SIZE FOR POWER AND LIGHTING WIRING. USE #14 AWG MINIMUM CONDUCTOR FOR SIGNAL WIRING. THE INSULATION FOR ALL CONDUCTORS SHALL BE THWN-2. SERVICE ENTRANCE CONDUCTORS SHALL BE XHHW. ALL CABLE INSTALLED IN CABLE TRAYS SHALL BE TC RATED.</p> <p>5. POWER WIRES SIZES #12 AWG AND #10 AWG SHALL BE SOLID TYPE. ALL OTHER SIZES SHALL BE STRANDED. CABLES BETWEEN THE VFD AND ASSOCIATED MOTOR SHALL BE SHIELDED POWER VFD RATED CABLES.</p> <p>6. ALL EXPOSED CONDUITS SHALL BE ALUMINUM, UNLESS NOTED OTHERWISE ON THE DRAWINGS, MINIMUM OF 3/4". ALL BURIED CONDUIT SHALL BE PVC-40, MINIMUM OF 1". ALL UNDERGROUND CONDUITS SHALL HAVE RIGID STEEL ELBOWS. ALL UNDERGROUND CONDUITS CONTAINING SIGNAL CABLES SHALL BE GALVANIZED RIGID STEEL (GRS). ALL UNDERGROUND STEEL CONDUITS SHALL BE PVC COATED TO PREVENT CONDUIT CORROSION.</p> <p>7. ALL FITTINGS SHALL BE CAST WITH THREADED HUBS. ALL CONNECTIONS SHALL BE COMPRESSION TYPE.</p> <p>8. CONTRACTOR SHALL PROVIDE PULL STRING AND IDENTIFICATION LABELS AT EACH CONDUIT END FOR ALL SPARE CONDUITS.</p> <p>9. ALL DEMOLISHED ELECTRICAL EQUIPMENT SHALL BE RETURNED TO THE OWNER FOR RE-USE OR AS SPARES.</p> <p>8. CONTRACTOR SHALL PROVIDE ALL REQUIRED PULLBOXES AND/OR CONDULETS TO MEET NEC ARTICLE 314 FOR CABLE PULLS.</p> <p>9. ALL PHONE AND COMPUTER WIRING TO BE EMT CONDUIT.</p> <p>10. ELECTRICAL EQUIPMENT INSIDE THE ELECTRICAL ROOMS SHALL BE SIZED TO FIT THE AVAILABLE SPACE.</p> <p>11. CONTRACTOR SHALL CONFIRM ALL DIMENSIONS AND DISTANCES IN THE FIELD. IN CASE OF DISCREPANCY, CONTRACTOR SHALL INCLUDE A MORE EXPENSIVE OPTION.</p> <p>12. THE CONTRACTOR SHALL ADJUST CIRCUIT BREAKER SIZES, CABLES, AND CONDUITS FOR VENDOR SUPPLIED EQUIPMENT AT NO ADDITIONAL COST BASED ON THE ACTUAL APPROVED SHOP DRAWINGS.</p> <p>13. ALL EXPOSED PIPES 2" IN DIAMETER AND SMALLER SHALL BE ELECTRICALLY HEAT-TRACED. CONTRACTOR SHALL INCLUDE GFCI, 30mA, 120V, 20A RATED CIRCUIT BREAKERS AND ASSOCIATED CABLES AND CONDUITS FOR ALL REQUIRED HEAT TRACING.</p> <p>14. ALL SCHEMATIC WIRING DIAGRAMS ARE GENERAL IN NATURE. THE CONTRACTOR SHALL ADJUST NUMBER AND SIZE OF CABLES/CONDUITS BASED ON THE APPROVED VENDOR DRAWINGS.</p> <p>15. WHEN THE CABLES ARE LARGER THAN THE TERMINATING LUGS OR TERMINALS (DUE TO VOLTAGE DROP), THE CONTRACTOR SHALL PROVIDE A TERMINAL JUNCTION BOX FOR CABLE SIZE REDUCTION.</p> <p>16. CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING ALL CABLES AND CONDUITS FOR VENDOR SUPPLIED SYSTEMS AS REQUIRED BY APPROVED SHOP DRAWINGS.</p> <p>17. ALL SPARE STUB-UPS SHALL BE CAPPED TO PREVENT MOISTURE AND DIRT INTRUSION TO THE CONDUIT.</p> <p>18. CONTRACTOR SHALL INCLUDE ALL DISCONNECT SWITCHES AS REQUIRED BY NEC FOR REMOTELY MOUNTED EQUIPMENT.</p> <p>PLAN DRAWING SYMBOLS</p> <p>MOTOR CONNECTION</p> <p>MOTOR STARTER, INDIVIDUAL -- NOT LOCATED IN AN MCC OR SIMILAR GROUP ASSEMBLY</p> <p>COMBINATION MOTOR STARTER/DISCONNECT INDIVIDUAL -- NOT LOCATED IN AN MCC OR SIMILAR GROUP ASSEMBLY</p> <p>DISCONNECT SWITCH. DISCONNECT SWITCHES ARE HEAVY DUTY, SINGLE THROW, WITH NEMA 4X ENCLOSURE UNLESS OTHERWISE NOTED. MOUNT AT 4'-8" TO CENTER OF DISCONNECT.</p> <p>FUSED DISCONNECT, NON-FUSED. PROVISION FOR CLASS R FUSES.</p> <p>FIELD INSTRUMENT CONNECTION</p> <p>START/STOP HAND STATION MOUNTED TO HANDRAIL (NEMA 4X UNLESS OTHERWISE NOTED)</p> <p>120V, 20A, 1P TOGGLE SWITCH [BLANK] = 1P TOGGLE SWITCH 2 = 2P TOGGLE SWITCH 3 = 3P TOGGLE SWITCH D = SLIDE DIMMER M = MOTOR RATED S = TOGGLE WITH OCCUPANCY SENSOR</p> <p>DUPLEX 120V RECEPTACLE, 120V, 20A, 1P. MOUNT 18" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.</p> <p>GFCI DUPLEX 120V RECEPTACLE, 120V, 20A, 1P. MOUNT 18" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.</p> <p>QUADRAPLEX 120V RECEPTACLE, 120V, 20A, 1P. MOUNT 18" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.</p> <p>TELEPHONE BOX. MOUNT 18" A.F.F., INSTALL A 1/2" CONDUIT FROM BOX TO 6" ABOVE CEILING. PROVIDE PULL CORD FOR FUTURE CONNECTIONS AS REQUIRED.</p> <p>NEMA 4X SS JUNCTION BOX (UNLESS NOTED OTHERWISE)</p> <p>60A, 480V, 3PH WELDING RECEPTACLE WITH INTERLOCKED 60A (NEMA 4X FUSED DISCONNECT SWITCH UNLESS OTHERWISE NOTED)</p>



No.	Description	Date



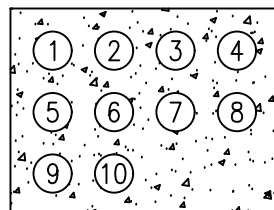
ADDRESS:
BGR2-JV
6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM

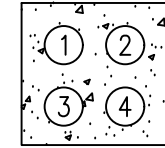
RIVER INTAKE PUMP STATION
ELECTRICAL LEGEND
AND NOTES

DRAWING NO.
RI-PS
E5-000
SHEET OF



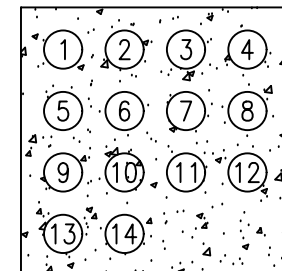
DB-R1 AND DB-R1A

- 1 - 5" C. (4,160V POWER TO SWGR-RPS)
 - 2 - 5" C. (4,160V POWER TO SWGR-RPS)
 - 3 - 5" C. (4,160V POWER TO SWGR-RPS)
 - 4 - 5" C. (4,160V POWER TO SWGR-RPS)
 - 5 - 5" C. (4,160V POWER TO SWGR-RPS)
 - 6 - 5" C. (4,160V POWER TO SWGR-RPS)
 - 7 - 5" C. (4,160V POWER TO SWGR-RPS)
 - 8 - 5" C. (4,160V POWER TO SWGR-RPS)
 - 9 - 5" C. (SPARE)
 - 10 - 5" C. (SPARE)
- SERVICE 1 (Cables 1-3)
SERVICE 2 (Cables 4-10)



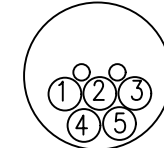
DB-R1B

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- 2 - 2" C. (SPARE)
- 3 - 2" C. (SPARE)
- 4 - 2" C. (SPARE)



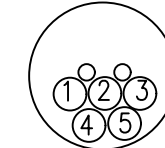
DB-R2

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 - 4 - 5" C. (4,160V POWER TO SWGR-RPS)
 - 5 - 5" C. (4,160V POWER TO SWGR-RPS)
 - 6 - 5" C. (4,160V POWER TO SWGR-RPS)
 - 7 - 5" C. (4,160V POWER TO SWGR-RPS)
 - 8 - 5" C. (4,160V POWER TO SWGR-RPS)
 - 9 - 2" C. (FIBER)
 - 10 - 5" C. (SPARE)
 - 11 - 5" C. (SPARE)
 - 12 - 2" C. (SPARE)
 - 13 - 2" C. (SPARE)
 - 14 - 2" C. (SPARE)
- SERVICE 1 (Cables 1-3)
SERVICE 2 (Cables 4-14)



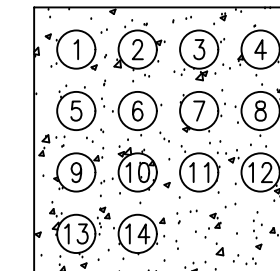
30" OUTSIDE DIAMETER CASING FOR MV CONDUITS

- 1 - 5" C. (4,160V POWER TO SWGR-RPS)
- 2 - 5" C. (4,160V POWER TO SWGR-RPS)
- 3 - 5" C. (4,160V POWER TO SWGR-RPS)
- 4 - 5" C. (4,160V POWER TO SWGR-RPS)
- 5 - 2" C. (FIBER)
- 6 - 5" C. (SPARE)
- 7 - 2" C. (SPARE)



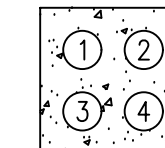
30" OUTSIDE DIAMETER CASING FOR MV CONDUITS

- 1 - 5" C. (4,160V POWER TO SWGR-RPS)
- 2 - 5" C. (4,160V POWER TO SWGR-RPS)
- 3 - 5" C. (4,160V POWER TO SWGR-RPS)
- 4 - 5" C. (4,160V POWER TO SWGR-RPS)
- 5 - 2" C. (SPARE)
- 6 - 5" C. (SPARE)
- 7 - 2" C. (SPARE)



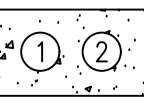
DB-R3

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 - 3 - 5" C. (4,160V POWER TO SWGR-RPS)
 - 4 - 5" C. (4,160V POWER TO SWGR-RPS)
 - 5 - 5" C. (4,160V POWER TO SWGR-RPS)
 - 6 - 5" C. (4,160V POWER TO SWGR-RPS)
 - 7 - 5" C. (4,160V POWER TO SWGR-RPS)
 - 8 - 5" C. (4,160V POWER TO SWGR-RPS)
 - 9 - 4" C. (4,160V POWER TO EXISTING LAB BLDG TRANSFORMER)
 - 10 - 2" C. (FIBER)
 - 11 - 5" C. (SPARE)
 - 12 - 5" C. (SPARE)
 - 13 - 2" C. (SPARE)
 - 14 - 2" C. (SPARE)
- SERVICE 1 (Cables 1-3)
SERVICE 2 (Cables 4-14)



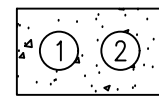
DB-R3A

- 1 - 4" C. (4,160V POWER TO EXISTING TRANSFORMER AT LAB BUILDING)
- 2 - 2" C. (FIBER)
- 3 - 4" C. (SPARE)
- 4 - 2" C. (SPARE)



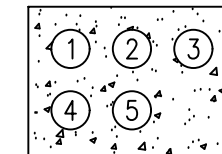
DB-R3B

- 1 - 4" C. (4,160V POWER TO EXISTING TRANSFORMER)
- 2 - 4" C. (SPARE)



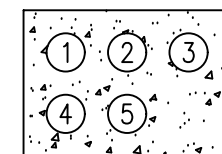
DB-R3C

- 1 - 2" C. (FIBER)
- 2 - 2" C. (SPARE)



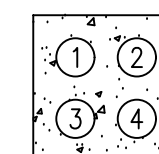
DB-R4A

- 1 - 5" C. (4,160V POWER TO SWGR-RPS)
- 2 - 5" C. (4,160V POWER TO SWGR-RPS)
- 3 - 5" C. (4,160V POWER TO SWGR-RPS)
- 4 - 5" C. (4,160V POWER TO SWGR-RPS)
- 5 - 5" C. (SPARE)



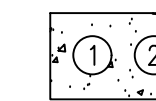
DB-R4B

- 1 - 5" C. (4,160V POWER TO SWGR-RPS)
- 2 - 5" C. (4,160V POWER TO SWGR-RPS)
- 3 - 5" C. (4,160V POWER TO SWGR-RPS)
- 4 - 5" C. (4,160V POWER TO SWGR-RPS)
- 5 - 5" C. (SPARE)



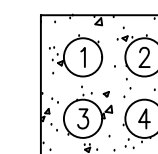
DB-R4C

- 1 - 3" C. (FIBER FROM CP-10-102 AND FTP-PPS)
- 2 - 2" C. (SPARE)
- 3 - 2" C. (SPARE)
- 4 - 2" C. (SPARE)



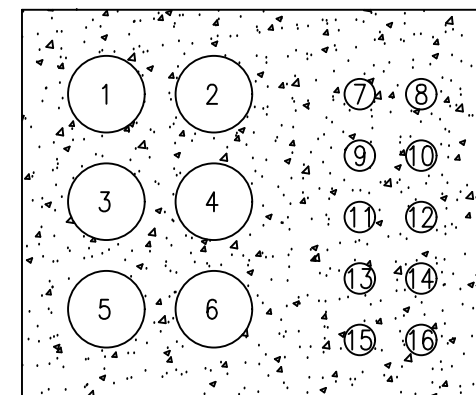
DB-R4D

- 1 - 3" C. (4,160V POWER TO EXISTING TRANSFORMER AT LAB BUILDING)
- 2 - 3" C. (SPARE)



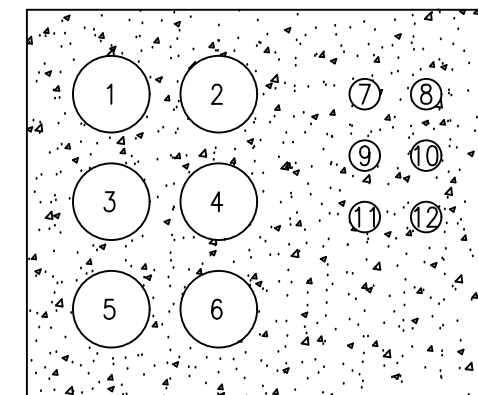
DB-R4E

- 1 - 2" C. (SPARE)
- 2 - 2" C. (SPARE)
- 3 - 2" C. (SPARE)
- 4 - 2" C. (SPARE)



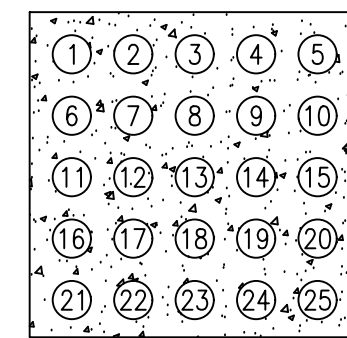
DB-R5

- 1 - 5" C. (FUTURE FOR 4,160V POWER TO PUMP 5)
- 2 - 5" C. (FUTURE FOR 4,160V POWER TO PUMP 6)
- 3 - 5" C. (4,160V POWER TO PUMP 3)
- 4 - 5" C. (FUTURE FOR 4,160V POWER TO PUMP 4)
- 5 - 5" C. (4,160V POWER TO PUMP 1)
- 6 - 5" C. (4,160V POWER TO PUMP 2)
- 7 - 2" C. (SPARE)
- 8 - 2" C. (SPARE)
- 9 - 2" C. (SPARE)
- 10 - 2" C. (SPARE)
- 11 - 2" C. (FUTURE 120V POWER TO PUMP 5 MOTOR SPACE HEATER)
- 12 - 2" C. (FUTURE 120V POWER TO PUMP 6 MOTOR SPACE HEATER)
- 13 - 2" C. (120V POWER TO PUMP 3 MOTOR SPACE HEATER)
- 14 - 2" C. (FUTURE 120V POWER TO PUMP 4 MOTOR SPACE HEATER)
- 15 - 2" C. (120V POWER TO PUMP 1 MOTOR SPACE HEATER)
- 16 - 2" C. (120V POWER TO PUMP 2 MOTOR SPACE HEATER)



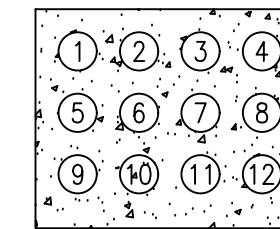
DB-R6

- 1 - 5" C. (FUTURE FOR 4,160V POWER TO PUMP 5)
- 2 - 5" C. (FUTURE FOR 4,160V POWER TO PUMP 6)
- 3 - 5" C. (4,160V POWER TO PUMP 3)
- 4 - 5" C. (FUTURE FOR 4,160V POWER TO PUMP 4)
- 5 - 5" C. (4,160V POWER TO PUMP 1)
- 6 - 5" C. (4,160V POWER TO PUMP 2)
- 7 - 2" C. (FUTURE 120V POWER TO PUMP 5 MOTOR SPACE HEATER)
- 8 - 2" C. (FUTURE 120V POWER TO PUMP 6 MOTOR SPACE HEATER)
- 9 - 2" C. (120V POWER TO PUMP 3 MOTOR SPACE HEATER)
- 10 - 2" C. (FUTURE 120V POWER TO PUMP 4 MOTOR SPACE HEATER)
- 11 - 2" C. (120V POWER TO PUMP 1 MOTOR SPACE HEATER)
- 12 - 2" C. (120V POWER TO PUMP 2 MOTOR SPACE HEATER)



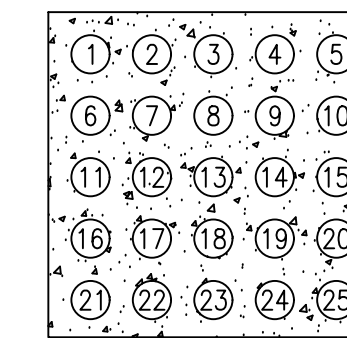
DB-R7

- 1 - 3" C. (480V POWER TO PP-HRPS1)
- 2 - 2" C. (480V POWER TO PP-HRPS2)
- 3 - 2" C. (480V POWER TO MPZ-RPS)
- 4 - 2" C. (480V POWER TO 11-V2-008)
- 5 - 2" C. (480V POWER TO 11-V2-009)
- 6 - 2" C. (480V POWER TO CP-11-SP)
- 7 - 2" C. (480V POWER TO DEHUMIDIFIER)
- 8 - 2" C. (FUTURE 480V POWER TO PRE-SETTLING EQUIPMENT)
- 9 - 2" C. (FUTURE 480V POWER TO PRE-SETTLING EQUIPMENT)
- 10 - 2" C. (FUTURE 480V POWER TO PRE-SETTLING EQUIPMENT)
- 11 - 2" C. (FUTURE 480V POWER TO PRE-SETTLING EQUIPMENT)
- 12 - 1" C. (120V POWER TO RIO-RIPS & LCP-PU-S)
- 13 - 1" C. (120V POWER TO FIT-FM-001)
- 14 - 1" C. GRS (SIGNAL FROM FIT-FM-001)
- 15 - 2" C. (CONTROLS TO CP-11-SP)
- 16 - 2" C. (CONTROLS TO 11-V2-008)
- 17 - 2" C. (CONTROLS TO 11-V2-009)
- 18 - 2" C. (FIBER FROM RIO-RIPS)
- 19 - 2" C. (SECURITY CAMERAS)
- 20 - 2" C. (480V POWER TO POLE LIGHTS)
- 21 - 2" C. (120V POWER TO LIGHTS AND RECEPTACLES)
- 22 - 2" C. (SPARE)
- 23 - 2" C. (SPARE)
- 24 - 2" C. (SPARE)
- 25 - 2" C. (SPARE)



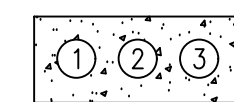
DB-R8

- 1 - 3" C. (480V POWER TO PP-HRPS1)
- 2 - 2" C. (480V POWER TO PP-HRPS2)
- 3 - 2" C. (480V POWER TO MPZ-RPS)
- 4 - 2" C. (FUTURE 480V POWER TO PRE-SETTLING EQUIPMENT)
- 5 - 2" C. (FUTURE 480V POWER TO PRE-SETTLING EQUIPMENT)
- 6 - 2" C. (FUTURE 480V POWER TO PRE-SETTLING EQUIPMENT)
- 7 - 2" C. (FUTURE 480V POWER TO PRE-SETTLING EQUIPMENT)
- 8 - 1" C. (120V POWER TO RIO-RIPS AND LCP-PU-S)
- 9 - 2" C. (FIBER FROM RIO-RIPS)
- 10 - 2" C. (SECURITY CAMERAS)
- 11 - 2" C. (SPARE)
- 12 - 2" C. (SPARE)



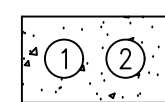
DB-R9

- 1 - 2" C. (480V POWER TO LCP-FS1)
- 2 - 2" C. (480V POWER TO LCP-FS2)
- 3 - 2" C. (FUTURE 480V POWER TO LCP-FS3)
- 4 - 2" C. (FUTURE 480V POWER TO LCP-FS4)
- 5 - 2" C. (480V POWER TO 11-SG-101 & 11-SG-102)
- 6 - 2" C. (480V POWER TO 11-SG-103 & 11-SG-104)
- 7 - 2" C. (480V POWER TO 11-SG-201, 11-SG-202 & 11-SG-203)
- 8 - 2" C. (CONTROLS TO LCP-FS1, LCP-FS2 & LCP-BC)
- 9 - 2" C. (FUTURE CONTROLS TO LCP-FS3 & LCP-FS4)
- 10 - 2" C. (CONTROLS TO 11-SG-101, 11-SG-102, 11-SG-103 & 11-SG-104)
- 11 - 2" C. (CONTROLS TO 11-SG-201, 11-SG-202 & 11-SG-203)
- 12 - 2" C. (FUTURE 480V POWER TO PRE-SETTLING EQUIPMENT)
- 13 - 2" C. (FUTURE 480V POWER TO PRE-SETTLING EQUIPMENT)
- 14 - 2" C. (FUTURE 480V POWER TO PRE-SETTLING EQUIPMENT)
- 15 - 2" C. (FUTURE 480V POWER TO PRE-SETTLING EQUIPMENT)
- 16 - 2" C. (FUTURE CONTROLS TO PRE-SETTLING EQUIPMENT)
- 17 - 2" C. (FUTURE CONTROLS TO PRE-SETTLING EQUIPMENT)
- 18 - 2" C. (LIGHTING)
- 19 - 2" C. (480V POWER TO LCP-BC)
- 20 - 2" C. (SPARE)
- 21 - 2" C. (SPARE)
- 22 - 2" C. (SPARE)
- 23 - 2" C. (SPARE)
- 24 - 2" C. (SPARE)
- 25 - 2" C. (SPARE)



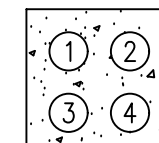
DB-R10 AND DB-R12

- 1 - 3" C. (480VAC CABLES FROM TFR)
- 2 - 3" C. (480VAC CABLES FROM TFR)
- 3 - 3" C. (SPARE)



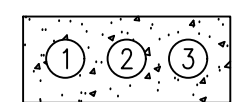
DB-R11 AND DB-R13

- 1 - 4" C. (5KV FEEDING CABLES TO TRANSFORMER)
- 2 - 4" C. (SPARE)



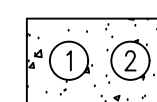
DB-R14

- 1 - 2" C. (480V POWER TO MPZ-CH)
- 2 - 2" C. (FIBER)
- 3 - 2" C. (SPARE)
- 4 - 2" C. (SPARE)



DB-R15

- 1 - 2" C. (480V POWER TO PP-CH)
- 2 - 2" C. (FIBER)
- 3 - 2" C. (SPARE)



DB-R16

- 1 - 1.5" C. (120V POWER SAMPLE PUMP AND HEAT TRACE)
- 2 - 1.5" C. (SPARE)



No.	Description	Date

STAMP:



ADDRESS:

BGR2-JV
6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM

RIVER INTAKE PUMP STATION
DUCTBANK SECTIONS

DRAWING NO.

RI-PS

E5-001

SHEET OF

ISSUED FOR BIDDING

ELECTRICAL EQUIPMENT MATERIALS RATING					
NO.	EQUIPMENT	AREA			
		INDOOR NON-PROCESS ELECTRICAL AND CONTROL ROOM ONLY	INDOOR PROCESS	OUTDOOR	UNDERGROUND
1	CONDUITS	ALUMINUM	ALUMINUM	ALUMINUM	PVC SCHEDULE 40
2	CABLE TRAYS	ALUMINUM	ALUMINUM	ALUMINUM	N/A
3	JUNCTION BOXES	NEMA 1	N/A	NEMA 4X SS	N/A
4	PULL BOXES	NEMA 1	N/A	NEMA 4X SS	N/A
5	UNI-STRUT	ALUMINUM	ALUMINUM	ALUMINUM	N/A
6	MCC	NEMA 1	N/A	NEMA 4X SS	N/A
7	PANELBOARDS	NEMA 1	N/A	NEMA 4X SS	N/A
8	TRANSFORMERS	NEMA 1	N/A	NEMA 4X SS	N/A
9	DISCONNECT SWITCHES	NEMA 1	N/A	NEMA 4X SS	N/A
10	MOTOR STARTERS	NEMA 1	N/A	NEMA 4X SS	N/A
11	CONTACTORS	NEMA 1	N/A	NEMA 4X SS	N/A
12	LIGHTS AND RECEPTACLES	STANDARD	WEATHERPROOF	NEMA 3R	NEMA 6
13	CONTROL PANELS	NEMA 1	N/A	NEMA 4X SS	N/A



No.	Description	Date

STAMP:



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BGR2-JV
6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM

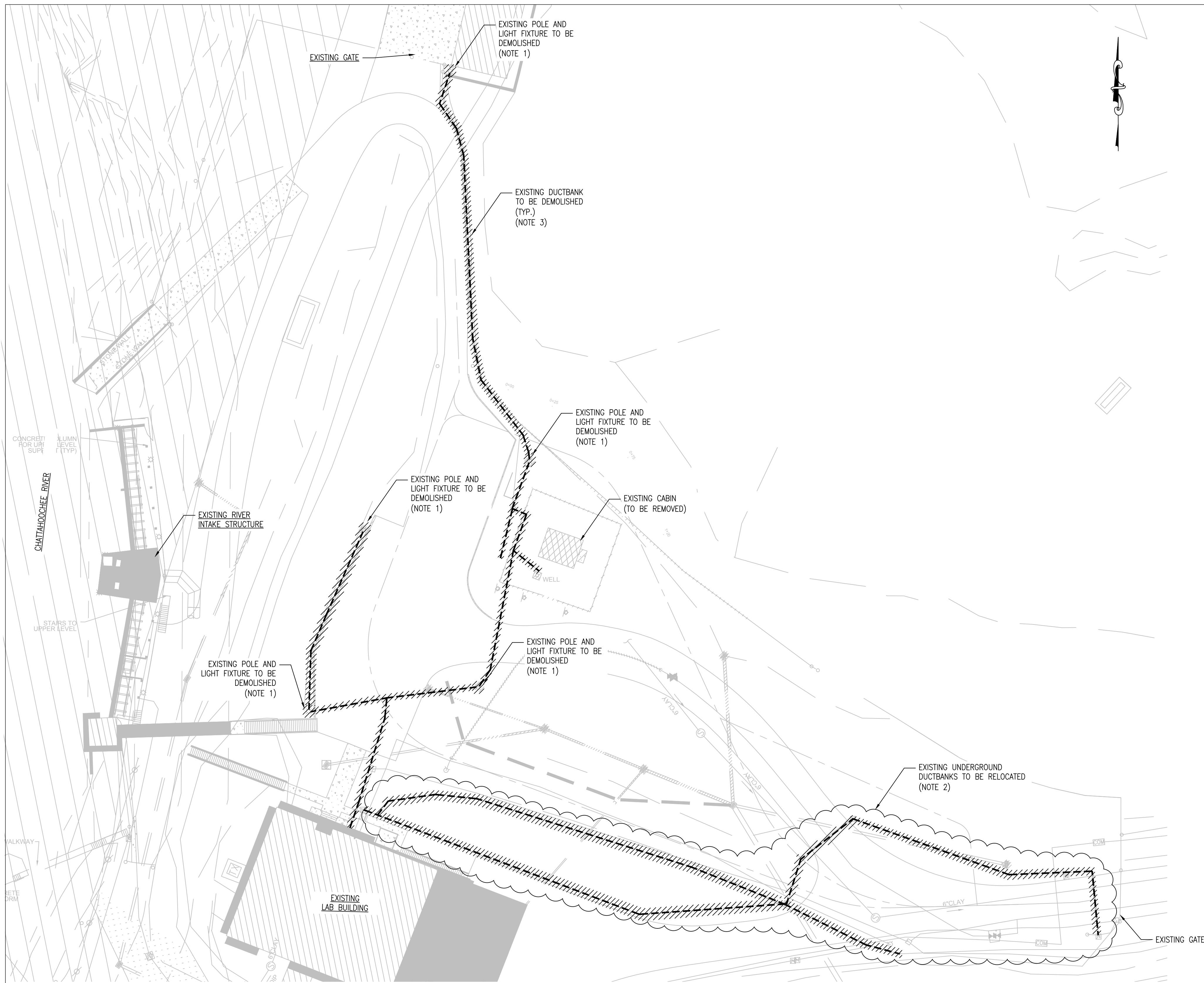
RIVER INTAKE PUMP STATION
MATERIAL RATING SCHEDULE

DRAWING NO.

RI-PS

E5-002

SHEET OF



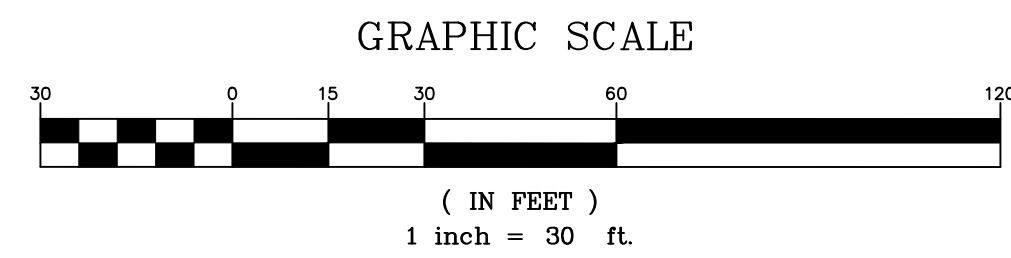
NOTES:

1. CONTRACTOR SHALL REMOVE THE EXISTING LIGHTING POLE AND FIXTURE WITH ASSOCIATED CABLES AND CONDUITS. COORDINATE THE DISPOSAL OR STORAGE OF THE EQUIPMENT WITH THE OWNER.
2. CONTRACTOR SHALL REMOVE THE EXISTING DUCTBANKS WITH ASSOCIATED MANHOLES. COORDINATE THE DISPOSAL OR STORAGE OF THE REMOVED MATERIALS WITH THE OWNER. THE CONTRACTOR SHALL PROVIDE NEW UNDERGROUND DUCTBANKS WITH CABLES AND CONDUITS TO THE EXISTING REMAINING LOADS WITHIN THE AREA SHOWN. THE NEW UNDERGROUND DUCTBANK SHALL BE ROUTED OUTSIDE OF THE DISTURBED AREA. SEE CIVIL DRAWINGS FOR DISTURBED AREA LOCATION.
3. CONTRACTOR SHALL REROUTE THE EXISTING CABLES AND CONDUITS PROVIDING POWER FOR THE STRUCTURES BEHIND THE GATE. REROUTE THE UNDERGROUND DUCTBANK BEYOND THE DISTURBED GROUND.

LEGEND:

- EQUIPMENT TO BE DEMOLISHED

1 EXISTING SITE DEMOLITION PLAN
SCALE: 1" = 30'



No.	Description	Date

STAMP:



ADDRESS:

BGR2-JV
6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM

RIVER INTAKE PUMP STATION
SITE DEMOLITION PLAN

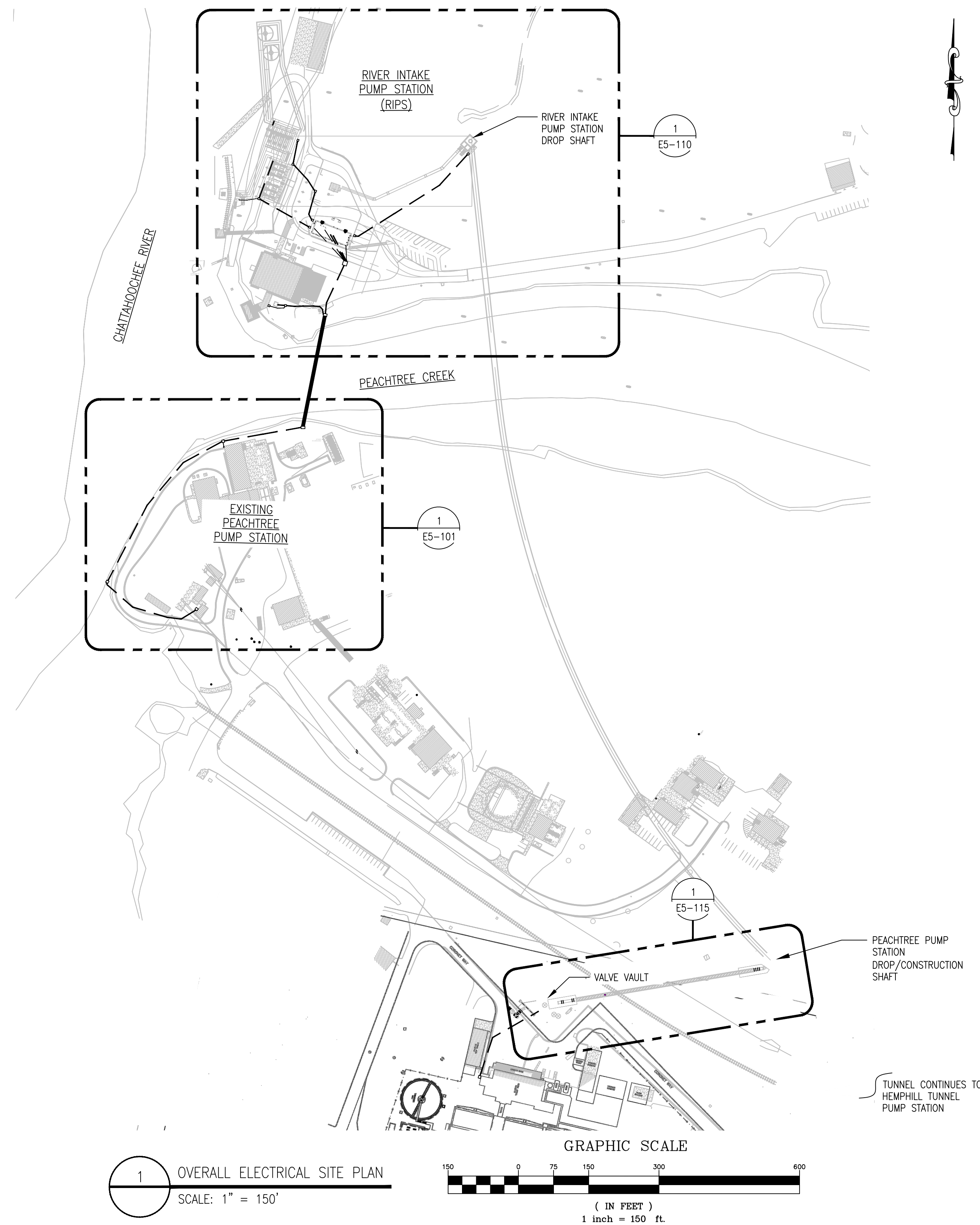
DRAWING NO.

RI-PS

E5-010

SHEET OF

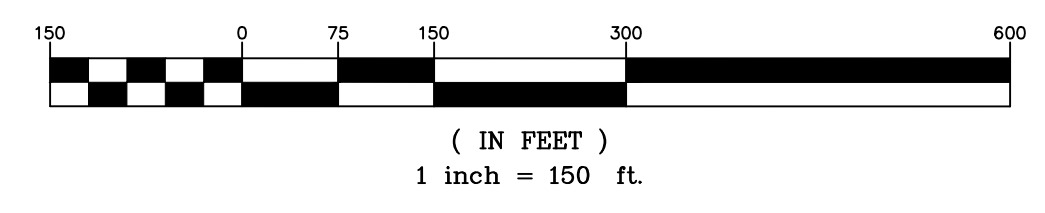
ISSUED FOR BIDDING



- NOTES:
- SCALE AND EQUIPMENT LOCATIONS ARE APPROXIMATE. THE EXACT DISTANCES SHALL BE CONFIRMED IN THE FIELD.
 - SEE PARTIAL POWER PLANS FOR MORE DUCTBANKS AND MANHOLES LOCATIONS.

- LEGEND:
- CONCRETE ENCASED UNDERGROUND DUCTBANK (DETAIL D, DWG. EG-002)
 - ▨ 30" OUTSIDE DIAMETER, DR 11 HDPE FOR THE CASING FOR MEDIUM VOLTAGE CONDUITS (INSIDE DIAMETER REQUIRED IS 24" MIN.)

1 OVERALL ELECTRICAL SITE PLAN
SCALE: 1" = 150'



No.	Description	Date

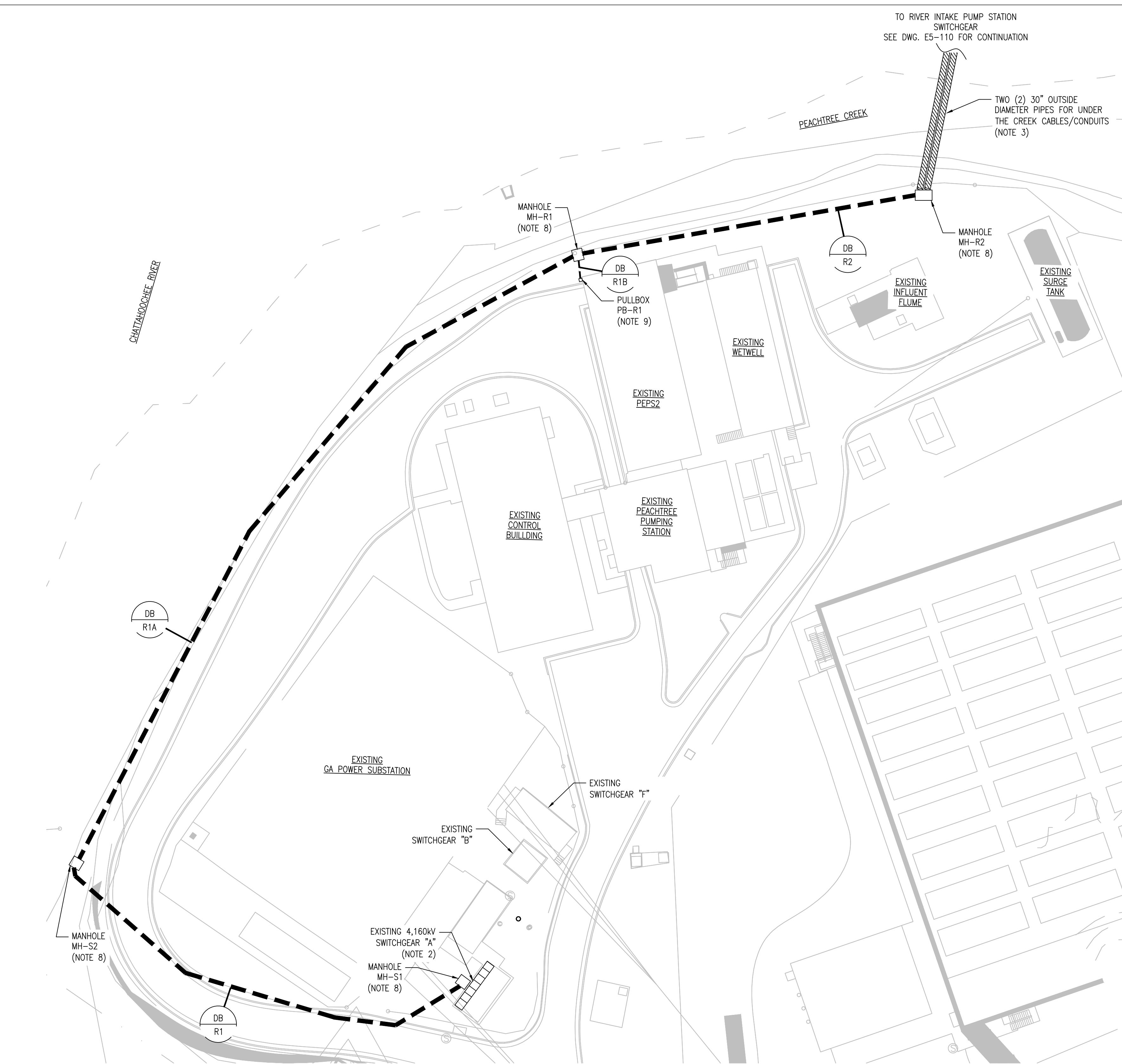


ADDRESS:
BGR2-JV
6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
OVERALL ELECTRICAL SITE PLAN

DRAWING NO.
RI-PS
E5-100
SHEET OF



TO RIVER INTAKE PUMP STATION SWITCHGEAR
SEE DWG. E5-110 FOR CONTINUATION

TWO (2) 30" OUTSIDE DIAMETER PIPES FOR UNDER THE CREEK CABLES/CONDUITS (NOTE 3)

NOTES:

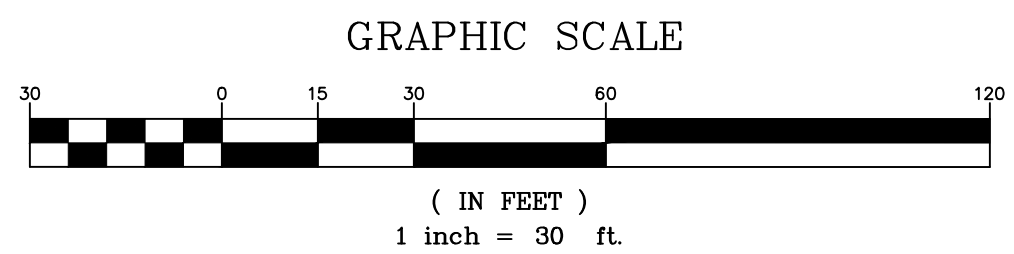
- CONTRACTOR SHALL RUN AN UNDERGROUND CONCRETE ENCASED DUCT BANKS AS SHOWN. THE ROUTING SHALL BE COORDINATED WITH UNDERGROUND UTILITIES TO AVOID ANY INTERFERENCES. THE DUCTBANK DEPTH SHALL BE ADJUSTED AS NEEDED TO AVOID ANY CONFLICTS WITH EXISTING UTILITIES. THE EXACT LOCATION AND NUMBER OF MANHOLES SHALL BE ADJUSTED IN THE FIELD AS NEEDED.
- CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY CONDUITS, PULLBOXES, SUPPORTS AND ANY OTHER HARDWARE REQUIRED FOR 5KV POWER CABLES CONNECTION TO TWO (2) 1,200 AMP CURCUIT BREAKERS IN EXISTING SWITCHGEAR "A".
- CONTRACTOR SHALL PROVIDE AND INSTALL TWO (2) 30" OUTSIDE DIAMETER, DR 11 HDPE FOR THE CASINGS BETWEEN MANHOLES MH-R2 AND MH-R3 WITH FIVE (5) 5" CONDUITS EACH SEPARATED BY SPACERS. THE SPACERS SHALL PROVIDE SMOOTH INSTALLATION AND REMOVAL OF EACH CONDUIT. USE DIRECT BORING TO GO UNDER PEACHTREE CREEK. THE STEEL CASING DEPTH SHALL BE ADJUSTED AS NEEDED TO AVOID ANY CONFLICTS WITH EXISTING UTILITIES. THE EXACT LOCATION AND NUMBER OF MANHOLES SHALL BE ADJUSTED IN THE FIELD AS NEEDED.
- ALL UNDERGROUND DUCTBANKS UNDER THE ROADS AND PARKING AREAS SHALL BE CONCRETE ENCASED AND STEEL REINFORCED. EACH DUCTBANK SHALL HAVE #4/0 BARE COPPER GROUND WIRE (NOT SHOWN FOR CLARITY).
- NOT USED.
- CONTRACTOR SHALL PROVIDE AND INSTALL UNDERGROUND PULLBOX SIZED IN ACCORDANCE WITH NEC ARTICLE 314.28. SEE DWG. EG-002 DETAIL "A" FOR UNDERGROUND PULLBOX DETAILS.
- SEE DWG. E5-001 FOR DUCTBANK SECTIONS.
- SEE DWG. EG-004, DETAIL "B" FOR MANHOLE DETAILS.
- CONTRACTOR SHALL PROVIDE AND INSTALL A NEMA 4X RATED PULLBOX MOUNTED ON THE WALL. RUN CONDUITS FROM PB-R1 TO THE EXISTING CONTROL PANEL CP-10-101 EXPOSED ALONG THE WALL AFTER ENTERING THE BUILDING. CONTRACTOR SHALL PROPERLY SEAL ALL WALL PENETRATIONS TO BE WATERTIGHT.
- SEE NOTES 9, 10 AND 12 ON DWG. E6-102.

LEGEND:

- CONCRETE ENCASED UNDERGROUND DUCTBANK (DETAIL D, DWG. EG-002)
- /// 30" OUTSIDE DIAMETER, DR 11 HDPE FOR THE CASING FOR MEDIUM VOLTAGE CONDUITS (INSIDE DIAMETER REQUIRED IS 24" MIN.)

A-101 MAIN BREAKER #1	A-101 AUXILIARY LINE VT'S & CPT	A-202 PEPS1 SWGR PUMP #1	SPACE HEATER	SPACE HEATER	A-702 PEPS1 SWGR PUMP #2	A-701 4MCC-1H PUMP #4	CPT-S	A-901 MAIN BREAKER #2
METERING	A-302 FINISHED WATER SWGR PUMP #1	A-201 WATER QUALITY LAB (NOTE 2)	A-401 TIE BREAK	A-502 TIE BREAKER	A-801 STEAM PLANT	1200A SPARE (NOTE 2)	A-602 FINISHED WATER SWGR PUMPS #2/3	METERING

1 EXISTING PECHTREE PS ELECTRICAL PLAN
SCALE: 1" = 30'



2 EXISTING SWITCHGEAR "A" (10-SWGR-101) LAYOUT

No.	Description	Date

STAMP:



ADDRESS:

BGR2-JV
6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM

RIVER INTAKE PUMP STATION
EXISTING PEACHTREE PS
ELECTRICAL SITE PLAN

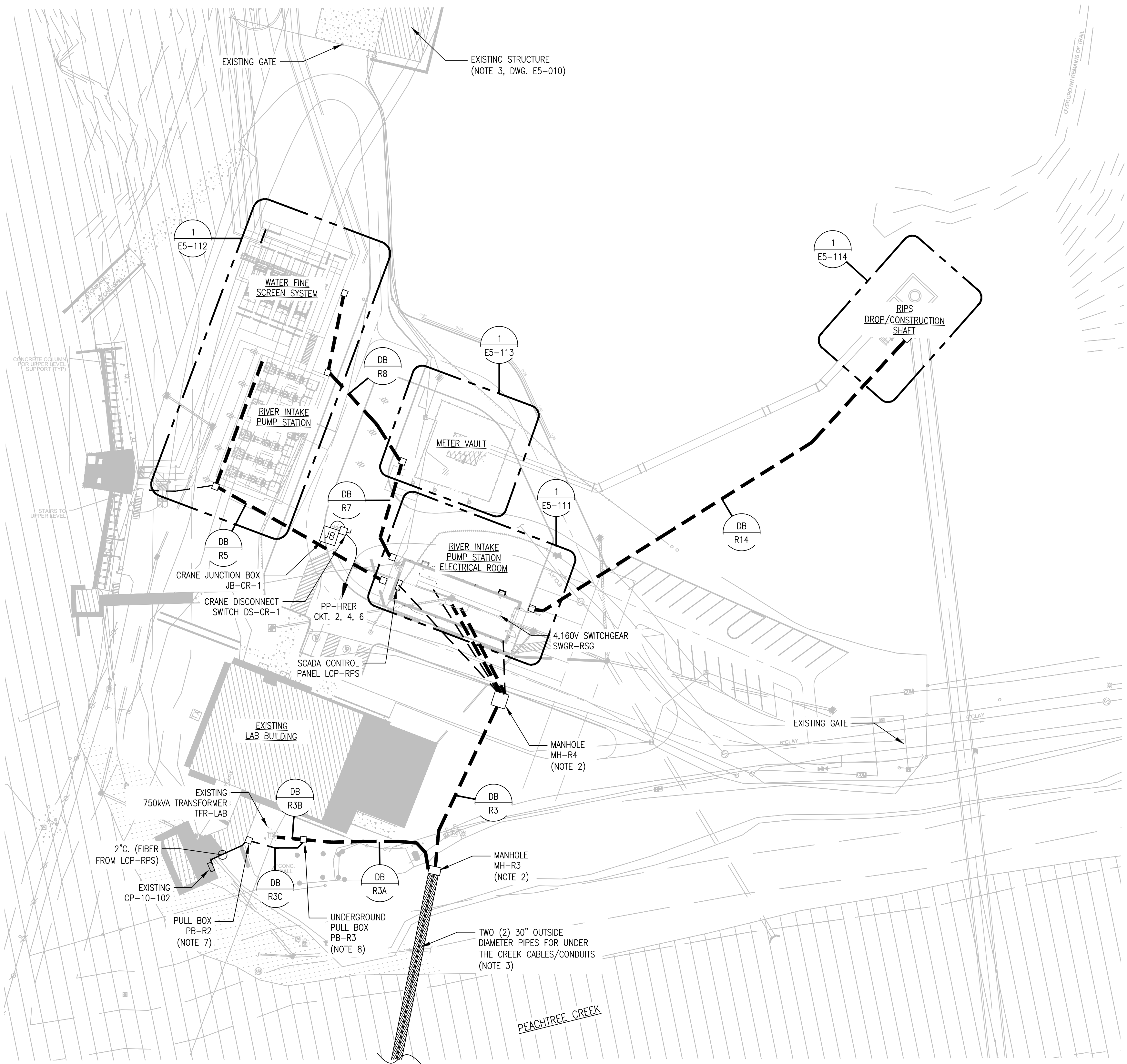
DRAWING NO.

RI-PS

E5-101

SHEET OF



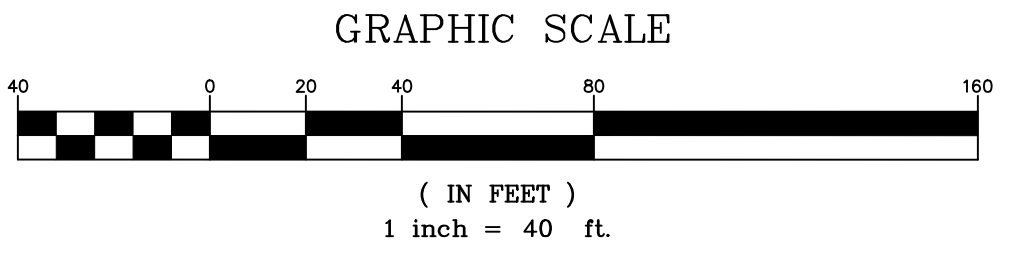


- NOTES:**
- CONTRACTOR SHALL RUN AN UNDERGROUND CONCRETE ENCASED DUCT BANKS AS SHOWN. THE ROUTING SHALL BE COORDINATED WITH UNDERGROUND UTILITIES TO AVOID ANY INTERFERENCES. THE DUCT BANK DEPTH SHALL BE ADJUSTED AS NEEDED TO AVOID ANY CONFLICTS WITH EXISTING UTILITIES. THE EXACT LOCATION AND NUMBER OF MANHOLES SHALL BE ADJUSTED IN THE FIELD AS NEEDED.
 - SEE DRAWING EG-004, DETAIL "B" FOR MANHOLE DETAILS.
 - SEE DRAWING E5-101 NOTE 3 FOR MORE DETAILS.
 - ALL UNDERGROUND DUCTBANKS UNDER THE ROADS AND PARKING AREAS SHALL BE CONCRETE ENCASED AND STEEL REINFORCED. EACH DUCT BANK SHALL HAVE #4/0 BARE COPPER GROUND WIRE (NOT SHOWN FOR CLARITY).
 - 4,160V INCOMING POWER CONDUITS SHALL BE CONCRETE ENCASED UNDER THE BUILDING SLAB. COORDINATE THE EXACT CONDUITS ELEVATION WITH THE STRUCTURAL DRAWINGS.
 - SEE DWG. E5-001 FOR DUCT BANK SECTIONS.
 - CONTRACTOR SHALL PROVIDE AND INSTALL A NEMA 4X RATED PULLBOX MOUNTED ON THE BUILDING WALL. RUN CONDUITS FROM PB-R2 TO THE EXISTING CONTROL PANEL CP-10-102 EXPOSED ALONG THE OUTSIDE WALL. CONTRACTOR SHALL PROPERLY SEAL ALL WALL PENETRATIONS TO BE WATERTIGHT.
 - CONTRACTOR SHALL PROVIDE AND INSTALL UNDERGROUND PULL BOX SIZED IN ACCORDANCE WITH NEC ARTICLE 314.28. SEE DWG. EG-002 DETAIL "A" FOR UNDERGROUND PULLBOX DETAILS.
 - CONTRACTOR SHALL COORDINATE THE EXACT CRANE JUNCTION BOX LOCATION WITH APPROVED SHOP DRAWINGS.

- LEGEND:**
- CONCRETE ENCASED UNDERGROUND DUCTBANK (DETAIL D, DWG. EG-002)
 - /// 30" OUTSIDE DIAMETER, DR 11 HDPE FOR THE CASING FOR MEDIUM VOLTAGE CONDUITS (INSIDE DIAMETER REQUIRED IS 24" MIN.)

SEE DWG. R-PS/E5-101 FOR CONTINUATION

1 ELECTRICAL SITE PLAN
SCALE: 1" = 40'



No.	Description	Date

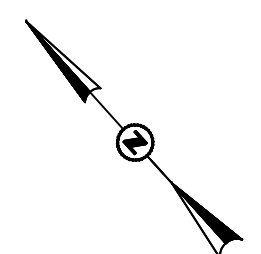


ADDRESS:
BGR2-JV
6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

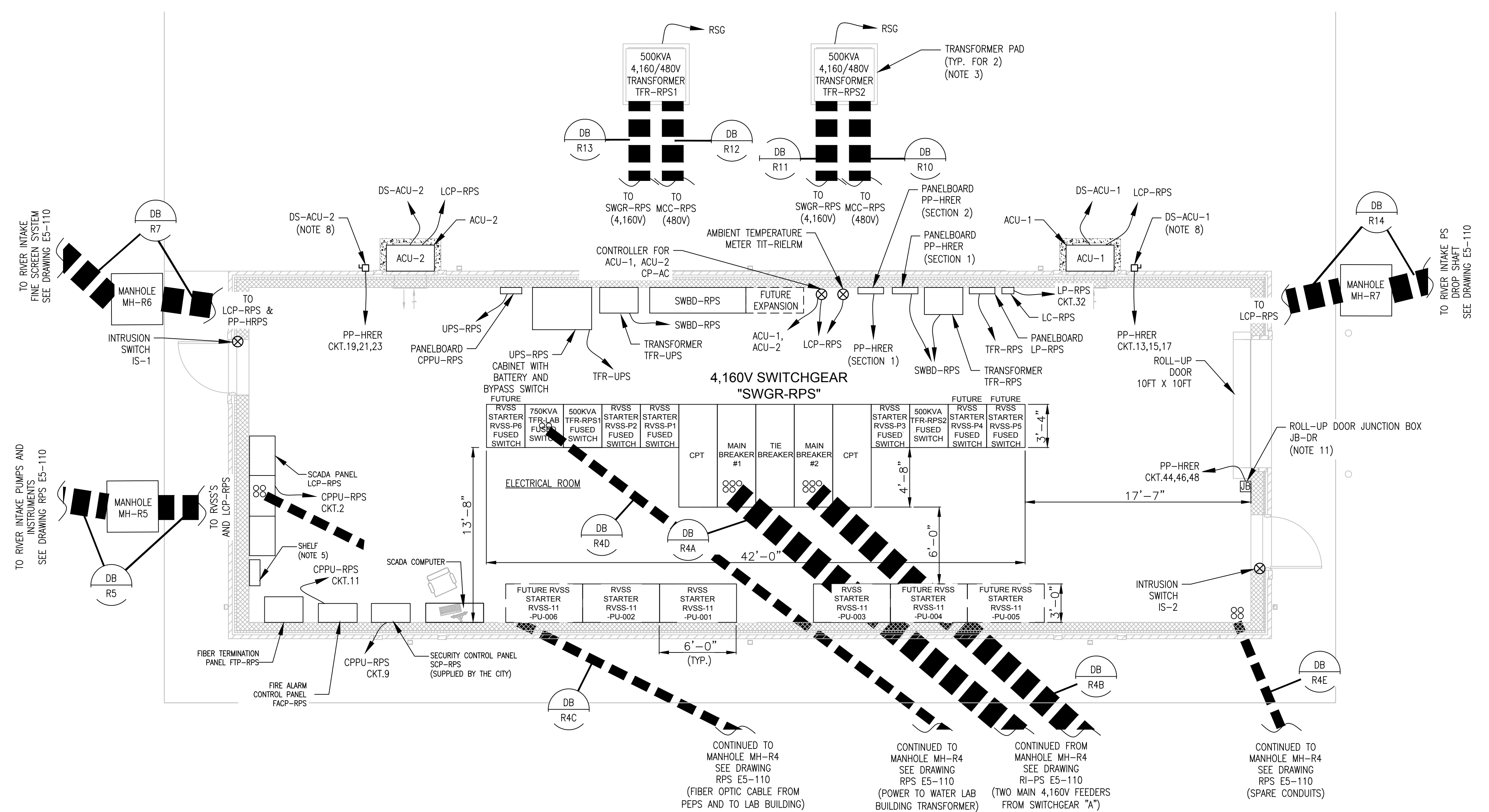
PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
ELECTRICAL SITE PLAN

DRAWING NO.
RI-PS
E5-110
SHEET OF



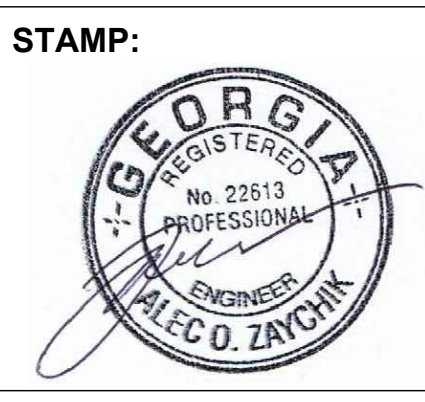
- NOTES:**
1. CONTRACTOR SHALL ADJUST THE EXACT LOCATION OF ELECTRICAL EQUIPMENT IN ELECTRICAL ROOM BASED ON ACTUAL EQUIPMENT DIMENSIONS TO PROVIDE WORKING CLEARANCES AS REQUIRED BY NEC.
 2. CONTRACTOR IS RESPONSIBLE FOR THE SELECTED POWER DISTRIBUTION EQUIPMENT TO FIT THE ROOM AND PROVIDE CODE REQUIRED WORK CLEARANCES.
 3. CONTRACTOR SHALL POUR PROPERLY SIZED CONCRETE PAD FOR TRANSFORMERS TFR-RPS1 AND TFR-RPS2 INSTALLATION.
 4. ALL FREE STANDING ELECTRICAL EQUIPMENT SHALL HAVE 4" HIGH CONCRETE HOUSEKEEPING PAD. EXTEND PAD FOR 4" ON EACH SIDE OF EQUIPMENT.
 5. CONTRACTOR SHALL PROVIDE STEEL SHELF FOR CELLULAR COMMUNICATION MODEM. MOUNT THE RECEPTACLE 6" ABOVE SHELF FOR MODEM POWER SUPPLY CONNECTION.
 6. SEE DWG. E5-001 FOR DUCTBANK SECTIONS.
 7. SEE DWG. EG-004, DETAIL "B" FOR MANHOLE DETAILS.
 8. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL 30AMP, 3P, 480V NON-FUSED DISCONNECT SWITCH IN NEMA 4X SS ENCLOSURE IN LOCATION AS SHOWN.
 9. CONTRACTOR SHALL COORDINATE CONDUIT STUB-UPS AS PER APPROVED EQUIPMENT CABLE ENTRANCE/EXIT OPENINGS.
 10. CONTRACTOR SHALL PROVIDE AND INSTALL INTRUSION SWITCH WITH CONTACTS RATED 120VAC, 2AMP FOR ELECTRICAL BUILDING.
 11. CONTRACTOR SHALL COORDINATE WITH ELECTRIC ROLL-UP DOOR MANUFACTURER AND INCLUDE ALL THE REQUIRED POWER/CONTROL CABLES/CONDUITS FOR DOOR SYSTEM.



1 RIVER PS ELECTRICAL ROOM LAYOUT
 SCALE: 3/16" = 1'-0"
 GRAPHIC SCALE
 (IN FEET)
 3/16 inch = 1 ft.



No.	Description	Date

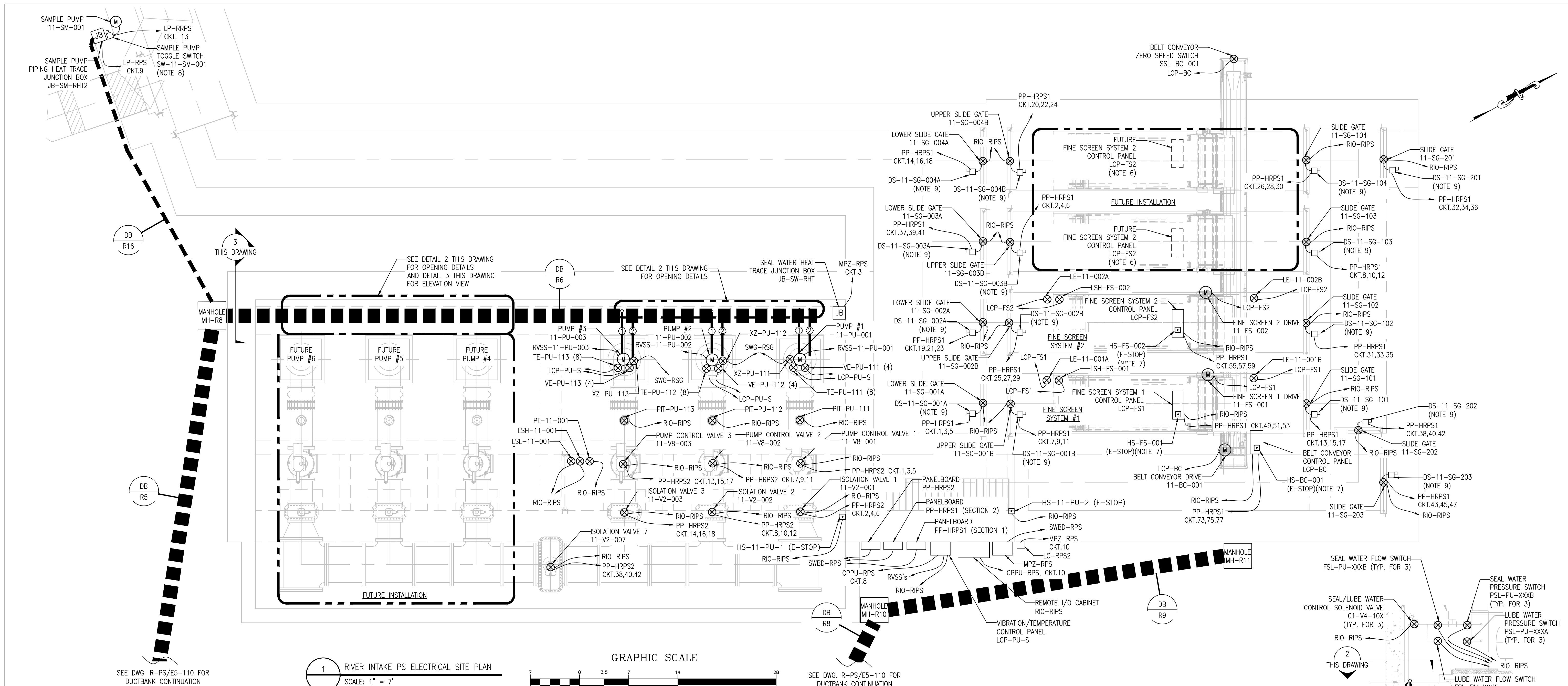


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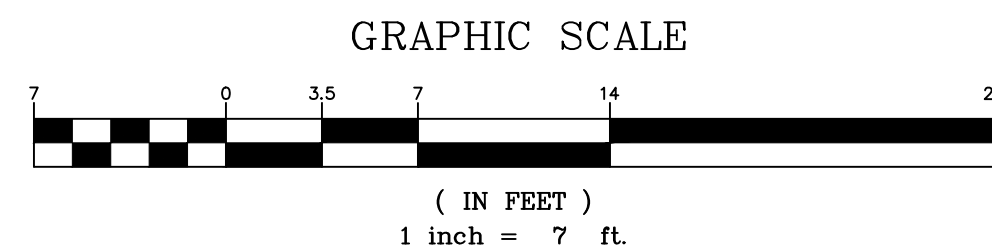
CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
ELECTRICAL ROOM LAYOUT

DRAWING NO.
 RI-PS
E5-111
 SHEET OF



SEE DWG. R-PS/E5-110 FOR DUCTBANK CONTINUATION

1 RIVER INTAKE PS ELECTRICAL SITE PLAN
SCALE: 1" = 7'



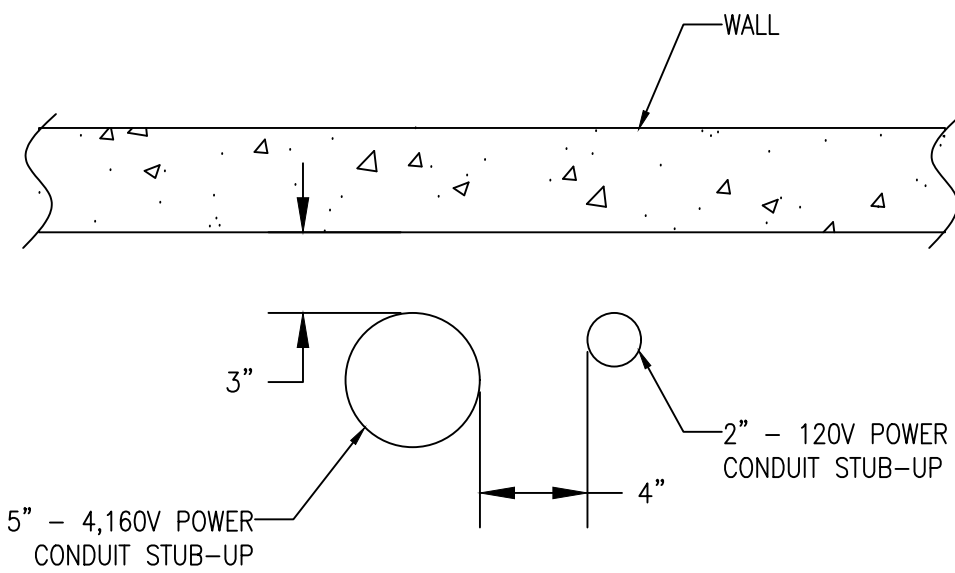
SEE DWG. R-PS/E5-110 FOR DUCTBANK CONTINUATION

NOTES:

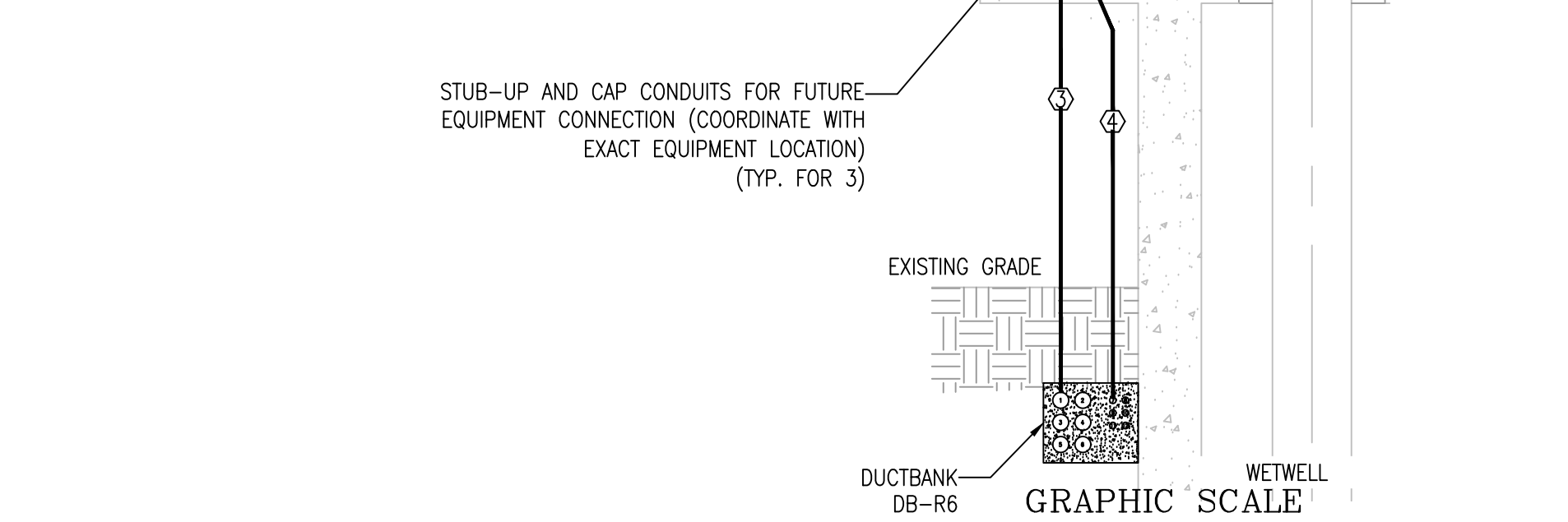
1. ALL UNDERGROUND DUCTBANKS UNDER THE ROADS AND PARKING AREAS SHALL BE STEEL REINFORCED. EACH DUCTBANK SHALL HAVE #4/0 BARE COPPER GROUND WIRE (NOT SHOWN FOR CLARITY).
2. CONTRACTOR SHALL FURNISH AND INSTALL A PULLBOX SIZED BASED ON NEC 314.28. PULLBOX SHALL BE NEMA 4X SS AND MOUNTED ON THE OUTSIDE WALL AS SHOWN.
3. SEE DWG. E5-000 FOR DUCTBANK SECTIONS.
4. SEE DRAWING EG-004, DETAIL "B" FOR MANHOLE DETAILS.
5. CONTRACTOR SHALL PROVIDE AND INSTALL NEMA 4X SS JUNCTION BOX FOR LEVEL FLOATS.
6. CONTRACTOR SHALL PROVIDE AND INSTALL ALL THE REQUIRED SPARE CONDUITS (FOR POWER AND SCADA COMMUNICATION) FOR FUTURE FINE SCREEN #3 AND #4 CONTROL PANEL INSTALLATION. COORDINATE THE EXACT STUB-UP LOCATIONS IN THE FIELD. SEE DWG. RI-PS EI-002 FOR DETAILS. ASSUME FUTURE SCREENS ARE THE SAME TYPE AS TWO (2) CURRENT SCREENS.
7. E-STOP PUSH BUTTON SHALL BE INSTALLED AT THE FRONT OF THE CONTROL PANEL ENCLOSURE FOR EQUIPMENT HARDWIRED INTERLOCK.
8. CONTRACTOR SHALL PROVIDE AND INSTALL A TOGGLE SWITCH HP RATED FOR SAMPLE PUMP. THE TOGGLE SWITCH SHALL HAVE NEMA 4X SS ENCLOSURE. MOUNT TOGGLE SWITCH AT THE LOCATION SHOWN OR AS DIRECTED BY OWNER.
9. CONTRACTOR SHALL FURNISH AND INSTALL NON-FUSED DISCONNECT SWITCH IN NEMA 4X SS ENCLOSURE, 30A, 3P, 480V RATED FOR SLIDE GATES. SEE DWG.E6-202 FOR PANELBOARD SCHEDULES AND WIRE SIZES.

PUMPS AREA CONDUIT SCHEDULE	
①	5" C. (4,160V POWER TO PUMP)
②	2" C. (120V POWER TO PUMP MOTOR SPACE HEATER)
③	5" C. (FUTURE 4,160V POWER TO PUMP)
④	2" C. (FUTURE 120V POWER TO PUMP MOTOR SPACE HEATER)

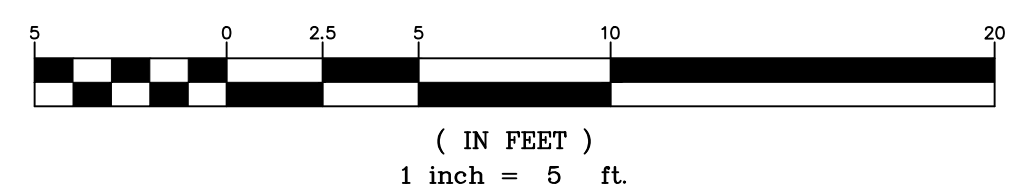
NOTE:
1. SEE PANELBOARD SCHEDULES AND SCHEMATIC WIRING DIAGRAMS FOR REQUIRED CONDUCTOR SIZES & QUANTITIES.



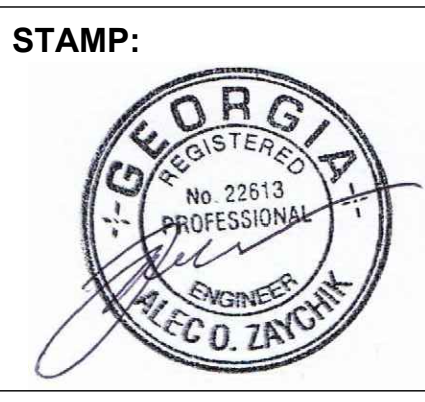
2 CONDUIT STUB-UPS TOP VIEW DETAIL FOR EACH PUMP (TYPICAL FOR 6)



3 PUMPS AREA - DETAIL (TYPICAL FOR 3)
SCALE: 1" = 5'



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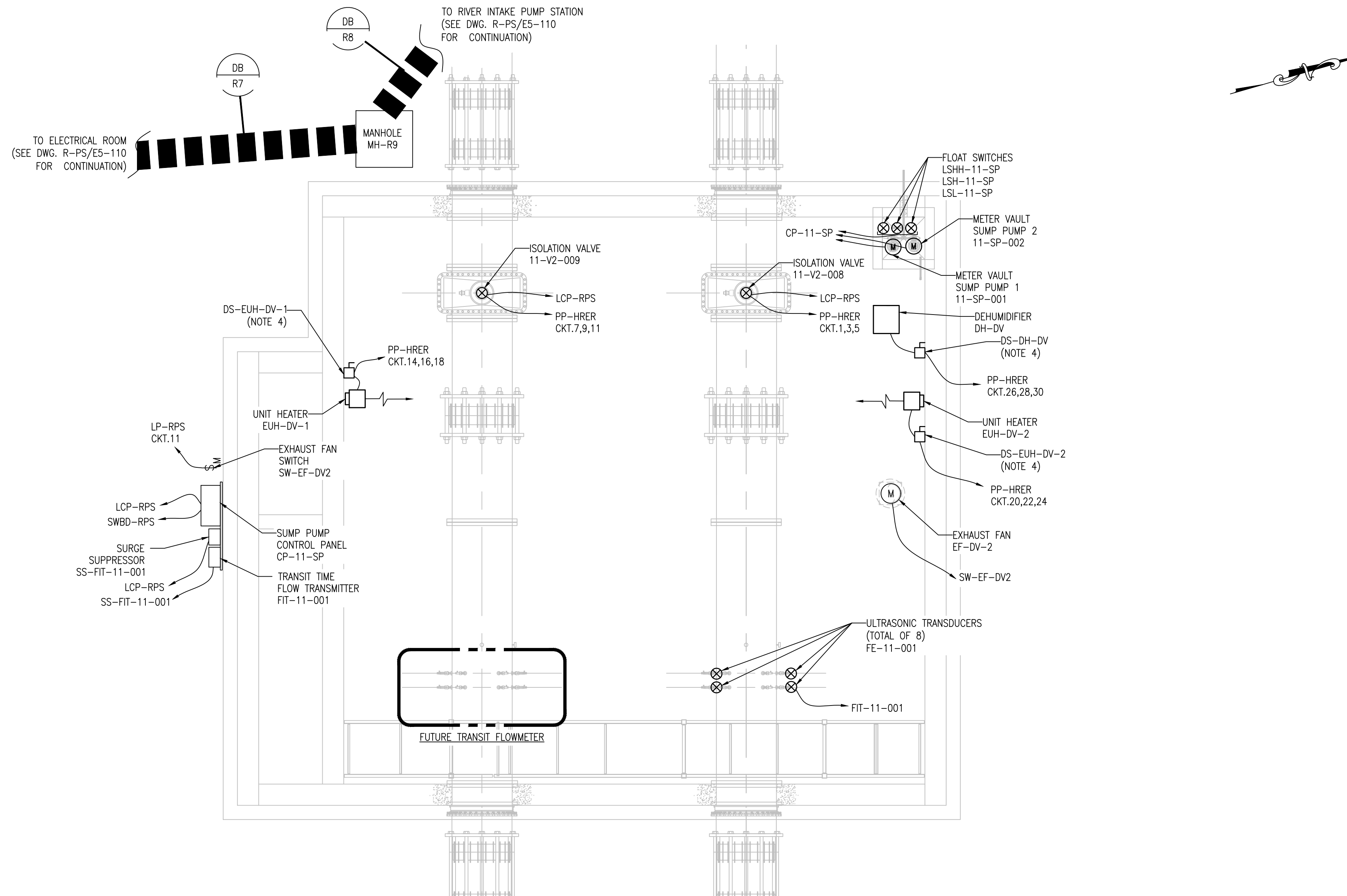
PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

**CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM**

**RIVER INTAKE PUMP STATION
FINE SCREENS AND WETWELL
ELECTRICAL SITE PLAN**

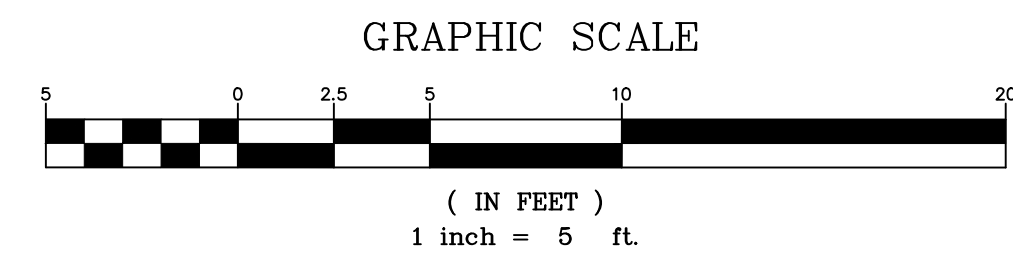
DRAWING NO.
**RI-PS
E5-112**
SHEET OF

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- NOTES:
1. CONTRACTOR SHALL RUN AN UNDERGROUND CONCRETE ENCASED DUCT BANKS AS SHOWN. THE ROUTING SHALL BE COORDINATED WITH UNDERGROUND UTILITIES TO AVOID ANY INTERFERENCES. THE DUCTBANK DEPTH SHALL BE ADJUSTED AS NEEDED TO AVOID ANY CONFLICTS WITH EXISTING UTILITIES. THE EXACT LOCATION AND NUMBER OF MANHOLES SHALL BE ADJUSTED IN THE FIELD AS NEEDED.
 2. SEE DRAWING EG-004, DETAIL "B" FOR MANHOLE DETAILS.
 3. SEE DWG. E5-000 FOR DUCTBANK SECTIONS.
 4. THE CONTRACTOR SHALL PROVIDE AND INSTALL 30AMP, 3P, 480V NON-FUSED DISCONNECT SWITCH IN NEMA 4X SS ENCLOSURE IN LOCATION AS SHOWN.

1 METER VAULT ELECTRICAL PLAN
SCALE: 1" = 5'



No.	Description	Date

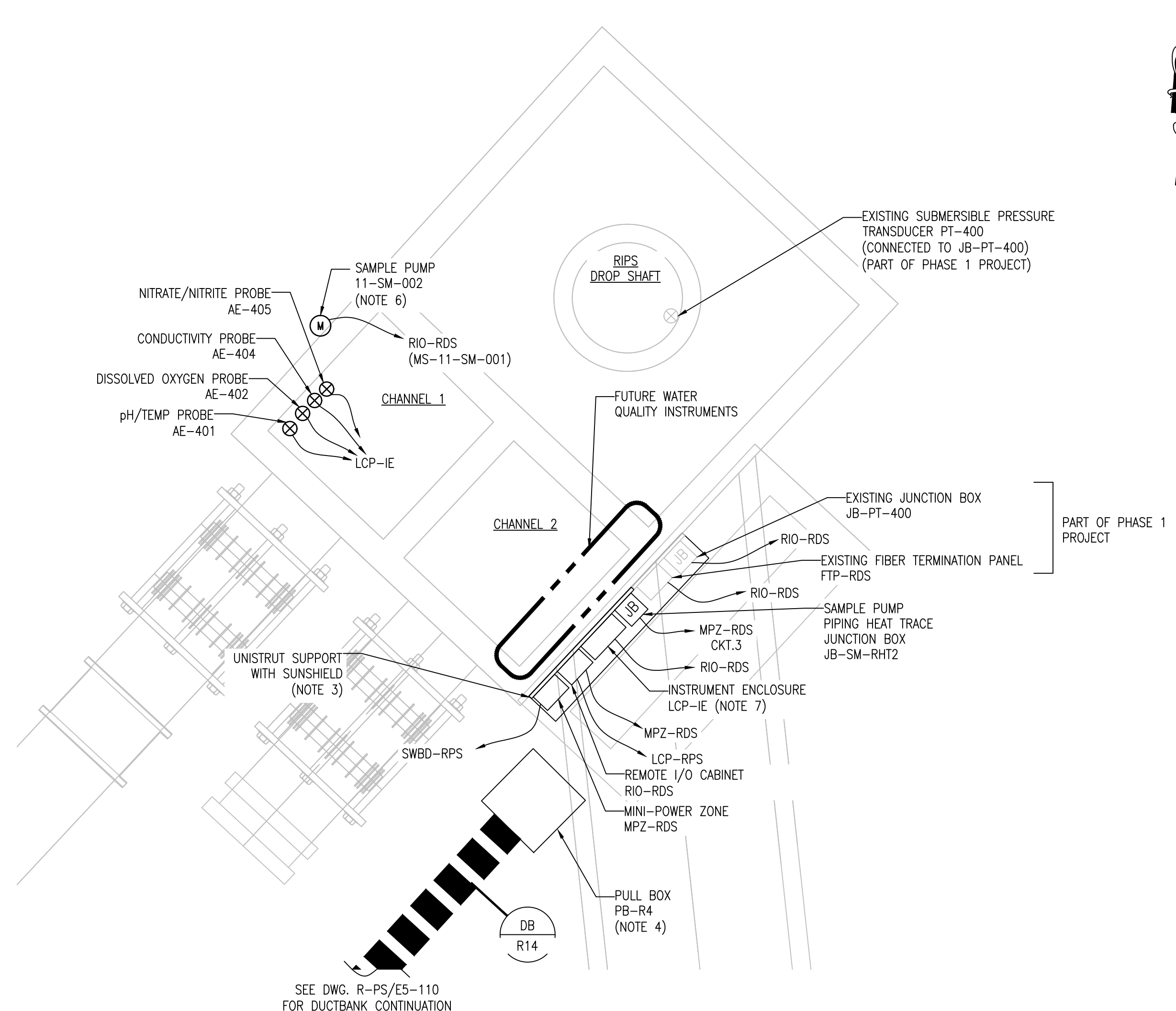


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ATLANTA, GA 30328
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FAX: (770) 993-5082

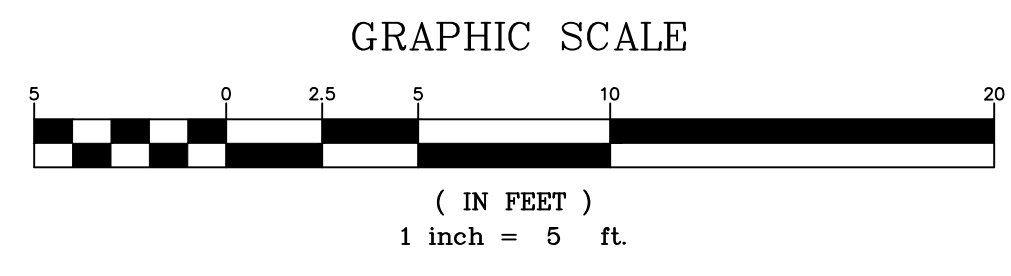
PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
METER VAULT
ELECTRICAL PLAN

DRAWING NO.
RI-PS
E5-113
SHEET OF



1 RIPS DROP/CONSTRUCTION SHAFT ELECTRICAL PLAN
SCALE: 1" = 5'



NOTES:

1. ALL UNDERGROUND DUCTBANKS UNDER THE ROADS AND PARKING AREAS SHALL BE STEEL REINFORCED. EACH DUCTBANK SHALL HAVE #4/0 BARE COPPER GROUND WIRE (NOT SHOWN FOR CLARITY).
2. CONTRACTOR SHALL PROVIDE AND INSTALL 120VAC AND 4-20mA SIGNAL COMBINATION SURGE SUPPRESSOR FOR FLOW INDICATING TRANSMITTER ("EDCO" OR APPROVED EQUAL).
3. CONTRACTOR SHALL PROVIDE CONCRETE HOUSEKEEPING PAD AND UNISTRUT SUPPORT FOR INSTALLATION OF MINI-POWER ZONE, REMOTE I/O CABINET, INSTRUMENT ENCLOSURE, FIBER OPTIC BREAKOUT PANEL AND JUNCTION BOXES. ALL ELECTRICAL EQUIPMENT SHALL BE MOUNTED UNDER SUN/RAIN STAINLESS STEEL HOOD SECURELY ATTACHED TO THE UNISTRUT SUPPORT. SEE DRAWING IG-002 DETAIL "A" AND "B" FOR INSTALLATION DETAILS.
4. CONTRACTOR SHALL PROVIDE AND INSTALL UNDERGROUND PULL BOX SIZED IN ACCORDANCE WITH NEC ARTICLE 314.28. SEE DWG. EG-002 DETAIL "A" FOR UNDERGROUND PULLBOX DETAILS.
5. SEE DWG. E5-001 FOR DUCTBANK SECTIONS.
6. CONTRACTOR SHALL PROVIDE AND INSTALL ONE (1) 120V, 1PH SAMPLE PUMP. THE PUMP SHALL BE SIZED TO MEET THE FLOW REQUIREMENTS OF THE INSTRUMENTS SERVED; ONLY ONE PUMP WILL BE REQUIRED FOR TURBIDIMETER, THE ALKALINITY ANALYZER AND THE PARTICLE COUNTER. THE SAMPLE PUMP SHALL BE MOUNTED AT THE CHANNEL 1 OR AS RECOMMENDED BY INSTRUMENTS VENDOR.
7. CONTRACTOR SHALL PROVIDE AND INSTALL A NEMA 4X STAINLESS STEEL INSTRUMENT ENCLOSURE. THE INSTRUMENT ENCLOSURE, "LCP-IE", SHALL BE ADEQUATELY SIZED TO HOUSE THE FOLLOWING AS A MINIMUM:
 - 7.1. TWO (2) - MULTI-CHANNEL CONTROLLER (1-THIS BID & 1-FUTURE)
 - 7.2. TWO (2) - ALKALINITY ANALYZERS AND ASSOCIATED PIPING AND TUBING (1-THIS BID & 1-FUTURE)
 - 7.3. TWO (2) - PARTICLE COUNTERS AND ASSOCIATED PIPING AND TUBING (1-THIS BID & 1-FUTURE)
 - 7.4. TWO (2) - TURBIDITY METERS AND ASSOCIATED PIPING AND TUBING (1-THIS BID & 1-FUTURE)
 - 7.5. 120V, 1PH MOTOR STARTER FOR SAMPLE PUMP
 - 7.6. 15A, 1PH RECEPTACLES AS NEEDED FOR THE INSTRUMENTS
 - 7.7. LED TUBE LIGHT WITH SWITCH
 - 7.8. 900VA MINIMUM UPS WITH BATTERY (ALL INSTRUMENTS SHALL BE FED FROM UPS PROTECTED CIRCUITS)
 - 7.9. COOLING FANS AND THERMOSTAT (NON-UPS POWER)
 - 7.10. SPACE HEATER AND THERMOSTAT (NON-UPS POWER)
 - 7.11. ANY OTHER EQUIPMENT FOR PROPER AND SAFE OPERATION OF THE CABINET
 - 7.12. AIR COMPRESSOR AS REQUIRED FOR WATER QUALITY INSTRUMENTS AIR PURGING

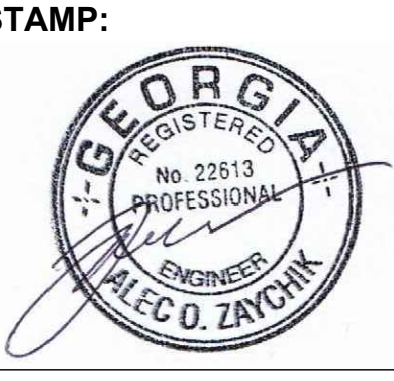
THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DRAWINGS AND DOCUMENTATION FOR ENGINEER'S REVIEW PRIOR TO FABRICATION OF THE REMOTE I/O CABINET.
8. CONTRACTOR SHALL PROVIDE AND INSTALL REMOTE I/O CABINET RIO-RDS IN NEMA 4X STAINLESS STEEL ENCLOSURE. PANEL SHALL BE SUPPLIED WITH ALL NECESSARY COMPONENTS INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:
 - 8.1. 20A, 120V, 1P MAIN CIRCUIT BREAKER, 22KAIC RATED.
 - 8.2. SURGE SUPPRESSION DEVICE; TOTAL PROTECTION SOLUTIONS TK-PK040S-1P120-L OR APPROVED EQUAL.
 - 8.3. ALL REQUIRED TERMINALS, DISTRIBUTION BLOCKS, AND CIRCUIT BREAKERS FOR THE FOLLOWING INSTRUMENTS:
 - 8.3.1. TWO (2) - PARTICLE COUNTER
 - 8.3.2. TWO (2) - ALKALINITY ANALYZER
 - 8.3.3. TWO (2) - TURBIDIMETER
 - 8.3.4. TWO (2) - MULTI-PARAMETER UNIVERSAL CONTROLLER
 - 8.3.4.1. MULTI-PARAMETER UNIVERSAL CONTROLLER SHALL BE SUPPLIED WITH AN RJ45 ETHERNET COMMUNICATION PORT.
 - 8.4. MANAGED ETHERNET/FIBER-OPTIC SWITCH; STRATIX 5700 SERIES OR APPROVED EQUAL.
 - 8.5. ALLEN BRADLEY COMPACTLOGIX 1769-L23E-QB1B PLC OR APPROVED EQUAL.
 - 8.5.1. ALLEN BRADLEY PLC SHALL BE SUPPLIED WITH I/O CARDS TO SUPPORT A MINIMUM OF 16 ANALOG INPUTS, 16 DISCRETE INPUTS AND ETHERNET/MODBUS COMMUNICATION PORT. SEE SHEET EI-005 IN THIS SET FOR DETAILS.
 - 8.6. TWO (2) NEMA RATED 120V, 1PH MANUAL MOTOR STARTER WITH ON/OFF SWITCH. THE MOTOR STARTER SHALL BE SIZED TO RUN THE SELECTED SAMPLE PUMP.
 - 8.7. 120V, 1PH, 60HZ UPS WITH BATTERY SIZED FOR 20 MIN OF RIO-RDS LOADS BACK-UP.
 - 8.8. COOLING FANS AND THERMOSTAT
 - 8.9. SPACE HEATER AND THERMOSTAT

THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL EQUIPMENT AS LISTED ABOVE. THE CONTRACTOR SHALL MOUNT THE REMOTE I/O CABINET ON THE UTILITY RACK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DRAWINGS AND DOCUMENTATION FOR ENGINEER'S REVIEW PRIOR TO FABRICATION OF THE REMOTE I/O CABINET.
9. CONTRACTOR SHALL PROVIDE AND INSTALL THE FOLLOWING AT THE TUNNEL SHAFT TRANSITION BOX AS SHOWN ON THE DRAWING:
 - 9.1 DISSOLVED OXYGEN PROBE
 - 9.2 pH PROBE
 - 9.3 CONDUCTIVITY PROBE
 - 9.4 NITRATE/NITRITE PROBE

THE CONTRACTOR SHALL MOUNT MULTI-PARAMETER UNIVERSAL CONTROLLER WITHIN THE INSTRUMENT ENCLOSURE. THE CONTRACTOR SHALL CONNECT THE PROBES TO THE MULTI-PARAMETER UNIVERSAL CONTROLLER.



No.	Description	Date



ADDRESS:
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SUITE 1600
ATLANTA, GA 30328
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PROJECT NO:	TASK 1
DESIGNED BY:	RV
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DATE:	11-22-2019
SCALE:	N.T.S.

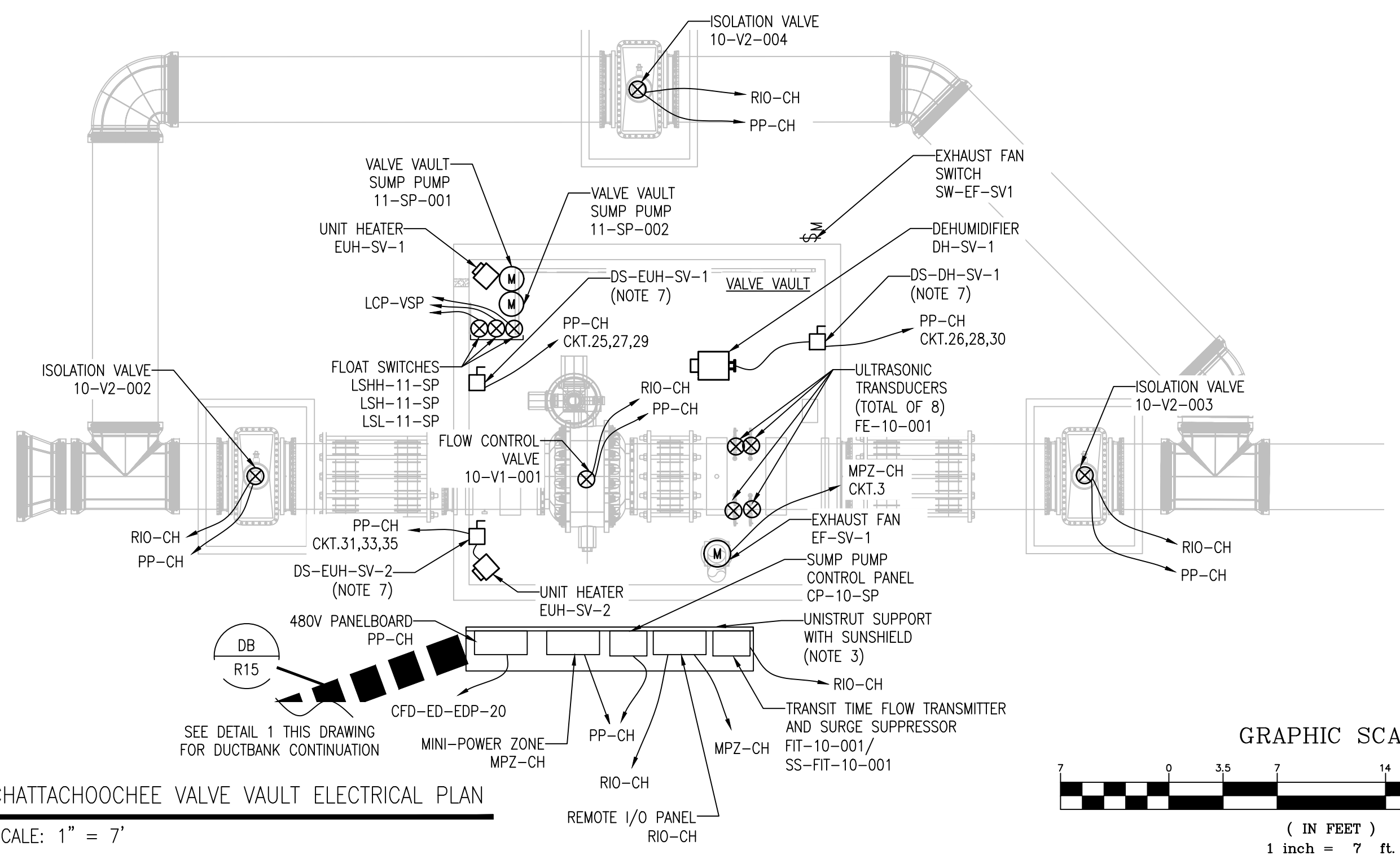
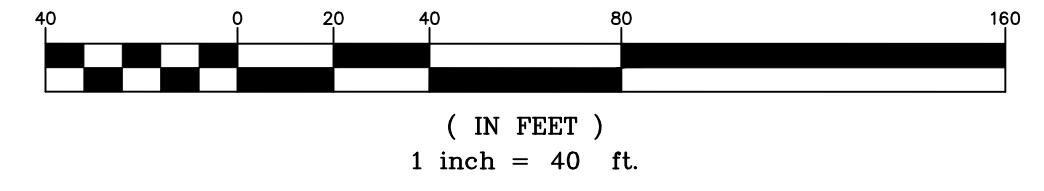
CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
RIPS DROP SHAFT
ELECTRICAL SITE PLAN

DRAWING NO.
RI-PS
E5-114
SHEET OF

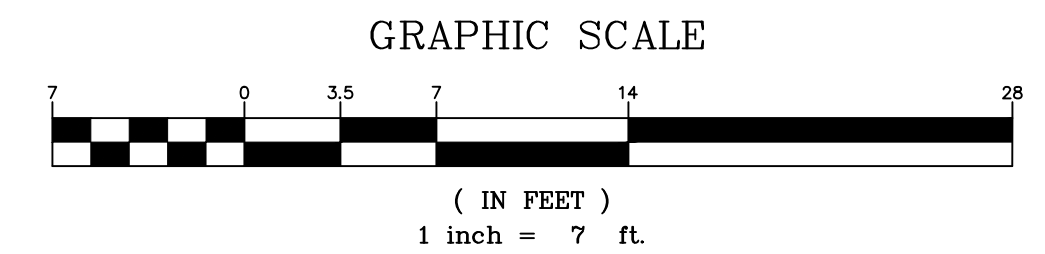


- NOTES:**
1. ALL UNDERGROUND DUCTBANKS UNDER THE ROADS AND PARKING AREAS SHALL BE STEEL REINFORCED. EACH DUCTBANK SHALL HAVE #4/0 BARE COPPER GROUND WIRE (NOT SHOWN FOR CLARITY).
 2. SEE DWG. E5-000 FOR DUCTBANK SECTIONS.
 3. CONTRACTOR SHALL PROVIDE 6" REINFORCED CONCRETE HOUSEKEEPING PAD AND UNISTRUT SUPPORT FOR INSTALLATION OF ELECTRICAL EQUIPMENT. ALL ELECTRICAL EQUIPMENT SHALL BE MOUNTED UNDER SUN/RAIN STAINLESS STEEL HOOD SECURELY ATTACHED TO THE UNISTRUT SUPPORT. PROVIDE LIGHT UNDER SUNSHIELD. SEE DRAWING IG-002 DETAIL "A", "C" AND "D" FOR INSTALLATION DETAILS.
 4. CONTRACTOR SHALL PROVIDE AND INSTALL UNDERGROUND PULL BOX SIZED IN ACCORDANCE WITH NEC ARTICLE 314.28. SEE DWG. EG-002 DETAIL "A" FOR UNDERGROUND PULLBOX DETAILS.
 5. SEE DWG. E5-001 FOR DUCTBANK SECTIONS.
 6. CONTRACTOR SHALL COORDINATE NEW UTILITY SERVICE WITH GEORGIA POWER AND PAY ALL COSTS ASSOCIATED WITH BRINGING NEW SERVICE TO THE SITE.
 7. THE CONTRACTOR SHALL PROVIDE AND INSTALL 30AMP, 3P, 480V NON-FUSED DISCONNECT SWITCH IN NEMA 4X SS ENCLOSURE IN LOCATION AS SHOWN.

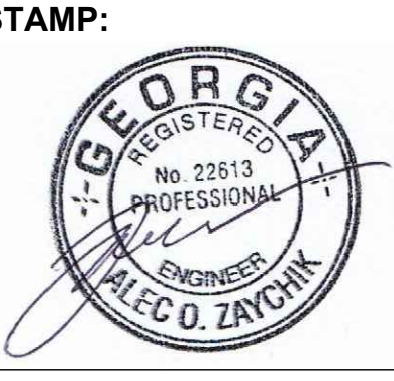
1 CHATTAHOOCHEE VALVE VAULT OVERALL ELECTRICAL PLAN
SCALE: 1" = 40'



2 CHATTAHOOCHEE VALVE VAULT ELECTRICAL PLAN
SCALE: 1" = 7'



No.	Description	Date

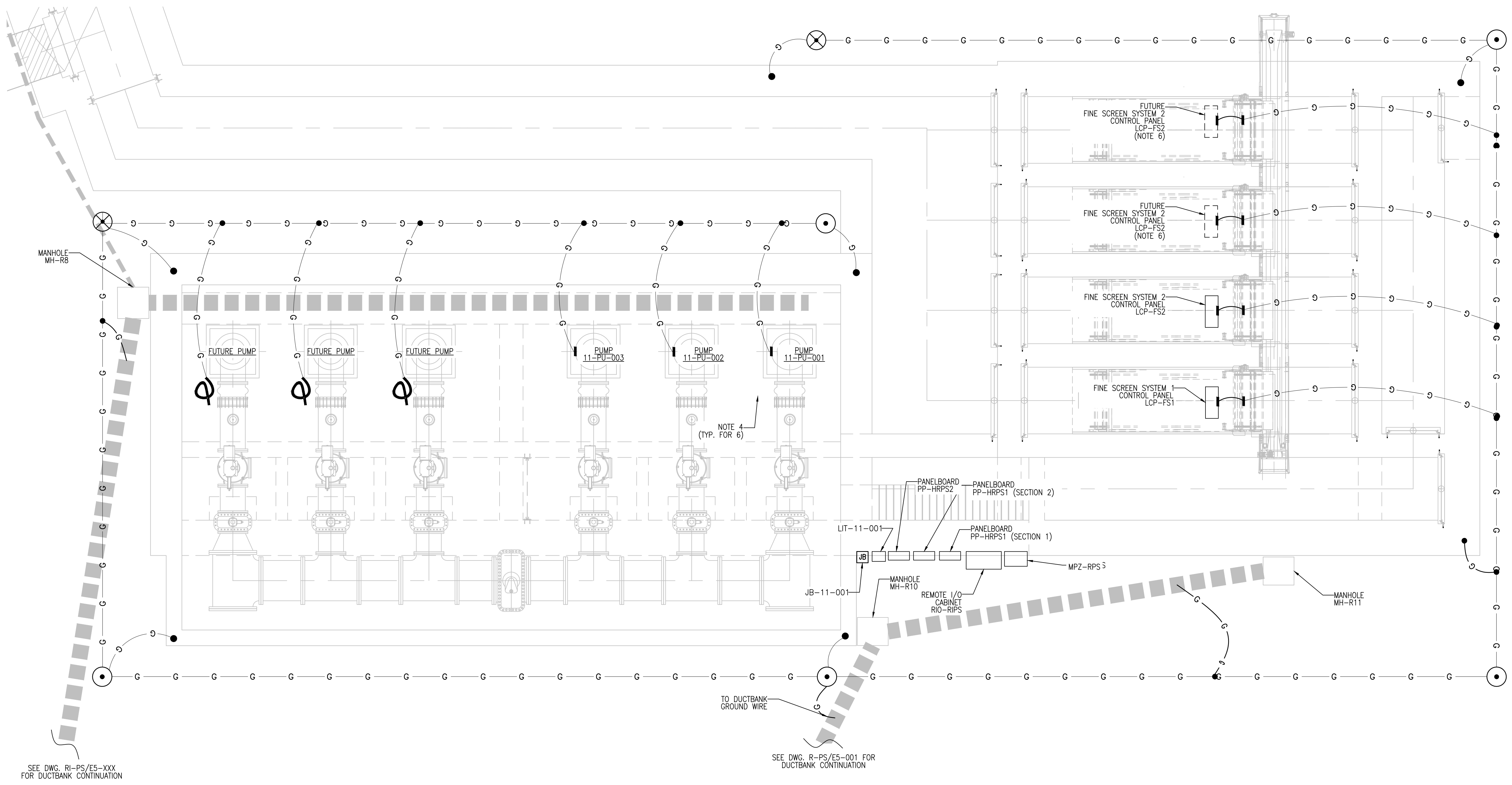


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DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
VALVE VAULT
ELECTRICAL PLAN

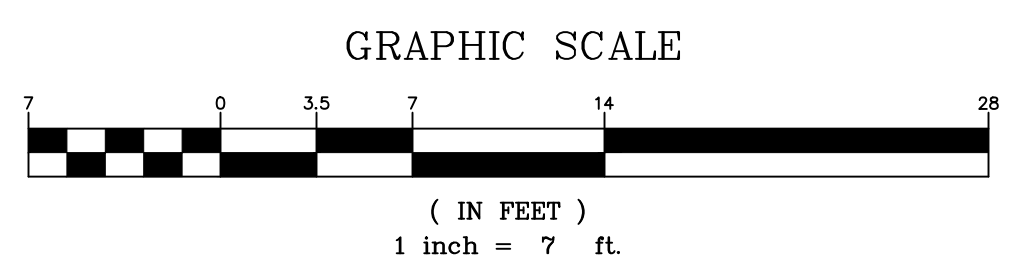
DRAWING NO.
RI-PS
E5-115
SHEET OF



SEE DWG. RI-PS/E5-XXX FOR DUCTBANK CONTINUATION

SEE DWG. R-PS/E5-001 FOR DUCTBANK CONTINUATION

1 RIVER INTAKE PS ELECTRICAL SITE PLAN
SCALE: 1" = 7'



- NOTES:
- SEE DWG. E5-210 FOR GROUNDING SYMBOLS AND NOTES. FOR GROUNDING DETAILS SEE DWGS. E5-211-219.
 - EQUIPMENT LOCATIONS ARE SUBJECT TO CHANGE. COORDINATE STUB-UP LOCATIONS AND GROUNDING CONNECTIONS IN THE FIELD.
 - GROUNDING SYSTEM BONDING BETWEEN AREAS WILL TAKE PLACE VIA THE DUCTBANK GROUNDING CONDUCTOR.
 - CONTRACTOR SHALL LEAVE A MINIMUM OF 10 FT OF BARE COPPER PIG TAIL FOR CONNECTION TO THE PUMP MOTOR FRAMES.



No.	Description	Date



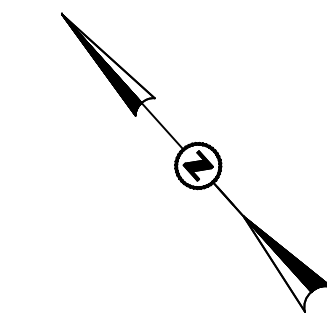
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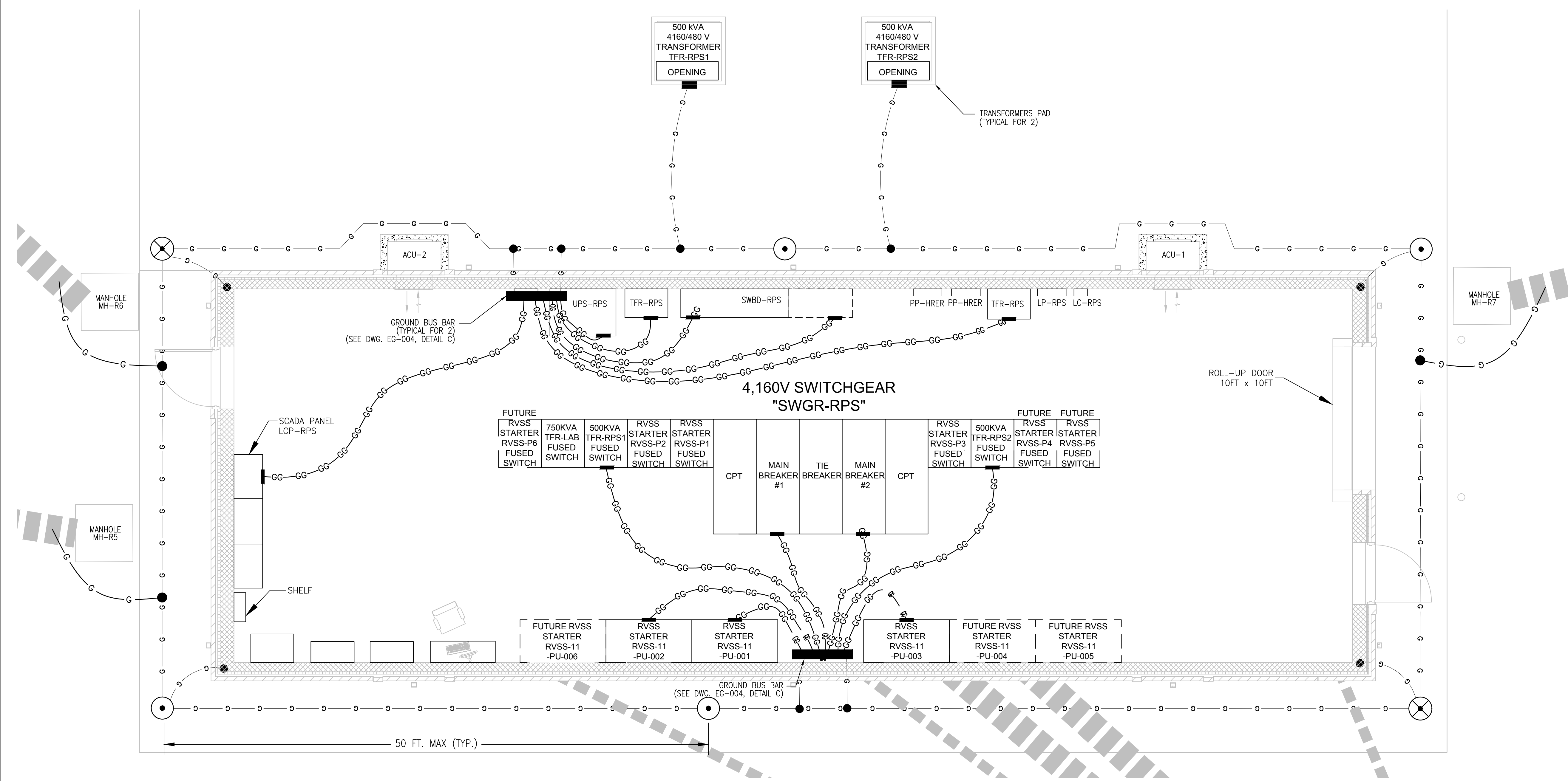
CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
PUMPS AREA
EQUIPMENT GROUNDING PLAN

DRAWING NO.
RI-PS
E5-201
SHEET OF

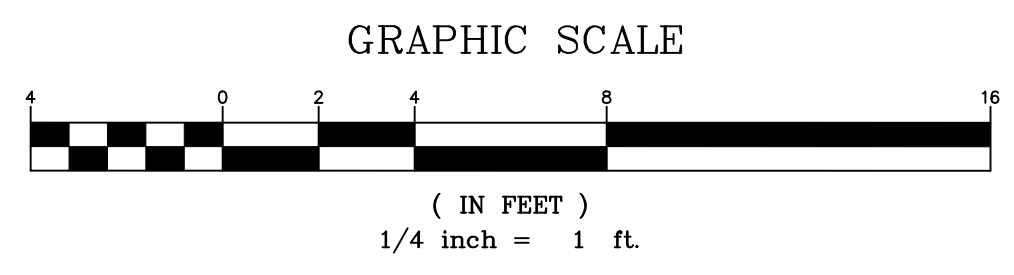
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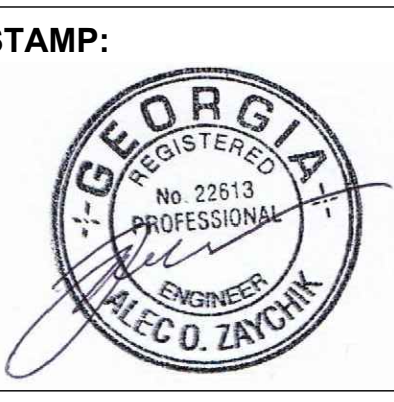
- NOTES:**
- SEE DWG. E5-210 FOR GROUNDING SYMBOLS AND NOTES. FOR GROUNDING DETAILS SEE DWGS. E5-211-219.
 - EQUIPMENT LOCATIONS ARE SUBJECT TO CHANGE. COORDINATE STUB-UP LOCATIONS AND GROUNDING CONNECTIONS IN THE FIELD.
 - SYSTEM BONDING BETWEEN AREAS WILL TAKE PLACE VIA THE DUCTBANK GROUNDING CONDUCTOR.



1 RIVER INTAKE PS ELECTRICAL ROOM GROUNDING PLAN
SCALE: 1/4" = 1'-0"



No.	Description	Date



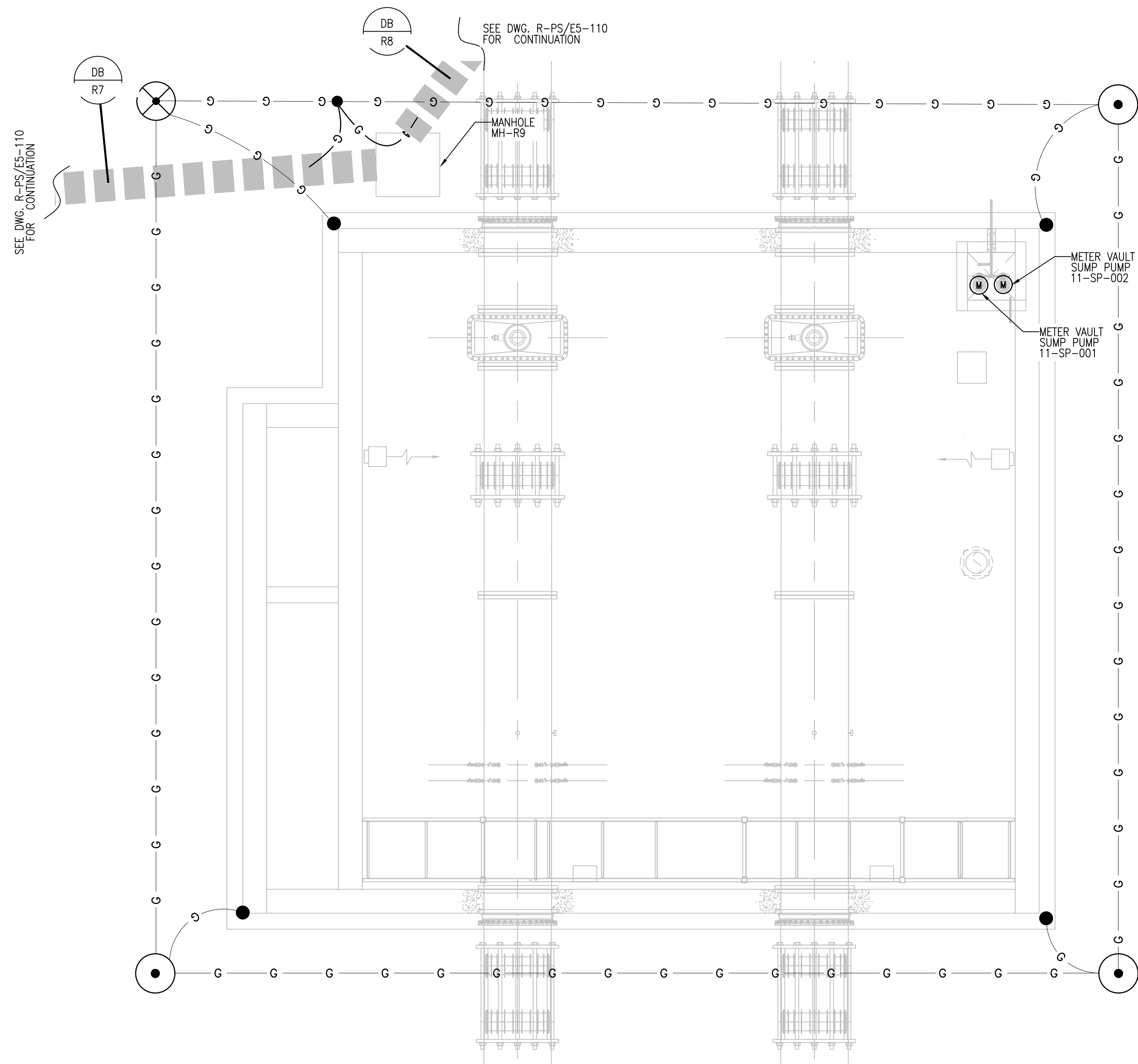
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CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
ELECTRICAL ROOM
EQUIPMENT GROUNDING PLAN

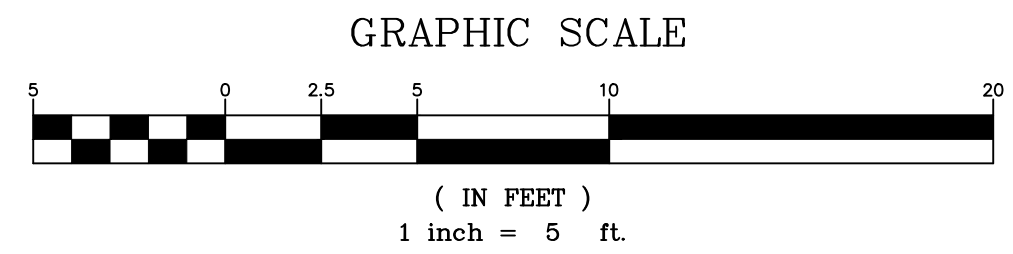
DRAWING NO.
RI-PS
E5-202
SHEET OF

ISSUED FOR BIDDING



- NOTES:
- SEE DWG. E5-210 FOR GROUNDING SYMBOLS AND NOTES. FOR GROUNDING DETAILS SEE DWGS. E5-211-219.
 - EQUIPMENT LOCATIONS ARE SUBJECT TO CHANGE. COORDINATE STUB-UP LOCATIONS AND GROUNDING CONNECTIONS IN THE FIELD.
 - GROUNDING SYSTEM BONDING BETWEEN AREAS WILL TAKE PLACE VIA THE DUCTBANK GROUNDING CONDUCTOR.

1 METER VAULT GROUNDING PLAN
SCALE: 1" = 5'



No.	Description	Date



ADDRESS:
BGR2-JV
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SUITE 1600
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FAX: (770) 993-5082

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DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

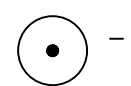







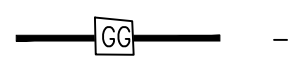



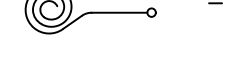
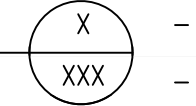

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
METER VAULT
GROUNDING PLAN

DRAWING NO.
RI-PS
E5-203
SHEET OF

GENERAL NOTES:

1. REFER TO INSTALLATION SPECIFICATION FOR GROUNDING SYSTEM PROCEDURES AND OTHER REQUIREMENTS. DETAILS TAKE PRECEDENCE OVER SPECIFICATION. ARRANGEMENT DRAWING CONTENT SUPERSEDES TYPICAL DETAILS. DISCREPANCIES BETWEEN DRAWING & DETAILS SHOULD BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER.
2. REFER TO TYPICAL GROUNDING DETAILS (DRAWINGS E5-211...219) FOR SPECIFIC METHODS OF GROUNDING TO EQUIPMENT, GROUNDING MATERIAL REQUIREMENTS, AND OTHER INSTALLATION CRITERIA.
3. MAXIMUM DISTANCE BETWEEN DRIVEN GROUND RODS IS NOT TO EXCEED 75' UNLESS NOTED OTHERWISE.
4. MAXIMUM HORIZONTAL SPACING BETWEEN CONCRETE REBAR VERTICAL RISER CONNECTIONS OR HORIZONTAL MAT CONNECTIONS (WHEN UTILIZED) IS NOT TO EXCEED 30' UNLESS NOTED OTHERWISE (U.N.O.).
5. ALL GROUNDING CONDUCTORS TO BE BARE, STRANDED, SOFT DRAWN, COPPER, #4/0 AWG U.N.O.
6. MAIN RING GROUND WIRE TO BE MAXIMUM 3' OUTSIDE FOUNDATIONS AND 2'-6" BELOW FINISH GRADE.
7. CONTRACTOR TO DETERMINE ACTUAL LOCATION OF ANY EQUIPMENT UTILIZING BONDS TO GROUNDING TAILS. CONTRACTOR TO LOCATE 1" PVC GROUNDING STUB-UPS IN ACCORDANCE WITH EQUIPMENT VENDOR INFORMATION OR DRAWING REQ.
8. FOR COMPRESSION APPLICATIONS, APPLY A COAT OF "NO-OXIDE" COMPOUND ONTO COPPER CABLE AND COMPRESSION CONNECTORS PRIOR TO CRIMPING CONNECTION OR USE PRE-FILLED CONNECTORS.
9. ALL GROUND CABLES STUBBING UP THROUGH CONCRETE SHALL STUB UP THRU PVC CONDUIT, SIZED PER PLAN DRAWINGS. PVC CONDUIT SHALL EXTEND A MINIMUM OF 6" ABOVE AND 6" BELOW THE CONCRETE.
10. PIGTAILS SHOULD BE INSTALLED THRU 1" PVC CONDUIT, 10' LONG U.N.O.
11. PROVIDE ALL BELOW GRADE CONDUCTOR AND UNDER GROUND CONNECTIONS TO FOUNDATIONS, PIERS, REBAR, GROUNDING RODS, TEST WELLS, UNDERGROUND DUCT BANKS, ETC. ALL TAILS TO ABOVE GRADE COLUMNS, STRUCTURES, EQUIPMENT, ELECTRICAL ROOM BUSES AND VARIOUS CABLE TRAY GROUPINGS ARE FOR FUTURE USE AND EXTENSION AND DETAILING BY OTHERS. PROVIDE TAILS ALLOWANCES FOR FUTURE LIGHTNING PROTECTION DOWNCOMER CONNECTIONS AT MAJOR COLUMNS OF THOSE STRUCTURES EXPECTED TO PROVIDE PROTECTION FOR AREAS UNDER TYPICAL ZONES OF PROTECTION OFFERED BY THE LARGER STRUCTURES WHERE INDICATED ON THE DRAWINGS.
12. EXOTHERMIC WELDS SHALL BE UTILIZED IN UNDERGROUND INSTALLATIONS ONLY. ALL SUCH WELDS SHALL BE INSPECTED BY THE BUZZI UNICEM USA SITE ELECTRICAL REPRESENTATIVE PRIOR TO COVER.
13. ALL ABOVE GROUND GROUNDING CONNECTIONS SHALL EMPLOY PROPERLY RATED COMPRESSION CONNECTORS.
14. THE MAIN GROUNDING RING CONDUCTOR SHALL BE RUN AS MECHANICALLY CONTINUOUS AS POSSIBLE WITH A MINIMUM OF CUTS AND SPLICES.
15. PROVIDE FENCE GROUNDING PER THE NEC. PROVIDE UNDERGROUND PERIMETER FENCE GROUND WIRE THREE (3) TO FOUR (4) FEET OUTSIDE THE FENCE.
16. ALL ELECTRICAL INSTALLATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NFPA NATIONAL ELECTRIC CODE, MINING SAFETY & HEALTH ADMINISTRATION, BUZZI UNICEM ELECTRICAL INSTALLATION GUIDELINE SPECIFICATION AND ANY OTHER LOCAL CODES HAVING JURISDICTION.

GROUNDING SYMBOL LEGEND

-  - DRIVEN GROUNDING ELECTRODE ROD
-  - DRIVEN GROUNDING ELECTRODE TEST WELL
- T.W.
-  - CABLE TO STRUCTURE OR EQUIPMENT, BOLTED IRREVERSIBLE COMPRESSION CONNECTION.
-  - MECHANICAL GROUNDING CONNECTION (EXPOSED)
-  - EQUIPMENT GROUNDING BUS BAR (EXPOSED)
-  - EXOTHERMIC WELD TO CONCRETE REBAR OR RISER(S).
-  - GROUNDING PAD (SURFACE EMBEDDED MOUNTED 2' ABOVE GRADE OR A.F.F. U.N.O.)
-  - CABLE TO CABLE EXOTHERMIC WELD.
-  - GROUNDING CONDUCTOR (CONCEALED), #4/0 AWG BARE COPPER
-  - GROUNDING CONDUCTOR (EXPOSED), #4/0 AWG INSULATED COPPER
-  - LIGHTNING PROTECTION CONDUCTOR (EXPOSED), #4/0 AWG BARE COPPER
-  - EXOTHERMIC WELD TO CONCRETE REBAR IN HORIZONTAL MAT
-  - GROUNDING PIGTAIL. (LENGTH AS PER PLAN DRAWINGS)
-  - GROUND WIRE TAG
-  - DRAWING NUMBER FOR GROUND WIRE CONTINUATION



No.	Description	Date



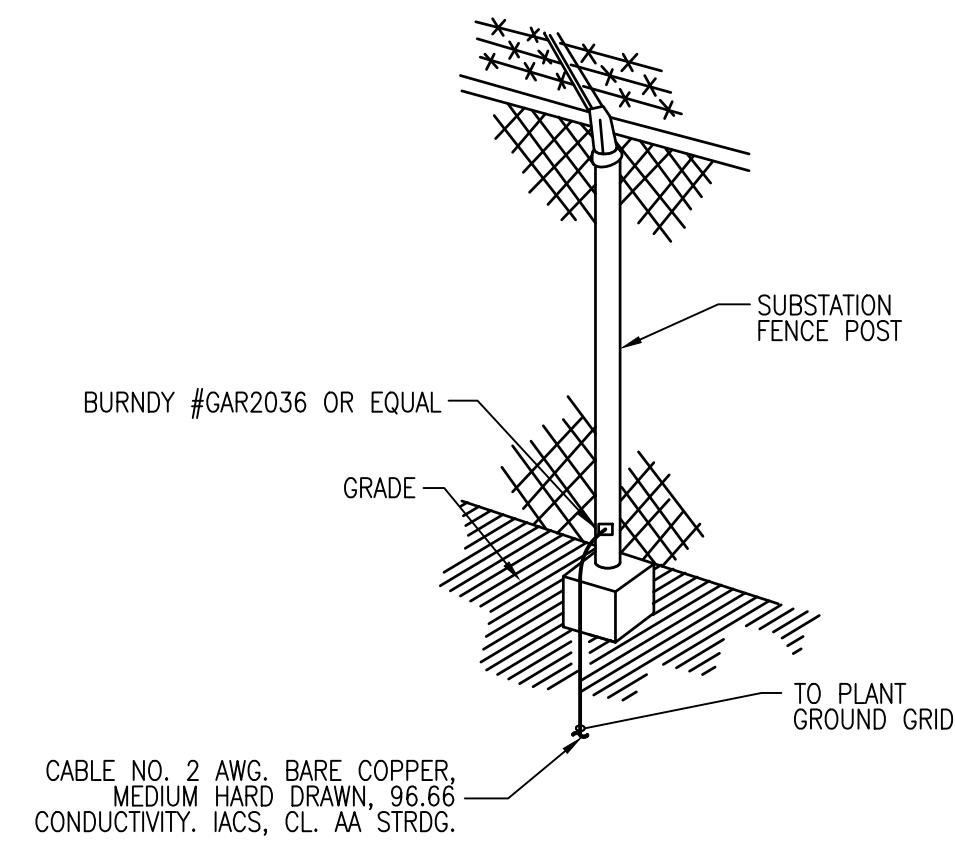
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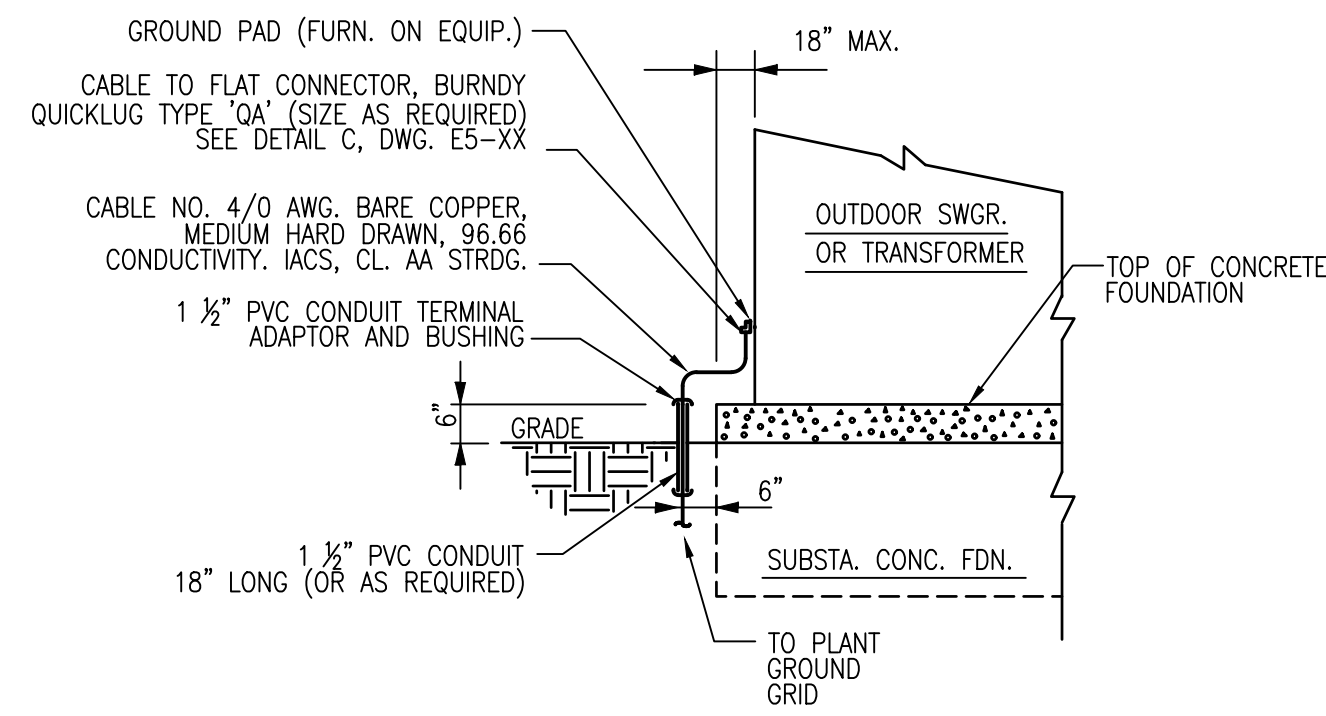
**CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
 WATER SUPPLY PROGRAM**

**RIVER INTAKE PUMP STATION
 GROUNDING SYMBOLS
 NOTES AND DETAILS**

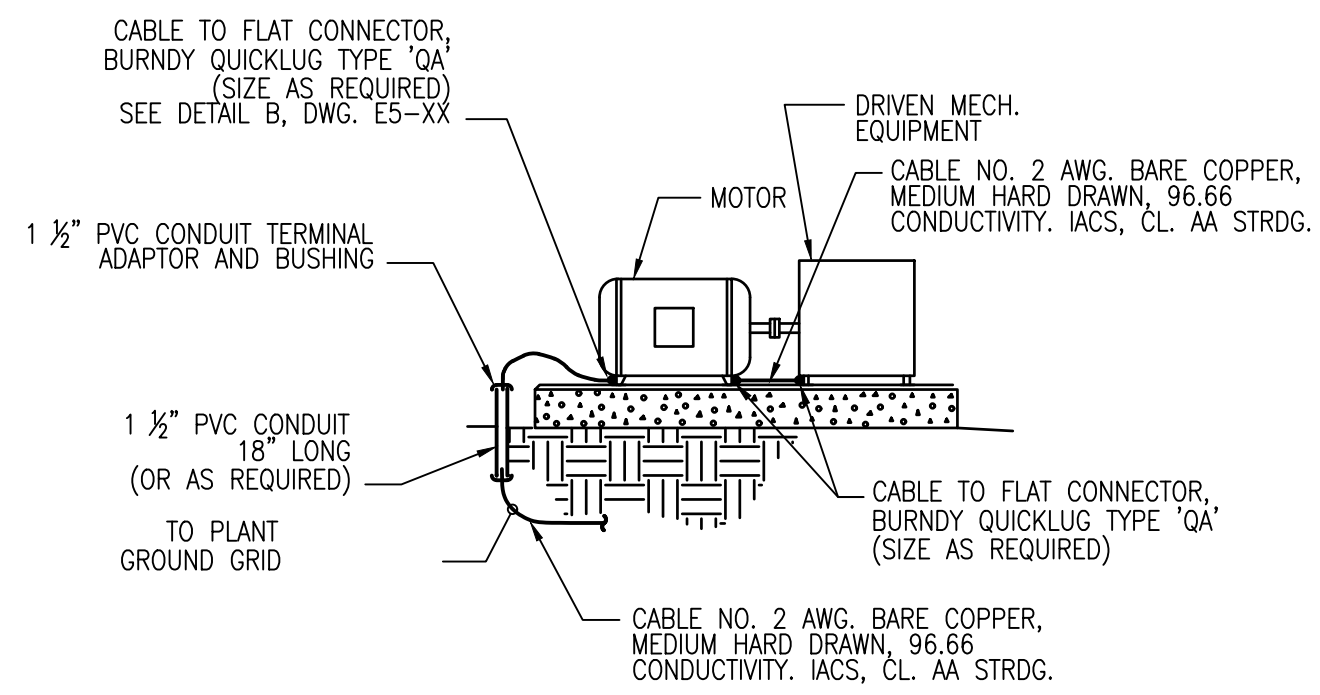
DRAWING NO.
RI-PS
E5-210
 SHEET OF



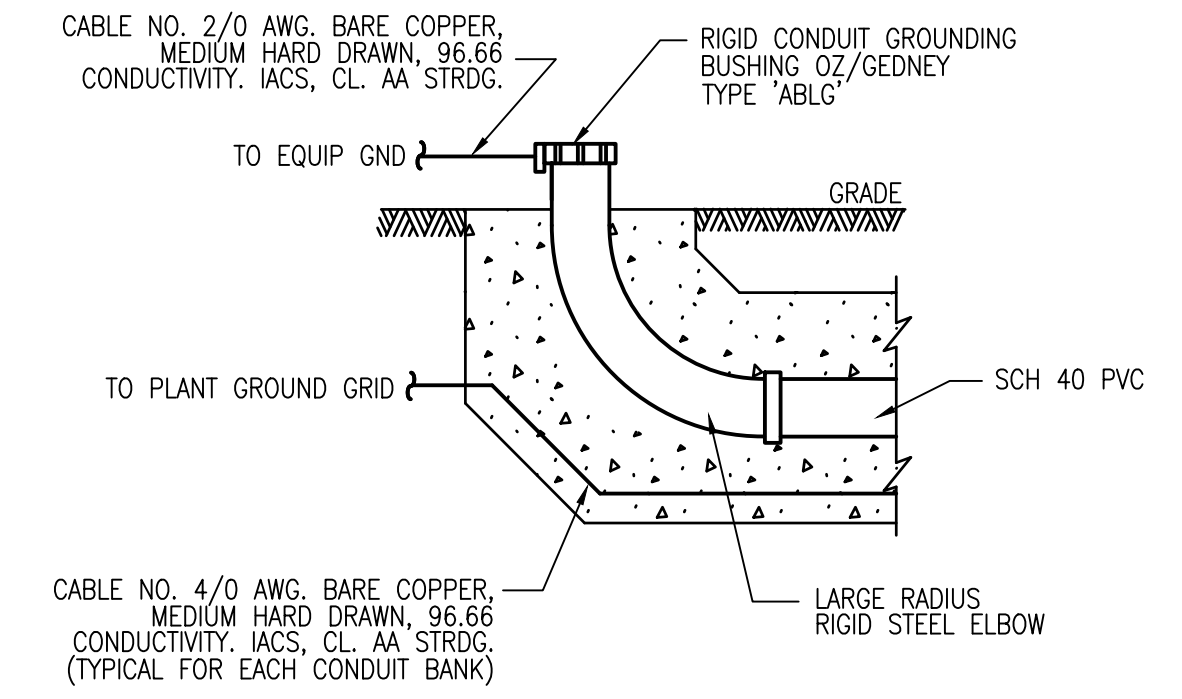
A FENCE GROUNDING



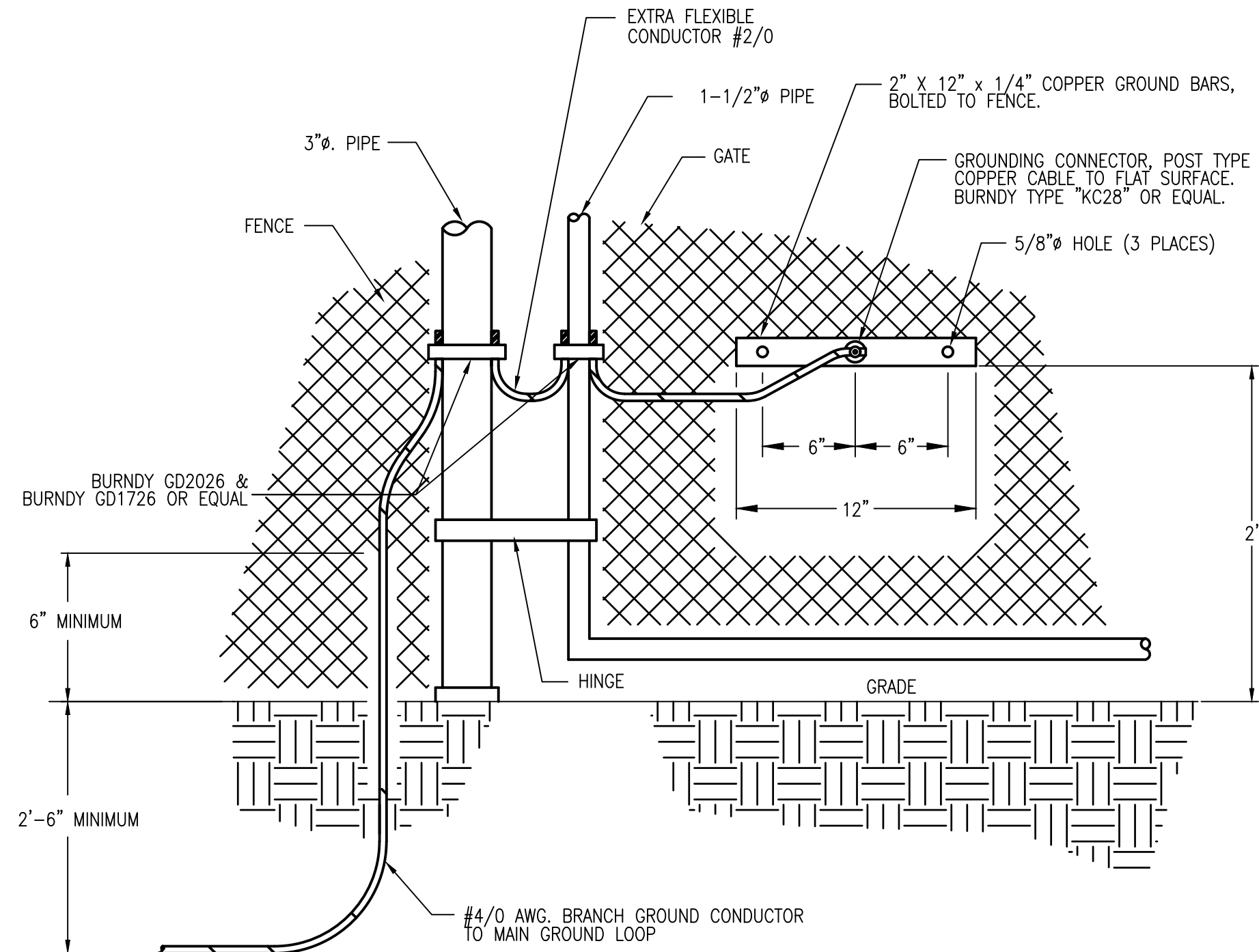
B OUTDOOR SWITCHGEAR OR TRANSFORMER



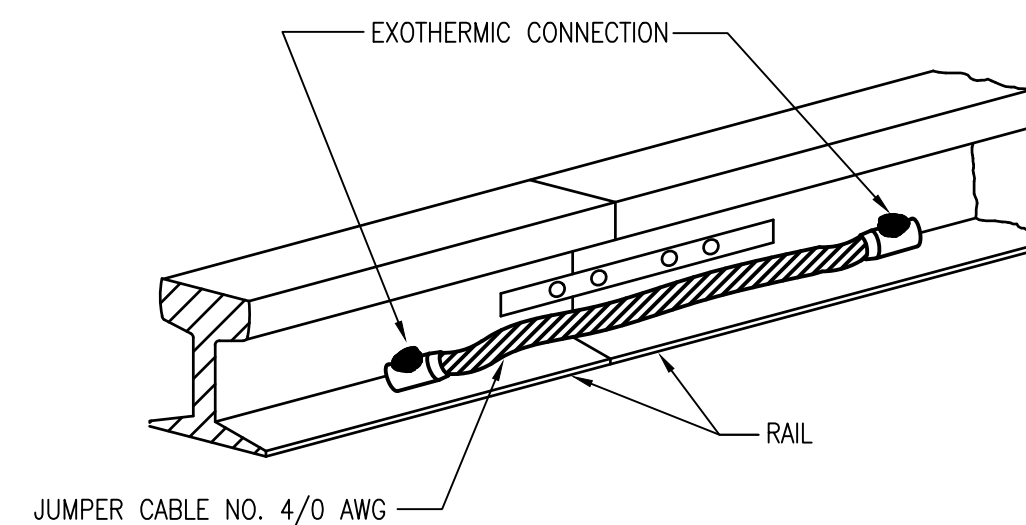
C MOTORS & EQUIPMENT ABOVE 600V



D UNDERGROUND CONDUIT STUB-UP



E FENCE GATE GROUNDING

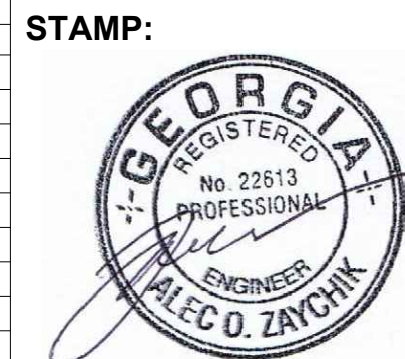


NOTE:
EXOTHERMIC CONNECTIONS SHALL BE LEFT
OR RIGHT HAND, AS SHOWN ON PLANS.

F RAIL GROUNDING



No.	Description	Date

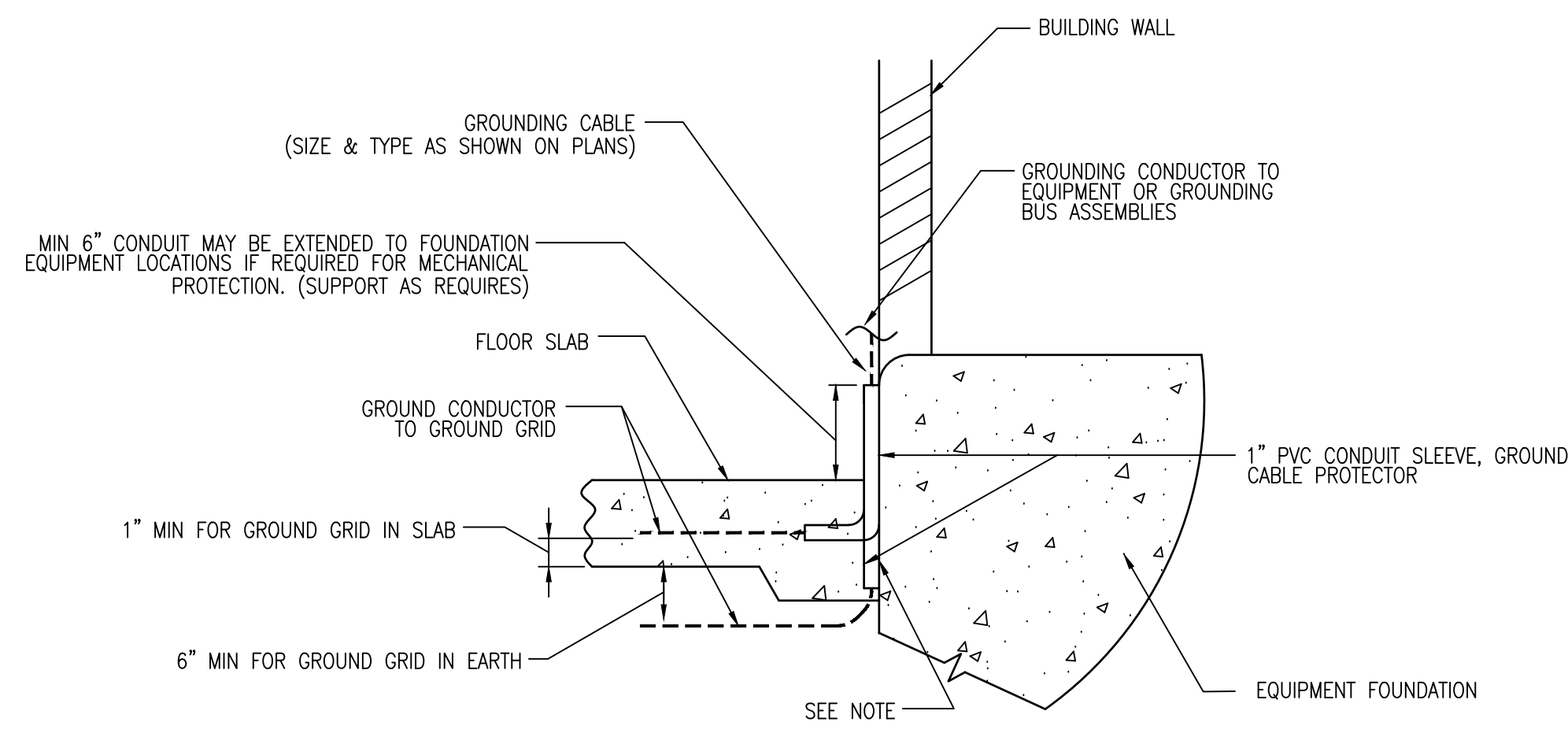


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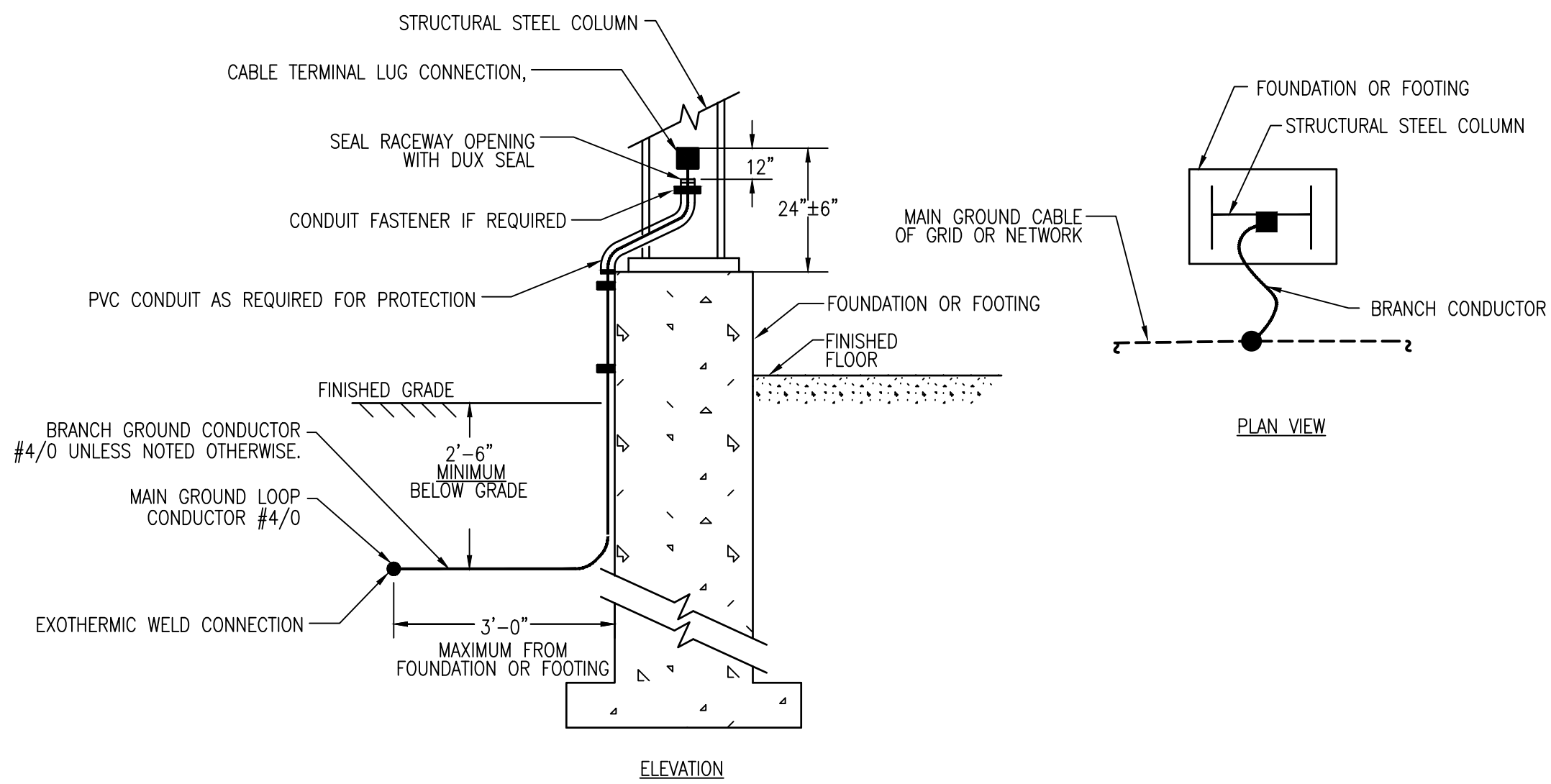
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WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
GROUNDING
INSTALLATION DETAILS

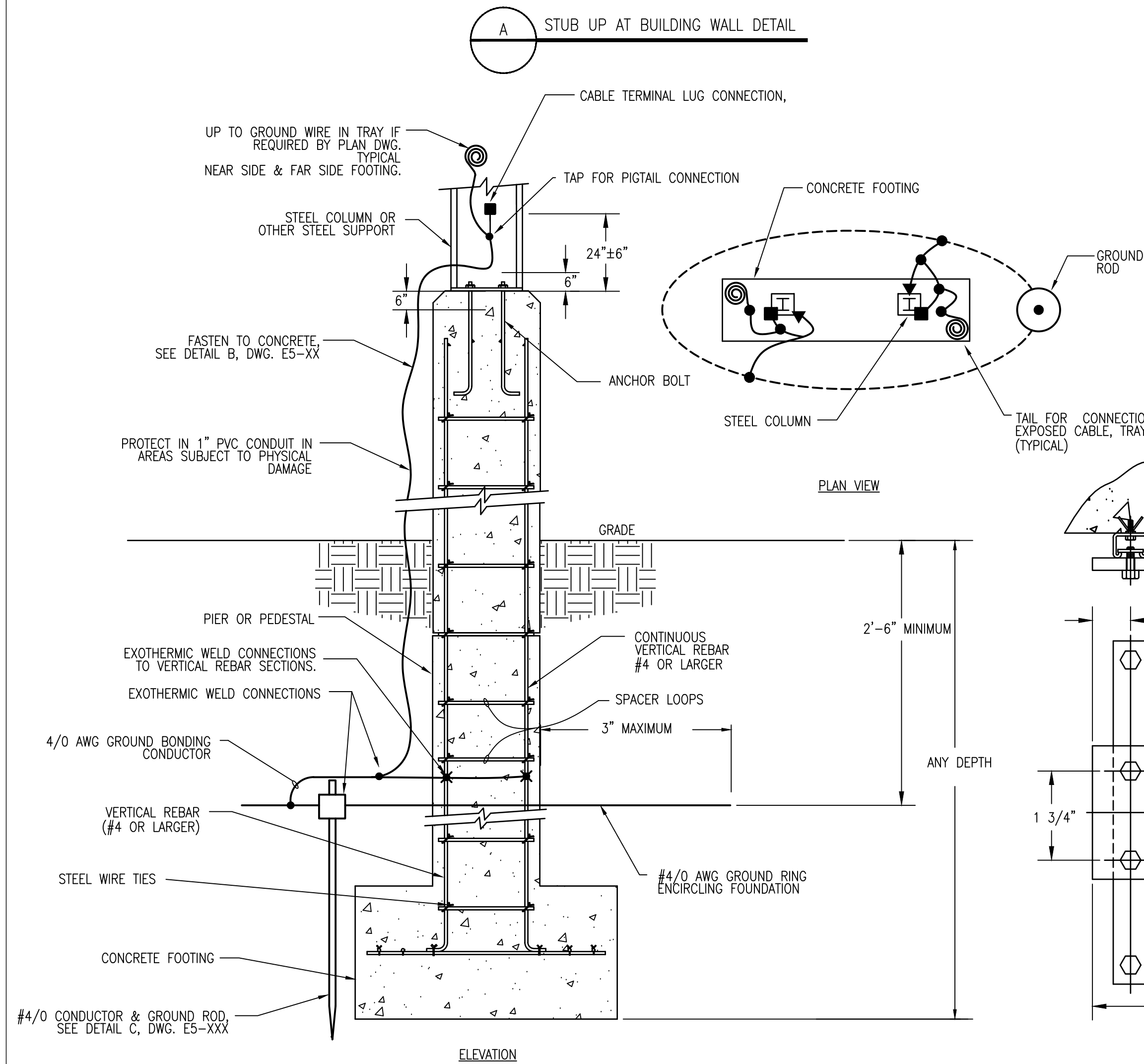
DRAWING NO.
RI-PS
E5-211
SHEET OF



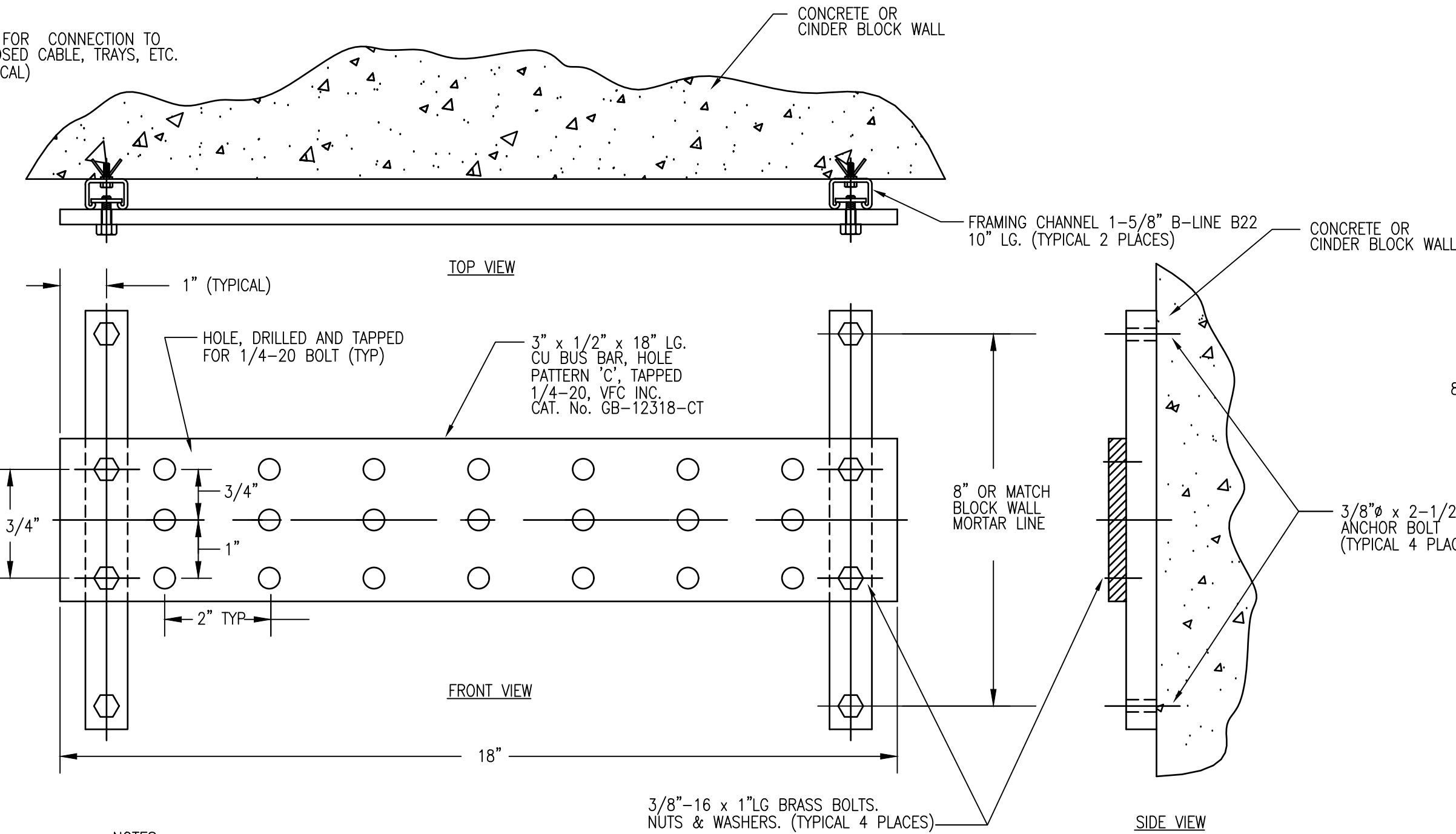
NOTE:
CONDUIT SHALL BE TYPICALLY INSTALLED AS CLOSE TO EQUIPMENT FOUNDATION(S) OR TO ROOM PERIMETER WALLS AS PHYSICALLY POSSIBLE AND ADEQUATELY SIZED FOR GROUNDING CABLE SPECIFIED.



C STEEL COLUMN GROUNDING CONNECTION



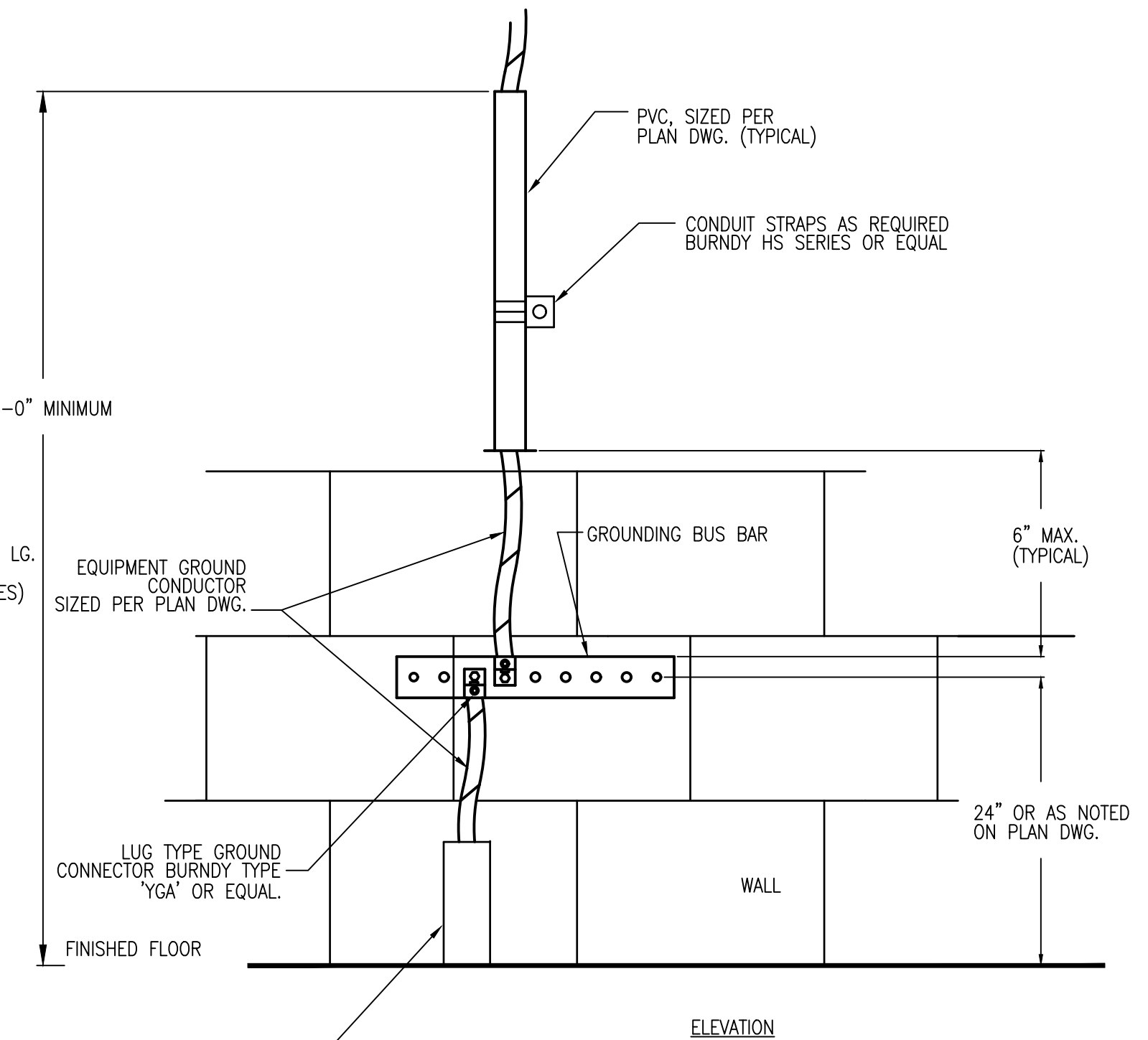
B CONCRETE FOOTING GROUNDING DETAIL



D GROUNDING BUS BAR

NOTES:
IF REQUIRED TO ACCOMMODATE LARGER MOUNTING BOLTS, ELECTRICAL CONTRACTOR TO DRILL OUT EXISTING TAPPED HOLE IN BUS BAR AND DRILL AND TAP LARGER SIZE.

NOTES:
1. APPLY A COAT OF "NO-OXIDE" COMPOUND ONTO COPPER CABLE AND COMPRESSION CONNECTOR PRIOR TO CRIMPING CONNECTION OR USE PRE FILLED CONNECTORS.
2. TYPICALLY MIN. OF TWO(2) BUS BAR ASSEMBLIES ARE PROVIDED IN EACH PLANT ELECTRICAL ROOM.



ELEVATION



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CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM

RIVER INTAKE PUMP STATION
GROUNDING
INSTALLATION DETAILS

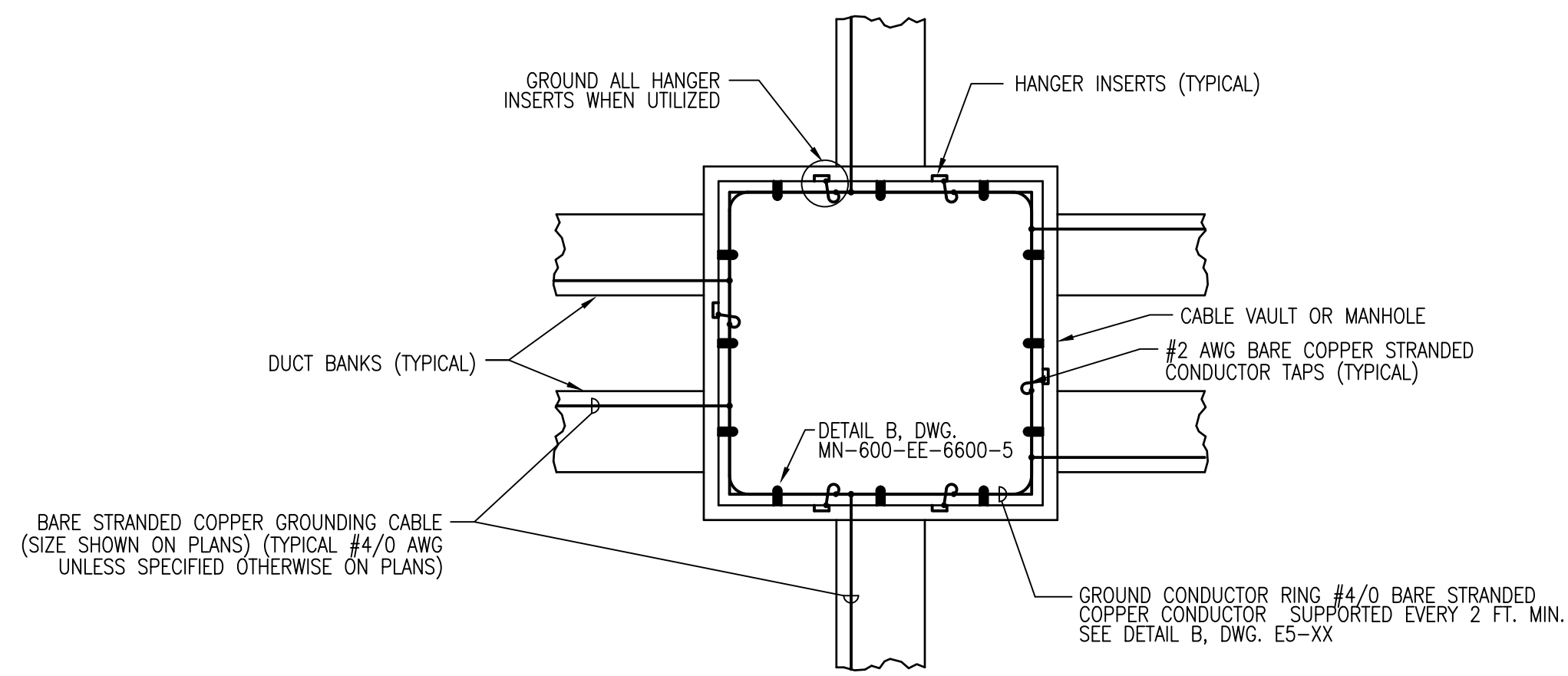
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RI-PS

E5-212

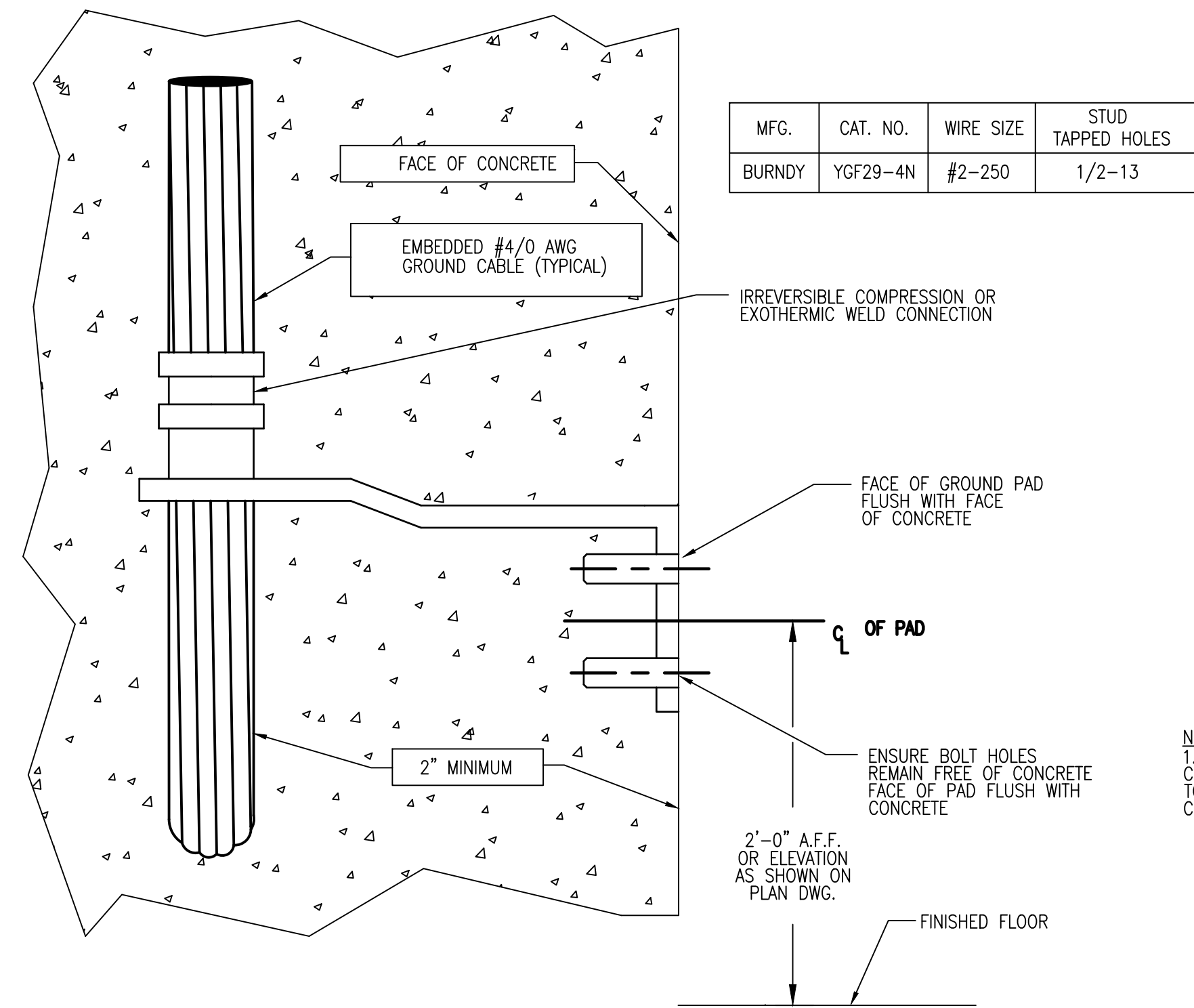
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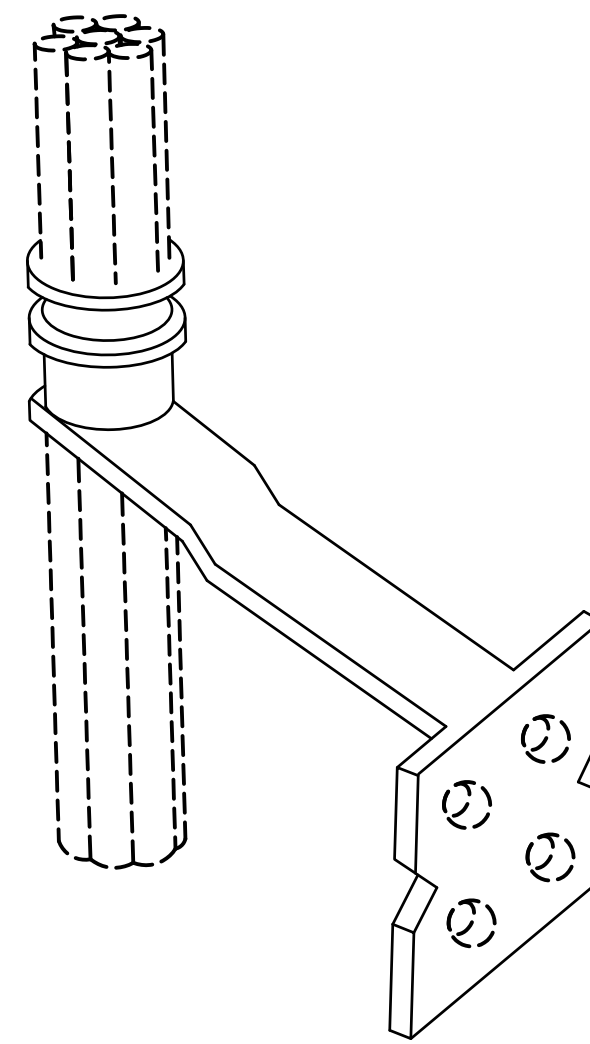


NOTE:
PROVIDE EXOTHERMIC WELD FOR CABLE TO CHANNEL CONNECTION.
PROPER WELD TYPE TO BE USED TO SUIT THE TYPE AND SIZE CHANNEL UTILIZED.

A TYPICAL GROUND CONNECTION CABLE VAULT OR MANHOLE

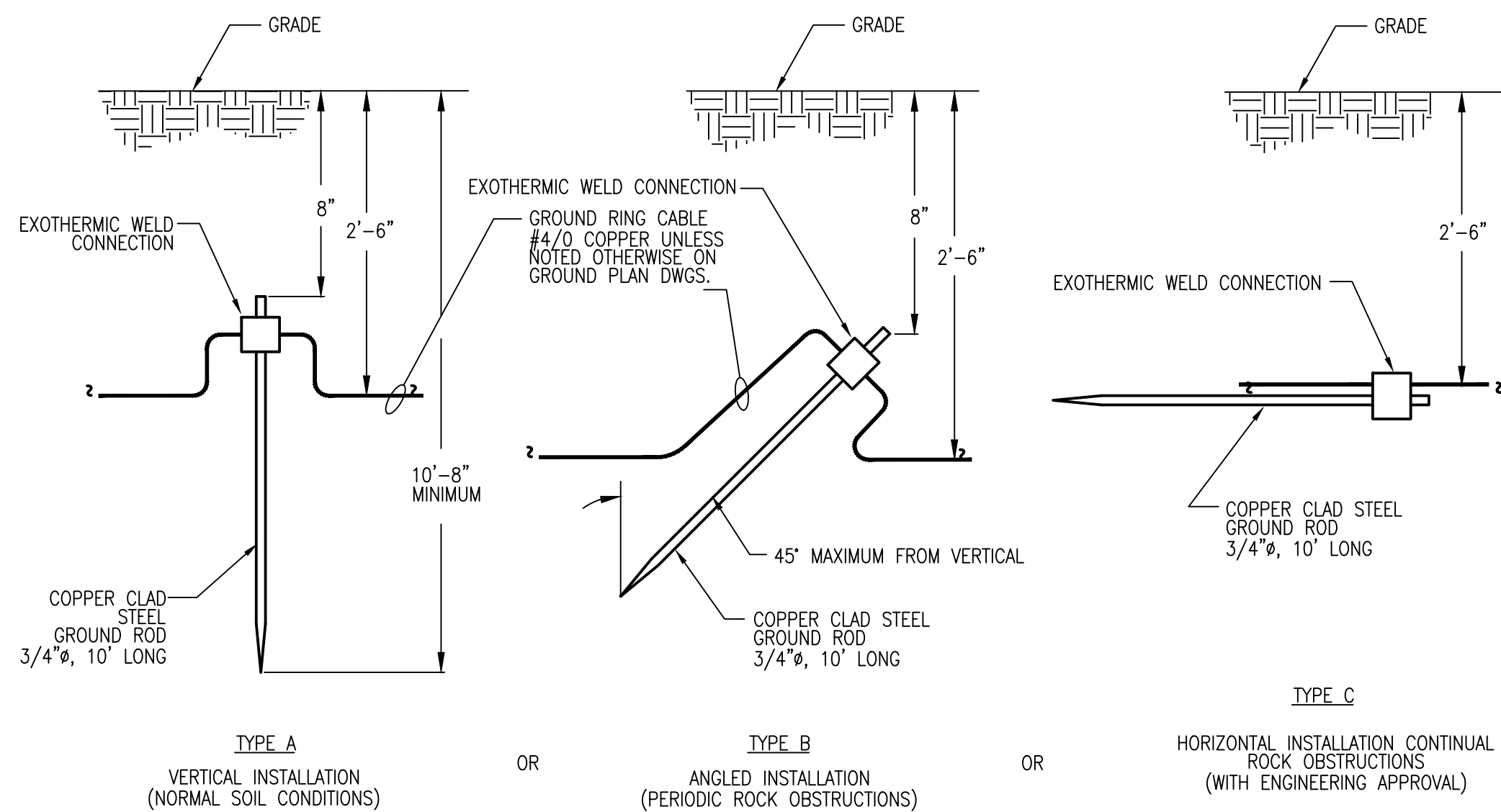


MFG.	CAT. NO.	WIRE SIZE	STUD TAPPED HOLES
BURNDY	YGF29-4N	#2-250	1/2-13

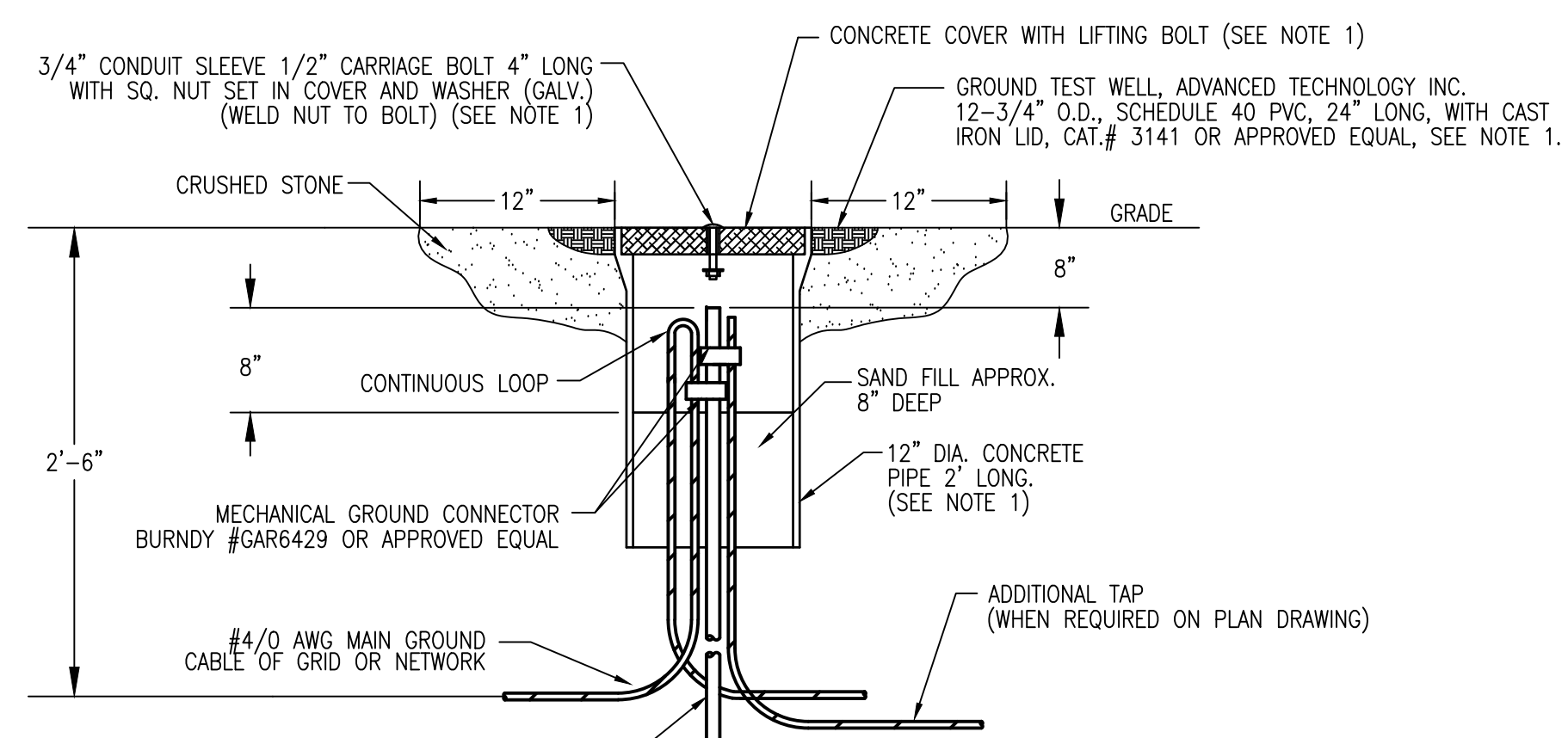


NOTES:
1. APPLY A COAT OF "NO-OXIDE" COMPOUND ONTO COPPER CABLE AND COMPRESSION CONNECTOR PRIOR TO CRIMPING CONNECTION OR USE PRE FILLED CONNECTORS.

B TYPICAL INSTALLATION DETAIL GROUNDING PAD



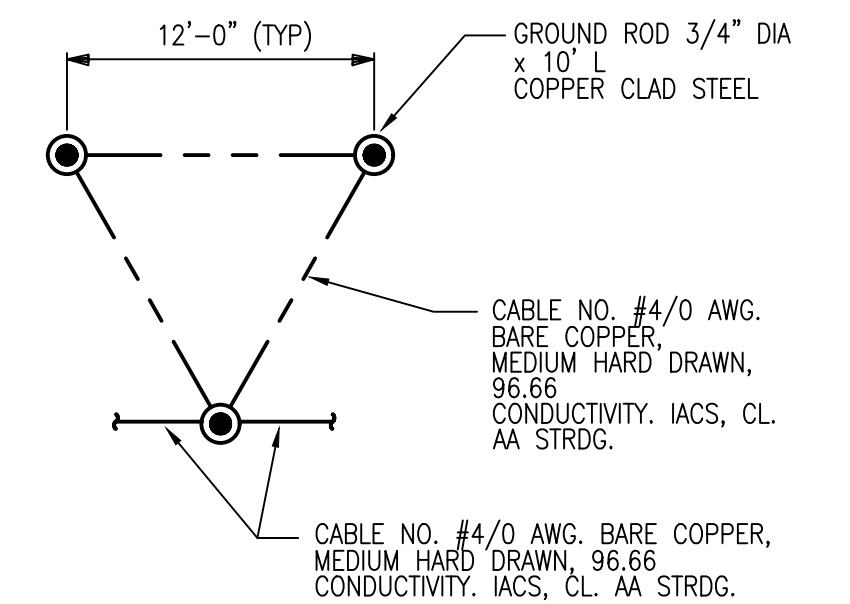
C SINGLE GROUND ROD INSTALLATION ARRANGEMENTS



NOTES:

- ELECTRICAL CONTRACTOR TO FURNISH & FABRICATE AS SHOWN ONLY WHEN APPROVAL FOR A FIELD FABRICATED ASSEMBLY IS EXPRESSLY GIVEN.
- TEST WELLS ARE TYPICALLY PLACED AT EACH ELECTRICAL ROOM AND NEAR THE PLANT CENTRAL CONTROL ROOM.

D GROUND TEST WELL



NOTE:
SUFFICIENT GROUND RODS SHALL BE DRIVEN INTO THE GROUND SO AS TO PROVIDE NOT MORE THAN 5 OHMS RESISTANCE TO GROUND AS MEASURED BY USING A BIDDLE CO. MEGGER.

E MULTIPLE ROD ASSEMBLY



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CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM

RIVER INTAKE PUMP STATION
GROUNDING
INSTALLATION DETAILS

DRAWING NO.

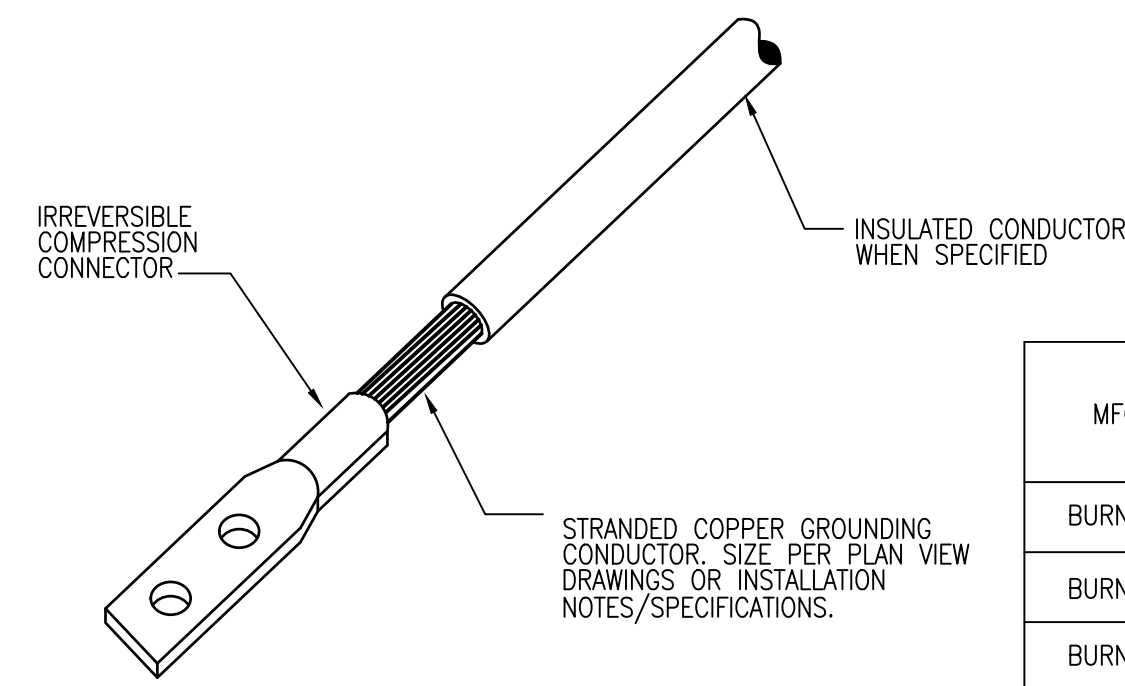
RI-PS

E5-213

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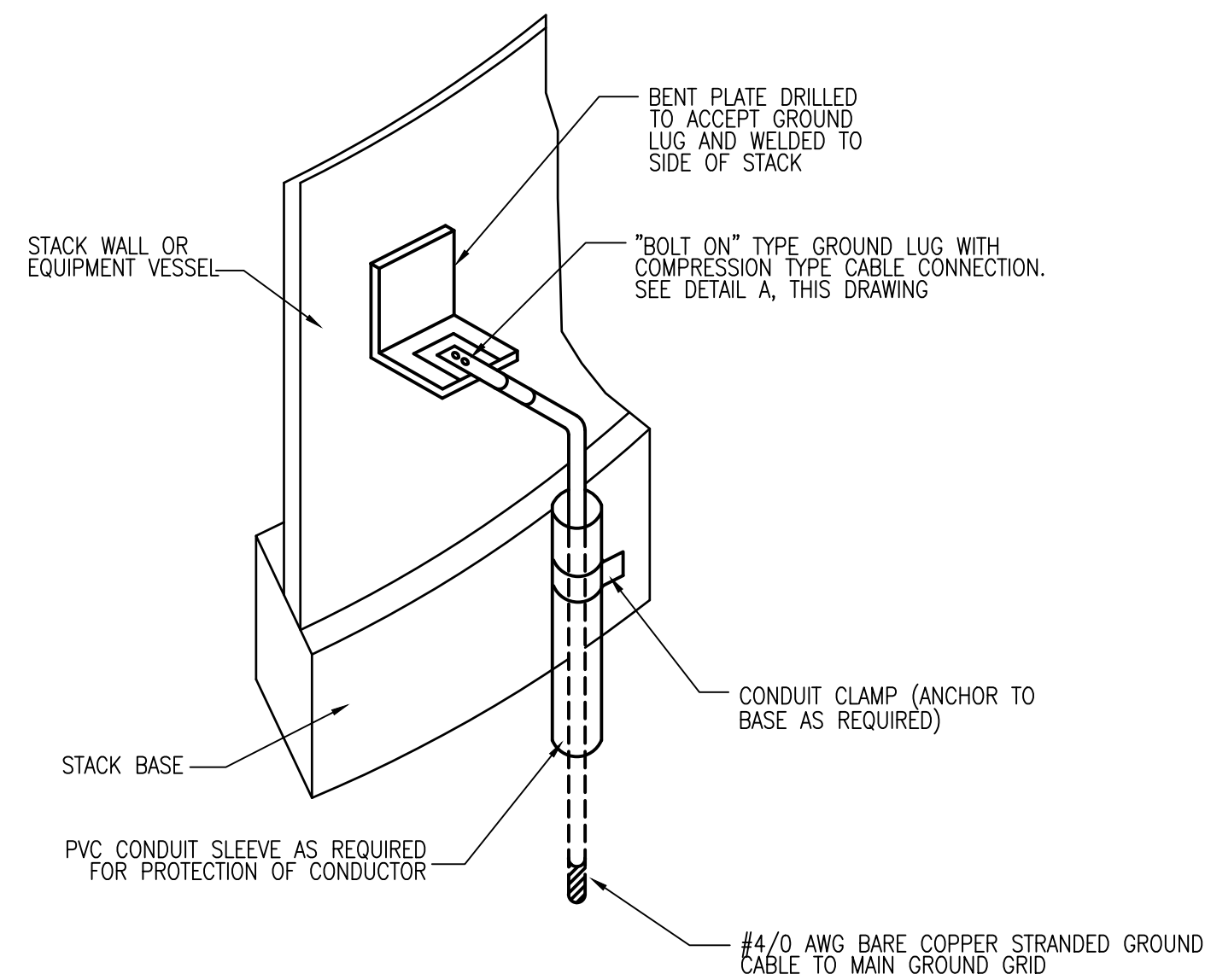
MAT'L: HIGH CONDUCTIVITY CAST COPPER
 NEMA SPACED TWO-HOLE GROUND LUG FOR COPPER CABLE, FOR
 TERMINALS AT EQUIPMENT AND/OR COLUMNS (WHEN SPECIFIED ON PLAN VIEWS)



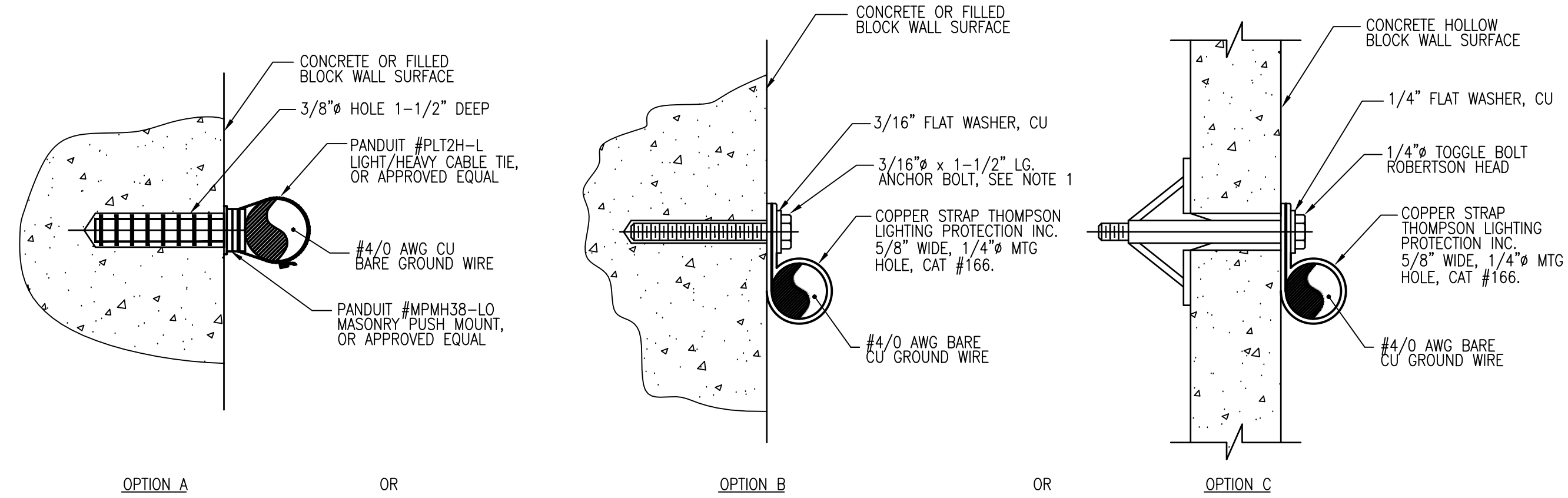
MFG.	CAT. #	WIRE SIZE (AWG)	BOLT HOLE
BURNDY	YGHA28-2N	4/0	ON 1/3/4" CENTERS
BURNDY	YGHA26-2N	2/0	ON 1/3/4" CENTERS
BURNDY	YGHA25-2N	1/0	ON 1/3/4" CENTERS
BURNDY	YGHA2C-2N	2	ON 1/3/4" CENTERS

NOTES:
 1. APPLY A COAT OF "NO-OXIDE" COMPOUND ONTO COPPER CABLE AND COMPRESSION CONNECTOR PRIOR TO CRIMPING CONNECTION OR USE PRE-FILLED CONNECTORS.

A GROUND LUG

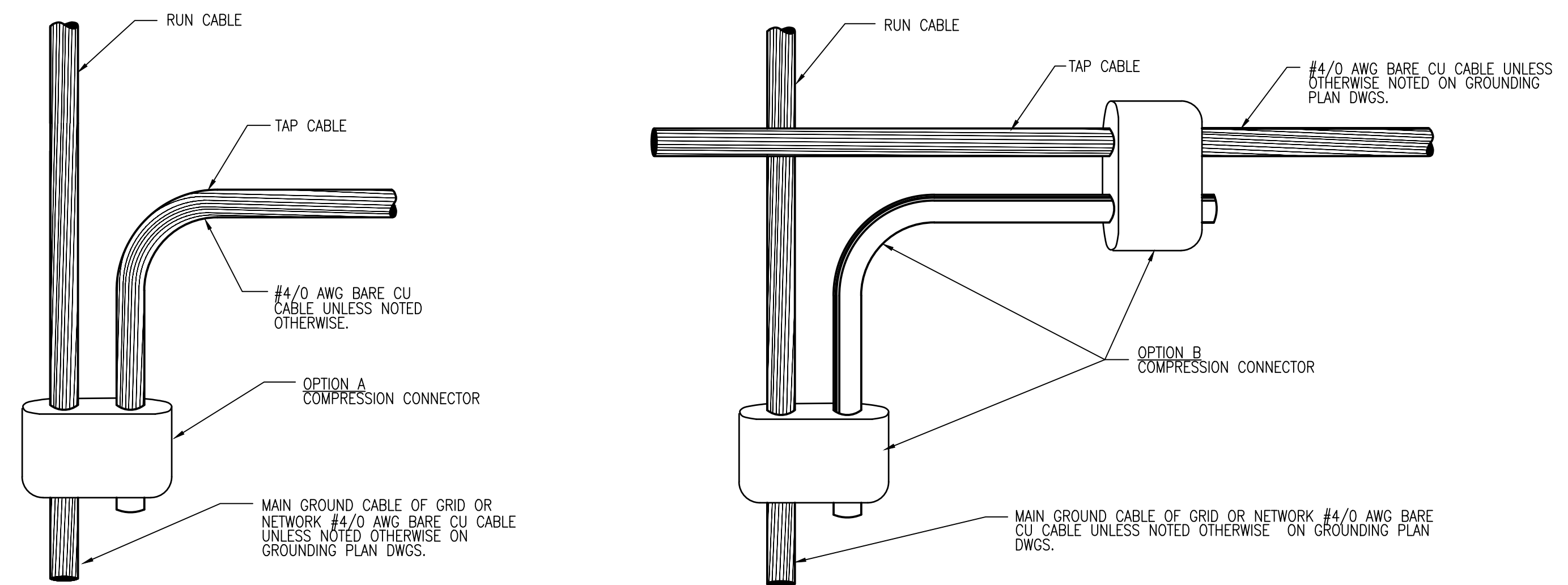


C EQUIPMENT VESSEL GROUNDING



NOTE:
 1. FOR HOLLOW BLOCK USE 1/4" TOGGLE BOLT WITH ROBERTSON HEAD, & 1/4" FLAT, CU WASHER. SEE OPTION "C".

B BARE COPPER GROUND WIRE CABLE, SURFACE MOUNT TO CONCRETE



	MFG.	CATALOG No.	RUN WIRE SIZE	TAP WIRE SIZE
OPTION B	BURNDY	YGL29C29	2-250	2-250
OPTION A	BURNDY	YHC29C26	3/0-250	6-2/0
OPTION A	BURNDY	YHC29C29	3/0-250	3/0-250

D ACCESSIBLE ABOVE GROUND CABLE-TO-CABLE CONNECTION



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CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
 WATER SUPPLY PROGRAM

RIVER INTAKE PUMP STATION
 GROUNDING
 INSTALLATION DETAILS

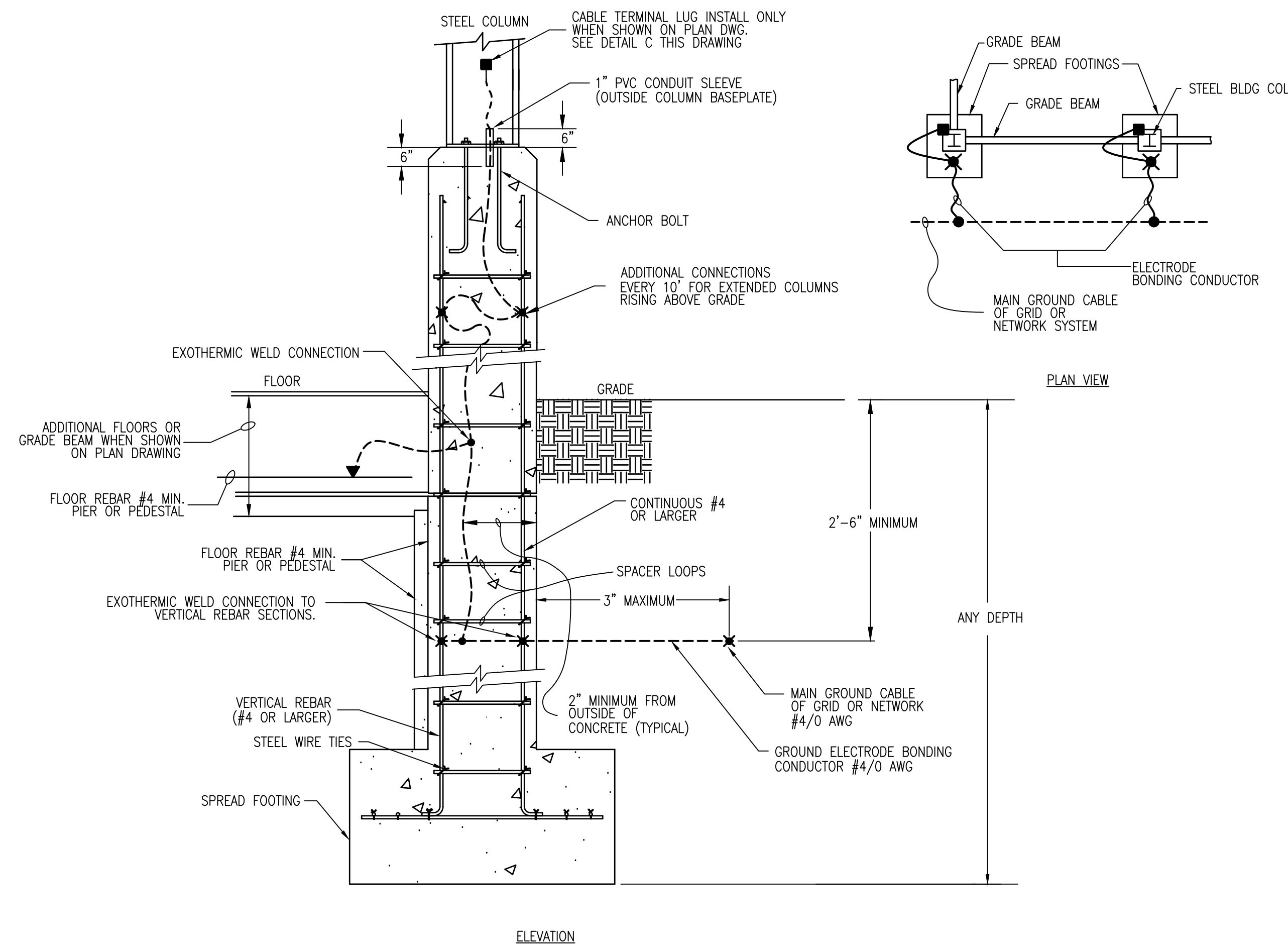
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RI-PS

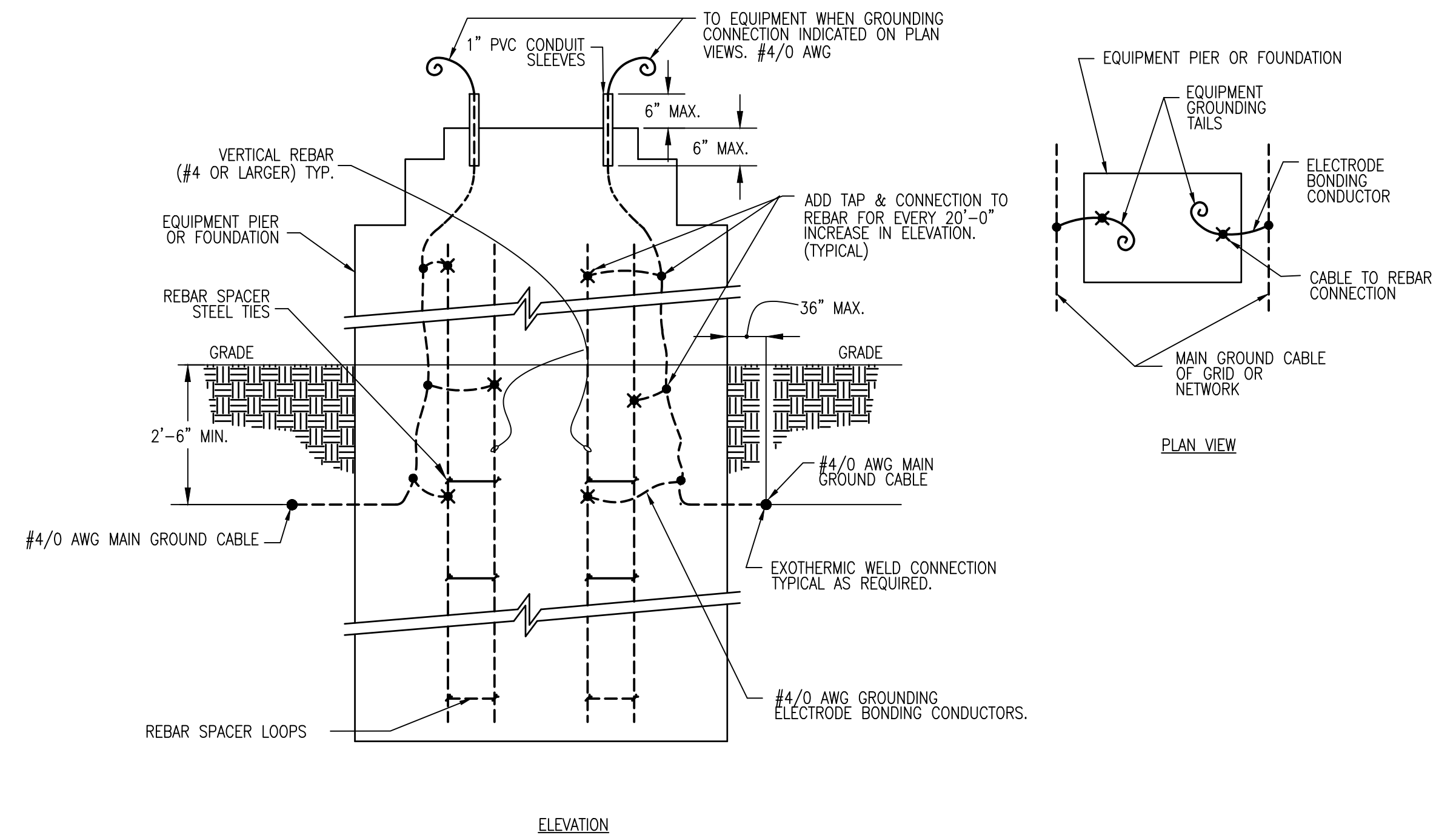
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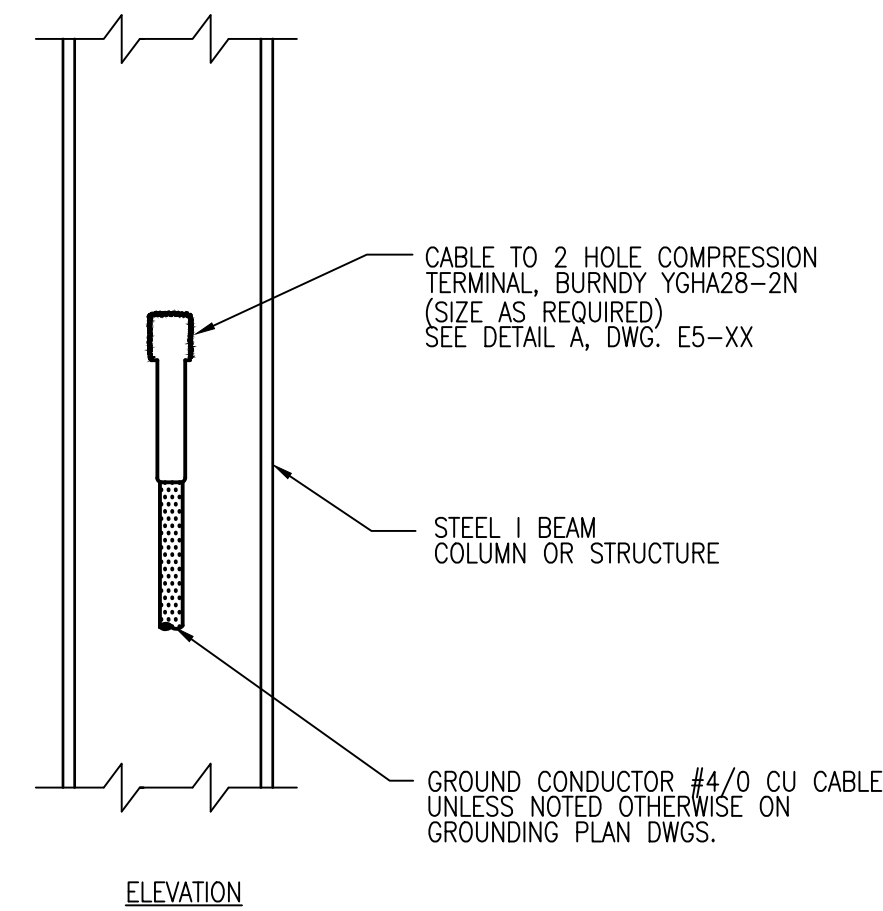
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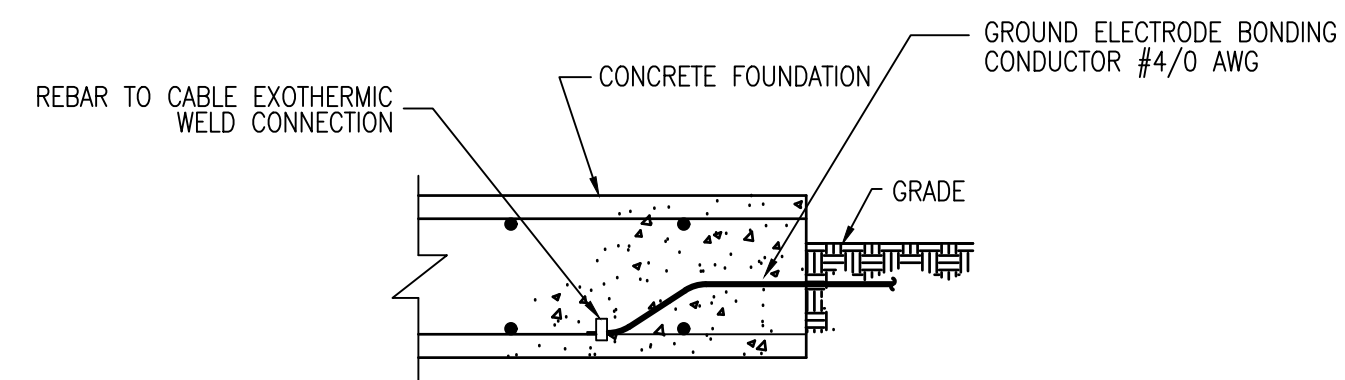
A REINFORCED CONCRETE FOOTING GROUNDING DETAIL



B "EQUIPMENT PIER OR FOUNDATION" CONCRETE AND REBAR RISER CONNECTIONS



C GROUND CABLE TO STEEL COLUMN LUG



D GROUND CABLE CONNECTION TO REBAR



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CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM

RIVER INTAKE PUMP STATION
GROUNDING
INSTALLATION DETAILS

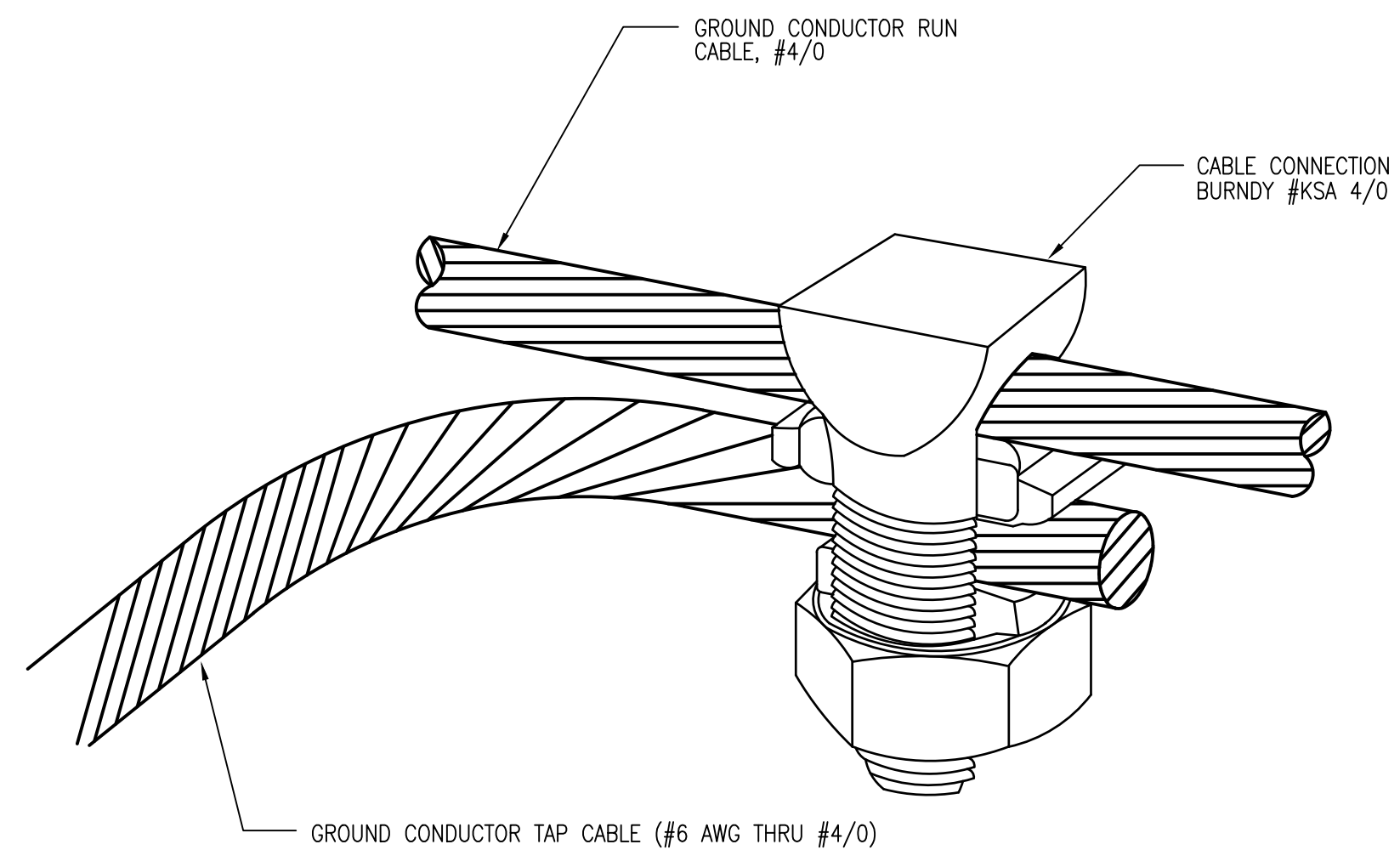
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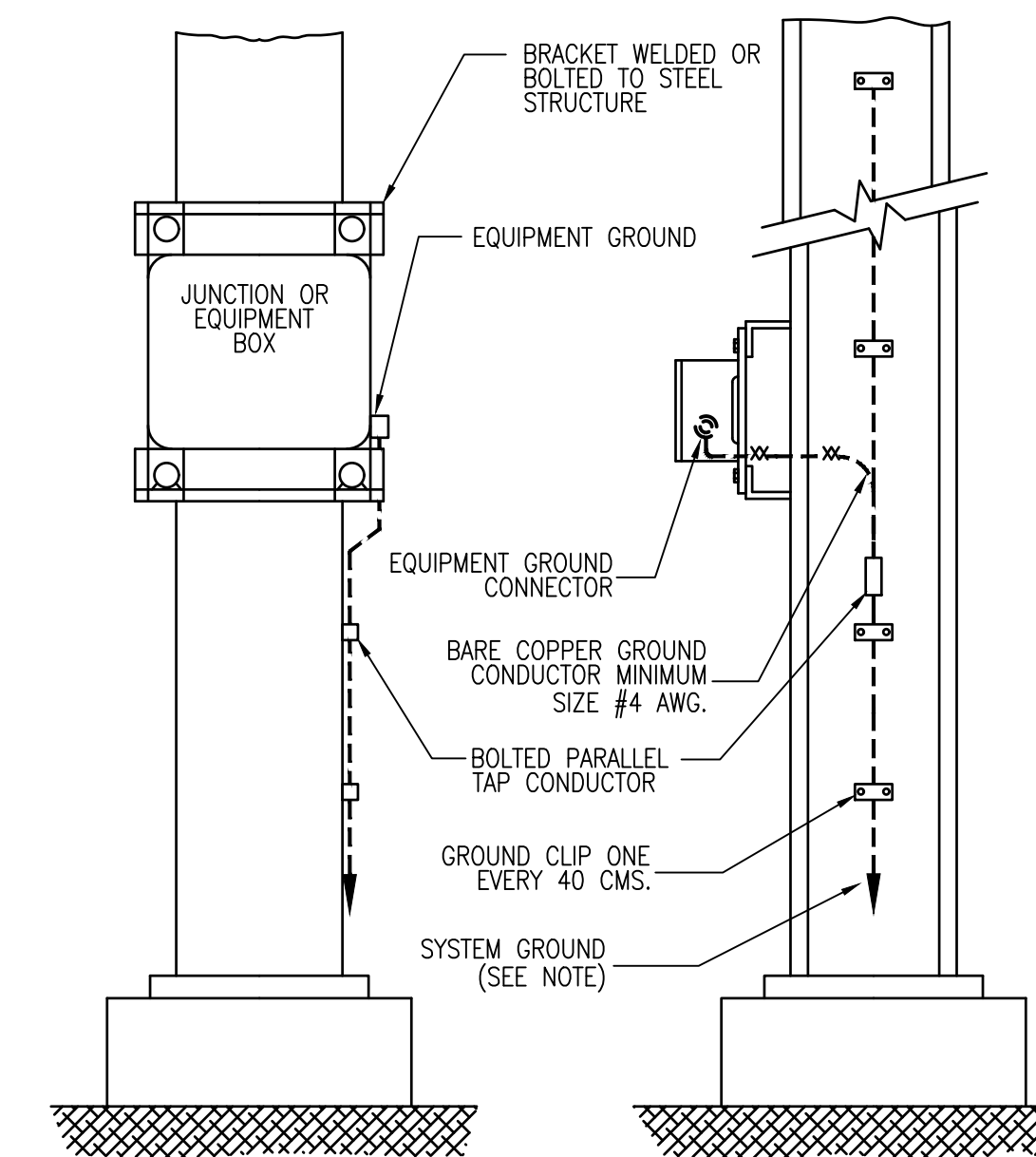
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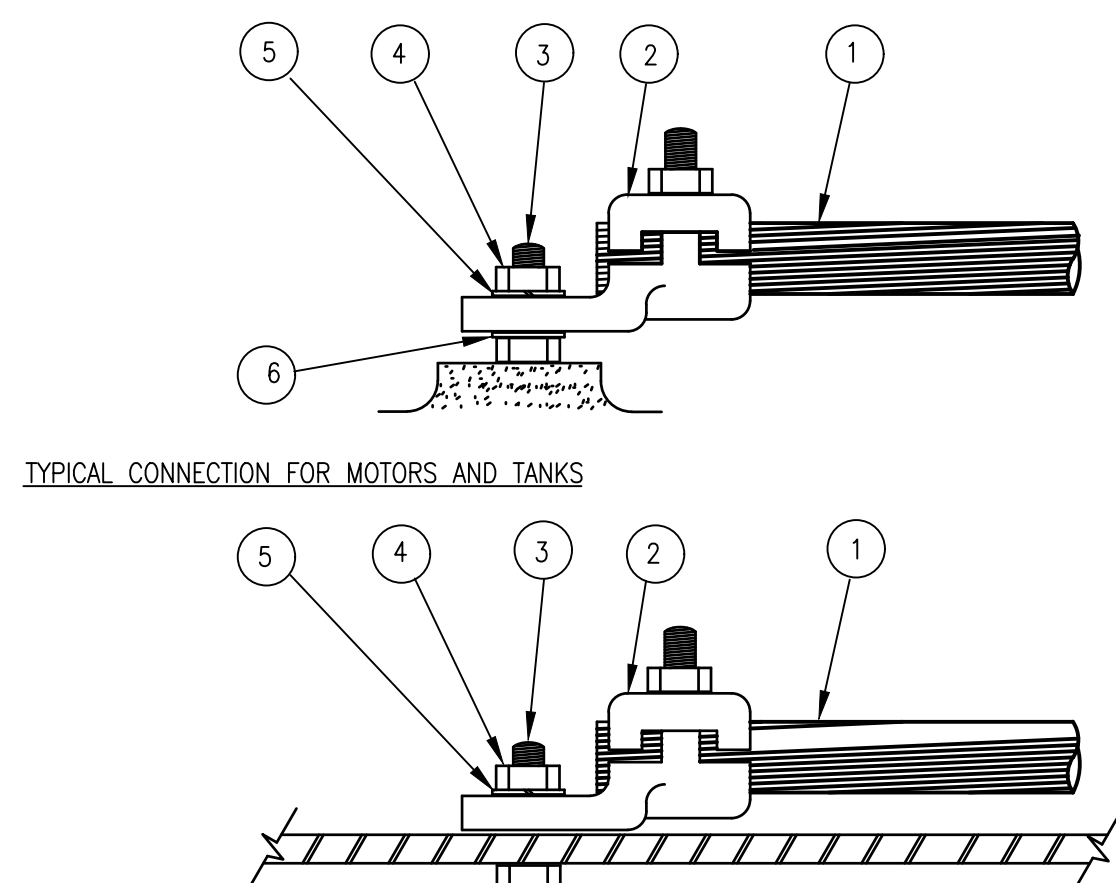


A (*) ABOVE GROUND CABLE TO CABLE CONNECTIONS
 * (ONLY FOR USE ON EQUIPMENT WHICH NEEDS TO BE DISCONNECTED FOR MAINTENANCE PURPOSES)



NOTE:
 SYSTEM GROUND IS A 2/0 OR A 4/0 BARE COPPER CONDUCTOR AND MAY BE RUN IN THE CABLE TRAY SYSTEM OR ON THE SURFACE OF THE STRUCTURE

B TYPICAL GROUNDING CONNECTION FOR J.B. & EQUIPMENT BOXES



TYPICAL CONNECTION FOR MOTORS AND TANKS

C TYPICAL CONNECTION FOR EQUIPMENT

1 GROUND CABLE SIZE		2 BURNDY CAT. NO.	3 BOLT DIA.	4 NUT SIZE	5 LOCK WASHER SIZE	6 FLAT WASHER SIZE
MINIMUM	MAXIMUM					
#6	#4	QA-4C-B	1/4" 20	1/4" 20	1/4"	1/4"
#4	#1	QA-1C-B	1/4" 20	1/4" 20	1/4"	1/4"
#1/0	#2/0	QA-26-B	3/8" 16	3/8" 16	3/8"	3/8"
#3/0	#4/0	QA-28-B	3/8" 16	3/8" 16	3/8"	3/8"
250 MCM	350 MCM	QA-31-B	1/2" 13	1/2" 13	1/2"	1/2"
400 MCM	500 MCM	QA-34-B	1/2" 13	1/2" 13	1/2"	1/2"



No.	Description	Date

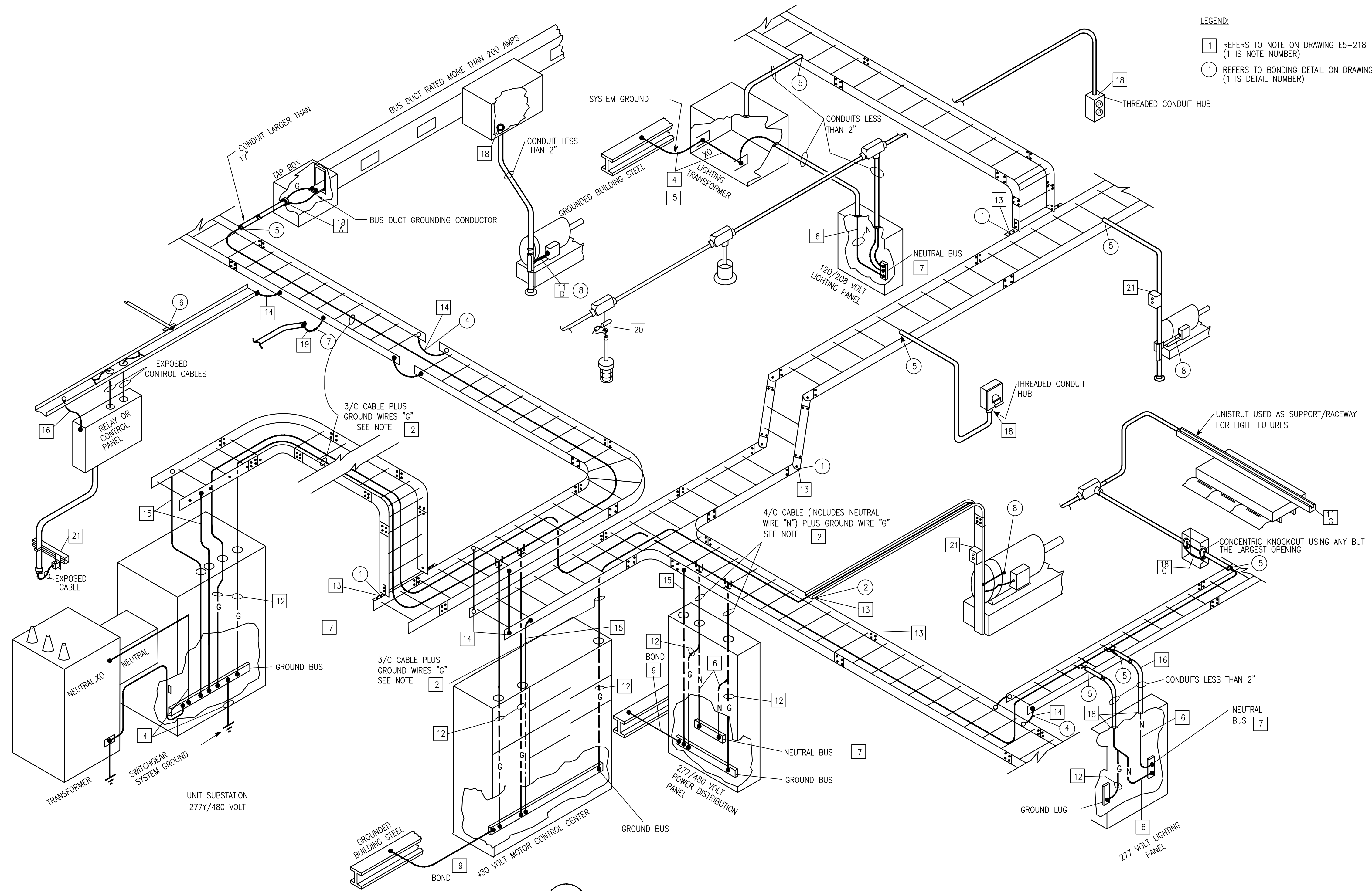


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RIVER INTAKE PUMP STATION
 GROUNDING
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DRAWING NO.
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E5-216
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A TYPICAL ELECTRICAL ROOM GROUNDING INTERCONNECTIONS



No.	Description	Date



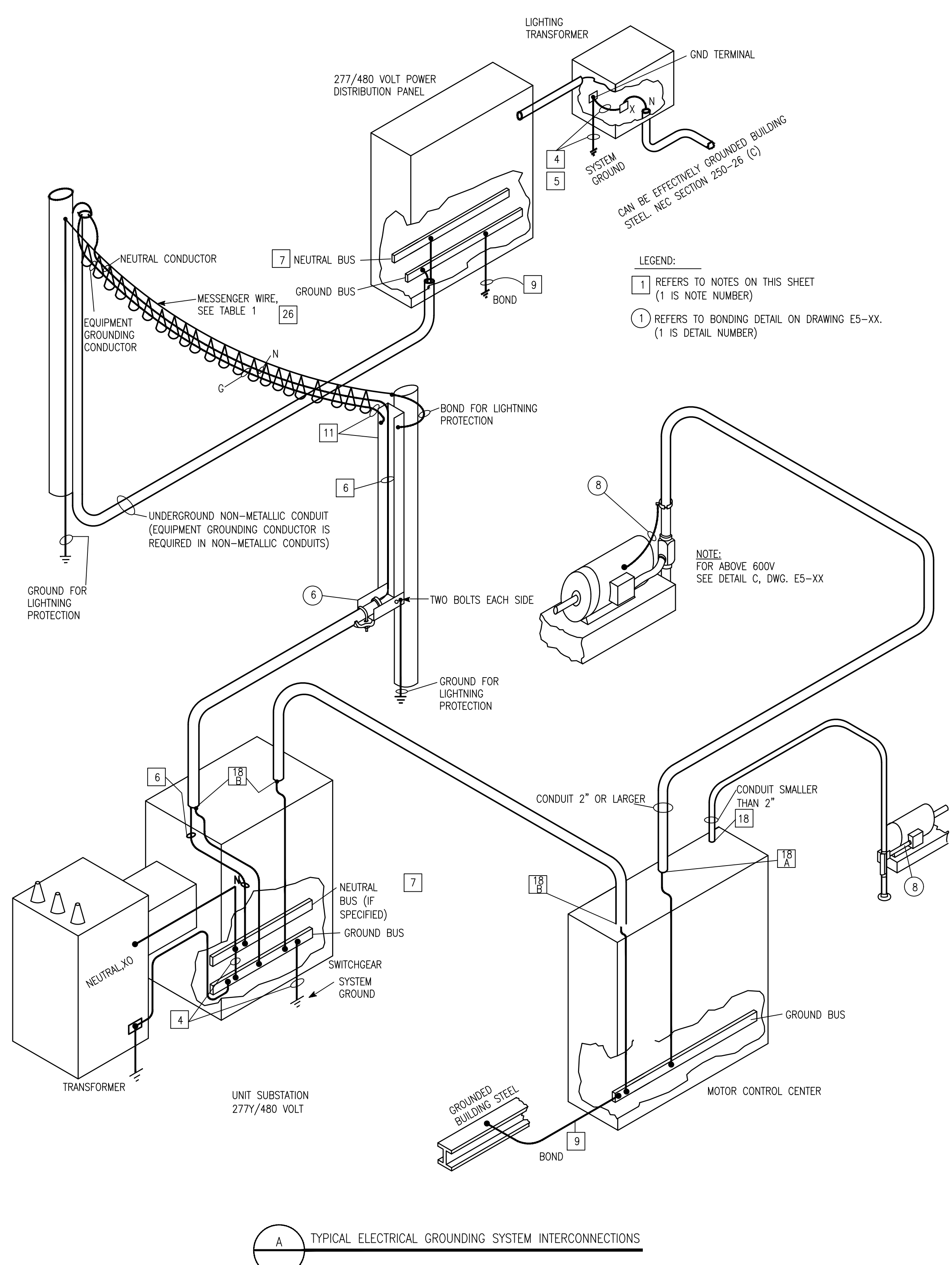
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RIVER INTAKE PUMP STATION
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DRAWING NO.
RI-PS
E5-217
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A TYPICAL ELECTRICAL GROUNDING SYSTEM INTERCONNECTIONS

GENERAL NOTES:

- THESE DRAWINGS ARE ARRANGED TO ILLUSTRATE TYPICAL GROUNDING AND BONDING REQUIREMENTS FOR WIRING SYSTEMS RATED 600 VOLTS OR LESS. THE ILLUSTRATIONS ARE NOT TO BE USED AS A GUIDE FOR LAYING OUT CABLE TRAYS OR ROUTING CONDUITS OR CABLES INTO PANELS, ETC. WIRING SYSTEM LAYOUTS AND EQUIPMENT INSTALLATION DETAILS FOR SPECIFIC INSTALLATIONS ARE SHOWN ON THE APPROPRIATE PROJECT DRAWINGS.
- WHERE MULTICONDUCTOR CABLES ARE INDICATED ON THESE DRAWINGS, THE PHASE CONDUCTORS ARE OMITTED FOR CLARITY. SEE NOTE 12.
- GROUNDING AND BONDING FOR PREVENTING ELECTRICAL NOISE ON LOW ENERGY SIGNAL CIRCUITS OR EQUIPMENT IS NOT COVERED ON THESE DRAWINGS.

SYSTEM GROUNDING

- SOLIDLY GROUNDING ELECTRICAL SYSTEMS SHALL BE CONNECTED TO GROUND AT THE TRANSFORMER (OR SUBSTATION SWITCHGEAR) ONLY. SYSTEM GROUNDING CONDUCTORS SHALL BE COPPER.
- SYSTEM GROUNDING CONDUCTORS FOR TRANSFORMERS USED FOR CONTROL POWER, LIGHTING AND SMALL POWER SYSTEMS SHALL BE SIZED AS FOLLOWS:
TRANSFORMERS THROUGH 3 KVA - SIZE 14
5 KVA THROUGH 10 KVA - SIZE 8
15 KVA THROUGH 50 KVA - SIZE 4
75 KVA THROUGH 150 KVA - SIZE 2/0

- ALL GROUNDING CONDUCTORS (NEUTRALS) SHALL BE INSULATED, AND SHALL NOT BE USED FOR GROUNDING EQUIPMENT ENCLOSURES.

- ALL NEUTRAL BUSES, BARS AND TERMINALS SHALL BE INSULATED FROM ENCLOSURES, UNLESS SPECIFIED OTHERWISE ON PROJECT DRAWINGS.

EQUIPMENT GROUNDING

- EQUIPMENT GROUNDING SYSTEMS SHALL PROVIDE A CONTINUOUS, SOLIDLY BONDED, METALLIC GROUND FAULT CURRENT RETURN PATH FROM EACH METALLIC ENCLOSURE FOR CONDUCTORS, EQUIPMENT, CONTROL DEVICES, ETC., TO THE GROUNDING TERMINAL AT THE TRANSFORMER OR GENERATOR SUPPLYING EACH SYSTEM.
- THE GROUND BUS IN MOTOR CONTROL CENTERS AND POWER PANELS SHALL BE BONDED TO ANY ADJACENT STRUCTURAL STEEL USING A SIZE 2/0 BONDING JUMPER. REFER TO PROJECT DRAWINGS FOR GROUNDING STEEL.
- WIRE USED FOR GROUNDING AND BONDING SHALL BE STRANDED COPPER (ALUMINUM IS NOT ACCEPTABLE). SINGLE CONDUCTORS USED AS EQUIPMENT GROUNDING CONDUCTORS IN RACEWAYS SHALL HAVE GREEN INSULATION, OR SHALL BE IDENTIFIED AT TERMINATIONS BY GREEN TAPE OR BY STRIPPING THE INSULATION. EXPOSED BONDING JUMPERS MAY BE GREEN OR BLACK.
- IN ADDITION TO COPPER WIRE, THE FOLLOWING MAY BE USED AS EQUIPMENT GROUNDING CONDUCTORS (GROUND-FAULT CURRENT RETURN PATHS), AND SHALL BE BONDED AS ILLUSTRATED ON THESE DRAWINGS:
A. ALUMINUM OR STEEL CABLE TRAYS OR CHANNELS.
B. RIGID ALUMINUM OR STEEL CONDUIT.
C. ELECTRICAL METALLIC TUBING (EMT).
D. ANACONDA TYPE UA SEALTITE FLEXIBLE STEEL CONDUIT, 1/4" AND SMALLER, IF THE LENGTH IS NOT MORE THAN 3 FEET, AND IT IS TERMINATED IN FITTINGS BY APPLETON, EFCOR, GEDNEY OR THOMAS AND BETTS.
E. ENCLOSURES FOR FEEDER OR PLUG-IN BUS DUCT, RATED 200 AMPS OR LESS, WITH BOLTED JOINTS HAVING METAL-TO-METAL CONTACT.
F. GALVANIZED STEEL OR COPPER-CLAD STEEL MESSENGER WIRES. (SEE NOTE 26)
G. UNISTRUT (OR EQUAL) USED AS RACEWAY/SUPPORT SYSTEM FOR LIGHTING BRANCH CIRCUITS.

- MULTICONDUCTOR POWER CABLES CONTAIN COPPER EQUIPMENT GROUNDING CONDUCTORS WHICH SHALL BE CONNECTED AS SHOWN ON THESE DRAWINGS.

- WHERE TWO OR MORE BOLTS ARE INSTALLED THROUGH EACH METAL-TO-METAL JOINT BETWEEN SECTIONS OF CABLE TRAY AND/OR CHANNEL, BONDING JUMPERS ARE NOT REQUIRED. SEE DETAILS A AND B FOR EXAMPLES. WHERE TWO BOLTS CANNOT BE INSTALLED THROUGH A METAL-TO-METAL JOINT, A SINGLE BONDING JUMPER IS REQUIRED AS SHOWN IN DETAIL C. BONDING JUMPERS ON CABLE TRAYS SHALL BE SIZE 2/0 AND ON CABLE CHANNELS SHALL BE SIZE 2.

- WHERE METAL-TO-METAL CONTACT CANNOT BE ESTABLISHED BETWEEN SECTIONS OF CABLE TRAY AND/OR CHANNEL, BONDING JUMPERS SHALL BE INSTALLED AS SHOWN IN DETAIL D. INSTALL TWO SIZE 2/0 BONDING JUMPERS BETWEEN SECTIONS OF CABLE TRAY AND ONE SIZE 2/0 JUMPER BETWEEN CABLE CHANNELS AND TRAYS.

- WHERE CABLE DROPS FROM CABLE TRAYS TO SWITCHGEAR, MOTOR CONTROL CENTERS AND POWER PANELS ARE NOT IN CONDUITS OR CABLE CHANNELS, THE FOLLOWING BONDING JUMPERS SHALL BE INSTALLED:
A. ONE SIZE 2/0 JUMPER FROM ONE SIDE RAIL TO GROUND BUSES IN MOTOR CONTROL CENTERS AND POWER PANELS.
B. TWO SIZE 2/0 JUMPERS, ONE FROM EACH SIDE RAIL, TO GROUND BUSES IN SUBSTATION SWITCHGEAR.

- ENCLOSURES SUCH AS LIGHTING, CONTROL OR RELAY PANELS SHALL BE BONDED TO CABLE TRAYS OR CHANNELS WHICH SERVE THEM; THIS SHALL BE DONE BY SIZE 2 BONDING JUMPER OR BY INTERVENING CONDUITS OR CABLE CHANNELS.

- WHERE CABLE CHANNELS ARE ATTACHED TO ENCLOSURES USING TWO BOLTS AT EACH METAL-TO-METAL JOINT, BONDING JUMPERS ARE NOT REQUIRED EXCEPT AT SWITCHGEAR, MOTOR CONTROL CENTER, OR POWER PANELS WHERE THE CHANNEL SHALL BE BONDED TO THE GROUND BUS USING SIZE 2 BONDING JUMPERS.

- WHERE CONDUITS ENTER ENCLOSURES THROUGH INTEGRAL THREADED HUBS, BONDING JUMPERS ARE NOT REQUIRED. MYERS SCRUB-TITE HUBS OR LOCKNUTS PROVIDE ADEQUATE BONDING WHERE CONDUITS ENTER UNTHREADED OPENINGS IN SHEET METAL ENCLOSURES EXCEPT AS FOLLOWS:
A. ANY CONDUIT LARGER THAN 1" TRADE SIZE.
B. ANY SIZE CONDUIT RUNNING FROM SUBSTATION SWITCHGEAR TO MOTOR CONTROL CENTERS OR POWER DISTRIBUTION PANELS.
C. WHEN USING ANY BUT THE LARGEST OPENING OF CONCENTRIC KNOCKOUTS.
D. IN CLASS 1, DIVISION 2 CLASSIFIED LOCATIONS.

THESE CASES REQUIRE GROUNDING BUSHINGS WITH BONDING JUMPERS ATTACHED TO THE GROUND BUS, IF PROVIDED, OR TO THE ENCLOSURE. THESE BONDING SHALL BE SIZED AS FOLLOWS:

- 1/2" - 3/4", 1" CONDUIT - SIZE 8
- 1 1/4" - 2 1/2" CONDUIT - SIZE 4
- 3" - 4" CONDUIT - SIZE 2

- WHERE CONDUITS CANNOT BE BONDED TO CABLE TRAYS OR CHANNELS USING CONDUIT CLAMPS AS SHOWN AND SPECIFIED IN DETAILS E AND F, A BONDING JUMPER SHALL BE INSTALLED AS SHOWN IN DETAIL G, SIZE AS LISTED IN NOTE 18.

- ENCLOSURES FOR CORD CONNECTED EQUIPMENT SHALL BE BONDED TO GROUNDING WIRES IN THE CORD WHICH ARE ATTACHED TO GROUNDING TYPE PLUGS.
- UNLESS SPECIFIED OTHERWISE ON PROJECT DRAWINGS, INSTRUMENTS OR CONTROL DEVICES OPERATING AT LESS THAN 150 VOLTS TO GROUND ARE ADEQUATELY BONDED IF THE MOUNTING HARDWARE PROVIDES A CURRENT PATH BETWEEN THE ENCLOSURE AND THE CONDUIT OR CABLE CHANNEL.

- THE FOLLOWING CONDITIONS MUST BE SATISFIED TO ENSURE ADEQUATE BONDING AT ALL CONNECTIONS:

- A. ALL CONNECTIONS SHALL BE MADE UP WRENCH TIGHT.
- B. NON-CONDUCTING MATERIAL SHALL NOT BE USED ON CONDUIT THREADS.
- C. LOCKNUTS SHALL BE INSTALLED SO THEY COMPLETELY PENETRATE ANY PAINT OR OTHER NON-CONDUCTIVE COATING ON ENCLOSURE METAL.
- D. WHEN METALLIC SUPPORT MATERIAL IS USED FOR GROUNDING OR BONDING, ANY PAINT OR OTHER NON-CONDUCTIVE COATING MUST BE REMOVED AT THE POINT OF SUPPORT OR A FASTENER MUST BE USED WHICH WILL PENETRATE THE PAINT.
- E. MATERIALS SHALL BE SELECTED WHICH ARE NOT SUBJECT TO CORROSION IN THE ENVIRONMENT AND APPLICATION IN WHICH THEY ARE USED.

- ONE-HOLE TIN-PLATED ALUMINUM COMPRESSION LUGS SHALL BE USED FOR CONNECTING COPPER BONDING JUMPERS TO CABLE TRAYS OR CHANNELS.

- EITHER MECHANICAL OR COMPRESSION LUGS MAY BE USED FOR CONNECTING COPPER GROUNDING AND BONDING CONDUCTORS TO GROUND BUSES OR METALLIC EQUIPMENT ENCLOSURES. ALUMINUM BUSES OR ENCLOSURES REQUIRE TIN-PLATED ALUMINUM LUGS.

- GROUNDING CLAMPS FOR ALUMINUM CONDUIT SHALL BE GALVANIZED MALLEABLE IRON OR TIN-PLATED ALUMINUM.

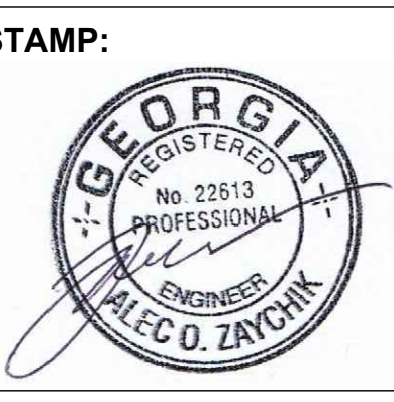
- SEE TABLE NO.1 FOR MINIMUM SIZE OF MESSENGER WIRE THAT IS PERMITTED TO BE USED AS AN EQUIPMENT GROUNDING CONDUCTOR. EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSTALLED WITH MESSENGER SUPPORTED CABLES (AS A SEPARATE CONDUCTOR OR IN MULTICONDUCTOR CABLE(S)) WHERE THE MESSENGER WIRE IS NOT SUITABLE FOR USE AS THE EQUIPMENT GROUNDING CONDUCTOR.

TABLE NO. 1 - SEE NOTE 26

MAXIMUM RATING OR SETTING OF LARGEST OVERCURRENT DEVICE PROTECTING ANY CIRCUIT SUPPORTED BY THE MESSENGER (AMPERES)	MINIMUM SIZE OF MESSENGER WIRE PERMITTED FOR USE AS EQUIPMENT GROUNDING CONDUCTOR	
	GALVANIZED STEEL WIRE	COPPER-CLAD STEEL WIRE
UP TO 15	5/16", 7-STR.	
16-20	3/8", 7-STR.	
21-30	7/16", 7-STR.	
31-40	1/2", 7-STR.	5/16", 7-STR.
41-60		3/8", 7-STR.
61-100		7/16", 7-STR.
100-200		3/8", 7-STR.



No.	Description	Date

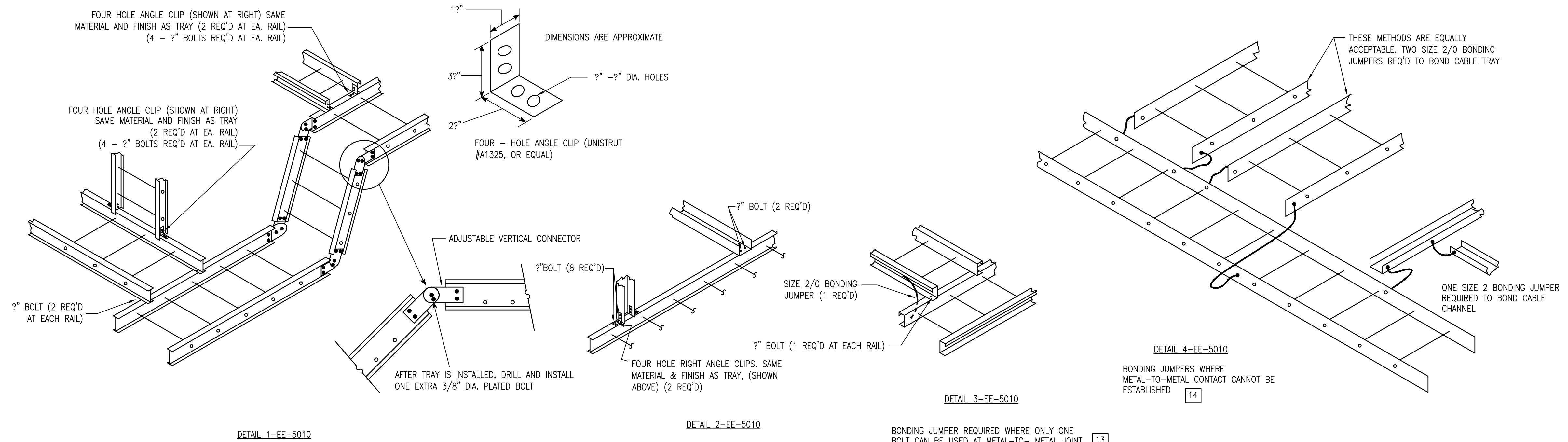


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DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
GROUNDING
INSTALLATION DETAILS

DRAWING NO.
RI-PS
E5-218
SHEET OF



DETAIL 1-EE-5010
SECTIONS OF CABLE TRAY BONDED BY TWO BOLTS THROUGH EACH METAL-TO-METAL JOINT.
-BONDING JUMPER NOT REQ'D- [13]

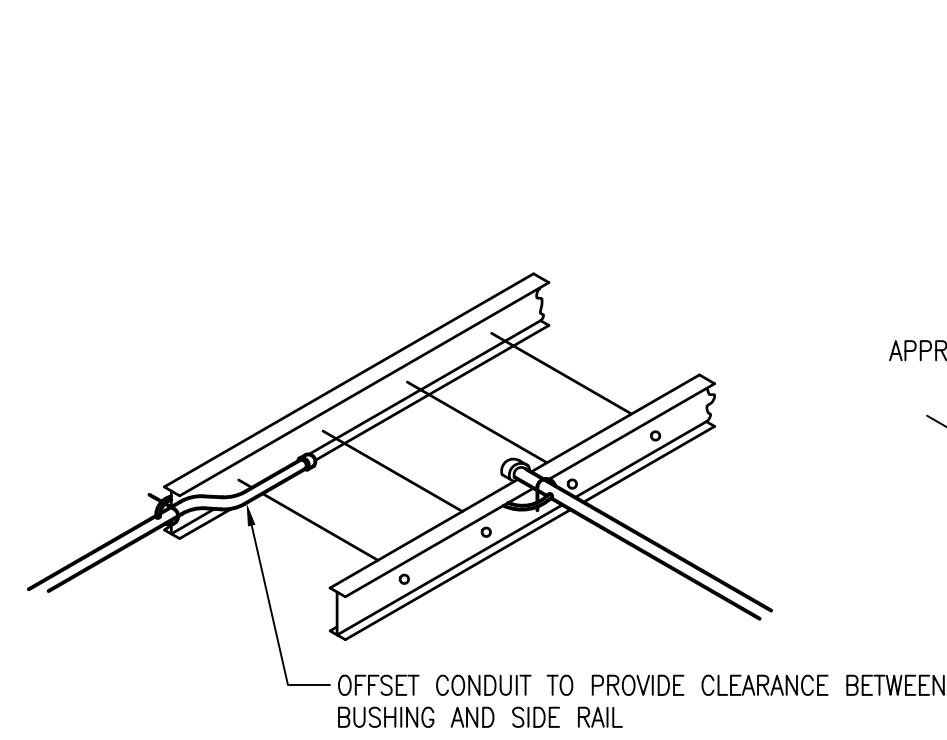
DETAIL 2-EE-5010
SECTIONS OF CABLE CHANNEL BONDED TO CABLE TRAY BY TWO BOLTS THROUGH EACH METAL-TO-METAL JOINT.
-BONDING JUMPER NOT REQ'D- [13]

BONDING JUMPER REQUIRED WHERE ONLY ONE BOLT CAN BE USED AT METAL-TO-METAL JOINT [13]

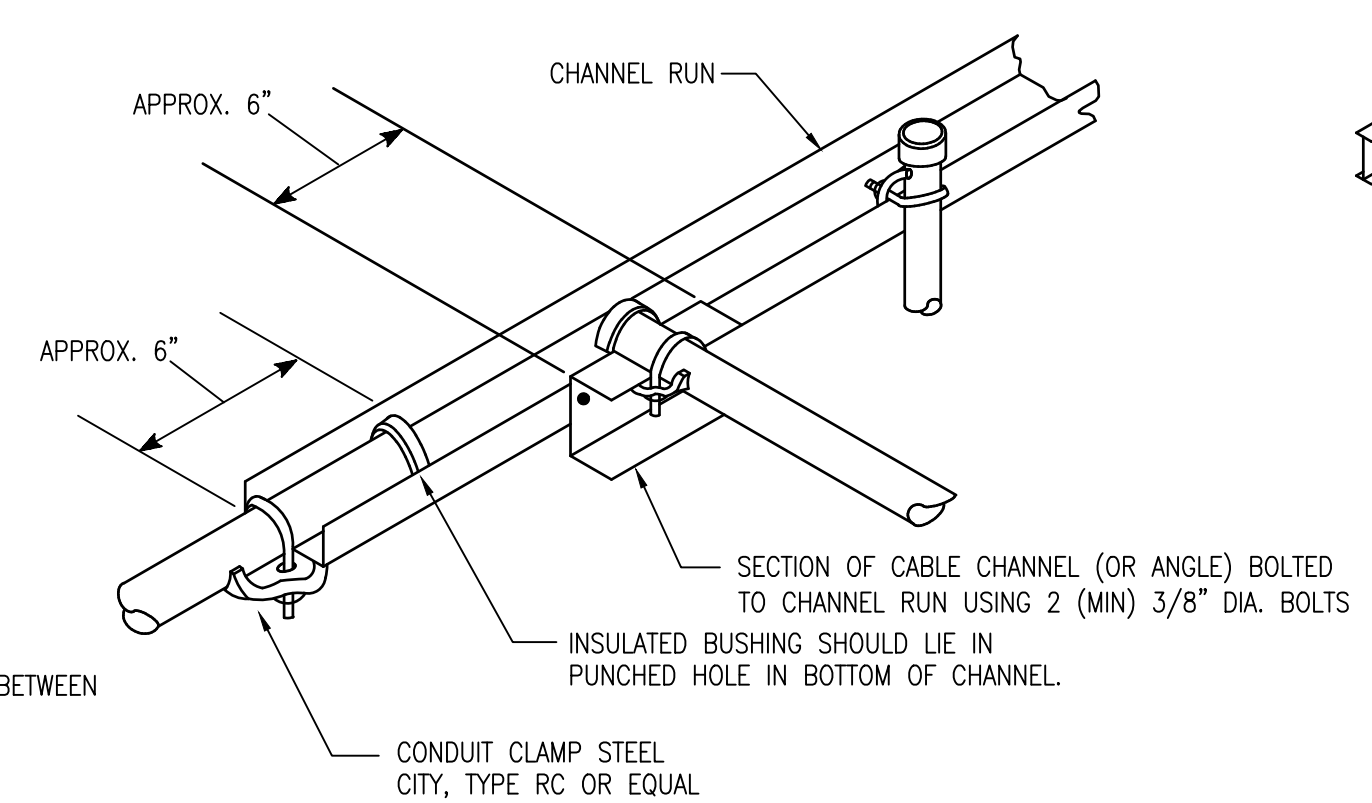
DETAIL 3-EE-5010
BONDING JUMPER WHERE METAL-TO-METAL CONTACT CANNOT BE ESTABLISHED [14]

THESE METHODS ARE EQUALLY ACCEPTABLE. TWO SIZE 2/0 BONDING JUMPERS REQ'D TO BOND CABLE TRAY

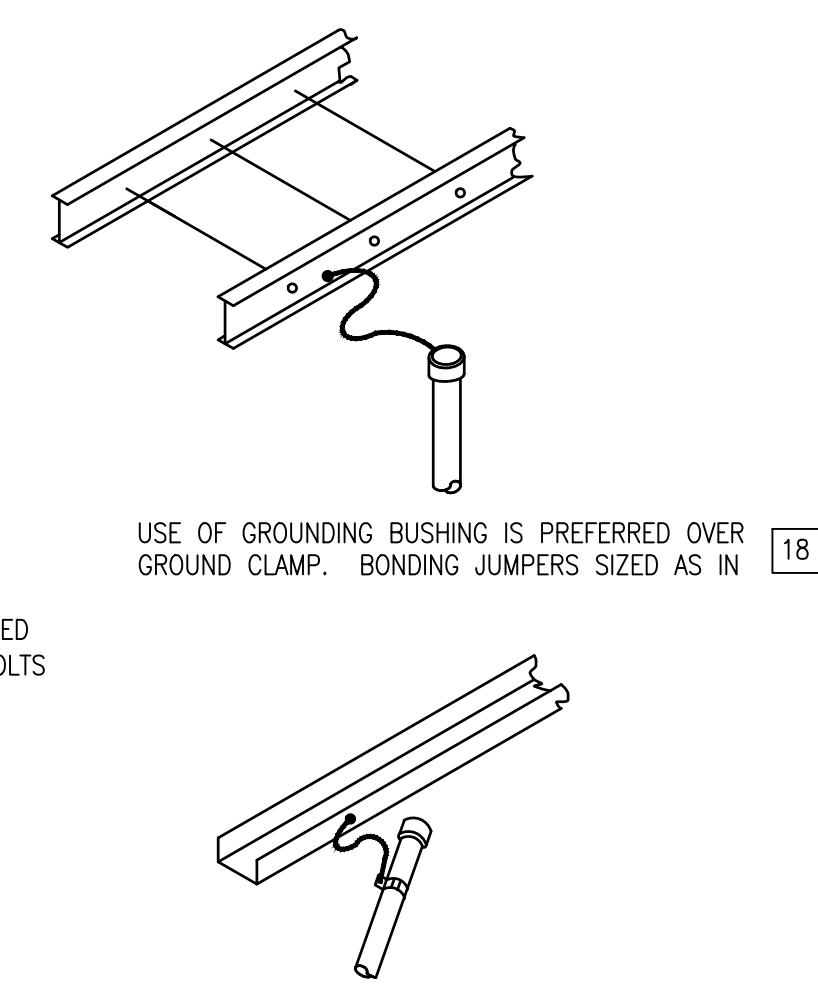
ONE SIZE 2 BONDING JUMPER REQUIRED TO BOND CABLE CHANNEL



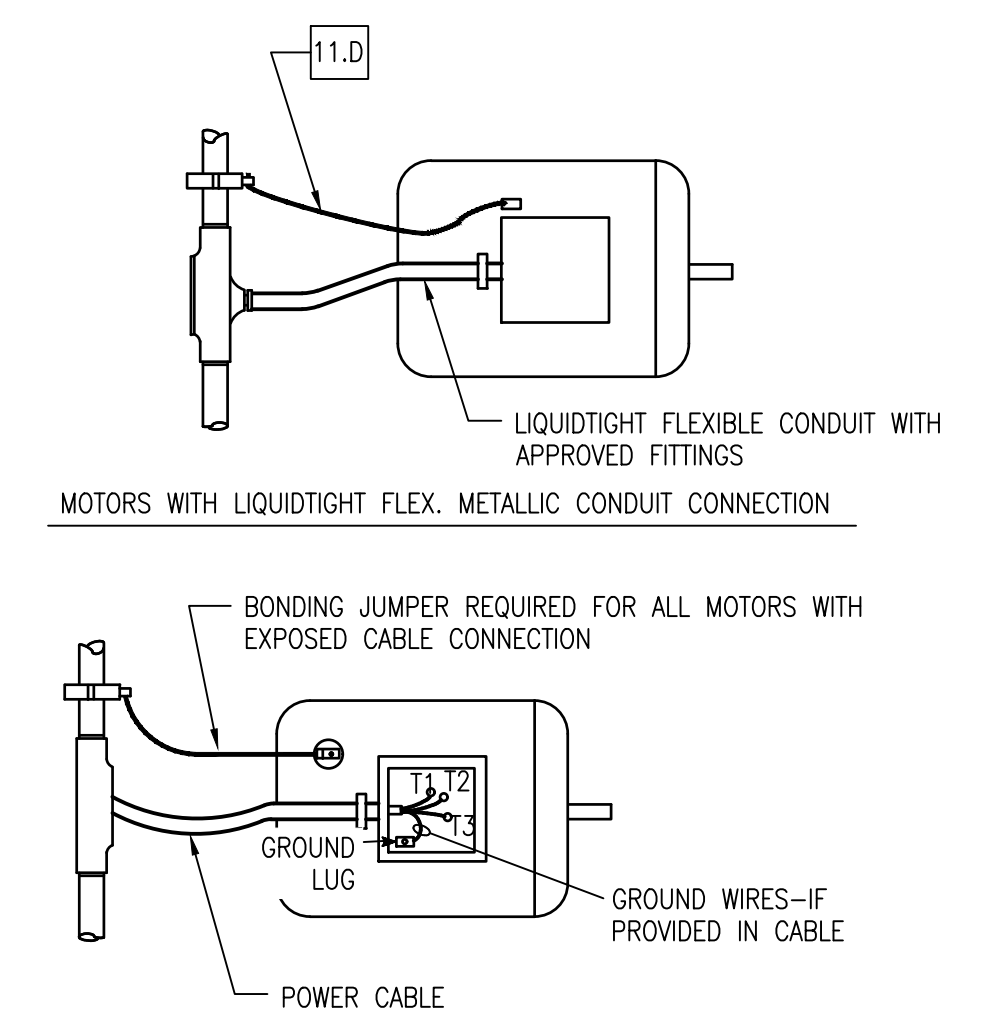
DETAIL 5-EE-5010
CONDUIT BONDED TO CABLE TRAY BY CONDUIT CLAMP.
-BONDING JUMPER NOT REQ'D- [19]



DETAIL 6-EE-5010
CONDUIT BONDED TO CABLE CHANNEL BY CONDUIT CLAMP.
-BONDING JUMPER NOT REQ'D- [19]



DETAIL 7-EE-5010
BONDING JUMPER REQUIRED WHERE CONDUIT IS NOT CLAMPED TO CABLE TRAY OR CHANNEL [18]



MOTORS WITH EXPOSED CABLE CONNECTION
DETAIL 8-EE-5010
BONDING AT MOTORS. INSTALL BONDING JUMPERS

LEGEND:
[1] REFERS TO NOTE ON DRAWING E5-218 (1 IS NOTE NUMBER)

A TYPICAL ELECTRICAL GROUNDING SYSTEM INTERCONNECTIONS (CONT.)

No.	Description	Date



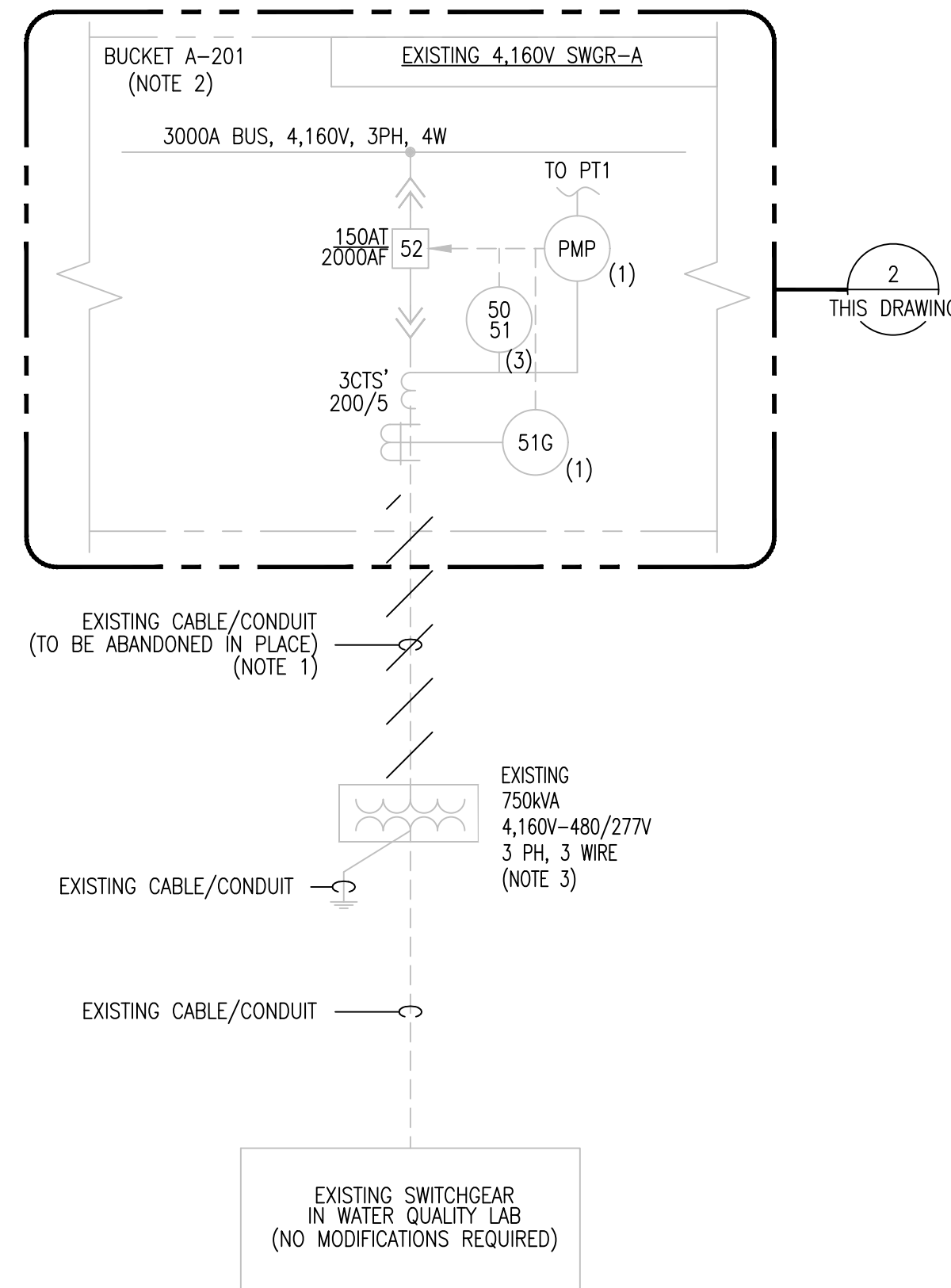
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CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
GROUNDING
INSTALLATION DETAILS

DRAWING NO.
RI-PS
E5-219
SHEET OF





NOTES:

1. CONTRACTOR SHALL DISCONNECT THE EXISTING CABLES, FEEDING EXISTING 750KVA TRANSFORMER AT THE LAB BUILDING, AS SHOWN. ALL ASSOCIATED CABLES/CONDUITS SHALL BE ABANDONED IN PLACE.
2. SEE NOTE 9 DRAWING E6-102 FOR EXISTING 4,160V SWITCHGEAR "A" MODIFICATIONS.
3. SEE NOTE 7 DRAWING E6-103 FOR NEW FEEDER OF THE EXISTING 750KVA TRANSFORMER.

1 PARTIAL EXISTING WATER QUALITY LAB FEEDER ONE LINE DIGRAM – MODIFICATION

2 EXISTING SWITCHGEAR "A" BUCKET A-201 – MODIFICATION



No.	Description	Date

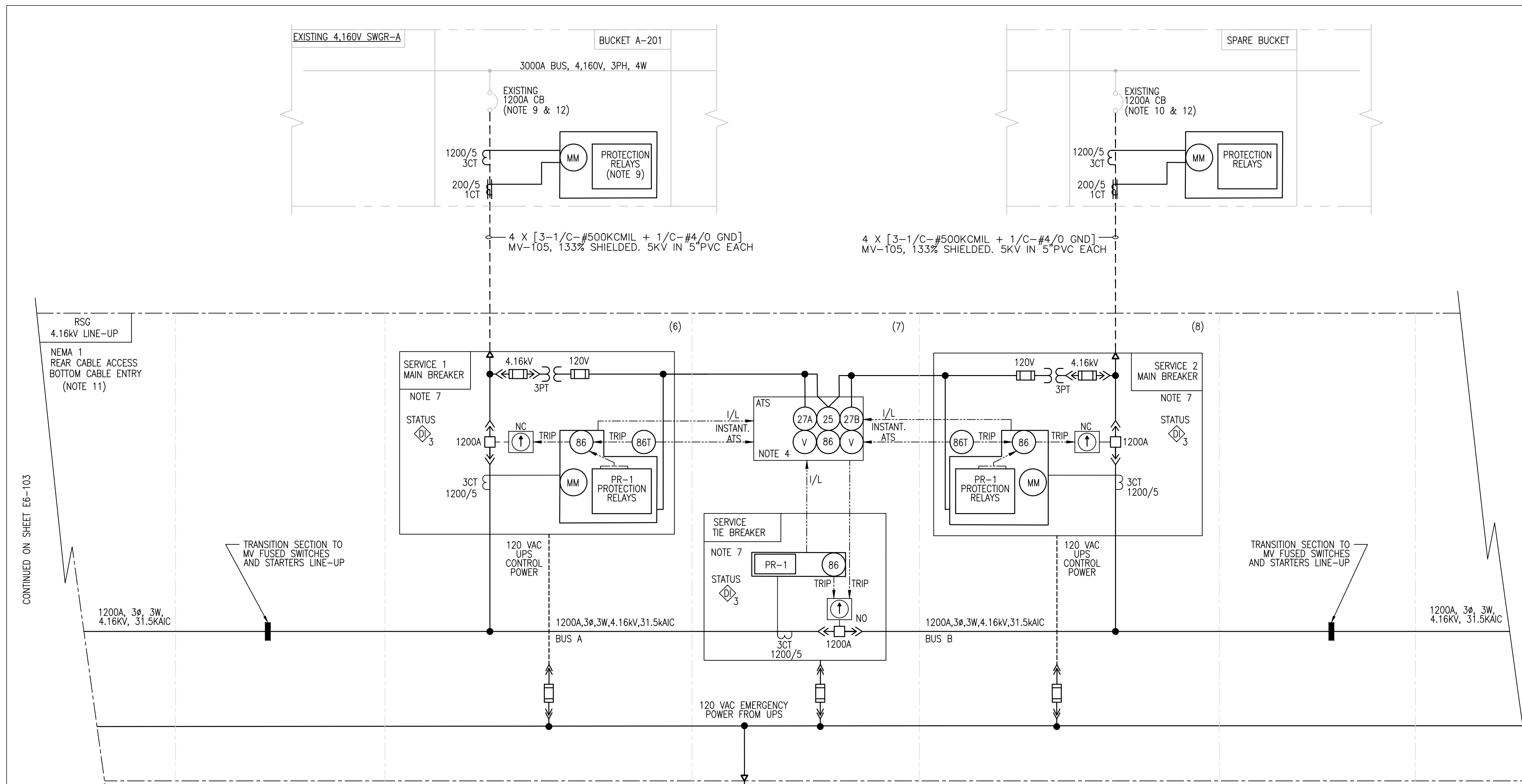


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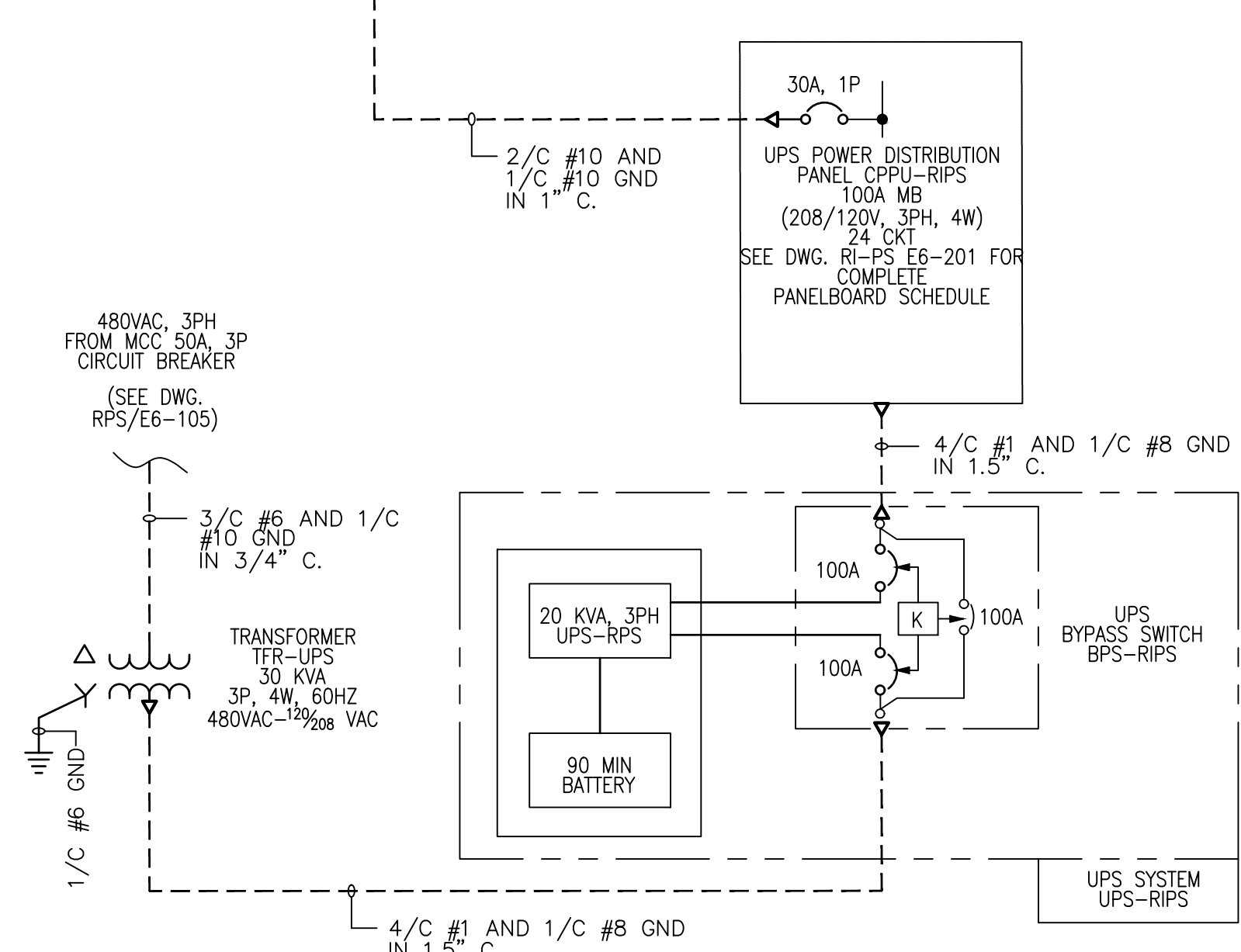
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CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
 ONE LINE DIAGRAM
 EXISTING MV SWITCHGEAR

DRAWING NO.
RI-PS
E6-101
 SHEET OF

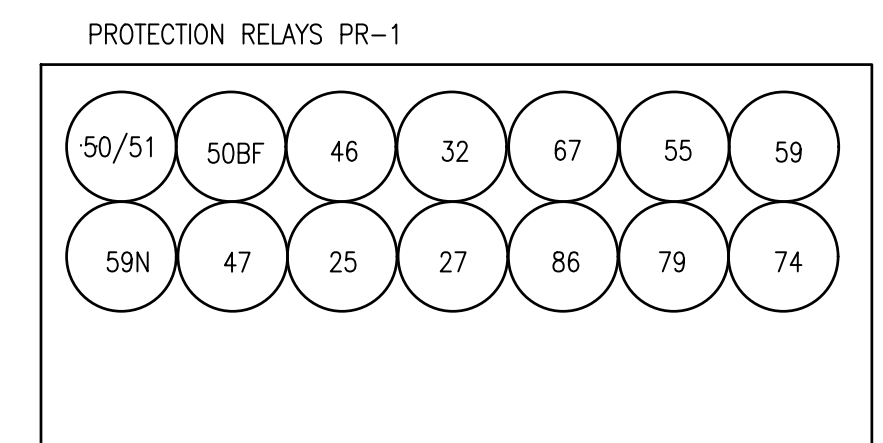


- NOTES:
- VENDOR SHALL PROVIDE PERMANENT ONE LINE DIAGRAMS ACCORDING TO NEC NFPA 70 225.70(A)5.
 - ALL CT'S SHALL HAVE SHORT CIRCUITING AND DISCONNECTING TYPE TERMINAL BLOCKS TO FACILITATE TESTING.
 - ALL CT'S SHALL BE RELAY ACCURACY AND PROPERLY SIZED FOR THE BURDEN CONNECTED TO THEM, MINIMUM OF 100, THE CT RATIO SHOWN MAY CHANGE AT THE TIME OF SHOP DRAWING REVIEW.
 - ATS SHALL BE PROVIDED WITH SELECTIVE SWITCH TO ENABLE AUTOMATIC TRANSFER. ATS SHALL CONTINUOUSLY MONITOR THE BREAKER STATUS OF BOTH MAIN BREAKERS AND THE TIE BREAKER. IN CASE ALL THE BREAKERS ARE CLOSED IN THE SERVICE POSITION, ATS SHALL TRIP A PRESELECTED BREAKER AFTER A SHORT TIME OF PARALLELING. PRESELECTION OR THE BREAKER SHALL BE BY A SELECTOR SWITCH.
 - MICROPROCESSOR RELAYS SHALL BE POWERED BY 120VAC EMERGENCY POWER. BUCKETS SHALL HAVE POWER SUPPLY TERMINALS FOR CONNECTION.
 - RELAY 27 SHALL TRIP THE CONTACTOR BUT NOT LOCKOUT RELAY 86.
 - MAIN AND TIE BREAKERS SHALL HAVE A MAINTENANCE SWITCH FOR ARC FLASH MITIGATION.
 - EACH BREAKER SHALL HAVE A DIGITAL MULTIMETER FOR DISPLAY OF VOLTAGE, CURRENT, POWER FACTOR, ACTIVE/REACTIVE/APPEARANT POWER, AND ACTIVE ENERGY. METER SHALL HAVE ETHERNET PORT FOR CONNECTION TO SCADA SYSTEM VIA ETHERNET TCP/IP.
 - CONTRACTOR SHALL REUSE ONE (1) 1,200 AMP CIRCUIT BREAKERS IN THE EXISTING 5KV SWITCHGEAR "A" BUCKET A-201 (VERTICAL SECTION #3 LOWER COMPARTMENT) TO FEED NEW RIVER INTAKE PUMP STATION SWITCHGEAR "RSG". CONTRACTOR SHALL CHANGE CT'S FROM 200A TO 1200A AND GROUND CT. THE EXISTING PROTECTIVE RELAY IN THIS BUCKET SHALL BE REPLACED WITH NEW EATON E-SERIES RELAY FOR FEEDER PROTECTION, COMMUNICATION AND METERING. SEE DETAIL "2" DRAWING RI-PS/E5-101 FOR EXISTING SWITCHGEAR LAYOUT.
 - CONTRACTOR SHALL USE ONE (1) 1,200 AMP SPARE CIRCUIT BREAKER IN THE EXISTING 5KV SWITCHGEAR "A" FUTURE PROVISION BUCKET (VERTICAL SECTION #7 LOWER COMPARTMENT) TO FEED NEW RIVER INTAKE PUMP STATION SWITCHGEAR "RSG". CONTRACTOR SHALL CHANGE CT'S TO 1200A WITH GROUND CT. CONTRACTOR SHALL ADD EATON E-SERIES PROTECTIVE RELAY FOR FEEDER PROTECTION, COMMUNICATION AND METERING. SEE DETAIL "A" THIS DRAWING FOR EXISTING SWITCHGEAR LAYOUT.
 - SPACE HEATERS SHALL BE POWERED BY 120VAC INTERNAL TO SWITCHGEAR AND BE PLACED IN ALL SECTIONS OF SWITCHGEAR.
 - CONTRACTOR SHALL INCLUDE ALL COSTS ASSOCIATED WITH MODIFYING THE EXISTING BREAKERS. CONTRACTOR SHALL COORDINATE ANY POWER OUTAGES WITH THE CITY AND PROVIDE TEMPORARY POWER AS NEEDED AT NO ADDITIONAL COST TO THE OWNER.



NO.	DESCRIPTION	RUNNING LOAD (AMP)	CONNECTED LOAD (AMP)
1	PUMPS (6-168 FLA)	840 (5 x 168)	1008 (6 x 168)
2	480V MCC	69	69
3	EXISTING 750KVA TRANSFORMER	104	104
TOTAL		1,013	1,181

- LEGEND:
- CURRENT TRANSFORMER
 - ZERO SEQUENCE CURRENT TRANSFORMER
 - CONTROL POWER TRANSFORMER
 - POTENTIAL TRANSFORMER
 - CU COPPER
 - ATS AUTOMATIC TRANSFER SYSTEM (RELAY BASED)
 - NC NORMALLY CLOSED
 - NO NORMALLY OPEN
 - NLCHV OFF CIRCUIT TAP CHANGER
 - I/L INTERLOCK
 - I/T INTERTRIP
 - 3 POLE, DRAWOUT, MEDIUM VOLTAGE AC CIRCUIT BREAKER, DEVICE NO. 52
 - SPACE FOR 3P DRAWOUT, MEDIUM VOLTAGE CIRCUIT BREAKER
 - CB CONTROL SWITCH
 - RTD (PT100)
 - VE VIBRATION SENSOR
 - HTR MOTOR SPACE HEATER
 - PLC DISCRETE INPUT
 - AUTOMATIC TRANSFER INTERLOCK (# = INTERLOCK NUMBER)
 - COMPARTMENT NUMBER
 - BAY CONTROL AND PROTECTION UNIT MICROPROCESSOR BASED RELAY
 - THREE PHASE SUBSTATION TRANSFORMER-DELTA WYE CONNECTION
 - LIGHTNING SURGE ARRESTOR -INTERMEDIATE CLASS
 - POT HEAD
 - SPACE HEATER
 - RESISTOR -GROUNDING 2400V
 - GROUNDING CONNECTION
- RELAY FUNCTION
- 25-SYNCH-CHECK
 - 26-APPARATUS THERMAL DEVICE
 - 27-UNDERVOLTAGE RELAY
 - 27D-POSITIVE SEQUENCE UNDERVOLTAGE
 - 27R-REMANENT UNDERVOLTAGE
 - 32P-REVERSE REAL POWER
 - 37P-DIRECTIONAL ACTIVE UNDERPOWER
 - 46-UNBALANCE/NEGATIVE SEQUENCE OVERCURRENT
 - 47-NEGATIVE SEQUENCE OVERVOLTAGE
 - 49-TRANSFORMER THERMAL RELAY
 - 49RMS-THERMAL OVERLOAD
 - 50-INSTANTANEOUS OVERCURRENT
 - 50BF-BREAKER FAILURE
 - 50N-INSTANTANEOUS NEUTRAL OVERCURRENT
 - 51-AC TIME DELAY OVERCURRENT
 - 51N-NEUTRAL RELAY
 - 55-POWER FACTOR RELAY
 - 59-OVERVOLTAGE RELAY
 - 59N-NEUTRAL VOLTAGE DISPLACEMENT
 - 63-PRESSURE SWITCH
 - 67-DIRECTIONAL OVERCURRENT
 - 67N/67NC-DIRECTIONAL GROUND FAULT
 - 68-BLOCKING RELAY
 - 71-LIQUID LEVEL SWITCH
 - 74-ALARM RELAY
 - 79-RECLOSER (4 STEPS)
 - 81H-OVERFREQUENCY
 - 81L-UNDERFREQUENCY
 - 81R-RATE OF CHANGE OF FREQUENCY
 - 86-LOCKOUT RELAY
 - 87B-BUS DIFFERENTIAL PROTECTION
 - 87T-TRANSFORMER DIFFERENTIAL PROTECTION
 - MM-MULTIMETER (NOTE 8)



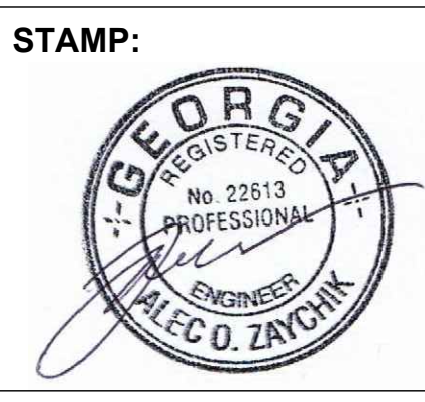
TYPICAL PROTECTION RELAYS FOR EACH MAIN BREAKER AND TIE BREAKER (EATON EDR-5000 OR APPROVED EQUAL).

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
FUTURE RVSS-P6	EXISTING TFR-LAB	TFR-RPS1	RVSS-P2	RVSS-P1	MAIN CB #1	TIE CB	MAIN CB #2	RVSS-P3	TFR-RPS2	FUTURE RVSS-P4	FUTURE RVSS-P5

A PROPOSED 4,16KV LUNE-UP LAYOUT



No.	Description	Date



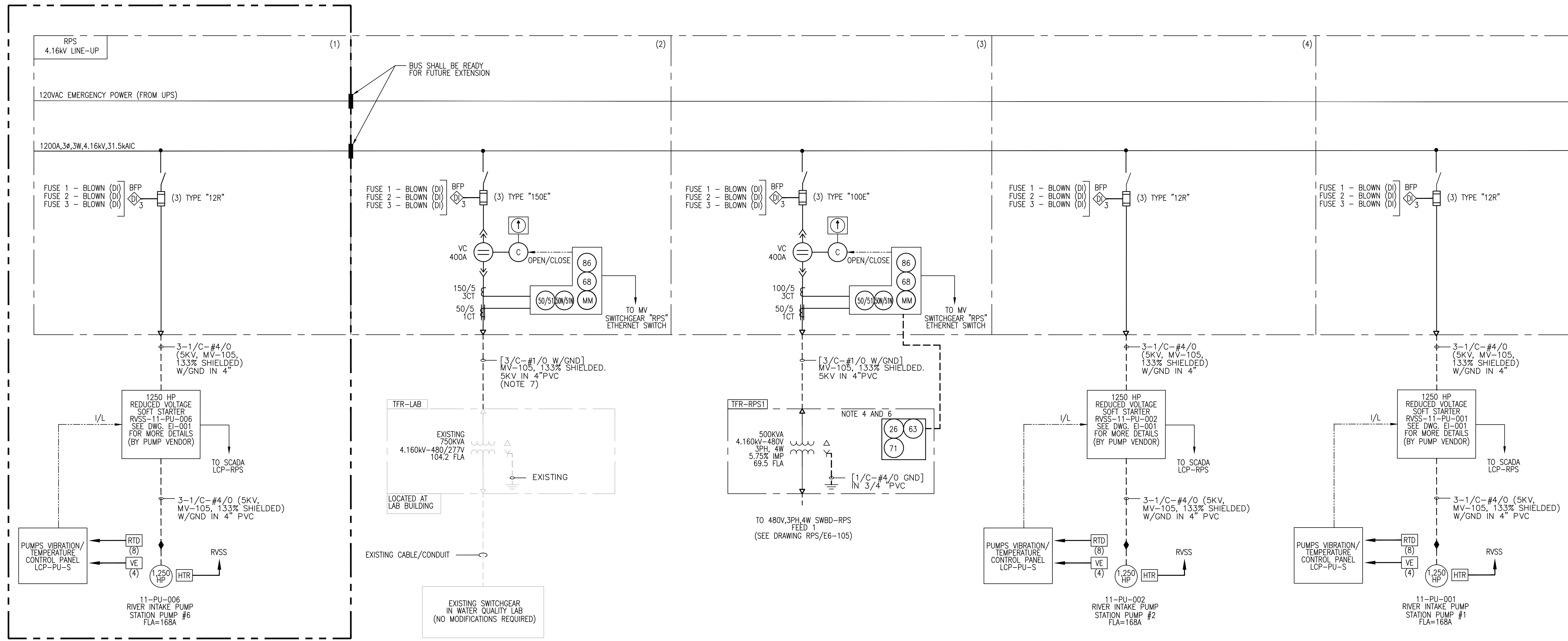
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SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
 ONE LINE DIAGRAM
 SWITCHGEAR RSG

DRAWING NO.
RI-PS
E6-102
 SHEET OF

ISSUED FOR BIDDING



CONTINUED FROM SHEET EG-102

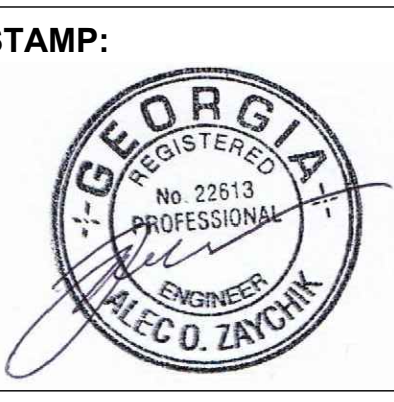
- NOTES:
1. THE FUSE RATINGS SHALL BE ADJUSTED BASED ON THE SELECTED PUMPS HORSEPOWER AND MANUFACTURER RECOMMENDATION.
 2. ALL CT'S SHALL HAVE SHORT CIRCUITING AND DISCONNECTING TYPE TERMINAL BLOCKS TO FACILITATE TESTING.
 3. ALL CT'S SHALL BE RELAY ACCURACY AND PROPERLY SIZED FOR THE LOAD.
 4. TRANSFORMER ALARMS SHALL BE AS FOLLOWS:
ALARM: 71L, 26-2, 63-2
 5. MICROPROCESSOR RELAYS SHALL BE POWERED BY 120VAC EMERGENCY POWER. BUCKETS SHALL HAVE POWER SUPPLY TERMINALS FOR CONNECTION.
 6. THE TRANSFORMER ALARMS SHALL BE CONNECTED TO SCADA PANEL LCP-RPS.
 7. THE CONTRACTOR SHALL RUN NEW CABLE FROM THE NEW 4,160KV SWITCHGEAR "RPS" TO THE EXISTING 4,160-480/277V TRANSFORMER LOCATED NEXT TO THE LAB BUILDING. CONTRACTOR SHALL COORDINATE THE ALLOWABLE POWER OUTAGE FOR THE LAB BUILDING WITH THE OWNER AND LIMIT THE OUTAGE AS REQUIRED.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
FUTURE RVSS-11-PU-006 FDS	EXISTING TFR-LAB FDS	TFR-RPS1 FDS	RVSS-11-PU-002 FDS	RVSS-11-PU-001 FDS	MAIN CB #1	TIE CB	MAIN CB #2	RVSS-11-PU-003 FDS	TFR-RPS2 FDS	FUTURE RVSS-11-PU-004 FDS	FUTURE RVSS-11-PU-005 FDS

A PROPOSED 4,16KV LUNE-UP LAYOUT



No.	Description	Date



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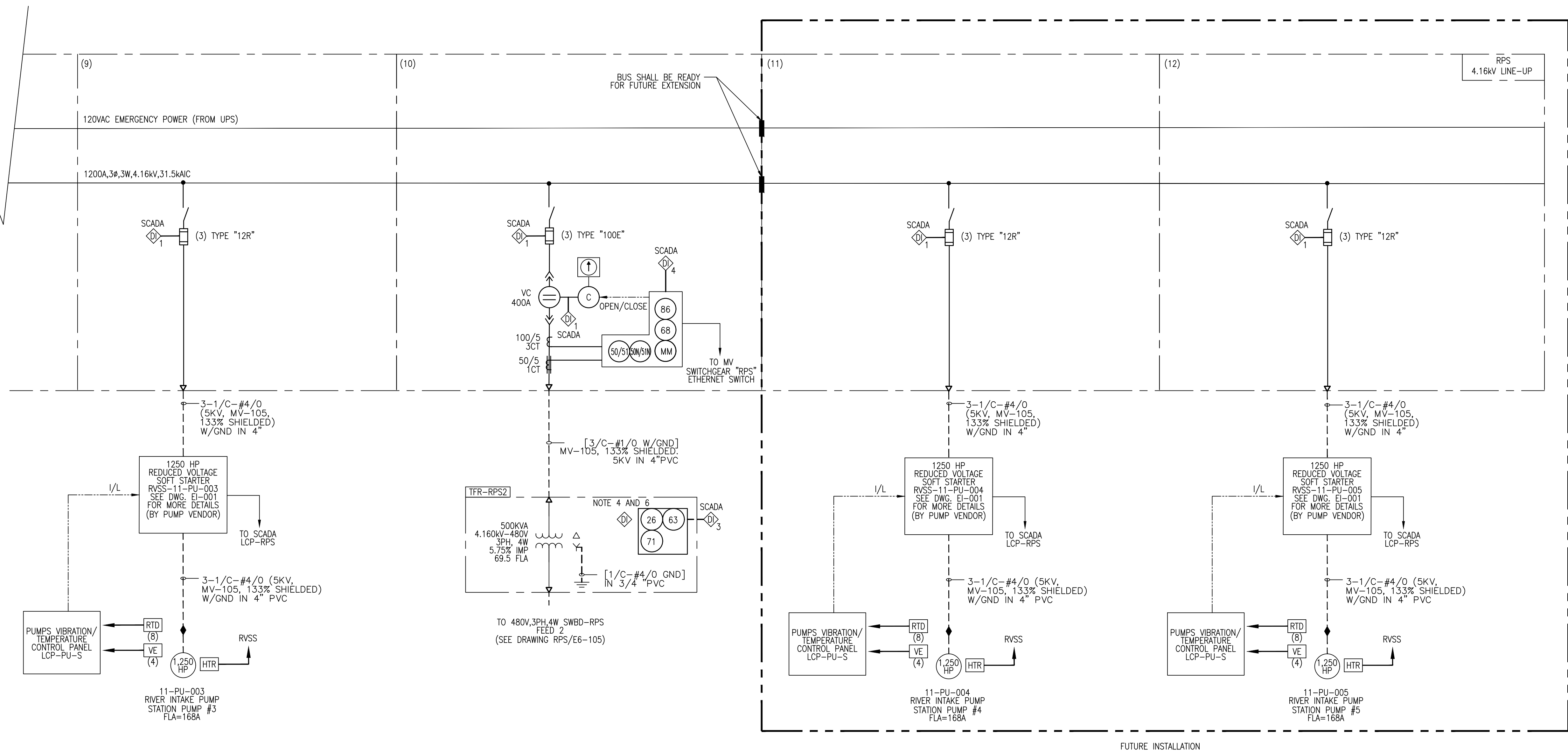
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CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
ONE LINE DIAGRAM
SWITCHGEAR RSG

DRAWING NO.
RI-PS
E6-103
SHEET OF

ISSUED FOR BIDDING

CONTINUED FROM SHEET E6-102



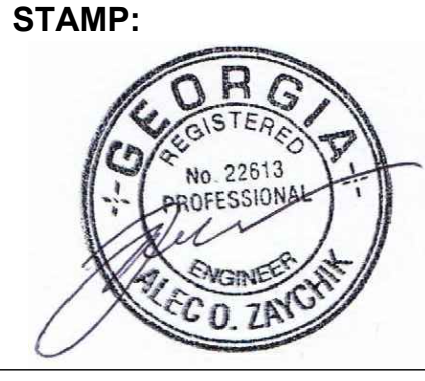
- NOTES:
1. THE FUSE RATINGS SHALL BE ADJUSTED BASED ON THE SELECTED PUMPS HORSEPOWER AND MANUFACTURER RECOMMENDATION.
 2. ALL CT'S SHALL HAVE SHORT CIRCUITING AND DISCONNECTING TYPE TERMINAL BLOCKS TO FACILITATE TESTING.
 3. ALL CT'S SHALL BE RELAY ACCURACY AND PROPERLY SIZED FOR THE LOAD.
 4. TRANSFORMER ALARMS SHALL BE AS FOLLOWS:
ALARM: 71L, 26-2, 63-2
 5. MICROPROCESSOR RELAYS SHALL BE POWERED BY 120VAC EMERGENCY POWER. BUCKETS SHALL HAVE POWER SUPPLY TERMINALS FOR CONNECTION.
 6. THE TRANSFORMER ALARMS SHALL BE CONNECTED TO SCADA PANEL LCP-H

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
FUTURE RVSS-11-PU-006 FDS	EXISTING TFR-LAB FDS	TFR-RPS1 FDS	RVSS-11-PU-002 FDS	RVSS-11-PU-001 FDS	MAIN CB #1	TIE CB	MAIN CB #2	RVSS-11-PU-003 FDS	TFR-RPS2 FDS	FUTURE RVSS-11-PU-004 FDS	FUTURE RVSS-11-PU-005 FDS

A PROPOSED 4,16KV LUNE-UP LAYOUT



No.	Description	Date



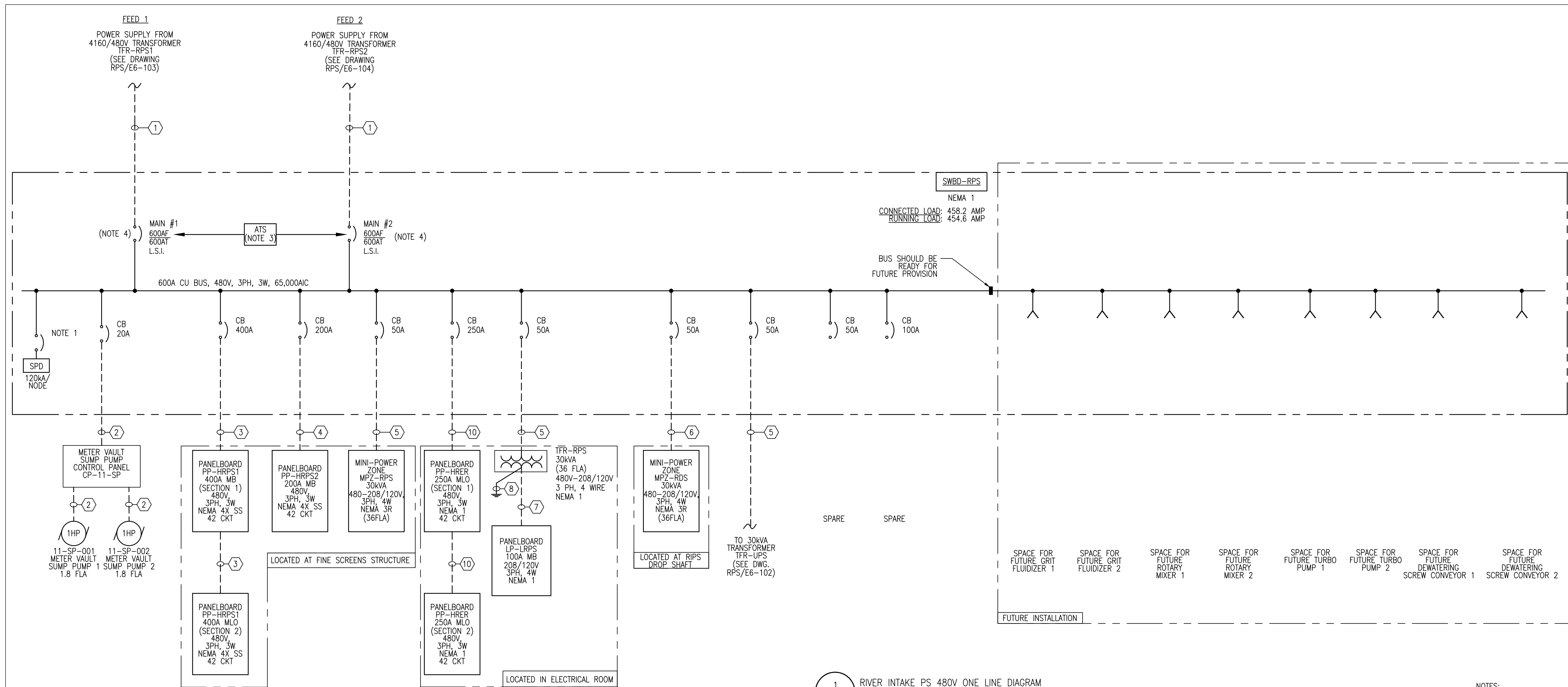
ADDRESS:
BGR2-JV
6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM

RIVER INTAKE PUMP STATION
ONE LINE DIAGRAM
SWITCHGEAR RSG

DRAWING NO.
RI-PS
E6-104
SHEET OF



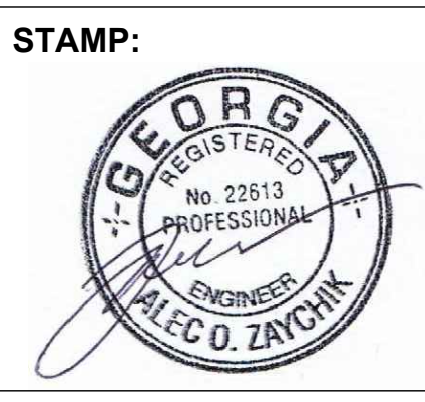
1 RIVER INTAKE PS 480V ONE LINE DIAGRAM

CONDUCTOR/CONDUIT SCHEDULE	
①	2 RUNS OF 3 #350KCMIL & 1 #1 GND IN 3" C. EACH
②	3 #12 & 1 #12 GND IN 1" C.
③	3 #600KCMIL & 1 #3 GND IN 3" C.
④	3 #4/0 & 1 #6 GND IN 2" C.
⑤	3 #6 & 1 #10 GND IN 1" C.
⑥	3 #4 & 1 #10 GND IN 1" C.
⑦	4 #1 & 1 #8 GND IN 1.5" C.
⑧	1 #6 GND IN 1" C.
⑨	3 #8 & 1 #10 GND IN 1" C.
⑩	3 #250KCMIL & 1 #4 GND IN 2" C.

- NOTES:
- THE CIRCUIT BREAKER SHALL BE SIZED PER MANUFACTURER'S RECOMMENDATIONS.
 - SWBD-RPS SHALL BE PROVIDED WITH POWER METER CAPABLE OF MEASURING VOLTS, AMPS, KW AND POWER FACTOR. ALL METER PARAMETERS SHALL BE AVAILABLE FOR TRANSFERRING TO THE PLANT SCADA SYSTEM THROUGH INTEGRAL ETHERNET PORT. COORDINATE PORT REQUIREMENT WITH SCADA SYSTEM INTEGRATOR.
 - TWO MAIN BREAKERS SHALL BE ELECTRICALLY OPERATED AND CAPABLE OF AUTOMATIC TRANSFER. INCLUDE CPT'S WITH A TRANSFER SCHEME FOR CONTROL POWER AND VOLTAGE SENSING ON THE LINE SIDE OF EACH BREAKER. INCOMING POWER SHALL BE CONTINUOUSLY MONITORED AT LINE SIDE BOTH BREAKERS. ALL COMPONENTS INCLUDED INTO AUTOMATIC TRANSFER SHALL BE FED FROM THE UPS SUPPLIED AND INSTALLED WITHIN THE MCC. UPS BATTERY SHALL BE SIZED TO BACKUP THE CONTROL CIRCUIT LOADS FOR 30 MINUTES. OPERATOR INTERFACE TOUCH SCREEN SHALL BE PROVIDED ON THE MCC FRONT FOR TIME DELAY ADJUSTMENTS AND OVERALL TRANSFER SCHEME VIEW. ALL BREAKERS' PARAMETERS AND DIGITAL METERING DATA SHALL BE AVAILABLE FOR MONITORING AT THE PLANT SCADA SYSTEM VIA ETHERNET TCP/IP PROTOCOL.
 - ALL BREAKERS IN SWBD-RPS SHALL BE PAD LOCKABLE IN "OFF" POSITION.
 - CONTRACTOR SHALL USE EXISTING 200A, 480V, 3P SPARE BREAKER IN THE EXISTING SWITCHBOARD CFP-ED-EDP-20 TO FEED NEW PANELBOARD PP-CH. RELABEL EXISTING SWITCHBOARD BUCKET WITH NEW LABEL "PP-CH".
 - SEE DRAWING E6-201 THRU E6-203 FOR PANELBOARD SCHEDULES.



No.	Description	Date



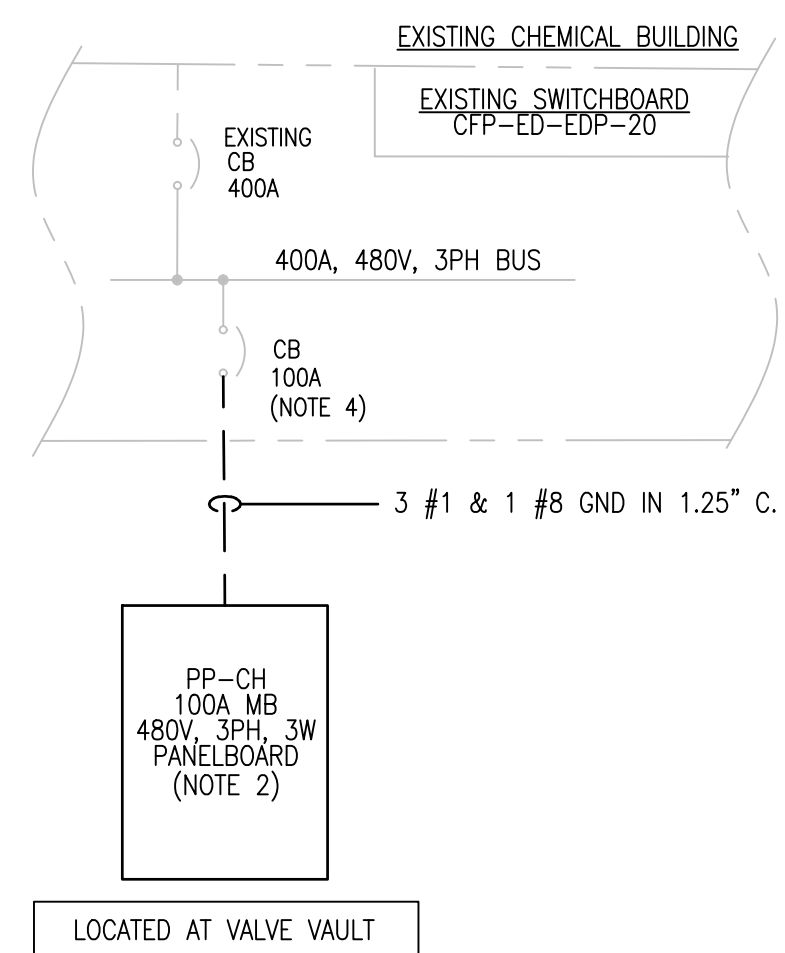
ADDRESS:
 BGR2-JV
 6 CONCOURSE PARKWAY
 SUITE 1600
 ATLANTA, GA 30328
 (770) 569-7038 x101
 FAX: (770) 993-5082

PROJECT NO:	TASK 1
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DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
 ONE LINE DIAGRAM
 LOW VOLTAGE SWBD-RPS

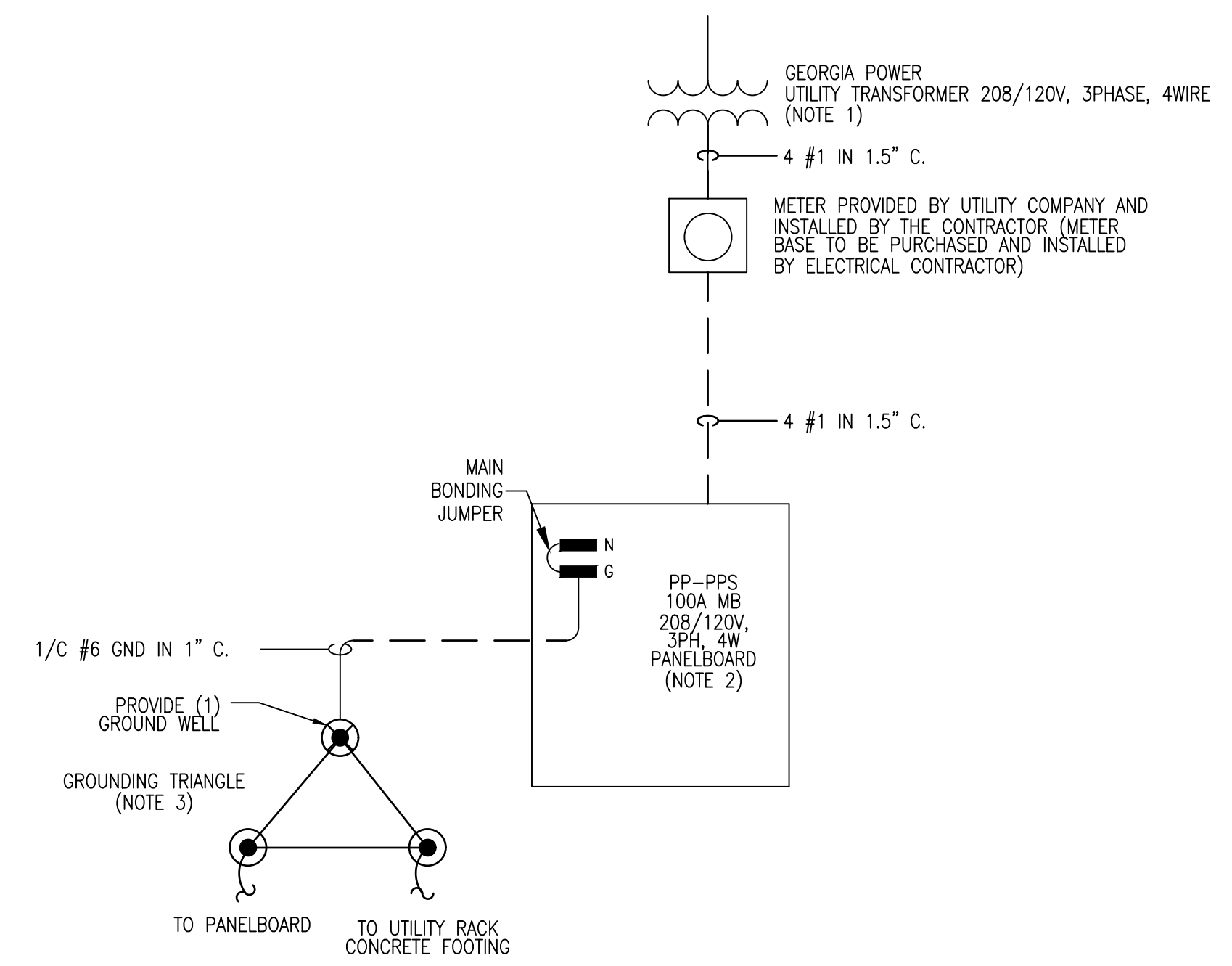
DRAWING NO.
RI-PS
E6-105
 SHEET OF

ISSUED FOR BIDDING



LOCATED AT VALVE VAULT

2 EXISTING SWITCHBOARD CFP-ED-EDP-20 PARTIAL ONE LINE DIAGRAM
(SEE DWG. RI-PS E5-115 FOR LOCATION)



2 PPS DROP SHAFT ONE LINE DIAGRAM

- NOTES:
- CONTRACTOR SHALL COORDINATE LOCATION OF 208/120V, 3PH, 4W SECONDARY TRANSFORMER WITH GEORGIA POWER. CONTRACTOR IS RESPONSIBLE FOR PAYING ALL COSTS ASSOCIATED WITH BRINGING 208/120V, 3 PHASE, 4 WIRE SERVICE TO THE SITE.
 - SEE DRAWING E6-203 FOR PANELBOARD SCHEDULES.
 - CONTRACTOR SHALL PROVIDE A GROUND TRIANGLE CONSISTING OF THREE (3) 3/4" DIAMETER X 10' LONG COPPERCLAD GROUND RODS. THE RODS SHALL BE DRIVEN IN GROUND CONNECTED TOGETHER WITH #2 AWG BARE STRANDED COPPER CONDUCTORS. PROVIDE A GROUND WELL FOR ONE ROD. ALL REQUIRED GROUNDING CONNECTIONS SHALL BE MADE WITH #2 AWG BARE COPPER CONDUCTORS.
 - CONTRACTOR SHALL ADD A NEW 100A, 3P, 480V CIRCUIT BREAKER TO THE EXISTING PANELBOARD AS SHOWN.



No.	Description	Date



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6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
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PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
ONE LINE DIAGRAM

DRAWING NO.
RI-PS
E6-106
SHEET OF

PANELBOARD		CPPU-RPS		LOCATED IN ELECTRICAL BUILDING							
VOLTAGE (L-N):	120V	ENCLOSURE TYPE:	NEMA 1								
VOLTAGE (L-L):	208V	MOUNTING:	SURFACE								
PHASES, WIRES:	3 φ 4 W	AIC RATING (A):	10000								
MINIMUM BUS CAPACITY (A):	100A	NOTES:									
MAIN O.C. DEVICE (A):	100A MB										
CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (AMP)			POLE	TRIP AMPS	DESCRIPTION	CKT NO	
				A	B	C					
1	RI-PS PUMP #1 RVSS CABINET	20	1	3.0	10.0		1	30	SCADA PANEL LCP-RPS	2	
3	RI-PS PUMP #2 RVSS CABINET	20	1		3.0	2.0	1	20	CELLULAR MODEM RECEPTACLE AT EL. ROOM	4	
5	RI-PS PUMP #3 RVSS CABINET	20	1			3.0	1	30	SCADA PC AND FIBER/ETHERNET SWITCH REC.	6	
7	MV SWITCHGEAR "SWGR-RSG"	30	1	10.0	10.0		1	30	VIB/TEMP CABINET LCP-PU-S	8	
9	SECURITY PANEL	20	1		4.2	0.0	1	20	SPARE	10	
11	FIRE ALARM CONTROL PANEL FACP-RPS	20	1			5.0	1	20	SPARE	12	
13	SPARE	20	1	0.0	0.0		1	20	SPARE	14	
15	SPARE	20	1		0.0	0.0	1	20	SPARE	16	
17	SPARE	20	1			0.0	1	20	SPARE	18	
19	SPARE	20	1	0.0	0.0		1	20	SPARE	20	
21	SPARE	20	1		0.0	0.0	1	20	SPARE	22	
23	SPARE	20	1			0.0	1	20	SPARE	24	
				CONNECTED LOAD PHASE TOTALS (AMP)							
				33.0	9.2	16.0					
USE 2/C #12 & 1/C #12GND IN 3/4" C. FOR 20A CB											
USE 2/C #10 & 1/C #10GND IN 1" C. FOR 30A CB											
SEE CABLE SCHEDULE FOR CABLE/CONDUIT SIZES IF FEEDER BREAKER SIZE IS GREATER THAN 30A											

PANELBOARD		LP-RPS		LOCATED IN ELECTRICAL BUILDING							
VOLTAGE (L-N):	120V	ENCLOSURE TYPE:	NEMA 1								
VOLTAGE (L-L):	208V	MOUNTING:	SURFACE								
PHASES, WIRES:	3 φ 4 W	AIC RATING (A):	10000								
MINIMUM BUS CAPACITY (A):	100A	NOTES:									
MAIN O.C. DEVICE (A):	100A MB										
CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (AMP)			POLE	TRIP AMPS	DESCRIPTION	CKT NO	
				A	B	C					
1	SPARE	20	1	0.0	1.3		1	20	ELECTRICAL ROOM LIGHTING	2	
3	SPARE	20	1		0.0	1.3	1	20	ELECTRICAL ROOM LIGHTING	4	
5	SPARE	20	1			0.0	1	20	ELECTRICAL ROOM LIGHTING	6	
7	SPARE	20	1	0.0	2.0		1	20	ELECTRICAL ROOM LIGHTING	8	
9	SAMPLE PUMP HEAT TRACE JB-SM-RHT2	20*	1		10.0	3.3	1	20	ELECTRICAL ROOM LIGHTING	10	
11	EXHAUST FAN EF-DV-2	20	1			5.8	1	20	SPARE	12	
13	SAMPLE PUMP AT RIVER INTAKE	30	1	20.0	6.0		1	20	ELECTRICAL ROOM RECEPTACLES	14	
15	SPARE	20	1		0.0	9.0	1	20	ELECTRICAL ROOM RECEPTACLES	16	
17	SPARE	20	1			0.0	1	20	ELECTRICAL ROOM RECEPTACLES	18	
19	SPARE	20	1	0.0	3.0		1	20	ELECTRICAL ROOM RECEPTACLES	20	
21	SPARE	20	1		0.0	2.5	1	20	METER VAULT LIGHTING	22	
23	SPARE	20	1			0.0	1	20	METER VAULT LIGHTING	24	
25	SPARE	20	1	0.0	0.0		1	20	SPARE	26	
27	SPARE	20	1		0.0	2.5	1	20	METER VAULT LIGHTING	28	
29	SPARE	20	1			0.0	1	20	METER VAULT RECEPTACLES	30	
31	SPARE	20	1	0.0	1.0		1	20	LIGHTING CONTACTOR LC-RPS	32	
33	SPARE	20	1		0.0	0.0	1	20	SPARE	34	
35	SPARE	20	1			0.0	1	20	SPARE	36	
37	SPARE	20	1	0.0	0.0		1	20	SPARE	38	
39	SPARE	20	1		0.0	0.0	1	20	SPARE	40	
41	SPARE	20	1			0.0	1	20	SPARE	42	
				CONNECTED LOAD PHASE TOTALS (AMP)							
				33.3	28.6	20.2					
USE #12 CABLES IN 1" C FOR 20A CB											
USE #10 CABLES IN 1" C FOR 30A CB											
* - GFCI, 30mA CIRCUIT BREAKER FOR HEAT TRACE.											

PANELBOARD PP-HRER (SECTION 1)		LOCATED IN ELECTRICAL ROOM									
VOLTAGE (L-N):	---	ENCLOSURE TYPE:	NEMA 1								
VOLTAGE (L-L):	480V	MOUNTING:	SURFACE								
PHASES, WIRES:	3 φ 3 W	AIC RATING (A):	42000								
MINIMUM BUS CAPACITY (A):	250A	NOTES:	PROVIDE FEED THROUGH LUGS								
MAIN O.C. DEVICE (A):	250A MLO										
CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (AMP)			POLE	TRIP AMPS	DESCRIPTION	CKT NO	
				A	B	C					
1	ISOLATION VALVE 11-V2-008	20	3	5.0	30.0		3	40	CRANE DISCONNECT SWITCH DS-CR-1 (NOTE 1)	2	
3					5.0	30.0				4	
5						5.0				6	
7	ISOLATION VALVE 11-V2-009	20	3	5.0	0.0		3	20	SPARE	8	
9					5.0	0.0				10	
11						5.0				12	
13	AIR CONDITIONING UNIT ACU-1	30	3	19.4	7.2		3	20	UNIT HEATER EUH-DV-1	14	
15					19.4	7.2				16	
17						19.4				18	
19	AIR CONDITIONING UNIT ACU-1	30	3	19.4	7.2		3	20	UNIT HEATER EUH-DV-2	20	
21					19.4	7.2				22	
23						19.4				24	
25	SPARE	20	3	0.0	4.7		3	20	DEHUMIDIFIER DH-DV	26	
27					0.0	4.7				28	
29						0.0				30	
31	SPARE	20	3	0.0	0.0		3	20	SPARE	32	
33					0.0	0.0				34	
35						0.0				36	
37	SPARE	20	3	0.0	0.0		3	20	SPARE	38	
39					0.0	0.0				40	
41						0.0				42	
				CONNECTED LOAD PHASE TOTALS (AMP)							
				97.9	97.9	97.9					
				TOTAL (SEC. 1 & 2) (AMP)							
				118	114	115					
USE #12 CABLES IN 1" C FOR 20A CB											
USE #10 CABLES IN 1" C FOR 30A CB											
USE #8 CABLES IN 1" C FOR 40A CB											

NOTES:

- THE CONTRACTOR SHALL ADJUST CIRCUIT BREAKER AND CABLES/CONDUITS SIZE FEEDING THE CRANE BASED ON THE ACTUAL ELECTRICAL LOAD SHOWN ON THE APPROVED VENDOR DRAWINGS.

PANELBOARD PP-HRER (SECTION 2)		LOCATED IN ELECTRICAL ROOM									
VOLTAGE (L-N):	---	ENCLOSURE TYPE:	NEMA 1								
VOLTAGE (L-L):	480V	MOUNTING:	SURFACE								
PHASES, WIRES:	3 φ 3 W	AIC RATING (A):	42000								
MINIMUM BUS CAPACITY (A):	250A	NOTES:									
MAIN O.C. DEVICE (A):	250A MLO										
CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (AMP)			POLE	TRIP AMPS	DESCRIPTION	CKT NO	
				A	B	C					
43	SITE LIGHTING	20	2	5.5	4.8		3	20	ROLL-UP DOOR JUNCTION BOX JB-DR	44	
45					5.5	4.8				46	
47	SITE LIGHTING	20	2			7.0		4.8		48	
49				7.0	0.0		3	20	SPARE	50	
51	PUMP STATION OUTDOOR LIGHTING	20	2		2.6	0.0				52	
53						2.6		0.0		54	
55	SPARE	20	3	0.0	0.0		3	20	SPARE	56	
57					0.0	0.0				58	
59						0.0		0.0		60	
61	VALVE VAULT OUTDOOR LIGHTING	20	3	0.3	0.0		3	20	SPARE	62	
63					0.3	0.0				64	
65						0.3		0.0		66	
67	CRANE	20	3	2.5	0.0		3	20	SPARE	68	
69					2.5	0.0				70	
71						2.5		0.0		72	
73	SPARE	20	3	0.0	0.0		3	20	SPARE	74	
75					0.0	0.0				76	
77						0.0		0.0		78	
79	SPARE	20	3	0.0	0.0		3	20	SPARE	80	
81					0.0	0.0				82	
83						0.0		0.0		84	
				CONNECTED LOAD PHASE TOTALS (AMP)							
				20.1	15.7	17.2					
				TOTAL (SEC. 1 & 2) (AMP)							
				118	114	115					
USE #12 CABLES IN 1" C FOR 20A CB											
USE #10 CABLES IN 1" C FOR 30A CB											



No.	Description	Date



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PROJECT NO: TASK 1
DESIGNED BY: RV
DRAWN BY: RV
CHECKED BY: AZ
DATE: 11-22-2019
SCALE: N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
PANELBOARD SCHEDULES

DRAWING NO.
RI-PS
E6-201
SHEET OF

PANELBOARD PP-HRPS1 (SECTION 1) LOCATED AT FINE SCREENS STRUCTURE												
VOLTAGE (L-N):			---			ENCLOSURE TYPE:			NEMA 4X SS			
VOLTAGE (L-L):			480V			MOUNTING:			SURFACE			
PHASES, WIRES:			3 φ 3 W			AIC RATING (A):			42000			
MINIMUM BUS CAPACITY (A):			400A			NOTES:			PROVIDE FEED THROUGH LUGS			
MAIN O.C. DEVICE (A):			400A MB									
CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (AMP)			POLE	TRIP AMPS	DESCRIPTION	CKT NO		
				A	B	C						
1	SCREEN 1 ISOLATION SLIDE GATE 11-SG-001A	20	3	5.0	5.0		3	20	SCREEN 3 ISOLATION SLIDE GATE 11-SG-003B	2		
3					5.0	5.0				4		
5						5.0	5.0			6		
7	SCREEN 1 ISOLATION SLIDE GATE 11-SG-001B	20	3	5.0	5.0		3	20	SCREEN 3 ISOLATION SLIDE GATE 11-SG-103	8		
9					5.0	5.0				10		
11						5.0	5.0			12		
13	SCREEN 1 ISOLATION SLIDE GATE 11-SG-101	20	3	5.0	5.0		3	20	SCREEN 4 ISOLATION SLIDE GATE 11-SG-004A	14		
15					5.0	5.0				16		
17						5.0	5.0			18		
19	SCREEN 2 ISOLATION SLIDE GATE 11-SG-002A	20	3	5.0	5.0		3	20	SCREEN 4 ISOLATION SLIDE GATE 11-SG-004B	20		
21					5.0	5.0				22		
23						5.0	5.0			24		
25	SCREEN 2 ISOLATION SLIDE GATE 11-SG-002B	20	3	5.0	5.0		3	20	SCREEN 4 ISOLATION SLIDE GATE 11-SG-104	26		
27					5.0	5.0				28		
29						5.0	5.0			30		
31	SCREEN 2 ISOLATION SLIDE GATE 11-SG-102	20	3	5.0	5.0		3	20	VORTEX ISOLATION SLIDE GATE 1 11-SG-201	32		
33					5.0	5.0				34		
35						5.0	5.0			36		
37	SCREEN 3 ISOLATION SLIDE GATE 11-SG-003A	20	3	5.0	5.0		3	20	VORTEX ISOLATION SLIDE GATE 2 11-SG-202	38		
39					5.0	5.0				40		
41						5.0	5.0			42		
USE #12 CABLES IN 1" FOR 20A CB				CONNECTED LOAD PHASE TOTALS (AMP)								
USE #10 CABLES IN 1" FOR 30A CB				70.0	70.0	70.0						
				TOTAL (SEC. 1 & 2) (AMP)								
				105	105	105						

PANELBOARD PP-HRPS1 (SECTION 2) LOCATED AT FINE SCREENS STRUCTURE												
VOLTAGE (L-N):			---			ENCLOSURE TYPE:			NEMA 4X SS			
VOLTAGE (L-L):			480V			MOUNTING:			SURFACE			
PHASES, WIRES:			3 φ 3 W			AIC RATING (A):			42000			
MINIMUM BUS CAPACITY (A):			400A			NOTES:						
MAIN O.C. DEVICE (A):			400A MLO									
CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (AMP)			POLE	TRIP AMPS	DESCRIPTION	CKT NO		
				A	B	C						
43	VORTEX ISOLATION SLIDE GATE 3 11-SG-203	20	3	5.0	0.0		3	20	SPARE	44		
45					5.0	0.0				46		
47						5.0	0.0			48		
49	FINE SCREEN SYSTEM 1 CONTROL PANEL	20	3	10.0	0.0		3	20	SPARE	50		
51					10.0	0.0				52		
53						10.0	0.0			54		
55	FINE SCREEN SYSTEM 2 CONTROL PANEL	20	3	10.0	0.0				SPACE	56		
57					10.0	0.0				58		
59						10.0	0.0			60		
61	FUTURE FINE SCREEN SYSTEM 3 CONTROL PNL	20	3	0.0	0.0				SPACE	62		
63					0.0	0.0				64		
65						0.0	0.0			66		
67	FUTURE FINE SCREEN SYSTEM 4 CONTROL PNL	20	3	0.0	0.0				SPACE	68		
69					0.0	0.0				70		
71						0.0	0.0			72		
73	BELT CONVEYOR CP LCP-BC	20	3	10.0	0.0				SPACE	74		
75					10.0	0.0				76		
77						10.0	0.0			78		
79	SPARE	20	3	0.0	0.0				SPACE	80		
81					0.0	0.0				82		
83						0.0	0.0			84		
USE #12 CABLES IN 1" FOR 20A CB				CONNECTED LOAD PHASE TOTALS (AMP)								
USE #10 CABLES IN 1" FOR 30A CB				35.0	35.0	35.0						
				TOTAL (SEC. 1 & 2) (AMP)								
				105	105	105						

PANELBOARD PP-HRPS2 LOCATED AT FINE SCREENS STRUCTURE												
VOLTAGE (L-N):			---			ENCLOSURE TYPE:			NEMA 4X SS			
VOLTAGE (L-L):			480V			MOUNTING:			SURFACE			
PHASES, WIRES:			3 φ 3 W			AIC RATING (A):			42000			
MINIMUM BUS CAPACITY (A):			200A			NOTES:						
MAIN O.C. DEVICE (A):			200A MB									
CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (AMP)			POLE	TRIP AMPS	DESCRIPTION	CKT NO		
				A	B	C						
1	PUMP CONTROL VALVE 11-V8-001	20	3	5.0	5.0		3	20	PUMP 1 ISOLATION GATE VALVE 11-V2-001	2		
3					5.0	5.0				4		
5						5.0	5.0			6		
7	PUMP CONTROL VALVE 11-V8-002	20	3	5.0	5.0		3	20	PUMP 2 ISOLATION GATE VALVE 11-V2-002	8		
9					5.0	5.0				10		
11						5.0	5.0			12		
13	PUMP CONTROL VALVE 11-V8-003	20	3	5.0	5.0		3	20	PUMP 3 ISOLATION GATE VALVE 11-V2-003	14		
15					5.0	5.0				16		
17						5.0	5.0			18		
19	FUTURE PUMP CONTROL VALVE 11-V8-004	20	3	5.0	5.0		3	20	FUTURE PUMP ISOLATION GATE VALVE 11-V2-004	20		
21					5.0	5.0				22		
23						5.0	5.0			24		
25	FUTURE PUMP CONTROL VALVE 11-V8-005	20	3	5.0	5.0		3	20	FUTURE PUMP ISOLATION GATE VALVE 11-V2-005	26		
27					5.0	5.0				28		
29						5.0	5.0			30		
31	FUTURE PUMP CONTROL VALVE 11-V8-006	20	3	5.0	5.0		3	20	FUTURE PUMP ISOLATION GATE VALVE 11-V2-006	32		
33					5.0	5.0				34		
35						5.0	5.0			36		
37	SPARE	20	3	0.0	5.0		3	20	PUMPS 1, 2 & 3 ISOLATION GATE VALVE 11-V2-007	38		
39					0.0	5.0				40		
41						0.0	5.0			42		
USE #12 CABLES IN 1" FOR 20A CB				CONNECTED LOAD PHASE TOTALS (AMP)								
USE #10 CABLES IN 1" FOR 30A CB				65.0	65.0	65.0						

PANELBOARD MPZ-RPS LOCATED AT FINE SCREENS STRUCTURE												
VOLTAGE (L-N):			120V			ENCLOSURE TYPE:			NEMA 4X			
VOLTAGE (L-L):			208V			MOUNTING:			SURFACE			
PHASES, WIRES:			3 φ 4 W			AIC RATING (A):			14000			
MINIMUM BUS CAPACITY (A):			100A			NOTES:						
MAIN O.C. DEVICE (A):			100A MB									
CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (AMP)			POLE	TRIP AMPS	DESCRIPTION	CKT NO		
				A	B	C						
1	REMOTE I/O PANEL RIO-RIPS	20	30	10.0	6.6		1	20	PUMP STATION LIGHTING	2		
3	SEAL WATER HEAT TRACE JB-SW-RHT	20*	1		10.0	4.2	1	20	PUMP STATION LIGHTING	4		
5	SPARE	20	1			0.0	0.0	1	20	SPARE	6	
7	SPARE	20	1	0.0	13.5		1	20	PUMP STATION RECEPTACLES	8		
9	SPARE	20	1			0.0	1.0	1	20	LIGHTING CONTACTOR LC-RPS2	10	
11	SPACE					0.0	0.0	1	30	SPACE	12	
13	SPACE			0.0	0.0			1	30	SPACE	14	
15	SPACE					0.0	0.0			SPACE	16	
17	SPACE					0.0	0.0			SPACE	18	
19	SPACE			0.0	0.0					SPACE	20	
21	SPACE					0.0	0.0			SPACE	22	
23	SPACE					0.0	0.0			SPACE	24	
USE #12 CABLES IN 1" FOR 20A CB				CONNECTED LOAD PHASE TOTALS (AMP)								
USE #10 CABLES IN 1" FOR 30A CB				30.1	15.2	0.0						
				* - GFCI, 30mA CIRCUIT BREAKER FOR HEAT TRACE.								



No.	Description	Date



ADDRESS:
BGR2-JV
6 CONOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
PANELBOARD SCHEDULES

DRAWING NO.
RI-PS
E6-202
SHEET OF

PANELBOARD PP-CH LOCATED AT CHATTAHOOCHEE VALVE VAULT													
VOLTAGE (L-N):		---		ENCLOSURE TYPE:		NEMA 4X SS							
VOLTAGE (L-L):		480V		MOUNTING:		SURFACE							
PHASES, WIRES:		3 φ 3 W		AIC RATING (A):		42000							
MINIMUM BUS CAPACITY (A):		200A		NOTES:									
MAIN O.C. DEVICE (A):		200A MB											
CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (AMP)			POLE	TRIP AMPS	DESCRIPTION	CKT NO			
				A	B	C							
1	FLOW CONTROL VALVE 10-V1-001	20	3	5.0	5.0		3	20	GATE VALVE 10-V2-004	2			
3					5.0	5.0				4			
5						5.0	5.0			6			
7	GATE VALVE 10-V2-001	20	3	5.0	18.0		3	30	15KVA MPZ-CH AT VALVE VAULT	8			
9					5.0	18.0				10			
11						5.0	18.0			12			
13	GATE VALVE 10-V2-002	20	3	5.0	5.0		3	20	SUMP PUMP CONTROL PNL CP-10-SP	14			
15					5.0	5.0				16			
17						5.0	5.0			18			
19	GATE VALVE 10-V2-003	20	3	5.0	0.0		3	20	SPARE	20			
21					5.0	0.0				22			
23						5.0	0.0			24			
25	UNIT HEATER EUH-SV-1	20	3	7.2	4.7		3	20	DEHUMIDIFIER DH-W	26			
27					7.2	4.7				28			
29						7.2	4.7			30			
31	UNIT HEATER EUH-SV-2	20	3	7.2	0.0		3	20	SPARE	32			
33					7.2	0.0				34			
35						7.2	0.0			36			
37	SPARE	20	3	0.0	0.0		3	30	SPARE	38			
39					0.0	0.0				40			
41						0.0	0.0			42			
USE #12 CABLES IN 1" FOR 20A CB				CONNECTED LOAD PHASE TOTALS (AMP)									
USE #10 CABLES IN 1" FOR 30A CB				67.1	67.1	67.1							

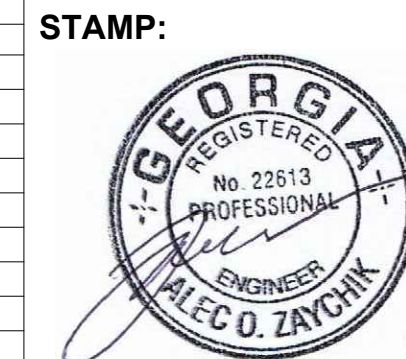
PANELBOARD MPZ-RDS LOCATED AT RIPS DROP SHAFT													
VOLTAGE (L-N):		120V		ENCLOSURE TYPE:		NEMA 4X							
VOLTAGE (L-L):		208V		MOUNTING:		SURFACE							
PHASES, WIRES:		3 φ 4 W		AIC RATING (A):		14000							
MINIMUM BUS CAPACITY (A):		100A		NOTES:									
MAIN O.C. DEVICE (A):		100A MB											
CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (AMP)			POLE	TRIP AMPS	DESCRIPTION	CKT NO			
				A	B	C							
1	REMOTE I/O CABINET RIO-RDS	50	1	35.0	0.0		1	30	SPARE	2			
3	SAMPLE PUMP 1 HEAT TRACE JB-SM-RHT1	20*	1		10.0	2.0		1	20	SITE LIGHTING	4		
5	FUTURE SAMPLE PUMP 2 HEAT TRACE	20*	1			0.0	20.0	1	20	SAMPLE PUMP M-DS-SP MOTOR STARTER	6		
7	SPARE	20	1	0.0	0.0			1	20	SPARE	8		
9	SPARE	30	1		0.0	0.0		1	20	SPARE	10		
11	SPARE	30	1			0.0	0.0	1	20	SPARE	12		
13	SPACE			0.0	0.0					SPACE	14		
15	SPACE				0.0	0.0				SPACE	16		
17	SPACE					0.0	0.0			SPACE	18		
19	SPACE			0.0	0.0					SPACE	20		
21	SPACE				0.0	0.0				SPACE	22		
23	SPACE					0.0	0.0			SPACE	24		
USE #12 CABLES IN 1" FOR 20A CB				CONNECTED LOAD PHASE TOTALS (AMP)									
USE #10 CABLES IN 1" FOR 30A CB				35.0	12.0	20.0							
USE #6 CABLES IN 1" FOR 50A CB													
* - GFCL, 30mA CIRCUIT BREAKER FOR HEAT TRACE.													

PANELBOARD MPZ-CH LOCATED AT CHATTAHOOCHEE VALVE VAULT													
VOLTAGE (L-N):		120V		ENCLOSURE TYPE:		NEMA 4X							
VOLTAGE (L-L):		208V		MOUNTING:		SURFACE							
PHASES, WIRES:		3 φ 4 W		AIC RATING (A):		14000							
MINIMUM BUS CAPACITY (A):		50A		NOTES:									
MAIN O.C. DEVICE (A):		50A MB											
CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (AMP)			POLE	TRIP AMPS	DESCRIPTION	CKT NO			
				A	B	C							
1	REMOTE I/O PANEL RIO-CH	20	1	10.0	4.2		1	20	VALVE VAULT LIGHTING	2			
3	EXHAUST FAN EF-SV-1	20	1		5.8	3.0		1	20	VALVE VAULT RECEPTACLES	4		
5	SPARE	20	1			0.0	2.2	1	20	VALVE VAULT SITE LIGHTING	6		
7	SPARE	20	1	0.0	0.0			1	20	SPARE	8		
9	SPARE	30	1		0.0	0.0		1	20	SPARE	10		
11	SPARE	30	1			0.0	0.0	1	20	SPARE	12		
13	SPACE			0.0	0.0					SPACE	14		
15	SPACE				0.0	0.0				SPACE	16		
17	SPACE					0.0	0.0			SPACE	18		
19	SPACE			0.0	0.0					SPACE	20		
21	SPACE				0.0	0.0				SPACE	22		
23	SPACE					0.0	0.0			SPACE	24		
USE #12 CABLES IN 1" FOR 20A CB				CONNECTED LOAD PHASE TOTALS (AMP)									
USE #10 CABLES IN 1" FOR 30A CB				14.2	8.8	2.2							
* - GFCL, 30mA CIRCUIT BREAKER FOR HEAT TRACE.													

PANELBOARD PP-PPS LOCATED AT PPS DROP/CONSTRUCTION SHAFT													
VOLTAGE (L-N):		120V		ENCLOSURE TYPE:		NEMA 4X							
VOLTAGE (L-L):		208V		MOUNTING:		SURFACE							
PHASES, WIRES:		3 φ 4 W		AIC RATING (A):		22000							
MINIMUM BUS CAPACITY (A):		100A		NOTES:		INCLUDE 60KAIC PER PHASE SPD							
MAIN O.C. DEVICE (A):		100A MB SERVICE ENTRANCE RATED											
CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (AMP)			POLE	TRIP AMPS	DESCRIPTION	CKT NO			
				A	B	C							
1	REMOTE I/O PANEL RIO-PPS	20	1	5.0	2.0		1	20	SITE LIGHTING	2			
3	SPARE	20	1			0.0	1.5	1	20	PPS DROP SHAFT RECEPTACLE	4		
5	SPARE	20	1				0.0	0.0	1	20	SPARE	6	
7	SPARE	20	1	0.0	0.0			1	20	SPARE	8		
9	SPARE	30	1			0.0	0.0	1	20	SPARE	10		
11	SPARE	30	1				0.0	0.0	1	30	SPARE	12	
13	SPACE			0.0	0.0					SPACE	14		
15	SPACE				0.0	0.0				SPACE	16		
17	SPACE					0.0	0.0			SPACE	18		
19	SPACE			0.0	0.0					SPACE	20		
21	SPACE				0.0	0.0				SPACE	22		
23	SPACE					0.0	0.0			SPACE	24		
USE #12 CABLES IN 1" FOR 20A CB				CONNECTED LOAD PHASE TOTALS (AMP)									
USE #10 CABLES IN 1" FOR 30A CB				7.0	1.5	0.0							



No.	Description	Date



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6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
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FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
PANELBOARD SCHEDULES

DRAWING NO.
RI-PS
E6-203
SHEET OF

**GENERAL ELECTRICAL CONSTRUCTION NOTES
(GENERAL NOTES APPLY TO ALL DRAWINGS AND SPECIFICATIONS)**

- THE ELECTRICAL INSTALLATION SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, THE AMERICAN WITH DISABILITIES ACT, AND OTHER APPLICABLE STATE AND LOCAL CODES.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE WORK OF THEIR TRADE WITH THAT OF THE OTHER TRADES INVOLVED IN THE PROJECT. CONFLICTS WITH OTHER TRADES SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER PRIOR TO INSTALLATION. WORK SHOULD ALSO BE COORDINATED AROUND PORTABLE AND MOBILE EQUIPMENT.
- THE ELECTRICAL CONTRACTOR SHALL SCHEDULE THEIR WORK SO THAT THE CONSTRUCTION SCHEDULE IS MAINTAINED.
- THE ELECTRICAL CONTRACTOR SHALL REQUEST A COMPLETE SET OF THE CIVIL, AND PROCESS DRAWINGS TO VERIFY CONNECTIONS TO THE EQUIPMENT.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE COORDINATION DRAWINGS PRIOR TO INSTALLING ANY EQUIPMENT ABOVE CEILINGS AND IN MECHANICAL ROOMS.
- THE ELECTRICAL CONTRACTOR SHALL FURNISH MATERIALS AND LABOR FOR A COMPLETE ELECTRICAL INSTALLATION AS INDICATED IN THESE DOCUMENTS. MATERIAL, APPARATUS, AND EQUIPMENT SHALL BE NEW AND SHALL BEAR THE UNDERWRITERS LABEL WHERE APPLICABLE.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY LIGHTING AND POWER SERVICE WHILE THE AREA IS UNDER CONSTRUCTION ACCORDING TO CURRENT OSHA STANDARDS.
- ALL CIRCUITS SHALL CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR (GREEN COLORED INSULATION) ROUTED IN CONDUIT AND SIZED AS INDICATED.
- ALL CONDUIT EXPOSED TO PHYSICAL DAMAGE SHALL BE INTERMEDIATE METAL CONDUIT (IMC).
- ALL CONDUITS BELOW GRADE SHALL BE PVC. ALL ELBOWS TURNING UP TOWARD ABOVE GRADE, AND ALL CONDUITS EXPOSED ABOVE GRADE SHALL BE IMC.
- FLEXIBLE (TYPE MC) CABLE SHALL BE ALLOWED FOR THE FLEXIBLE CONNECTIONS TO VIBRATING EQUIPMENT AND RECESSED LIGHTING FIXTURES IN LAY-IN TYPE CEILINGS. A GROUNDING CONDUCTOR SHALL BE INCLUDED WITH THE POWER CONDUCTORS INSIDE THE FLEXIBLE CONNECTION.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE COPPER CONDUCTORS. CONDUCTORS SHALL BE SOLID FOR SIZES #10 AWG AND SMALLER. CONDUCTORS #8 AWG AND LARGER SHALL BE STRANDED.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE A SEPARATE RACEWAY SYSTEM FOR THE 480Y/277V AND THE 208Y/120V CIRCUITS/FEEDERS.
- THE ELECTRICAL CONTRACTOR SHALL LIMIT LIGHTING AND RECEPTACLE BRANCH CIRCUIT HOMERUNS TO 5 CONDUCTORS: 3 PHASE CONDUCTORS, 1 NEUTRAL CONDUCTOR, AND 1 EQUIPMENT GROUNDING CONDUCTOR.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE FOLLOWING COLOR CODING OF CIRCUITS/FEEDERS. CIRCUITS/FEEDERS RATED 480Y/277V: PHASE "A" = BROWN
PHASE "B" = ORANGE
PHASE "C" = YELLOW
NEUTRAL = GRAY
GROUNDING = GREEN
ISOLATED G = GREEN/YELLOW STRIPE

CIRCUITS/FEEDERS RATED 208Y/120V: PHASE "A" = BLACK
PHASE "B" = RED
PHASE "C" = BLUE
NEUTRAL = WHITE
GROUNDING = GREEN
ISOLATED G = GREEN/YELLOW STRIPE
- RECESSED TYPE LIGHTING FIXTURES SHALL BE LOCATED AS INDICATED ON THE ARCHITECTURAL REELECTED CEILING PLAN.
- THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL CEILING CONSTRUCTION BEFORE ORDERING LIGHTING FIXTURES AND SHALL PROVIDE CORRECT MOUNTING HARDWARE WITHOUT ADDITIONAL COST. LIGHTING FIXTURES SHALL BE AS SCHEDULED, INCLUDING LAMPS.
- ALL DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE, AND FUSIBLE WHERE INDICATED.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY ADDITIONAL SUPPORT FOR ALL ELECTRICAL EQUIPMENT WHERE THE BUILDING STRUCTURE IS NOT SUITABLE FOR A PROPERLY SUPPORTED INSTALLATION.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE AN OUTLET BOX FOR EACH LIGHTING FIXTURE WIRING DEVICE OR JUNCTION POINT. ELECTRICAL BOXES SHALL BE OF SUFFICIENT CAPACITY FOR THE NUMBER OF CONDUCTORS AND SPLICES WITHIN THE BOX; IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE.
- DEVICE PLATES SHALL BE INSTALLED ON OUTLETS FOR ALL SWITCHES, RECEPTACLES, ETC. AND COLOR SHALL BE AS SELECTED BY ARCHITECT. WHERE MORE THAN ONE SWITCH IS INDICATED IN THE SAME LOCATION, SWITCHES SHALL BE GANGED UNDER A COMMON ONE-PIECE PLATE. MULTI-PIECE COVER PLATES ARE NOT ACCEPTABLE.
- THE ELECTRICAL CONTRACTOR SHALL FIRESTOP, DRAFT STOP, AND/OR PROTECT THE ANNULAR SPACE AROUND ALL RACEWAY, CONDUIT, WIRE, AND CABLE PENETRATIONS THROUGH WALLS, PARTITIONS, FLOORS, CEILINGS AND ROOFS IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND UL LISTING REQUIREMENTS.
- THE ELECTRICAL CONTRACTOR SHALL SEAL ALL PENETRATIONS AND OPENINGS AROUND ALL RACEWAY, CONDUIT, WIRE, AND CABLE IN EXISTING AND NEW WALLS WHERE THERE IS AN HVAC PRESSURE DIFFERENTIAL REQUIREMENT.
- THE ELECTRICAL CONTRACTOR SHALL NOT INSTALL OUTLET BOXES "BACK-TO-BACK". PROVIDE A MINIMUM OF 8" HORIZONTAL SEPARATION BETWEEN OUTLET BOXES.
- ALL INTERIOR BRANCH CIRCUITS SHALL BE INSTALLED OVERHEAD INSIDE BUILDINGS.
- UNDERGROUND EXTERIOR BRANCH CIRCUITS SHALL BE RAN OVERHEAD INSIDE BUILDINGS TO AN EXTERIOR WALL, THEN DOWN BEFORE PENETRATING THE EXTERIOR WALL AND LEAVING THE BUILDING UNDERGROUND.
- ALL EXTERIOR UNDERGROUND BRANCH CIRCUITS SHALL BE INSTALLED LAST AFTER ALL OTHER UNDERGROUND UTILITY WORK ASSOCIATED WITH THIS PROJECT IS COMPLETE.
- THE ELECTRICAL CONTRACTOR SHALL LABEL EACH RECEPTACLE, DISCONNECT, AND MISCELLANEOUS EQUIPMENT WITH BOTH THE PANELBOARD AND CIRCUIT NUMBER. PROVIDE SELF ADHESIVE LABEL TO DEVICE COVERPLATE.

ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	ROOM NUMBER "111"		SAME AS ABOVE, EXCEPT RECEPTACLE IS QUADRUPLEX TYPE.
	DRY TYPE TRANSFORMER WITH VOLTAGES, KVA, AND PHASES AS SHOWN ON DRAWINGS.		FLUSH MOUNTED, DISPLAY TYPE, SINGLE RECEPTACLE NEMA 5-15R, 120V, 15AMP, 3 WIRE. COPPER CATALOG #775V OR EQUAL.
	EQUIPMENT AS NOTED.		JUNCTION BOX FOR DATA/TELEPHONE OUTLET WITH 3/4" EMPTY CONDUIT STUBBED INTO ACCESSIBLE CEILING. PROVIDE PULL STRING.
	EXAMPLE OF WIRING AND CONDUIT NOTATION.		FIRE ALARM MANUAL PULL STATION, PROVIDE CONDUIT DROP AND JUNCTION BOX.
	CONDUIT TURNING UP.		FIRE ALARM AUDIBLE AND VISUAL SIGNAL DEVICE, PROVIDE CONDUIT DROP AND JUNCTION BOX.
	CONDUIT TURNING DOWN.		FIRE ALARM DUCT MOUNTED SMOKE DETECTOR, PROVIDE JUNCTION BOX.
	CONDUIT ROUTED EXPOSED.		FIRE ALARM DUCT MOUNTED SMOKE DETECTOR, PROVIDE CONDUIT DROP AND JUNCTION BOX.
	CONDUIT ROUTED CONCEALED ABOVE DROPPED CEILING AND/OR WALLS.		FIRE ALARM AREA SMOKE DETECTOR, PROVIDE CONDUIT DROP AND JUNCTION BOX.
	HOMERUN TO PANEL INDICATED (XX) AND CIRCUIT NUMBER INDICATED (XX). ONE CIRCUIT: PROVIDE 2#12, #126, 1/2" C., UNO. TWO CIRCUITS: PROVIDE 3#12, #126, 1/2" C., UNO THREE CIRCUITS: PROVIDE 4#12, #126, 1/2" C., UNO		SINGLE POLE LIGHT SWITCH, FLUSH MOUNTED 42" AFF. 120/277V, 20AMP. ON STRIKER SIDE OF DOOR OR WHERE OTHERWISE INDICATED ON PLANS. * IF SUBSCRIPTS APPLIES, SEE BELOW: "3" INDICATES NUMBER OF SWITCHES (I.E. 3-WAY ROCKER SWITCH)
	CONDUIT WITH TWO CONDUCTORS AND ONE GROUND.		SINGLE FACE EXIT LIGHTING CEILING OR PENDANT MOUNTED W/BATTERY BACKUP. (ARROWS INDICATE DIRECTION OF TRAFFIC). SHADED SIDE INDICATES SIDE WITH LIGHTED FACE.
	CONDUIT WITH TWO CONDUCTORS, ONE NEUTRAL AND ONE GROUND.		SAME AS ABOVE, EXCEPT WALL MOUNTED
	CONDUIT WITH FOUR CONDUCTORS, ONE NEUTRAL AND ONE GROUND.		PHOTOELECTRIC RELAY.
	CONDUIT WITH THREE CONDUCTORS AND ONE GROUND.		
	JUNCTION BOX, CEILING MOUNTED		
	JUNCTION BOX FOR CAMERA, CEILING MOUNTED		
	JUNCTION BOX FOR DOOR INTERLOCKS		
	MOTOR, HORSEPOWER AS INDICATED.		
	SURFACE MOUNTED PANELBOARD.		
	RECESSED MOUNTED PANELBOARD.		
	FLUSH MOUNTED DUPLEX CONVENIENCE OUTLET NEMA 5-20R, 120V, 20AMP, 3 WIRE MOUNTED 18" AFF. ** IF SUBSCRIPT APPLIES, SEE BELOW: "GF" INDICATES GROUND FAULT INTERRUPTING TYPE. "TV" INDICATES TELEVISION. "C" INDICATES COUNTER TOP RECEPTACLE MOUNTED 6" ABOVE COUNTER TOP. "D" INDICATES DEDICATED CIRCUIT.		

LIGHTING FIXTURE SCHEDULE AND SYMBOLS

TAG	SYMBOLS	DESCRIPTION	MFR.	MODEL NO.	TYPE	VOLTAGE/ DESIGN WATTAGE	MOUNTING
A		7' X 50" DIMENSIONS AND 5" DEEP, 1 LED LAMP, ENHANCED LED ACRYLIC LENS, BATTERY PACK HAS TO BE ORDERED SEPARATELY	PHILIPS DAY-BRITE	DWAE35L 840-4-UNV	LAMP COLOR: 840	UNV-120V-277V/32W	SURFACE
B		COFFAIRE RECESSED LED 2' X 2' FIXTURE WITH PERFORATED BASKET, BATTERY PACK HAS TO BE ORDERED SEPARATELY	PHILIPS DAY-BRITE	CFS22GPG 25L35ULAG	LAMP COLOR: 35	UNV-120V-277V/35W	RECESSED
C		FX2 LED FLOODLIGHTS SLEEK DESIGN WITH PRECISION INJECTION MOLDED OPTICS, BATTERY PACK HAS TO BE ORDERED SEPARATELY	PHILIPS GARDCO	FX296TAFCA5NNS	LAMP COLOR: A	A-120V-277V/96 LEDS	TENON
D		STONCO WALL PACK LARGE WP LED VERSATILE LUMINAIRE, BATTERY PACK HAS TO BE ORDERED SEPARATELY	PHILIPS STONCO	WP49LED4K-8	LAMP COLOR: B	UNV-120V-277V/99W	WALL
E		LED CALCULTE CFL 6" SURFACE CYLINDER, TRIPLE TUBE (4-PIN)	PHILIPS LIGHTOLIER	CS6132VUCCL	LAMP COLOR: WHITE	120V-277V/42W	CEILING MOUNT
F		8-5/8' X 2' LED WRAPAROUND, DURABLE FROSTACRYLIC LENS SHIELD	PHILIPS DAY-BRITE	OWL230L840-UNV	LAMP COLOR: WHITE	UNV-120V-277V/33W	CEILING MOUNT
G		POLE MOUNTED LED LIGHT FOR ROADWAY LIGHTING (35' POLE HEIGHT)	PHILIPS GARDCO POLE-HAPCO	ASA160G1 530NW 3LO480SAM F2 POLE: RTA35C8B4-BA	LAMP COLOR: WHITE	480V/254W	POLE
G1		POLE MOUNTED LED LIGHT FOR ROADWAY LIGHTING (35' POLE HEIGHT)	PHILIPS GARDCO POLE-HAPCO	ASA160G1 530NW 3LO120SAM F1 POLE: RTA35C8B4-BA	LAMP COLOR: WHITE	120V/254W	POLE

ABBREVIATIONS

A	AMPERES	EXIST	EXISTING	NEC	NATIONAL ELECTRICAL CODE
AFF	ABOVE FINISHED FLOOR	FACP	FIRE ALARM CONTROL PANEL	NF	NON FUSED
AHU	AIR HANDLING UNIT	FBO	FURNISHED BY OTHERS	NIC	NOT IN CONTRACT
AIC	ASYMMETRICAL INTERRUPTING	FWE	FURNISHED WITH EQUIPMENT	NTS	NOT TO SCALE
BFG	BELOW FINISHED GRADE	GF1	GROUND FAULT INTERRUPTER	OFCl	OWNER FURNISHED, CONTRACTOR INSTALLED
C	CONDUIT	GND	GROUND		
CAT	CATALOG	HP	HORSEPOWER	PB	PUSH BUTTON
CU	CONDENSING UNIT	HID	HIGH INTENSITY DISCHARGE	PNL	PANEL(S)
DDT	DOUBLE TWIN TUBE	IMC	INTERMEDIATE METAL CONDUIT	RECEPT	RECEPTACLE
DWG	DRAWING(S)	JB	JUNCTION BOX	REQD	REQUIRED
EA	EACH	KV	KILOVOLT	RGS	RIGID GALVANIZED STEEL CONDUIT
EB	ELECTRONIC BALLAST	KVA	KILOVOLT-AMPERE	RM	ROOM
EC	EMPTY CONDUIT	LTG	LIGHTING	RTU	ROOF TOP UNIT
ECB	ENCLOSED CIRCUIT BREAKER	MCA	MINIMUM CIRCUIT AMPS	TYP	TYPICAL
EF	EXHAUST FAN	MOCB	MAXIMUM OVER CURRENT PROTECTION	UH	UNIT HEATER
EM	EMERGENCY	MOCB	MOLDED CASE CIRCUIT BREAKER	UNO	UNLESS NOTED OTHERWISE
EMT	ELECTRICAL METALLIC TUBING	MLO	MAIN LUGS ONLY	V	VOLT(S)
EQUIP	EQUIPMENT	MT	MOUNT	VA	VOLT-AMPERE(S)
EWC	ELECTRIC WATER COOLER	MTD	MOUNTED	VP	WEATHERPROOF
		MTG	MOUNTING	XFMR	TRANSFORMER
		N	NEUTRAL		



No.	Description	Date

STAMP:



ADDRESS:

BGR2-JV
6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	AS NOTED

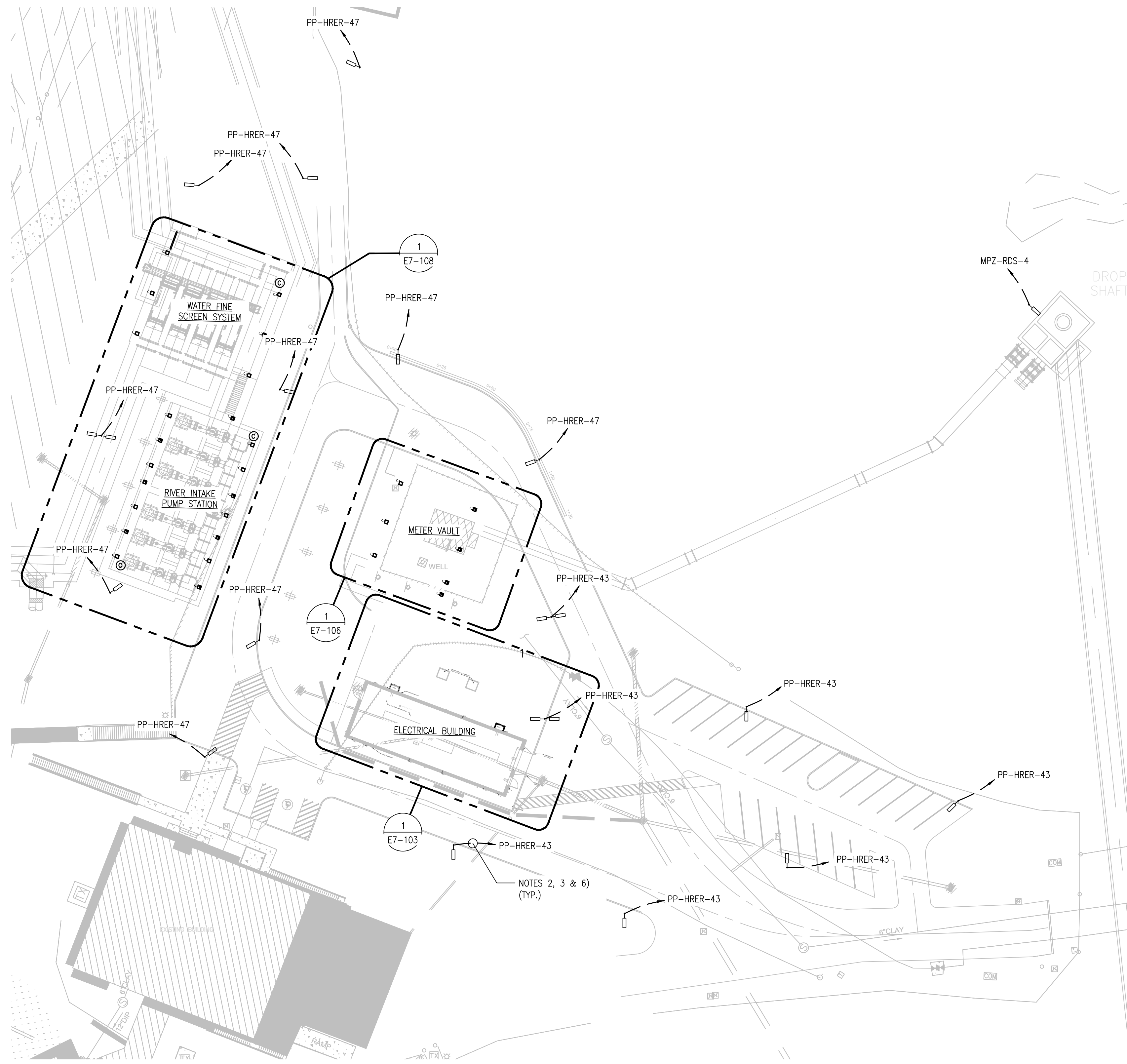
**CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM**

**RIVER INTAKE PUMP STATION
LOW VOLTAGE
ELECTRICAL LEGEND, NOTES & DETAILS**

DRAWING NO.
**RI-PS
E7-101**
SHEET OF

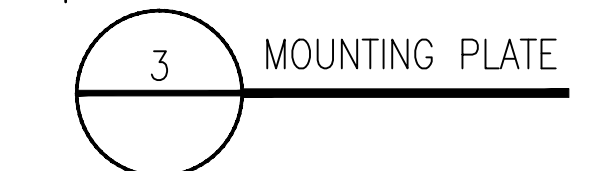
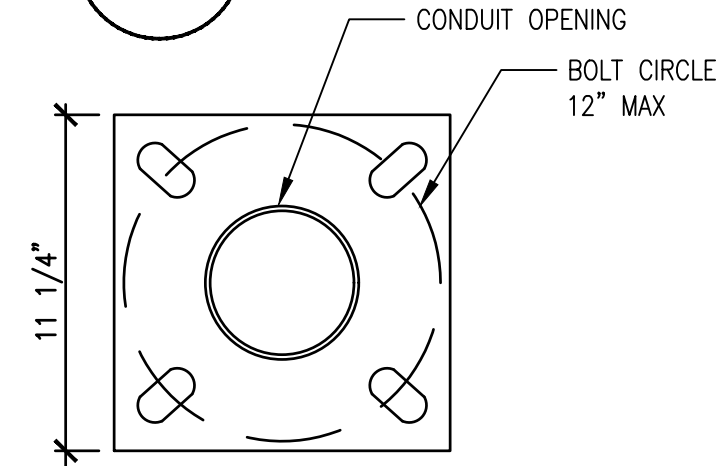
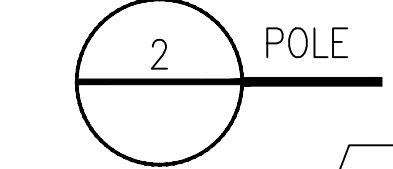
NOTES:

1. SEE DRAWING E7-101 ELECTRICAL LEGEND AND NOTES FOR CIRCUIT WIRING REQUIREMENTS.
2. ALL LIGHTING FIXTURES SHALL BE TYPE "G" UNLESS NOTED.
3. TWO (2) #10 AWG CONDUCTORS AND ONE (1) #10 AWG GROUND CONDUCTOR IN 3/4" CONDUIT ALONG WITH ONE (1) 1" CONDUIT WITH PULL WIRES FOR CAMERA.
4. ALL EMERGENCY LIGHT FIXTURES AND EXIT SIGNS SHALL HAVE INDIVIDUAL BATTERY PACKS ORDERED FOR EACH ONE AND SHALL ALSO BE WIRED TO NORMAL POWER.
5. ALL NON-EMERGENCY LIGHT FIXTURES SHALL BE WIRED TO NORMAL POWER.
6. ALL LIGHT POLES TO BE INSTALLED FOUR (4) FEET FROM ROAD.
7. ALL DEVICES SHALL BE GROUNDED TO GROUNDING SYSTEM IN ACCORDANCE WITH SECTION 16060 OF SPECIFICATIONS AND DRAWING E5-110. TYPICAL DETAILS ARE REFERRED ON EG-001 THRU EG-004.

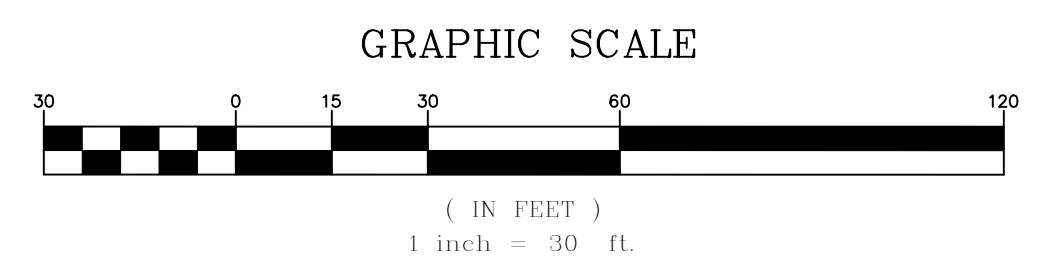


TYPE "G" FIXTURE (TYP) ALL LUMENESSE INTENSITY ARE DOWNWARD DIRECTED.

HAPCO CAT. NO. RTA35C8B4-BA



1 LOW VOLTAGE ELECTRICAL SITE PLAN
SCALE: 1" = 30'



No.	Description	Date

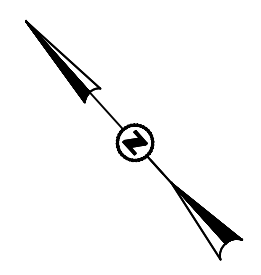


ADDRESS:
BGR2-JV
6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

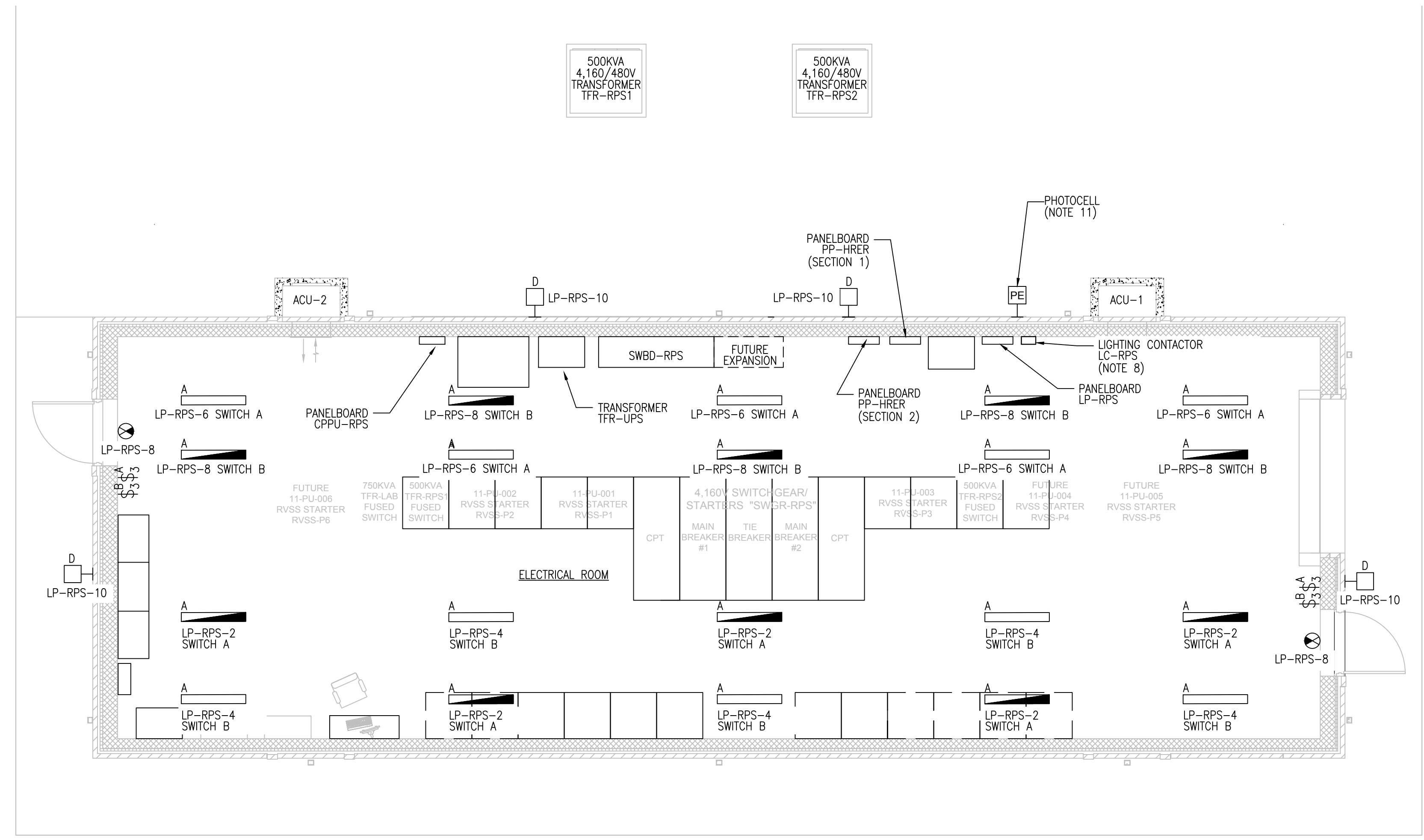
PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	AS NOTED

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
LOW VOLTAGE ELECTRICAL
SITE PLAN

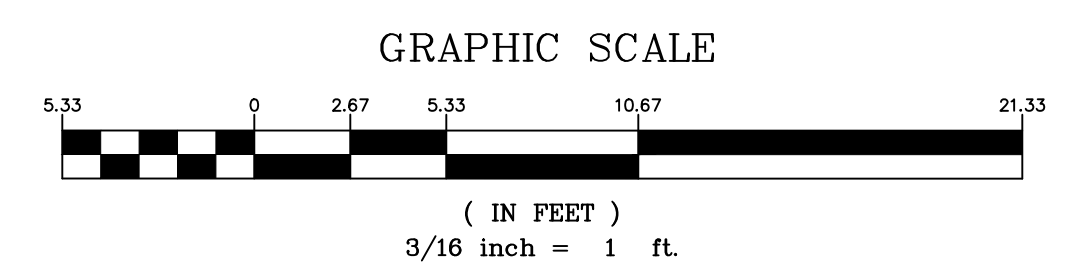
DRAWING NO.
RI-PS
E7-102
SHEET OF



- NOTES:**
- SEE DRAWING E7-101, ELECTRICAL LEGEND, NOTES AND CIRCUIT WIRING REQUIREMENTS.
 - BUILDING MOUNTED OUTSIDE SECURITY LIGHT FIXTURES SHALL BE CONTROLLED BY PHOTO ELECTRIC RELAY AND LIGHTING CONTACTOR LOCATED INSIDE OF THE ELECTRICAL BUILDING.
 - ALL EMERGENCY LIGHT FIXTURES AND EXIT SIGNS SHALL HAVE INDIVIDUAL BATTERY PACKS ORDERED FOR EACH ONE AND SHALL ALSO BE WIRED TO NORMAL POWER.
 - ALL NON-EMERGENCY LIGHT FIXTURES SHALL BE WIRED TO NORMAL POWER.
 - EXIT SIGNS TO BE WIRED AHEAD OF LIGHT SWITCHES IN CIRCUIT WIRING.
 - ALL DEVICES SHALL BE GROUNDED TO GROUNDING SYSTEM IN ACCORDANCE WITH SECTION 16060 OF SPECIFICATIONS AND DRAWING E5-202. TYPICAL DETAILS ARE REFERRED ON EG-001 THRU EG-004.
 - SEE DRAWING E6-201 FOR PANELBOARD SCHEDULES.
 - ALL OUTDOOR LIGHTING SHALL BE RUN THROUGH LIGHTING CONTACTOR. SEE LIGHTING CONTACTOR SCHEMATIC ON DRAWING E1-008 FOR MORE DETAILS.
 - CONTRACTOR SHALL MOUNT ALL FIXTURES TYPE "A" AT 14.8 FT A.F.F.
 - CONTRACTOR SHALL MOUNT ALL FIXTURES TYPE "D" AT 10 FT A.F.F.
 - CONTRACTOR SHALL PROVIDE PHOTOCELL WITH 120V, 2A RATED CONTACT, MOUNTED ON THE ROOF, FACING NORTH.



1 ELECTRICAL BUILDING LIGHTING PLAN
SCALE: 3/16" = 1'-0"



No.	Description	Date



ADDRESS:
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SUITE 1600
ATLANTA, GA 30328
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FAX: (770) 993-5082

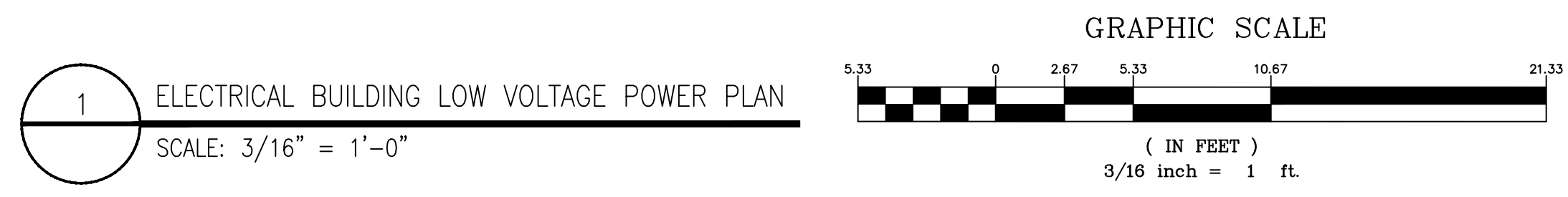
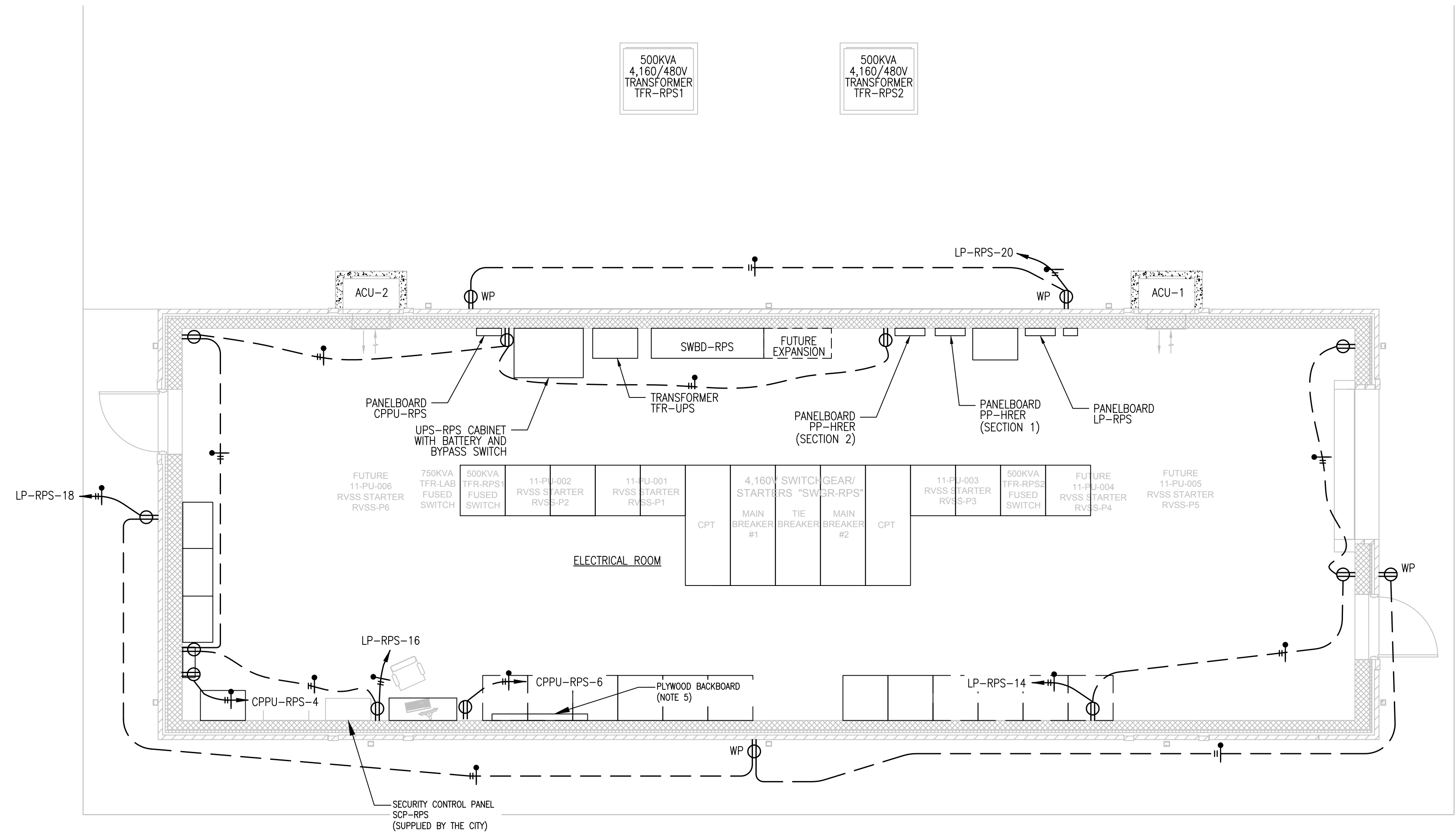
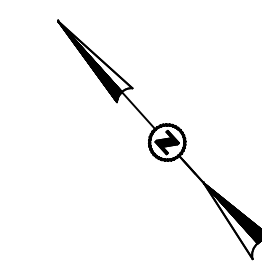
PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	AS NOTED

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
ELECTRICAL BUILDING
LIGHTING PLAN

DRAWING NO.
RI-PS
E7-103
SHEET OF

ISSUED FOR BIDDING

- NOTES:**
- SEE DRAWING E7-101, ELECTRICAL LEGEND, NOTES AND CIRCUIT WIRING REQUIREMENTS.
 - FOR WIRING OF RECEPTACLES, CIRCUITS CAN SHARE CONDUITS WITH NO MORE THAN (3) 120V, 20A CIRCUITS IN ANY ONE CONDUIT. THIS WILL ALSO ALLOW SHARING OF THE NEUTRAL BETWEEN THE THREE CIRCUITS OF DIFFERENT PHASES. IN NO CASE SHALL THE NUMBER OF CIRCUITS COMBINED IN ONE CONDUIT EXCEED THREE CIRCUITS. FOR WIRING, USE 4 #12 AND 1 #12 GND. IN 1/2" C AND CIRCUITING TAG ADJACENT TO EACH RECEPTACLE.
 - ALL OUTLETS SHALL BE MOUNTED IN AN ACCESSIBLE LOCATION TO MEET CLEARANCE REQUIREMENTS PER THE NEC (NATIONAL ELECTRIC CODE).
 - ALL DEVICES SHALL BE GROUNDED TO GROUNDING SYSTEM IN ACCORDANCE WITH SECTION 16060 OF SPECIFICATIONS AND DRAWINGS E5-202. TYPICAL DETAILS ARE REFERRED ON EG-001 THRU EG-004.
 - PROVIDE PROPERLY SIZED PLYWOOD BACKBOARD FOR TELEPHONE AND THE OWNER'S LAN EQUIPMENT. INSTALL 2 AWG (MIN.) GROUNDING CONDUCTOR FROM BOARD TO GROUND GRID.



No.	Description	Date



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SUITE 1600
ATLANTA, GA 30328
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FAX: (770) 993-5082

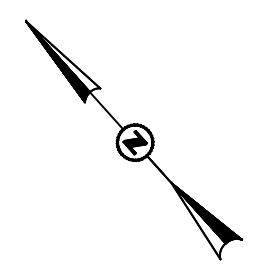
PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	AS NOTED

**CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM**

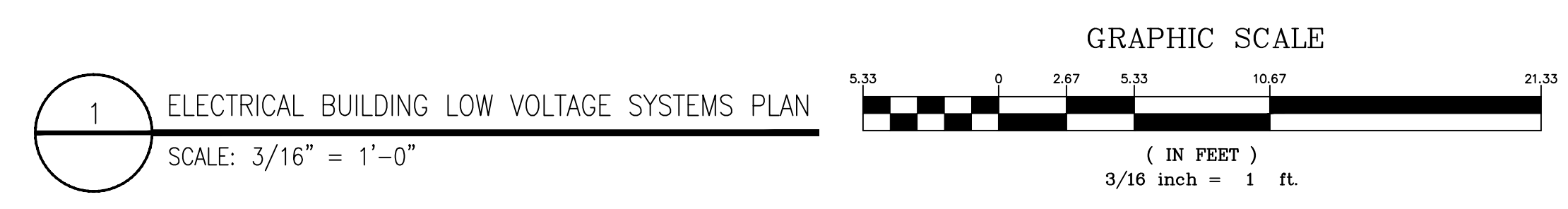
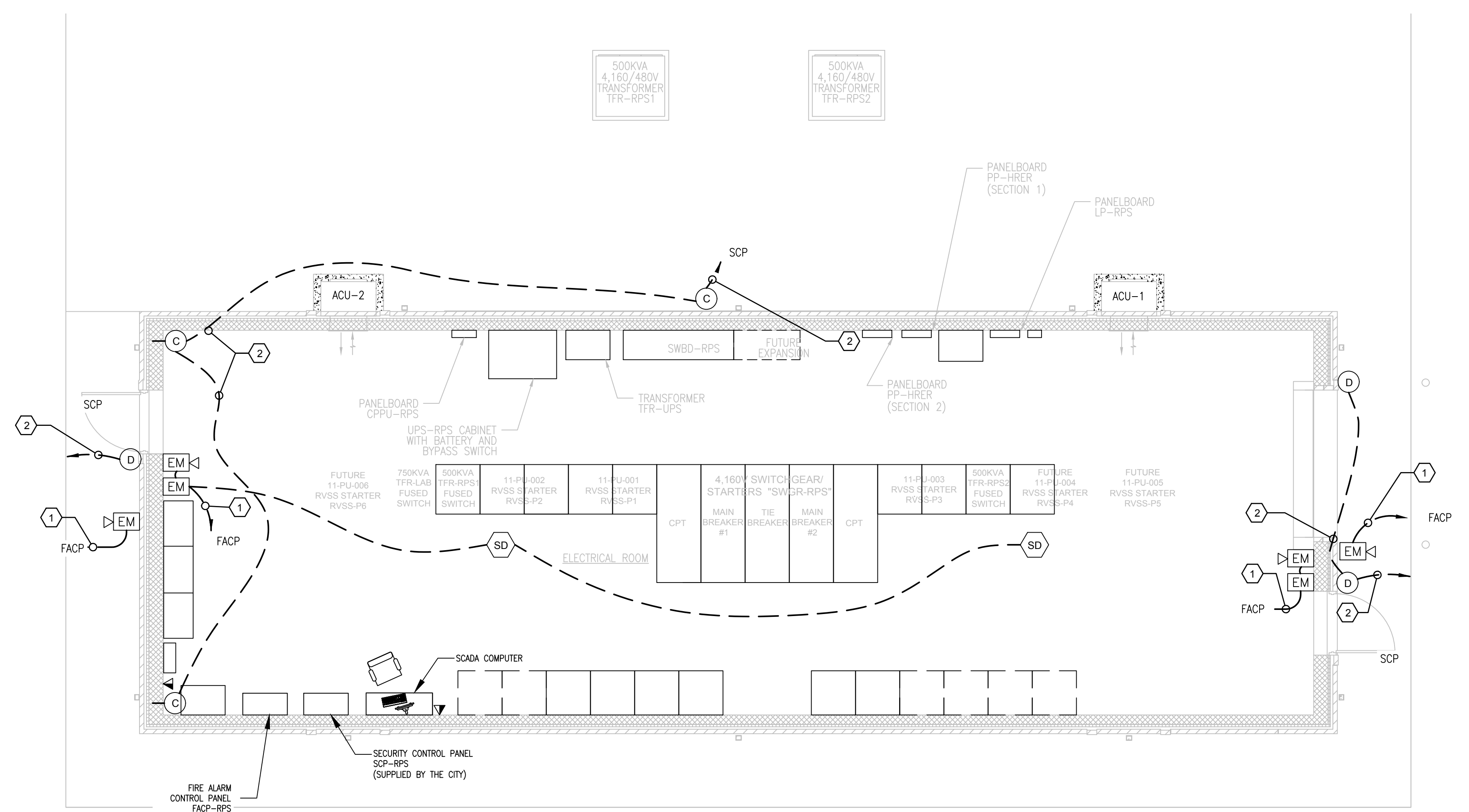
**RIVER INTAKE PUMP STATION
ELECTRICAL BUILDING
LOW VOLTAGE POWER PLAN**

DRAWING NO.
**RI-PS
E7-104**

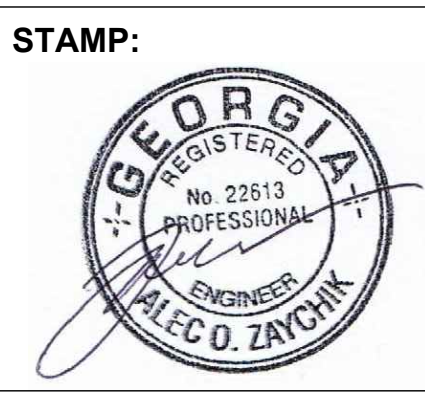
SHEET OF



- NOTES:
- 1 RUN CONTROL AND COMMUNICATIONS CIRCUIT 3/4" CONDUIT FROM LOCAL OPERATING CONSOLE TO FIRE ALARM CONTROL PANEL IN ELECTRICAL BUILDING. EC SHALL USE NO LESS THAN #12 AWG WIRE.
 - 2 RUN 1" CONDUIT WITH PULL WIRE FROM CAMERAS, DOOR INTERLOCKS AND ROLL UP DOOR INDICATORS JUNCTION BOXES TO SECURITY PANEL SCP IN ELECTRICAL BUILDING.
 - 3 SEE DRAWING E7-101, ELECTRICAL LEGEND, NOTES, AND CIRCUIT WIRING REQUIREMENTS.
 - 4 ALL DEVICES SHALL BE GROUNDED TO GROUNDING SYSTEM IN ACCORDANCE WITH SECTION 16060 OF SPECIFICATIONS AND DRAWINGS E5-202. TYPICAL DETAILS ARE REFERRED ON EG-001 THRU EG-004.



No.	Description	Date



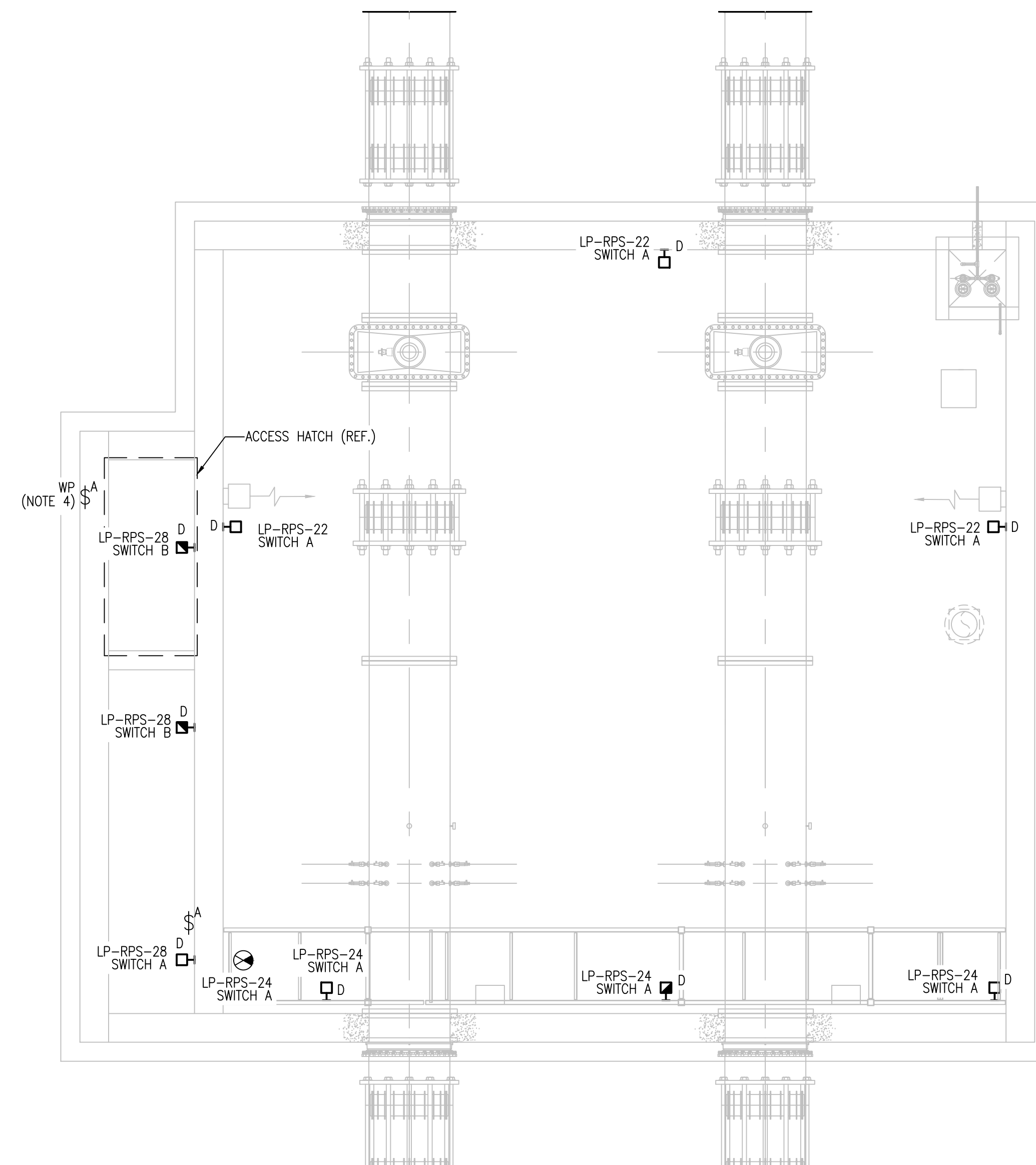
ADDRESS:
BGR2-JV
6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	AS NOTED

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM

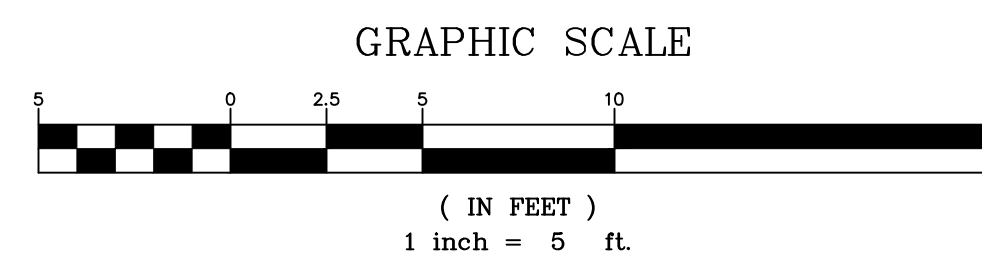
RIVER INTAKE PUMP STATION
ELECTRICAL BUILDING LOW VOLTAGE
SYSTEMS PLAN

DRAWING NO.
RI-PS
E7-105
SHEET OF



- NOTES:
1. SEE DRAWING E7-101, ELECTRICAL LEGEND, NOTES AND CIRCUIT WIRING REQUIREMENTS.
 2. ALL EMERGENCY LIGHT FIXTURES AND EXIT SIGNS SHALL HAVE INDIVIDUAL BATTERY PACKS ORDERED FOR EACH ONE AND SHALL ALSO BE WIRED TO NORMAL POWER.
 3. ALL NON-EMERGENCY LIGHT FIXTURES SHALL BE WIRED TO NORMAL POWER.
 4. LIGHT SWITCH FOR STAIRWELL LIGHTING SHALL BE WEATHER-PROOF, MOUNTED ON POST AND LOCATED AT TOP OF STAIRWELL DIRECTLY BELOW ACCESS HATCH.
 5. ALL DEVICES SHALL BE GROUNDED TO GROUNDING SYSTEM IN ACCORDANCE WITH SECTION 16060 OF SPECIFICATIONS AND DRAWING E5-203. TYPICAL DETAILS ARE REFERRED ON EG-001 THRU EG-004.
 6. SEE DRAWING E6-201 FOR PANELBOARD SCHEDULES.
 7. CONTRACTOR SHALL MOUNT ALL FIXTURES TYPE "D" AT 12FT A.F.F.

1 METER VAULT LIGHTING PLAN
SCALE: 1" = 5'



No.	Description	Date

STAMP:



ADDRESS:

BGR2-JV
6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	AS NOTED

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM

RIVER INTAKE PUMP STATION
METER VAULT
LIGHTING PLAN

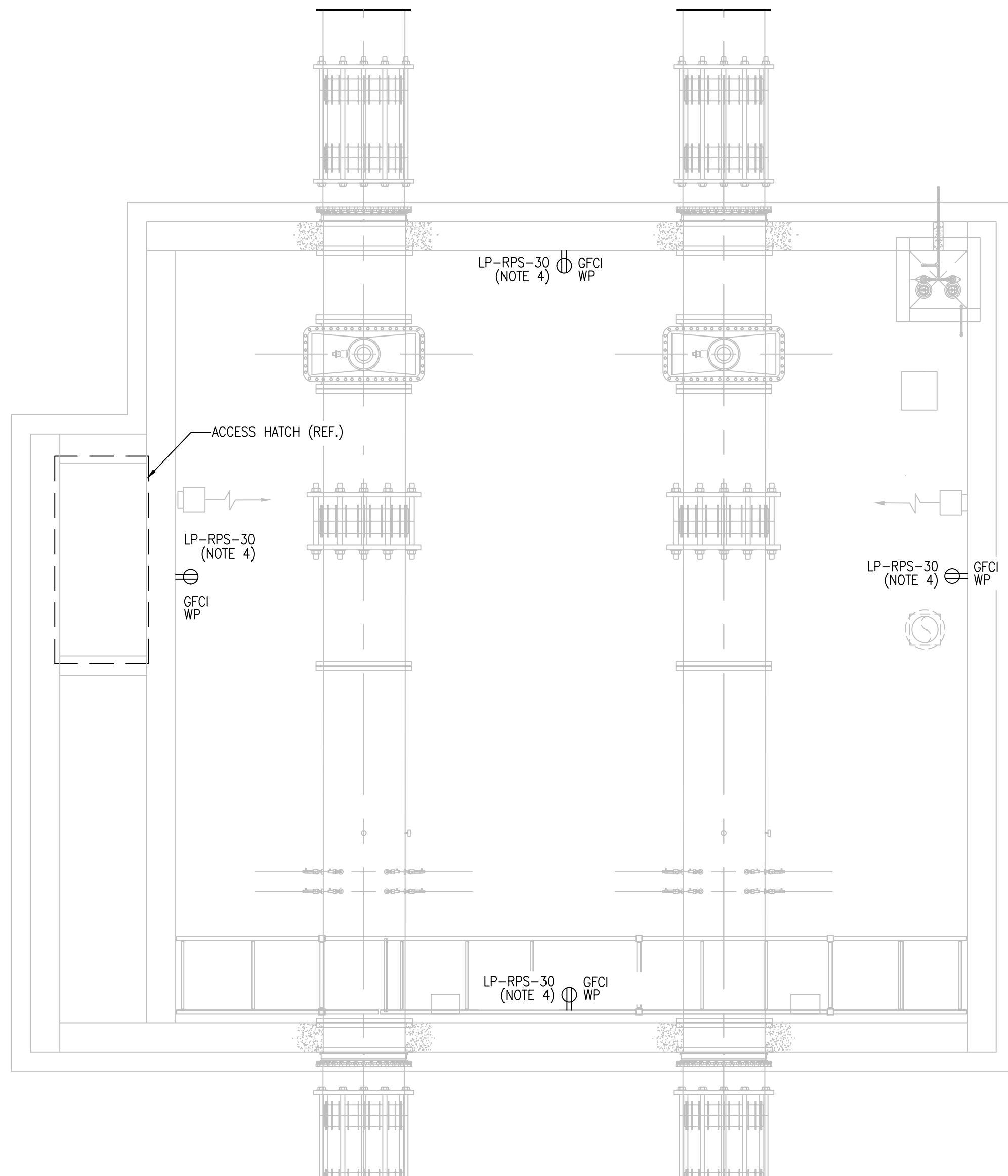
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RI-PS

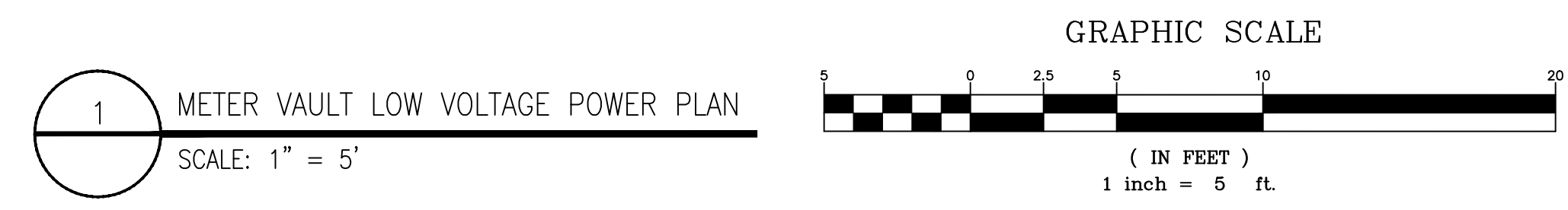
E7-106

SHEET OF

ISSUED FOR BIDDING



- NOTES:
- SEE DRAWING E7-101, ELECTRICAL LEGEND, NOTES AND CIRCUIT WIRING REQUIREMENTS.
 - FOR WIRING OF RECEPTACLES, CIRCUITS CAN SHARE CONDUITS WITH NO MORE THAN (3) 120V, 20A CIRCUITS IN ANY ONE CONDUIT. THIS WILL ALSO ALLOW SHARING OF THE NEUTRAL BETWEEN THE THREE CIRCUITS OF DIFFERENT PHASES. IN NO CASE SHALL THE NUMBER OF CIRCUITS COMBINED IN ONE CONDUIT EXCEED THREE CIRCUITS. FOR WIRING, USE 4 #12 AND 1 #12 GND. IN 1/2" C AND CIRCUITING TAG ADJACENT TO EACH RECEPTACLE.
 - ALL OUTLETS SHALL BE MOUNTED IN AN ACCESSIBLE LOCATION TO MEET CLEARANCE REQUIREMENTS PER THE NEC (NATIONAL ELECTRIC CODE).
 - OUTLET SHALL BE MOUNTED 48" AFF.
 - ALL DEVICES SHALL BE GROUNDED TO GROUNDING SYSTEM IN ACCORDANCE WITH SECTION 16060 OF SPECIFICATIONS AND DRAWING E5-203. TYPICAL DETAILS ARE REFERRED ON EG-001 THRU EG-004.



No.	Description	Date



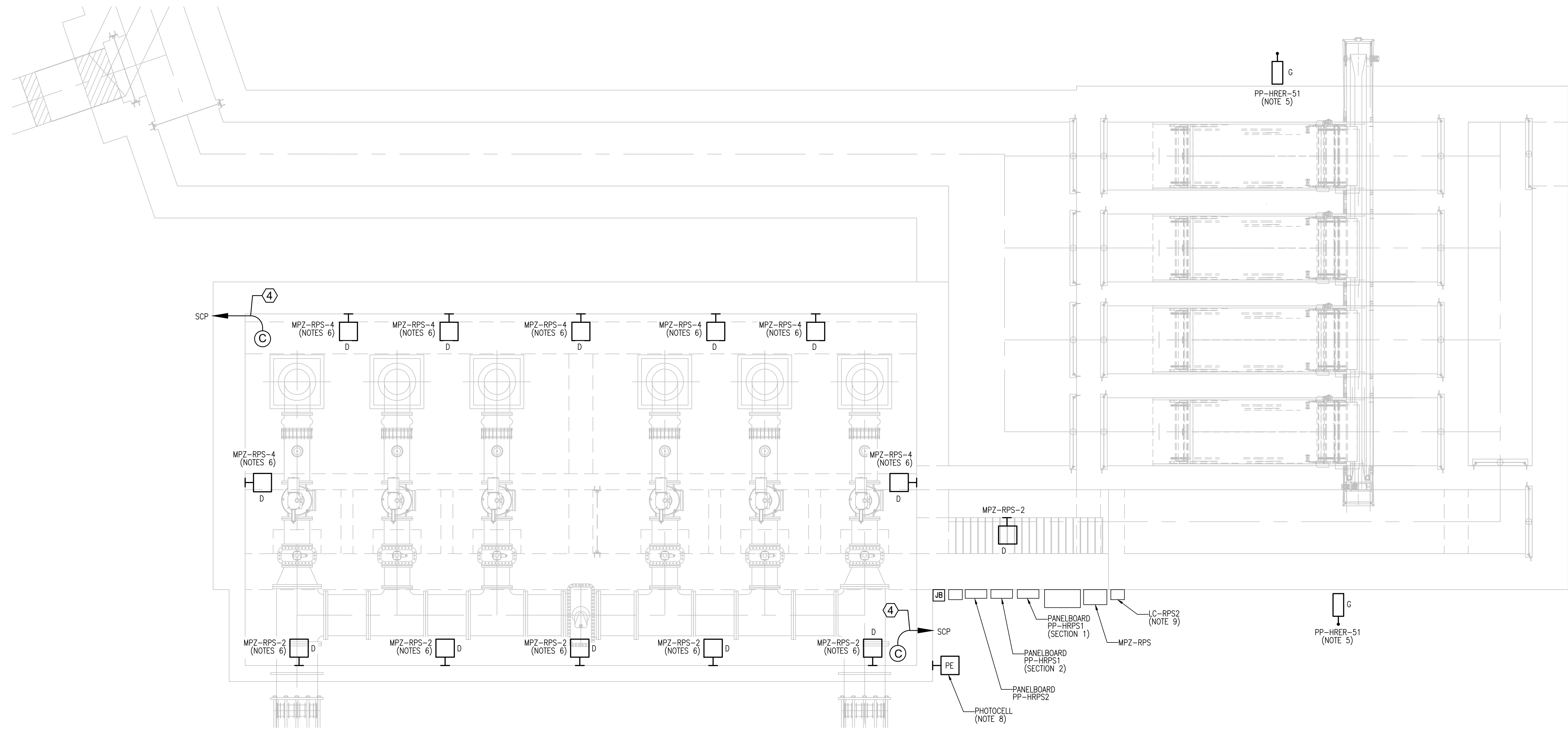
ADDRESS:
 BGR2-JV
 6 CONCOURSE PARKWAY
 SUITE 1600
 ATLANTA, GA 30328
 (770) 569-7038 x101
 FAX: (770) 993-5082

PROJECT NO:	TASK 1
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DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	AS NOTED

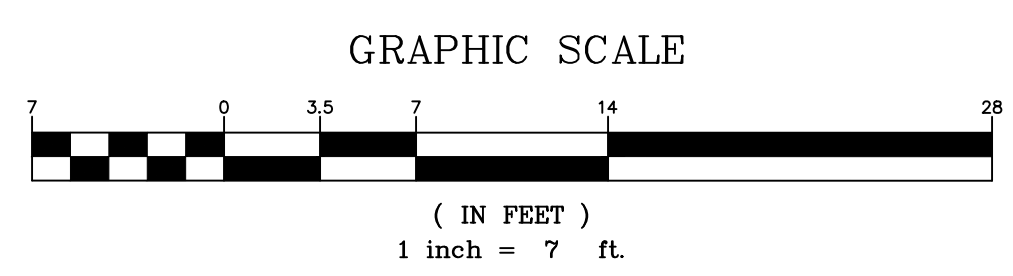
CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
METER VAULT
LOW VOLTAGE POWER PLAN

DRAWING NO.
RI-PS
E7-107
 SHEET OF

ISSUED FOR BIDDING



1 PUMP STATION LOW VOLTAGE SYSTEMS AND LIGHTING PLAN
SCALE: 1" = 7'



- NOTES:
- SEE DRAWING E7-101, ELECTRICAL LEGEND, NOTES AND CIRCUIT WIRING REQUIREMENTS.
 - ALL EMERGENCY LIGHT FIXTURES AND EXIT SIGNS SHALL HAVE INDIVIDUAL BATTERY PACKS ORDERED FOR EACH ONE AND SHALL ALSO BE WIRED TO NORMAL POWER.
 - ALL NON-EMERGENCY LIGHT FIXTURES SHALL BE WIRED TO NORMAL POWER.
 - RUN 1" CONDUIT WITH PULL WIRE FROM CAMERA JUNCTION BOXES TO SECURITY PANEL SCP IN ELECTRICAL BUILDING.
 - TWO (2) #10 AWG CONDUCTORS AND ONE (1) #10 AWG GROUND CONDUCTOR IN 3/4" CONDUIT ALONG WITH ONE (1) CONDUIT WITH PULL WIRES FOR CAMERA.
 - LIGHTING FIXTURE SHALL BE INSTALLED 10 FEET AFF.
 - SEE DRAWING E6-202 FOR PANELBOARD SCHEDULES.
 - CONTRACTOR SHALL PROVIDE PHOTOCELL WITH 120V, 2A RATED CONTACT, MOUNTED ON TOP OF THE DRY WELL WALL, FACING NORTH. SEE DETAIL "1" ON DRAWING E7-101 FOR LIGHTING CONTACTOR WIRING SCHEMATIC.
 - CONTRACTOR SHALL PROVIDE AND INSTALL LIGHTING CONTACTOR WITH H-O-A SWITCH. REFER TO SCHEMATIC DIAGRAM ON DRAWING EI-008 FOR LIGHTING CONTACTOR REQUIREMENTS.
 - ALL DEVICES SHALL BE GROUNDED TO GROUNDING SYSTEM IN ACCORDANCE WITH SECTION 16060 OF SPECIFICATIONS AND DRAWING E5-203. TYPICAL DETAILS ARE REFERRED ON EG-001 THRU EG-004.



No.	Description	Date



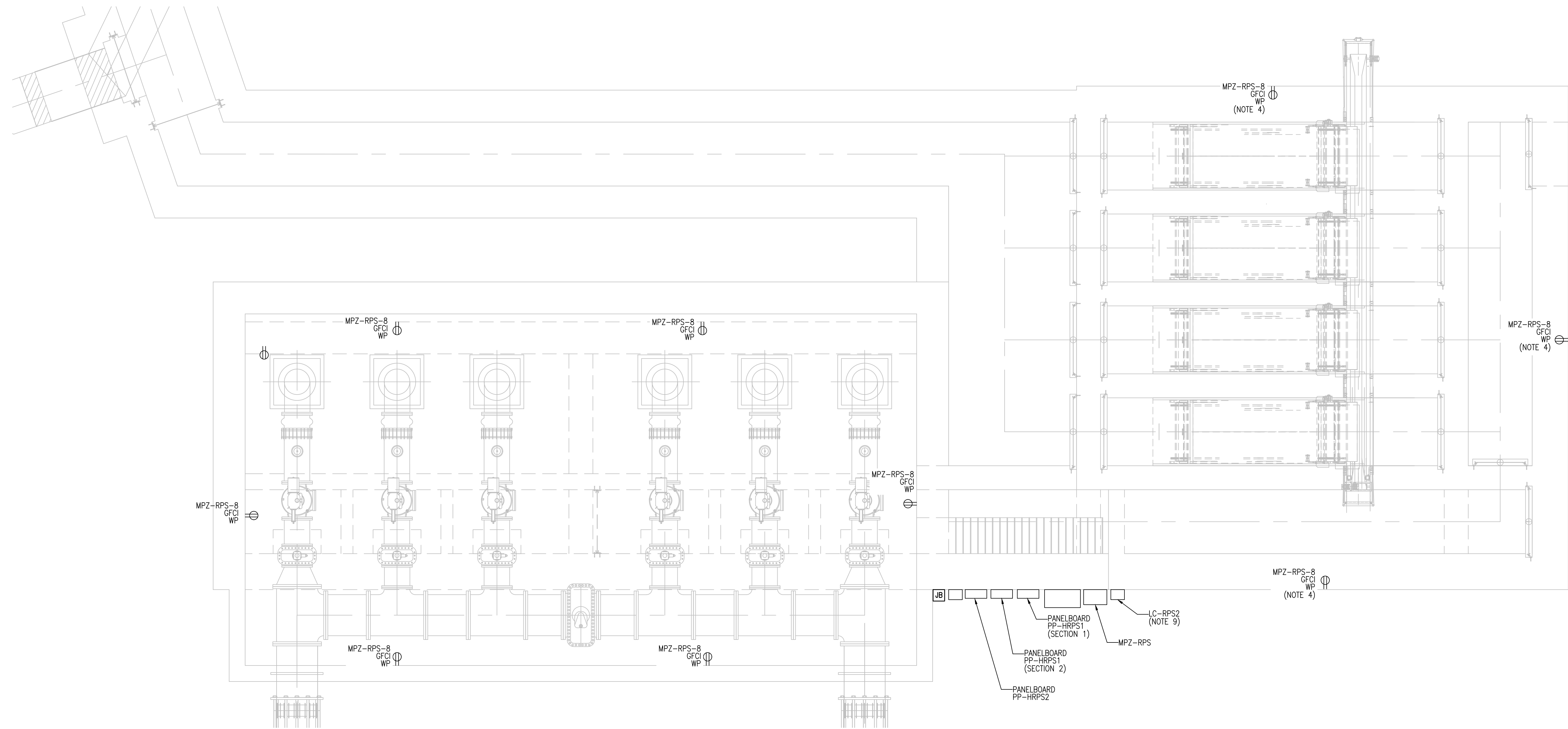
ADDRESS:
BGR2-JV
6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	AS NOTED

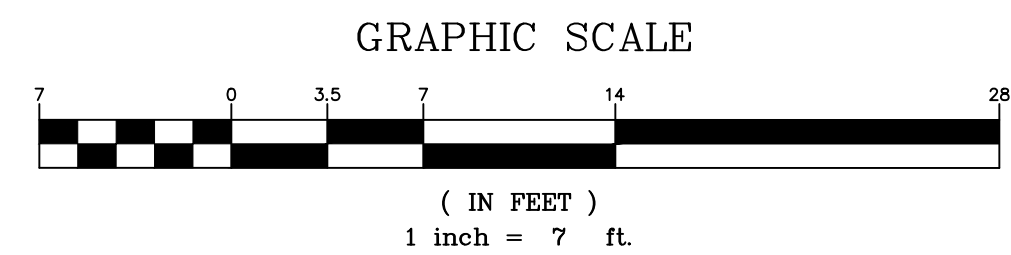
CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
PUMP STATION LOW VOLTAGE
SYSTEMS AND LIGHTING PLAN

DRAWING NO.
RI-PS
E7-108
SHEET OF

ISSUED FOR BIDDING



1 PUMP STATION LOW VOLTAGE POWER PLAN
SCALE: 1" = 7'



- NOTES:
- SEE DRAWING E7-101, ELECTRICAL LEGEND, NOTES AND CIRCUIT WIRING REQUIREMENTS.
 - FOR WIRING OF RECEPTACLES, CIRCUITS CAN SHARE CONDUITS WITH NO MORE THAN (3) 120V, 20A CIRCUITS IN ANY ONE CONDUIT. THIS WILL ALSO ALLOW SHARING OF THE NEUTRAL BETWEEN THE THREE CIRCUITS OF DIFFERENT PHASES. IN NO CASE SHALL THE NUMBER OF CIRCUITS COMBINED IN ONE CONDUIT EXCEED THREE CIRCUITS. FOR WIRING, USE 4 #12 AND 1 #12 GND. IN 1/2" C AND CIRCUITING TAG ADJACENT TO EACH RECEPTACLE.
 - ALL OUTLETS SHALL BE MOUNTED IN AN ACCESSIBLE LOCATION TO MEET CLEARANCE REQUIREMENTS PER THE NEC (NATIONAL ELECTRIC CODE).
 - OUTLET SHALL BE MOUNTED ON UNISTRUT 18" AFF.
 - ALL DEVICES SHALL BE GROUNDED TO GROUNDING SYSTEM IN ACCORDANCE WITH SECTION 16060 OF SPECIFICATIONS AND DRAWING E5-203. TYPICAL DETAILS ARE REFERRED ON EG-001 THRU EG-004.



No.	Description	Date



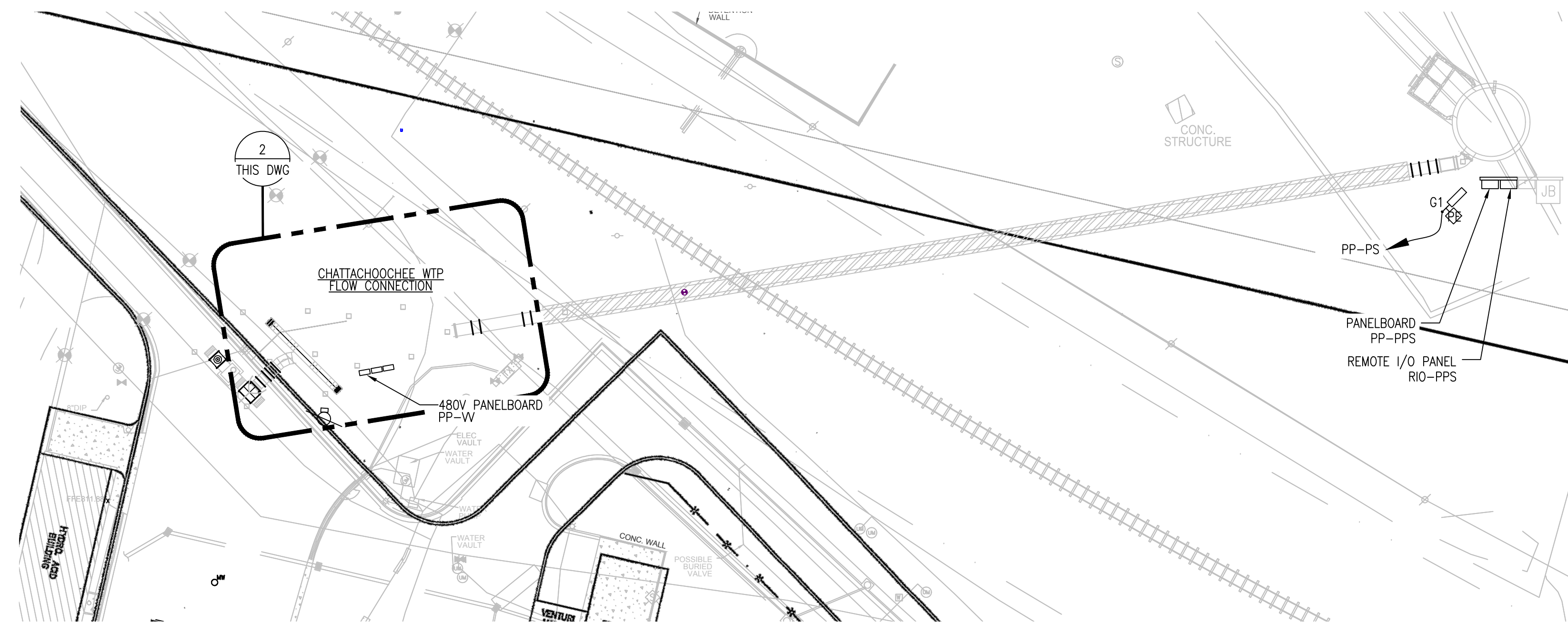
ADDRESS:
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6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

PROJECT NO:	TASK 1
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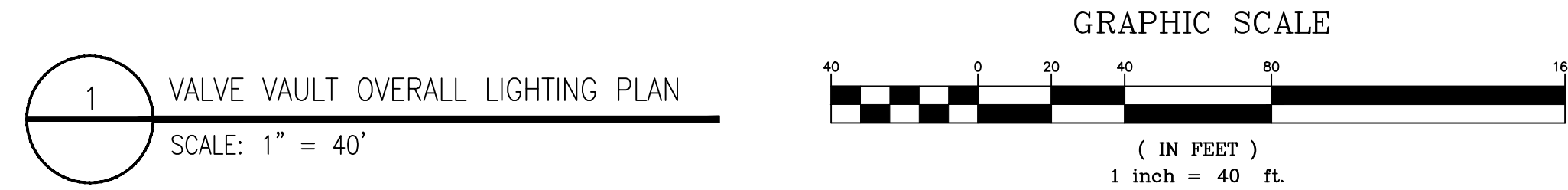
CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
PUMP STATION
LOW VOLTAGE POWER PLAN

DRAWING NO.
RI-PS
E7-109
SHEET OF

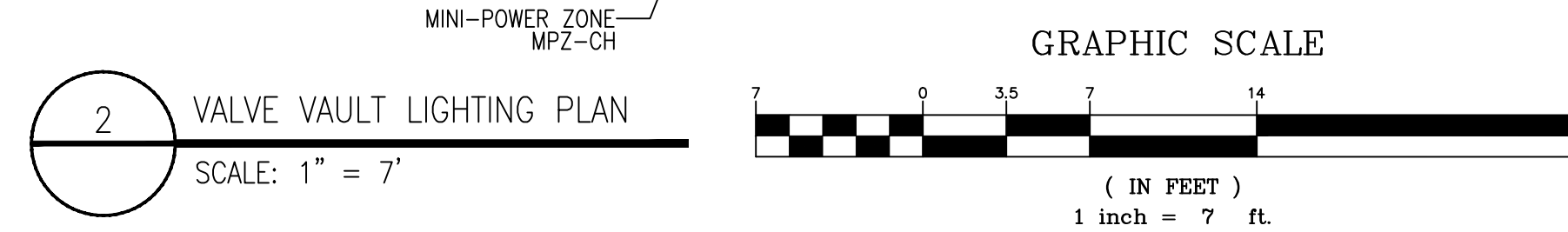
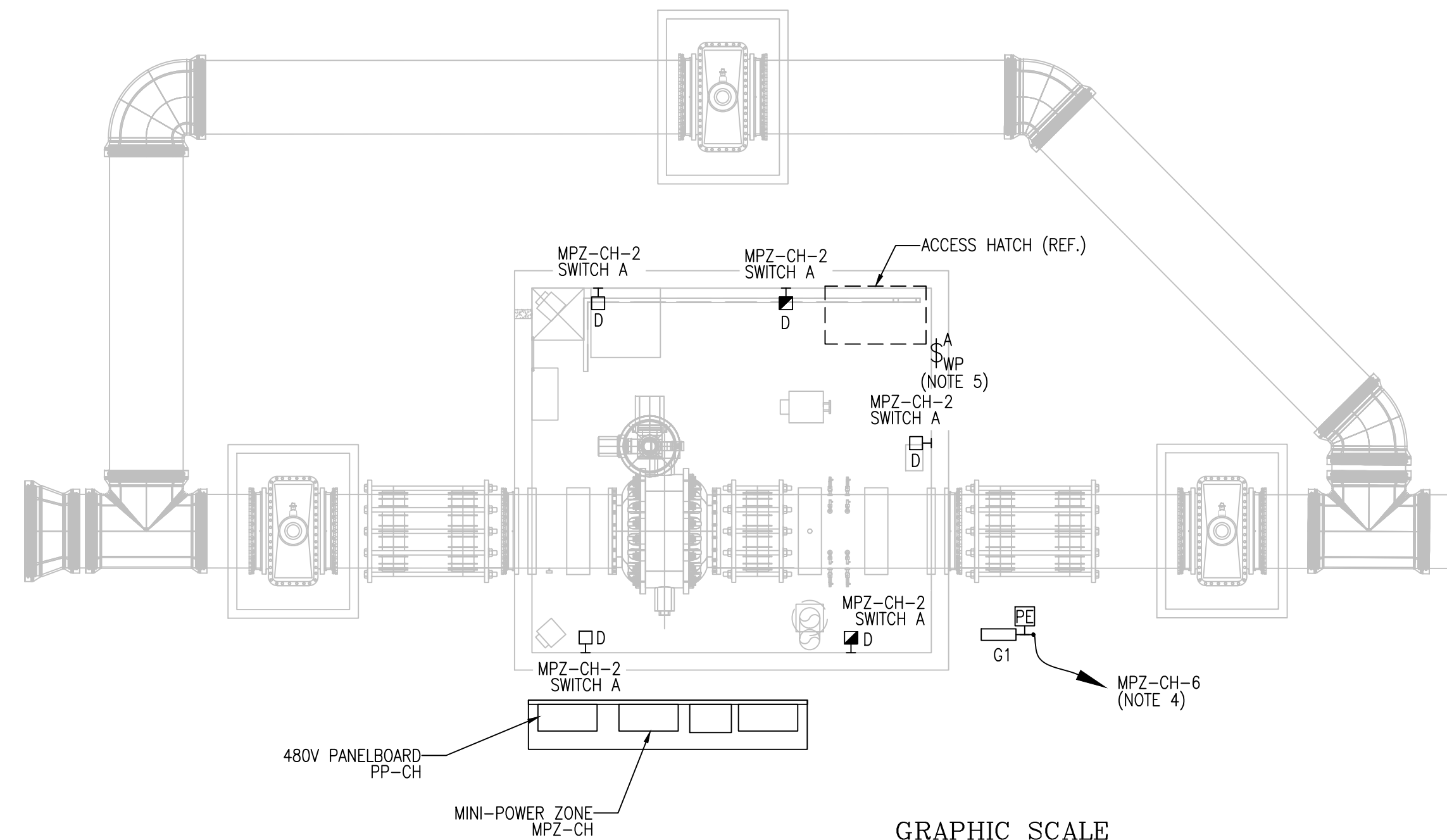
ISSUED FOR BIDDING



- NOTES:
1. SEE DRAWING E7-101 FOR ELECTRICAL LEGEND, NOTES AND CIRCUIT WIRING REQUIREMENTS.
 2. ALL EMERGENCY LIGHT FIXTURES AND EXIT SIGNS SHALL HAVE INDIVIDUAL BATTERY PACKS ORDERED FOR EACH ONE AND SHALL ALSO BE WIRED TO NORMAL POWER.
 3. ALL NON-EMERGENCY LIGHT FIXTURES SHALL BE WIRED TO NORMAL POWER.
 4. TWO (2) #10 AWG CONDUCTORS AND ONE (1) #10 AWG GROUND CONDUCTOR IN 3/4" CONDUIT ALONG WITH ONE (1) 1" CONDUIT WITH PULL WIRES FOR CAMERA.
 5. LIGHT SWITCH FOR STAIRWELL LIGHTING SHALL BE WEATHER-PROOF, MOUNTED ON POST AND LOCATED AT TOP OF STAIRWELL DIRECTLY BELOW ACCESS HATCH.
 6. CONTRACTOR SHALL MOUNT ALL FIXTURES TYPE "D" AT 12FT A.F.F.
 7. ALL DEVICES SHALL BE GROUNDED TO GROUNDING SYSTEM IN ACCORDANCE WITH SECTION 16060 OF SPECIFICATIONS AND DRAWING E5-203. TYPICAL DETAILS ARE REFERRED ON EG-001 THRU EG-004.



1 VALVE VAULT OVERALL LIGHTING PLAN
SCALE: 1" = 40'



2 VALVE VAULT LIGHTING PLAN
SCALE: 1" = 7'



No.	Description	Date

STAMP:



ADDRESS:

BGR2-JV
6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	AS NOTED

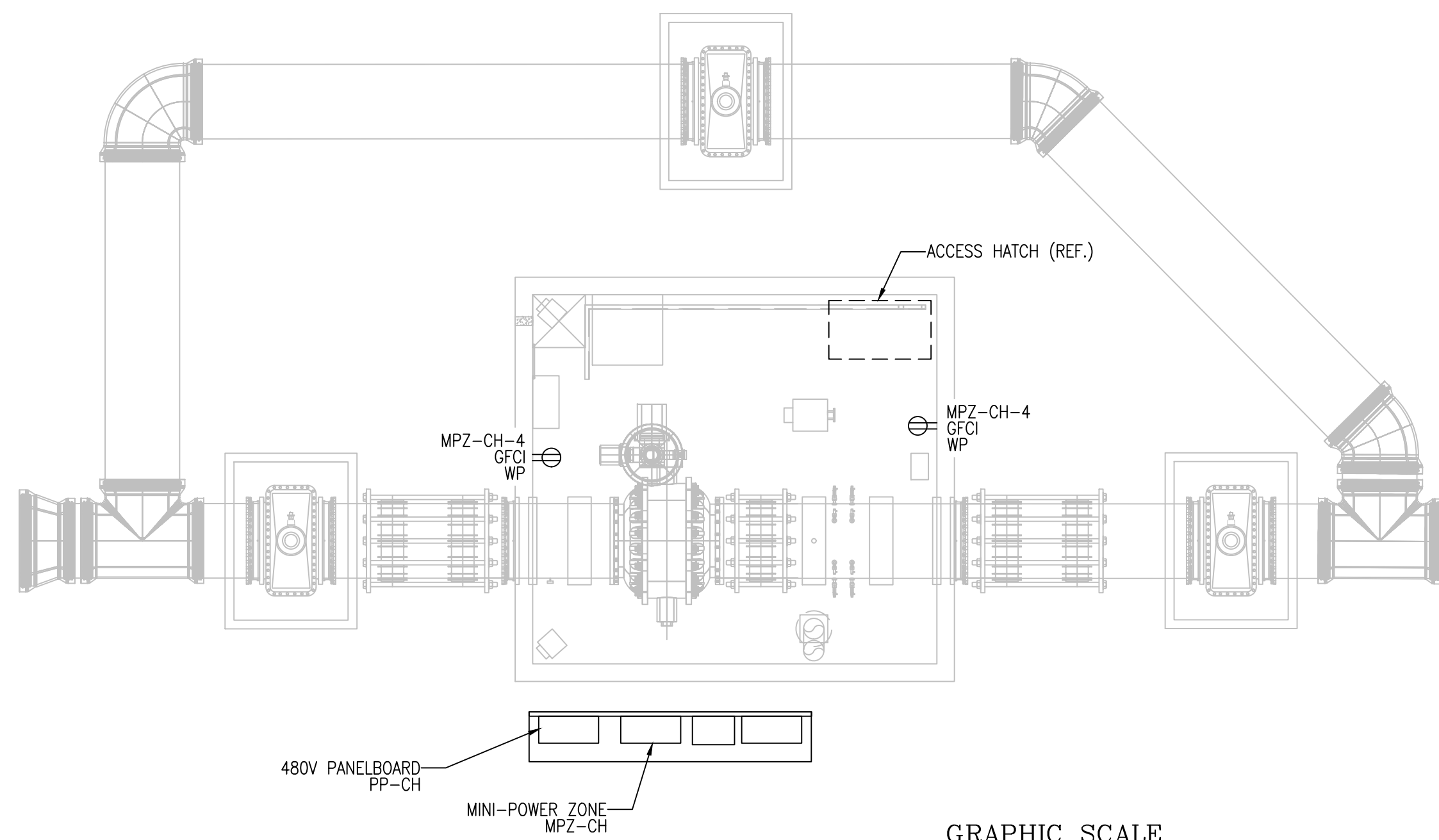
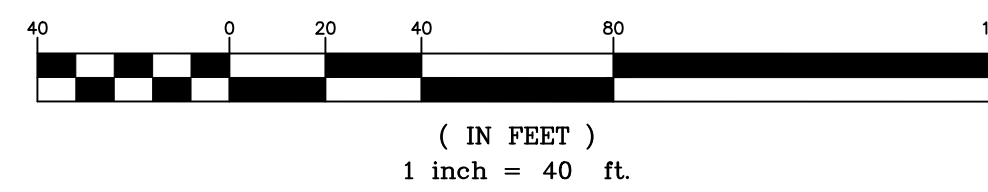
CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM

RIVER INTAKE PUMP STATION
VALVE VAULT
LIGHTING PLAN

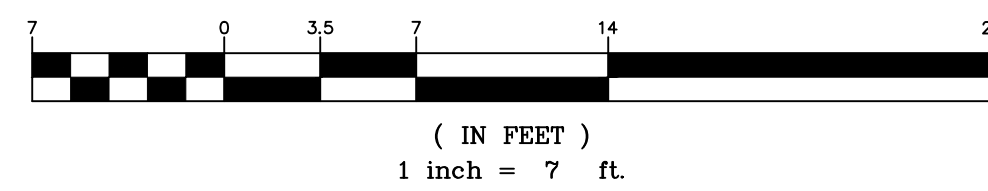
DRAWING NO.
RI-PS
E7-110
SHEET OF



1 VALVE VAULT OVERALL LOW VOLTAGE POWER PLAN
SCALE: 1" = 40'



2 VALVE VAULT LOW VOLTAGE POWER PLAN
SCALE: 1" = 7'



- NOTES:
- SEE DRAWING E7-101, ELECTRICAL LEGEND, NOTES AND CIRCUIT WIRING REQUIREMENTS.
 - FOR WIRING OF RECEPTACLES, CIRCUITS CAN SHARE CONDUITS WITH NO MORE THAN (3) 120V, 20A CIRCUITS IN ANY ONE CONDUIT. THIS WILL ALSO ALLOW SHARING OF THE NEUTRAL BETWEEN THE THREE CIRCUITS OF DIFFERENT PHASES. IN NO CASE SHALL THE NUMBER OF CIRCUITS COMBINED IN ONE CONDUIT EXCEED THREE CIRCUITS. FOR WIRING, USE 4 #12 AND 1 #12 GND. IN 1/2" C AND CIRCUITING TAG ADJACENT TO EACH RECEPTACLE.
 - ALL OUTLETS SHALL BE MOUNTED IN AN ACCESSIBLE LOCATION TO MEET CLEARANCE REQUIREMENTS PER THE NEC (NATIONAL ELECTRIC CODE).
 - ALL OUTLETS SHALL BE MOUNTED 48" AFF.
 - ALL DEVICES SHALL BE GROUNDED TO GROUNDING SYSTEM IN ACCORDANCE WITH SECTION 18060 OF SPECIFICATIONS AND DRAWING ES-203. TYPICAL DETAILS ARE REFERRED ON EG-001 THRU EG-004.



No.	Description	Date

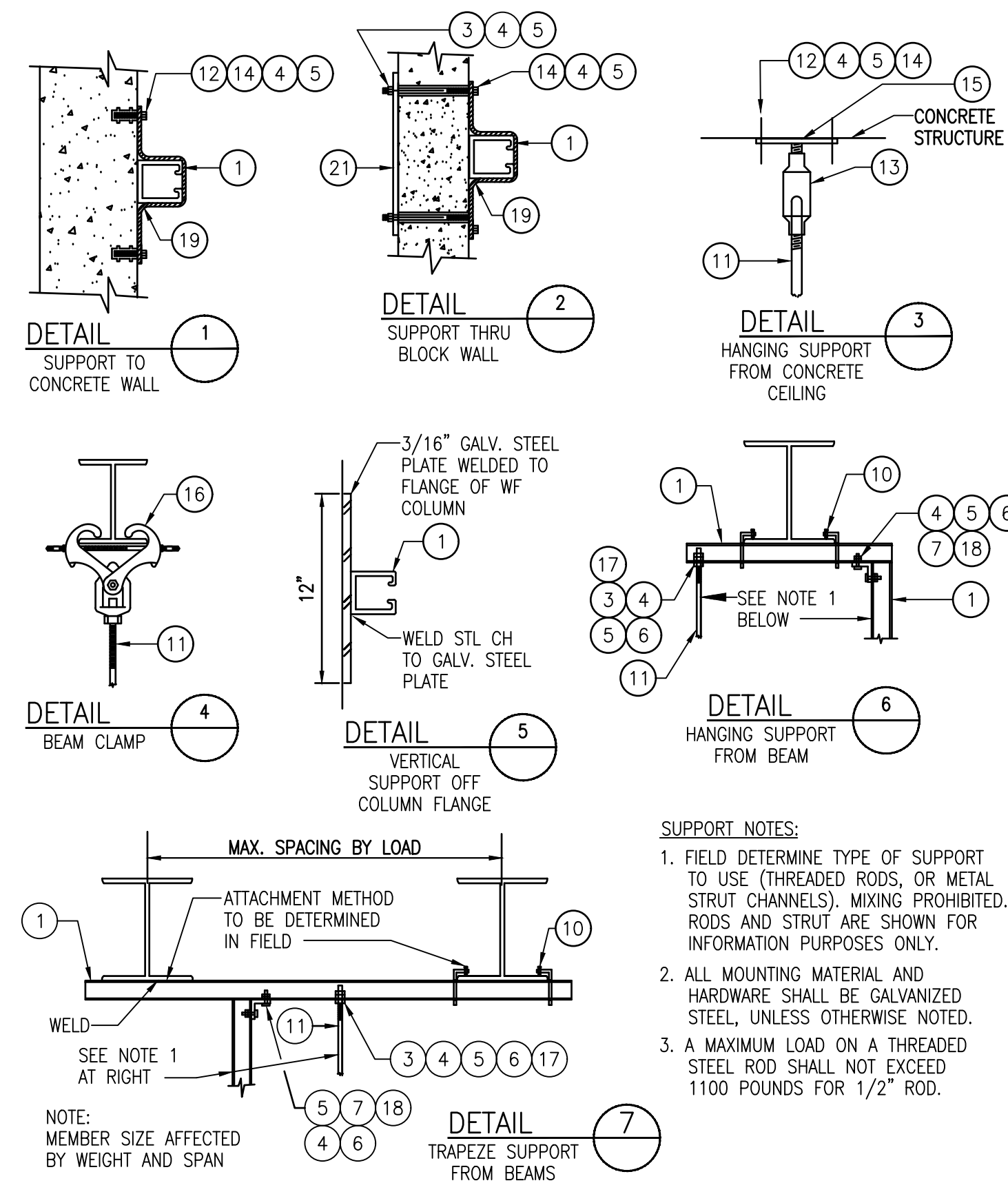


ADDRESS:
BGR2-JV
6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	AS NOTED

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
VALVE VAULT
LOW VOLTAGE POWER PLAN

DRAWING NO.
RI-PS
E7-111
SHEET OF

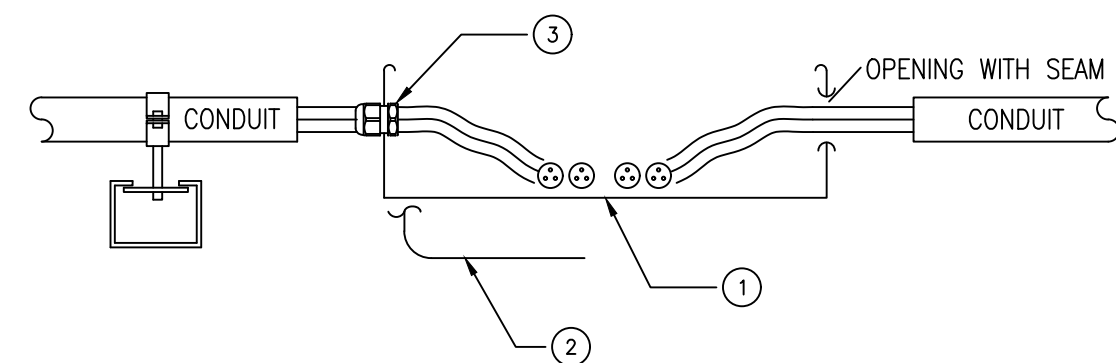


BILL OF MATERIAL			
ITEM	QTY	DESCRIPTION	REMARKS
1	A/R	STRUT GALVANIZED STEEL CHANNEL 1-5/8" X 1-5/8"	
2	A/R	STRUT METAL FRAMING CHANNEL 1-5/8" X 3-1/4" (DOUBLE) IF REQ'D	
3	A/R	HEXAGON NUT	
4	A/R	FLAT WASHER OR CLEVIS WASHER	
5	A/R	LOCK WASHER	
6	A/R	SPRING NUT	
7	A/R	HEX HEAD CAP SCREW	
8	A/R	TRAY HOLD DOWN CLIP	
9	A/R	VERTICAL TRAY HANGER	
10	A/R	"U" BOLT BEAM CLAMP (ONE FOR EACH SIDE)	
11	A/R	THREADED ROD (SIZED TO SUIT CONDITIONS)	
12	A/R	CONCRETE INSERT (SIZED TO SUIT APPLICATION)	
13	A/R	THREADED ROD COUPLING	
14	A/R	GALVANIZED MACHINE BOLTS (LENGTH TO SUIT)	
15	A/R	NELSON TYPE STUD (SIZED TO SUIT)	
16	A/R	BEAM CLAMP	
17	A/R	FLANGE	
18	A/R	PLATE FITTING 90°	
19	A/R	U SHAPED STRUT FITTING	
20	A/R	SUPPORT ANGLE	
21	A/R	GLAVANIZED FLAT STEEL PLATE-1/4" TH x 3" WIDE x LENGTH TO SUIT WITH TWO 9/16" DIA. HOLES	
22	A/R	ONE HOLE FLAT PLATE FITTING - FOR STRUT CHANNEL	

A/R=AS REQUIRED

ELECTRICAL SUPPORT AND CONNECTION DETAILS
BILL OF MATERIALS

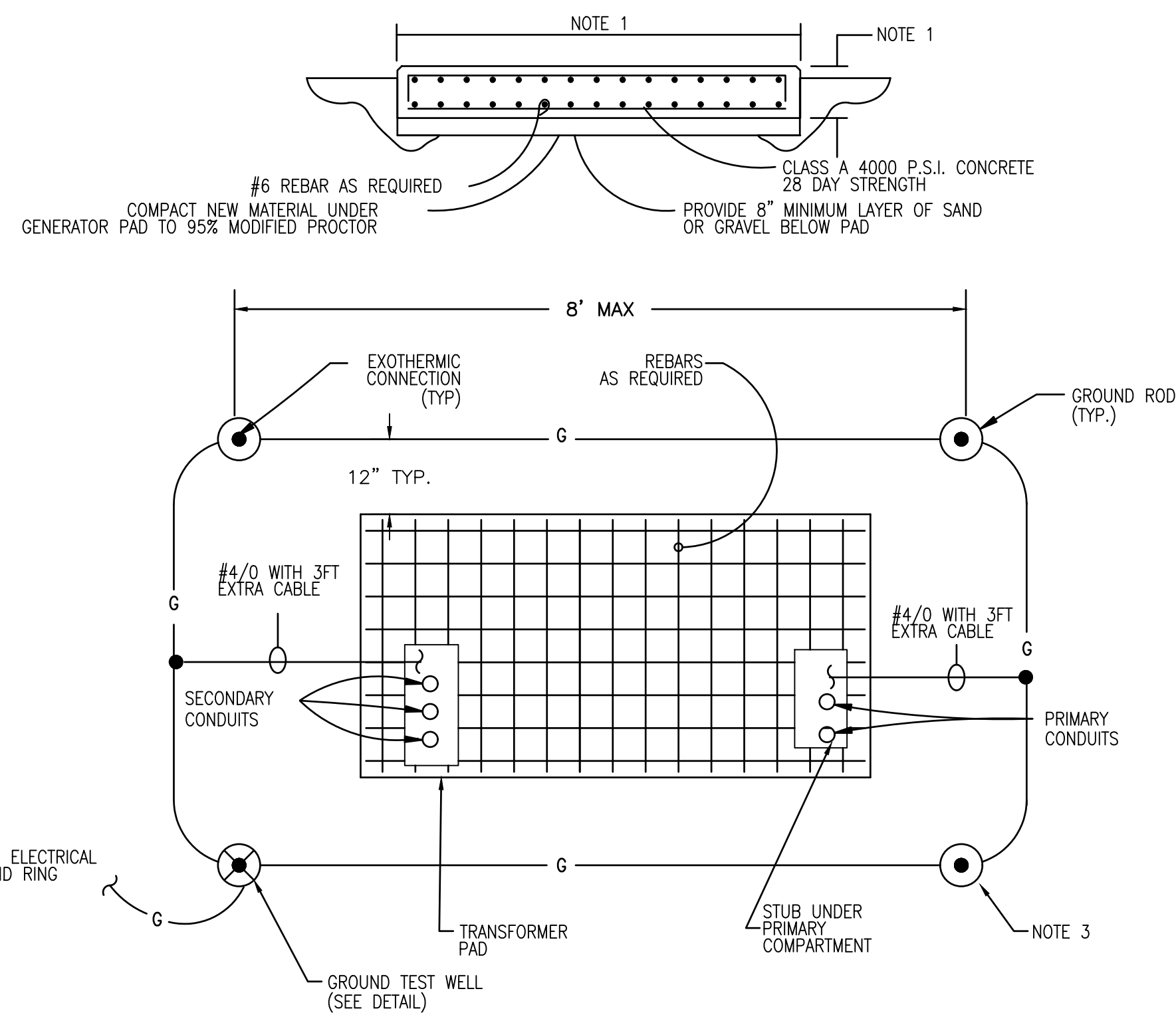
A ELECTRICAL SUPPORT AND CONNECTION DETAIL



BILL OF MATERIAL			
ITEM	QTY	DESCRIPTION	REMARKS
1	A/R	CABLE TRAY	
2	A/R	BONDING WIRE TO GROUNDING POINT	
3	A/R	COMPRESSION FITTING	

A/R=AS REQUIRED

B ELECTRICAL CABLE DROPS FROM TRAY



NOTES:

- REVIEW DIMENSIONS OF TRANSFORMER TO DETERMINE THE REQUIRED DIMENSIONS OF THE TRANSFORMER PAD. THE PAD SHALL BE INSTALLED AS RECOMMENDED BY THE TRANSFORMER MANUFACTURER AND SHALL BE 0'-8" LARGER ON ALL SIDES THAN THE TRANSFORMER BASE AND ENCLOSURE.
- VERIFY CONDUIT PENETRATIONS WITH TRANSFORMER MANUFACTURER AND SINGLE LINE DIAGRAM.
- PROVIDE FOUR (4) 10'X3/8" COPPER CLAD STEEL GROUND RODS AS SHOWN WITH #4/0 BARE COPPER GROUND WIRE AROUND THE TRANSFORMER PAD. CONNECT GROUND WIRE TO THE TRANSFORMER ENCLOSURE AND GROUND BUS.
- THE EXACT TRANSFORMER PAD SIZE SHALL BE DETERMINED BY THE TRANSFORMER MANUFACTURER'S SHOP DRAWING PRIOR TO INSTALLATION.
- METALLIC PRIMARY AND SECONDARY CONDUITS SHALL BE BONDED TO THE GROUND GRID WITH #4 BARE COPPER CABLE.
- TRANSFORMER HOUSING SHALL BE GROUNDED.

C TRANSFORMER PAD INSTALLATION DETAILS



No.	Description	Date



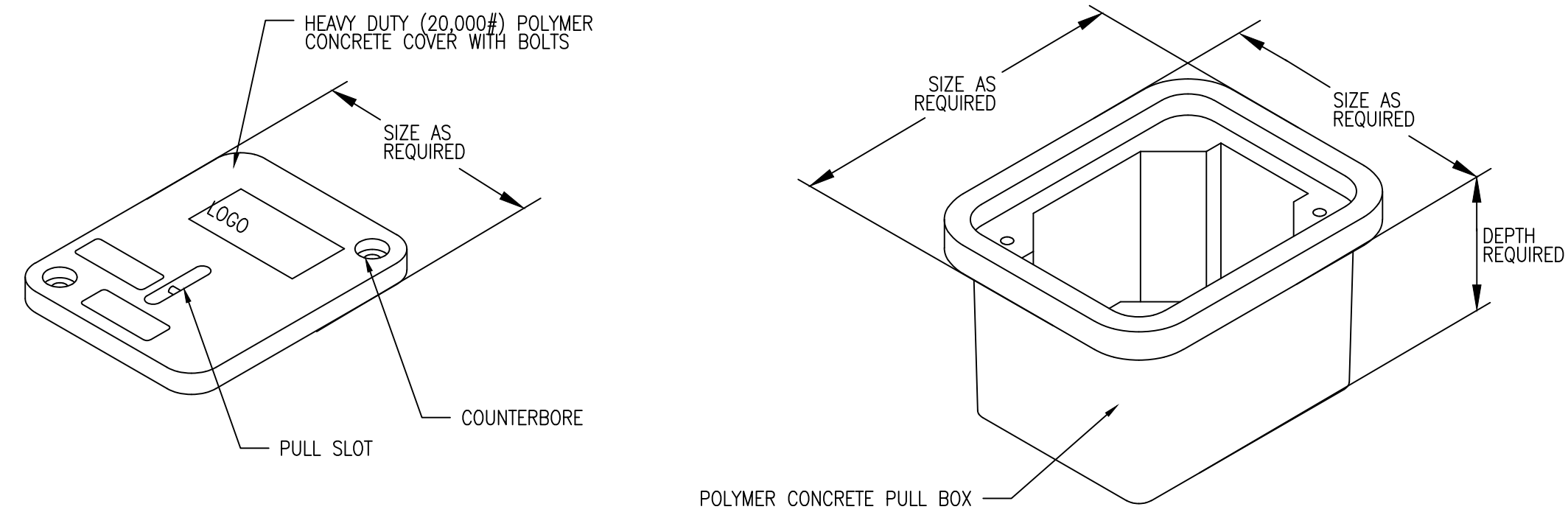
ADDRESS:
BGR2-JV
6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

**CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM**

**RIVER INTAKE PUMP STATION
ELECTRICAL
INSTALLATION DETAILS**

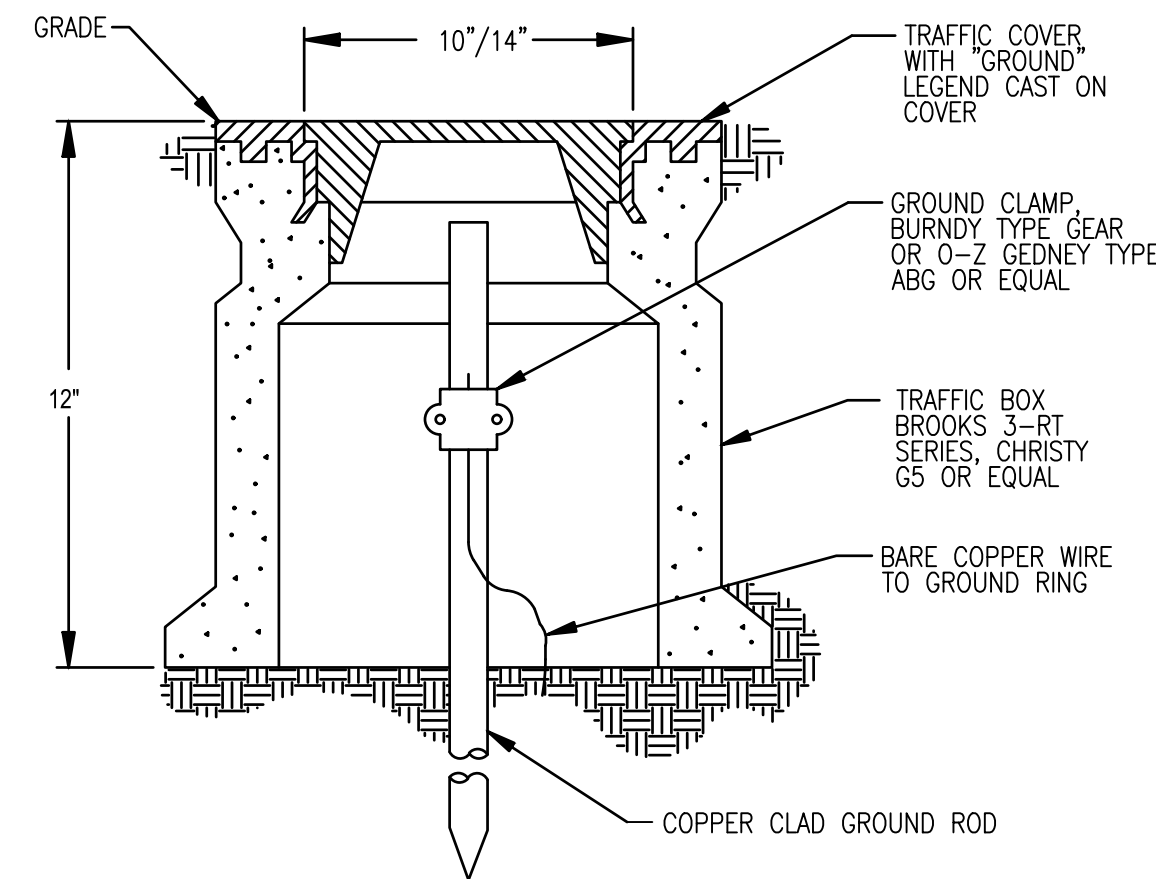
DRAWING NO.
**RI-PS
EG-001**
SHEET OF



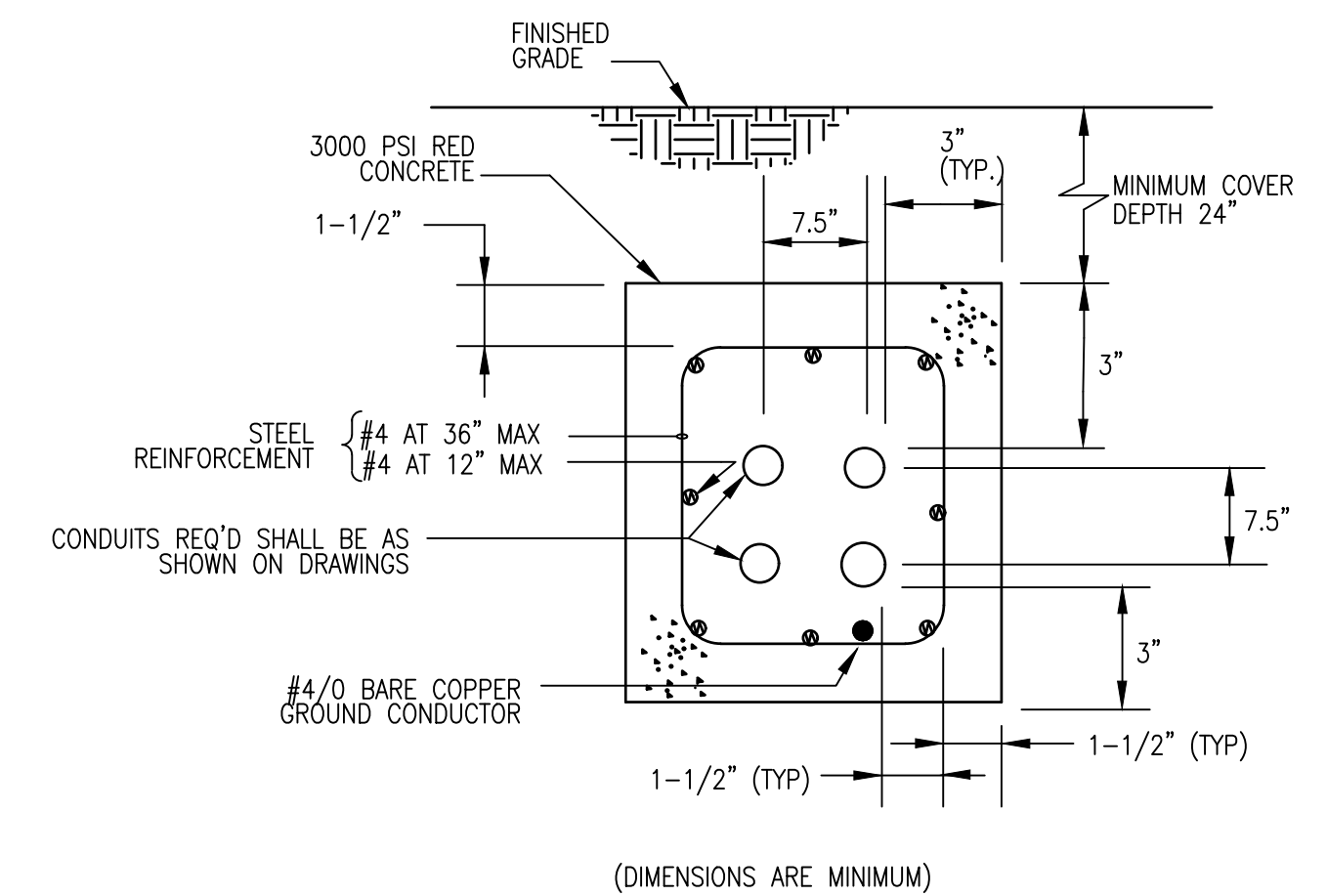
NOTES:

1. PULL BOX TO BE "HUBBELL" QUAZITE BOX MADE WITH PRECAST POLYMER CONCRETE FIBERGLASS REINFORCED, STACKABLE WITH SELF-ALIGNING, REPLACEABLE EZ-NUT.

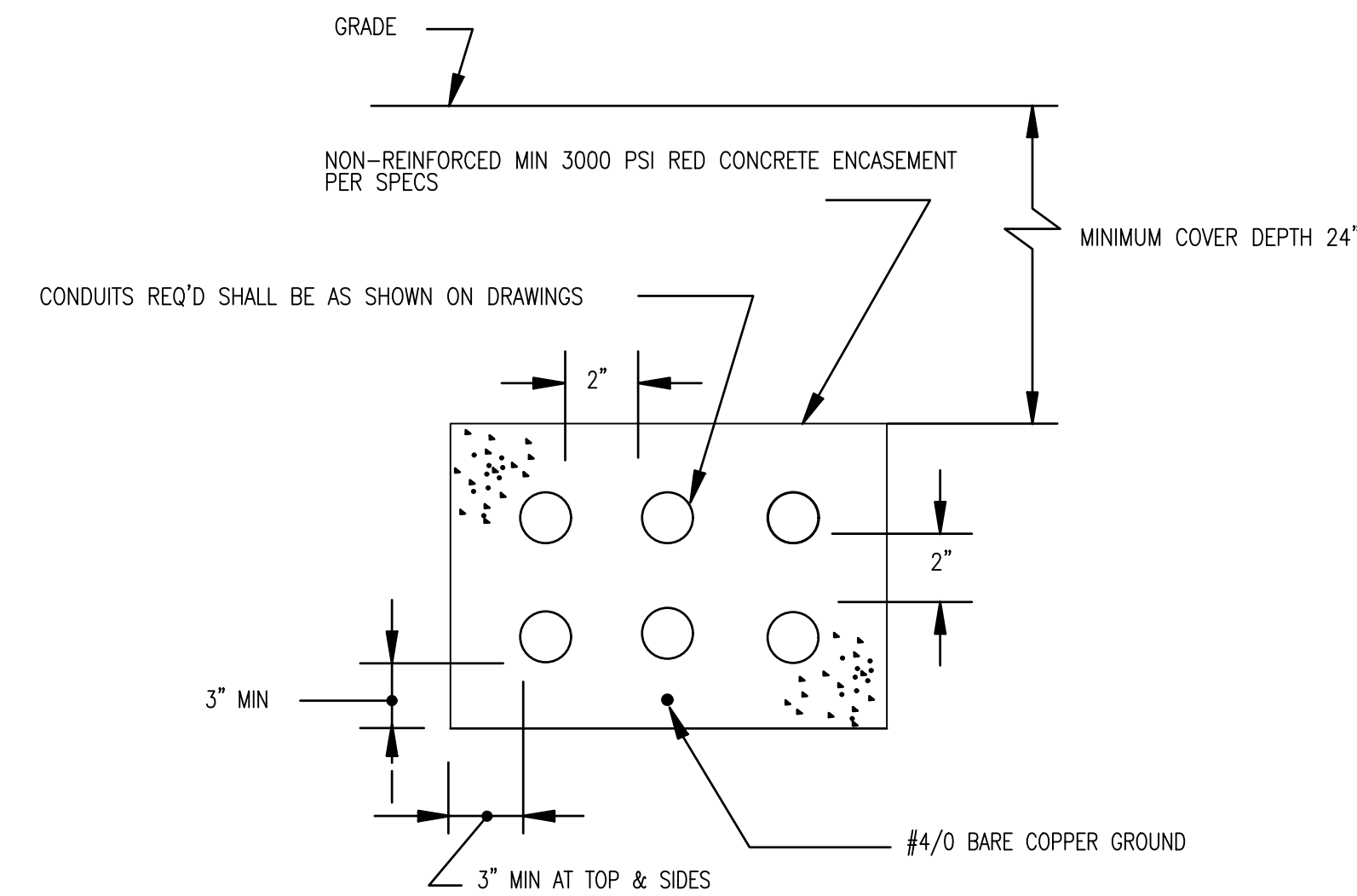
A UNDERGROUND PULL BOX DETAIL



B GROUND WELL INSTALLATION DETAIL



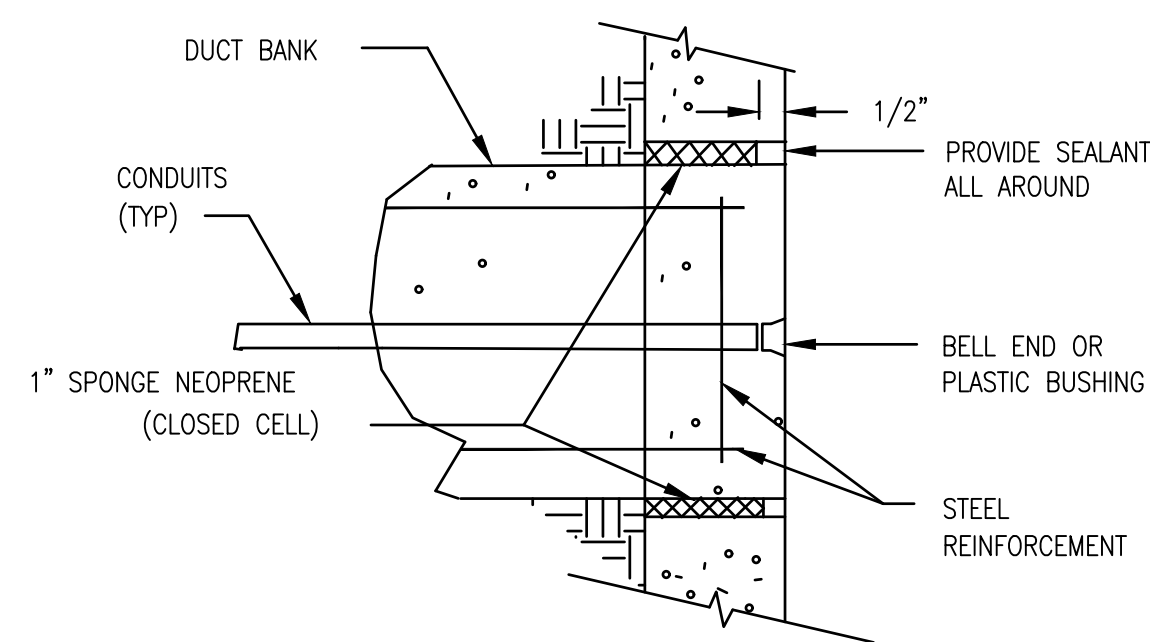
C REINFORCED DUCTBANK DETAIL
TO BE USED UNDER THE ROADS AND PARKING AREAS.



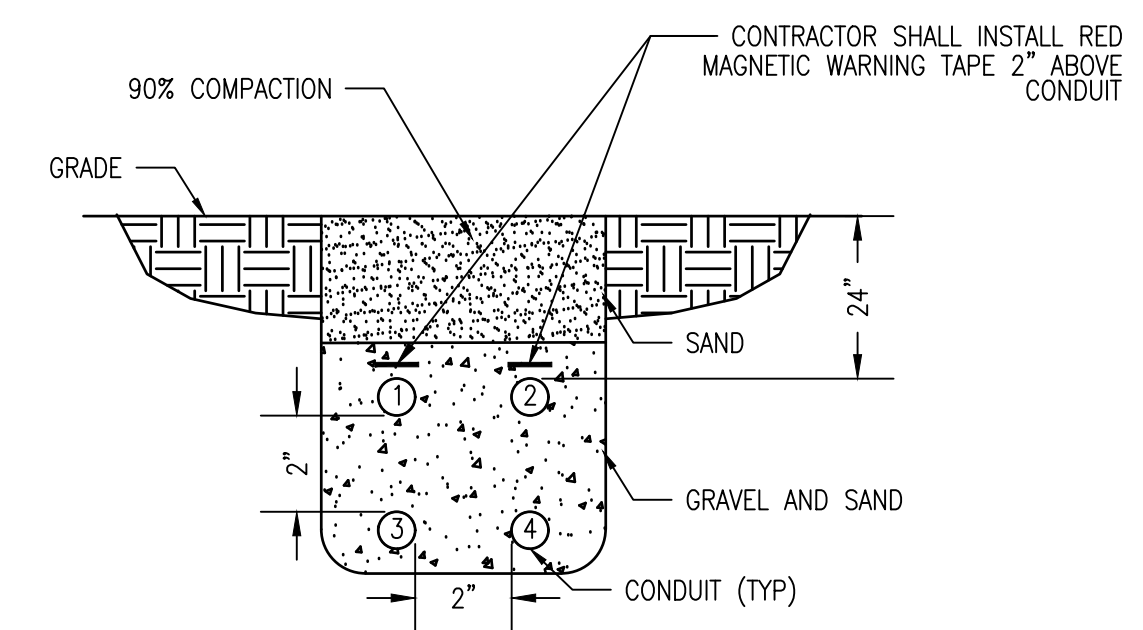
NOTES:

1. ALL DUCT BANKS SHALL BE CONCRETE ENCASED. ALL DUCTBANKS CROSSING ROADS OR HEAVY TRAFFIC AREAS SHALL BE REINFORCED WITHIN 5 (FIVE) FEET OF TRAFFIC AREAS.
2. CONTRACTOR SHALL FIELD COORDINATE EXACT DUCTBANK ROUTING WITH PROCESS PIPING.

D NONREINFORCED DUCTBANK DETAIL



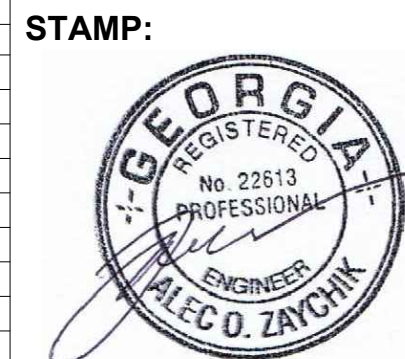
E DUCT BANK AT STRUCTURES



F CONDUIT SECTION IN TRENCH



No.	Description	Date

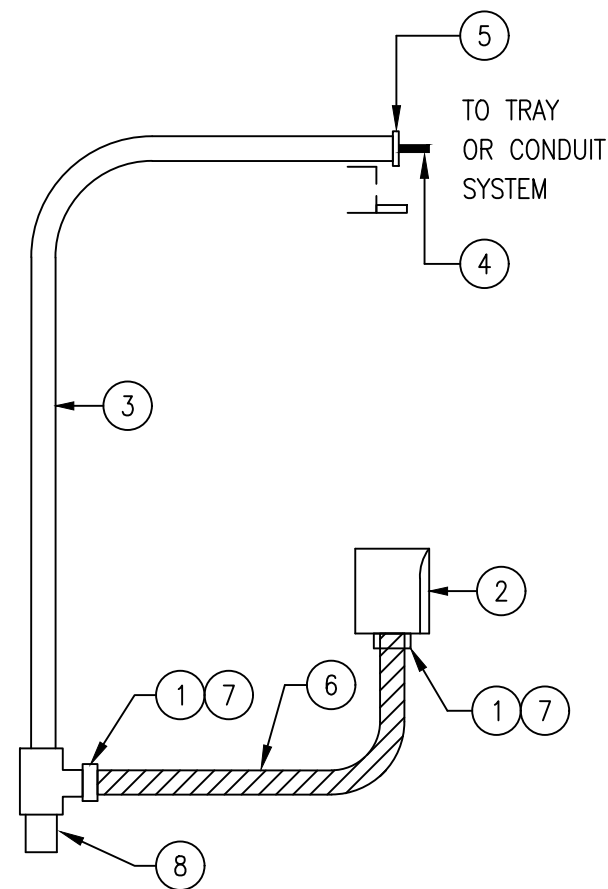


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SUITE 1600
ATLANTA, GA 30328
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**CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM**
RIVER INTAKE PUMP STATION
ELECTRICAL
INSTALLATION DETAILS

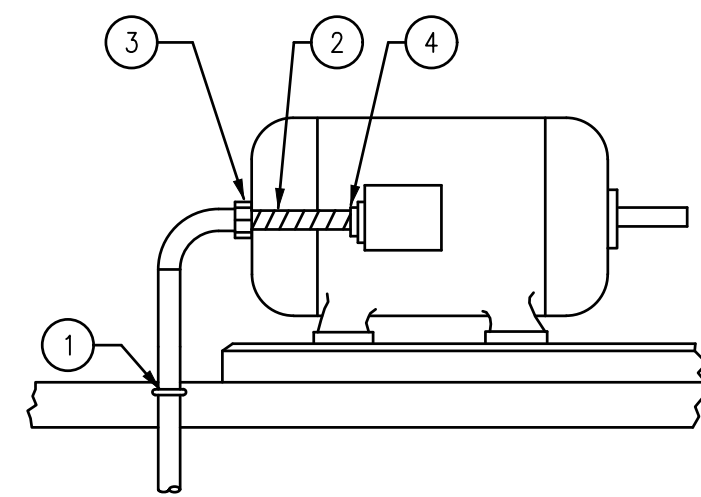
DRAWING NO.
RI-PS
EG-002
SHEET OF



BILL OF MATERIAL			
ITEM	QTY	DESCRIPTION	REMARKS
1	A/R	WATERTIGHT FITTING	
2		DEVICE	
3	A/R	CONDUIT	
4	A/R	CONTROL CABLE TO TRAY	
5	A/R	INSULATED BUSHINGS	
6	A/R	LIQUIDTIGHT FLEXIBLE CONDUIT	
7	2	LIQUIDTIGHT CONNECTOR	
8	1	CONDENSATE DRAIN AND BREATHER	

A/R=AS REQUIRED

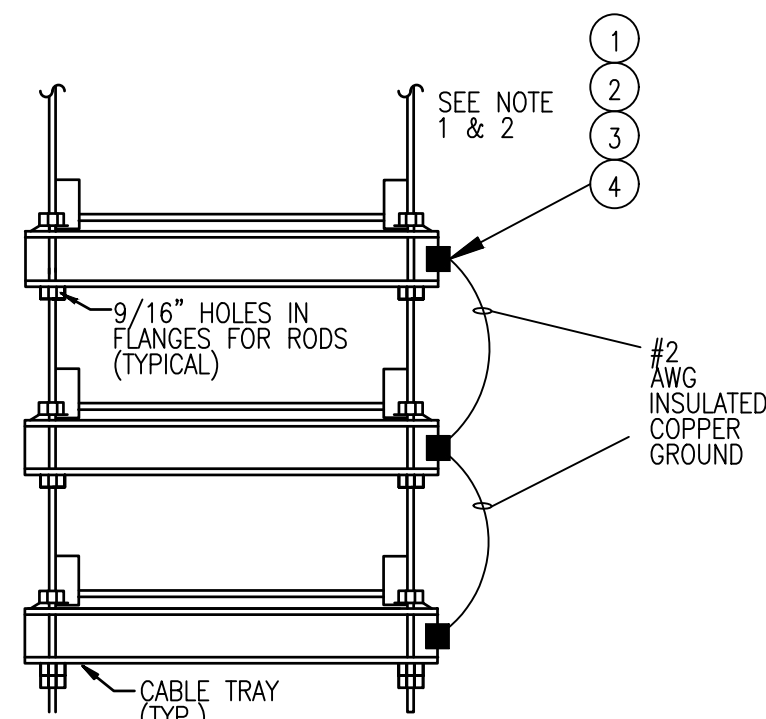
A CONTINUOUS CONDUIT WITH LEX AND DRAIN



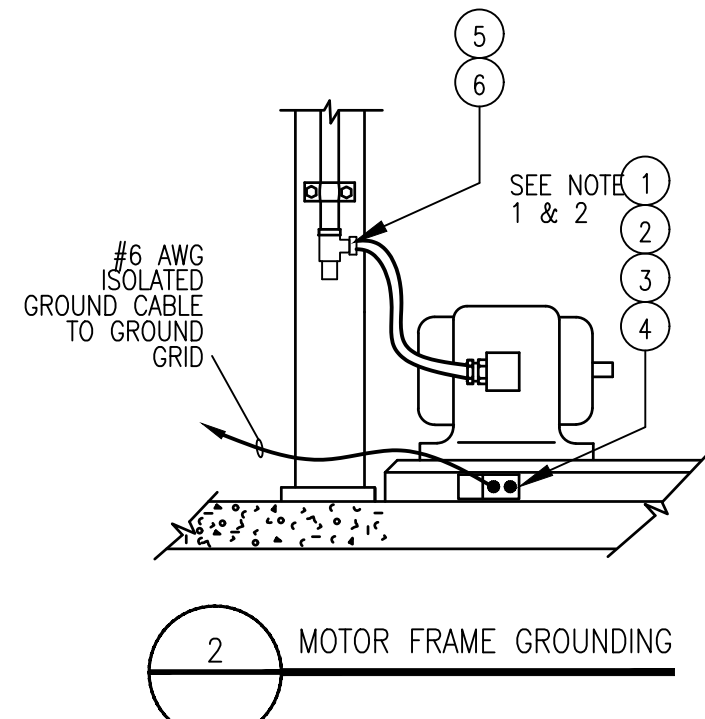
BILL OF MATERIAL			
ITEM	QTY	DESCRIPTION	REMARKS
1	A/R	"U" CLAMP	
2	A/R	LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (6" MAX) (SUNLIGHT RESISTANT, PVC JACKETED)	
3	A/R	LIQUID-TIGHT COUPLING	
4	A/R	LIQUID-TIGHT CONNECTOR	

A/R=AS REQUIRED

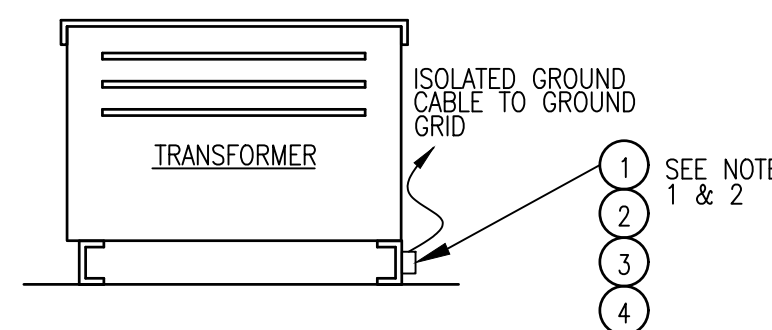
B ELECTRIC MOTOR INSTALLATION



1 CABLE TRAY GROUNDING



2 MOTOR FRAME GROUNDING



3 FLOOR MOUNTED TRANSFORMER GROUNDING

NOTES:

1. DRILL AND TAP (2) 3/8" UNC HOLES IN EQUIPMENT OR USE NUT AND STAR WASHER ON INSIDE OF EQUIPMENT FRAME WHEN THICKNESS OF FRAME IS LESS THAN 3/8".
2. EQUIPMENT SURFACE MUST BE CLEANED TO BARE METAL AND CROUSE-HINDS TYPE STL CONDUCTING GREASE APPLIED PRIOR TO LUG ATTACHMENT

BILL OF MATERIAL			
ITEM	QTY	DESCRIPTION	REMARKS
1	1	COMPRESSION LUG, 2 HOLE	
2	2	BOLT, HEX HD 3/8" UNC X 3/4" LONG	
3	2-4	WASHER STAR LOCK 3/8"	
4	0-2	NUT, HEX 3/8" UNC	
5	2	LIQUIDTIGHT CONNECTOR	
6	1	CONDENSATE DRAIN AND BREATHER	

C EQUIPMENT GROUNDING DETAILS



No.	Description	Date

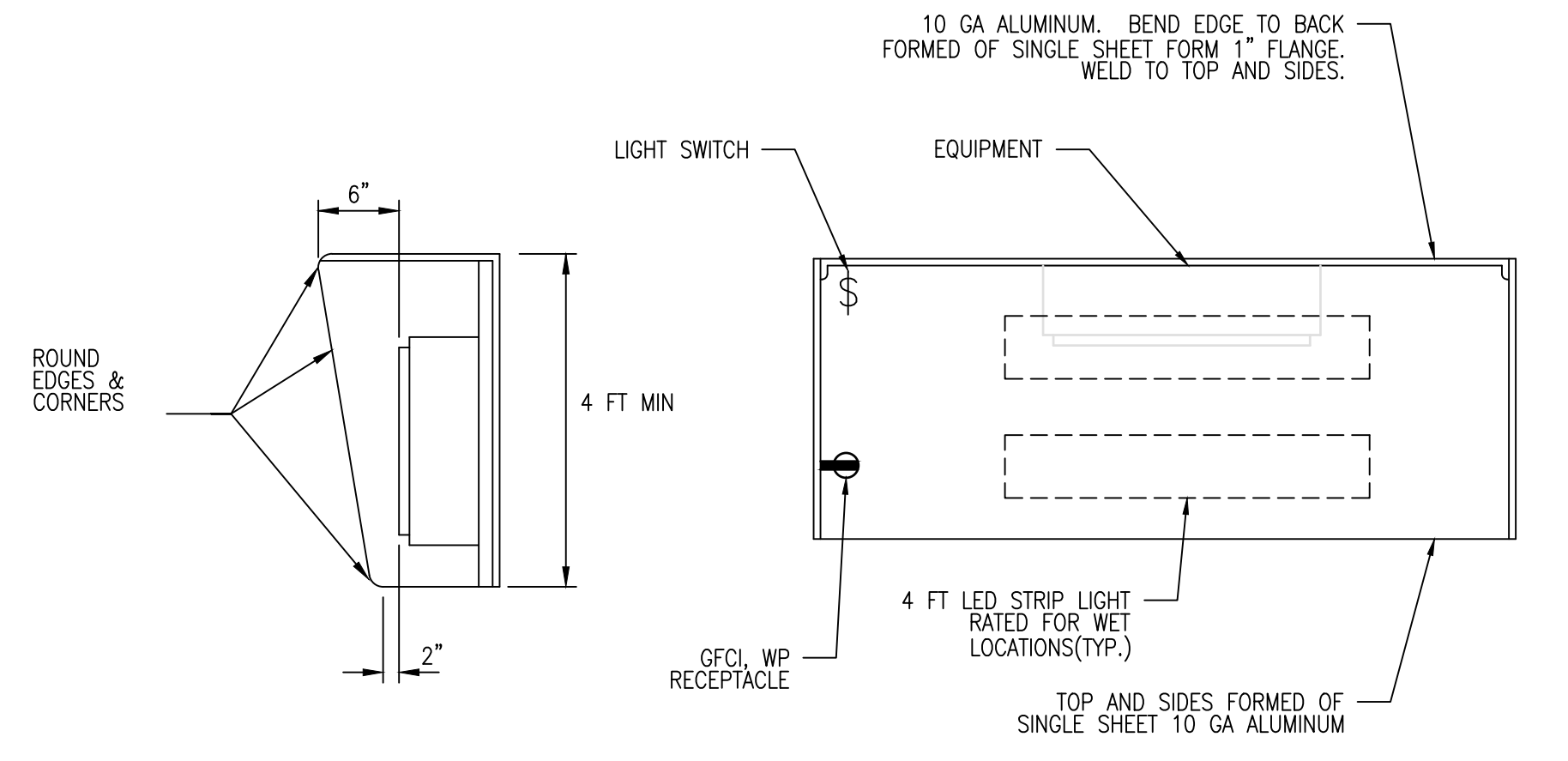


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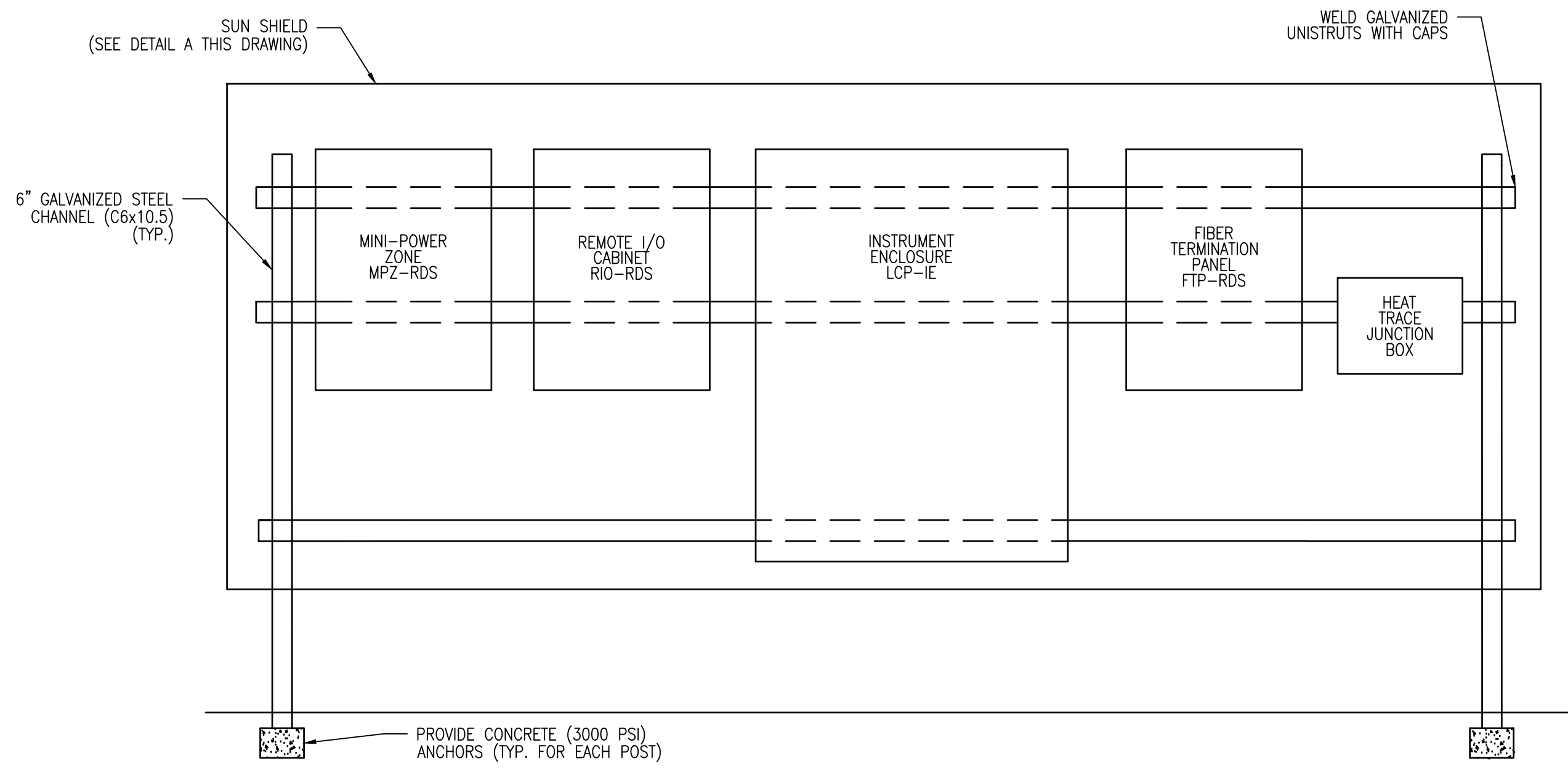
CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
ELECTRICAL
INSTALLATION DETAILS

DRAWING NO.
RI-PS
EG-003
SHEET OF



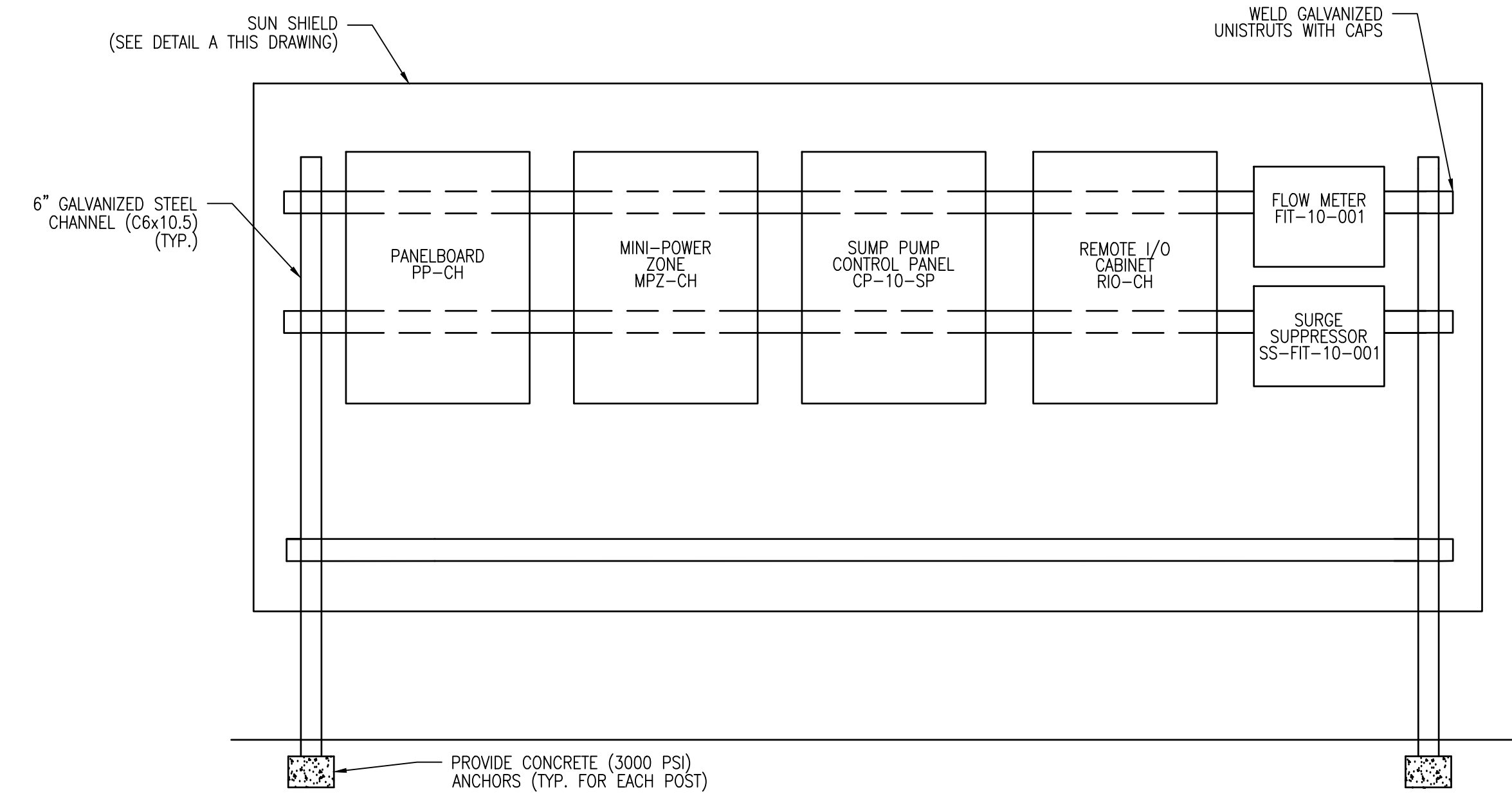
- NOTES:
1. ALL EXPOSED EDGES TO BE GRIND SMOOTH AND BURR FREE.
 2. MOUNT RAIN HOOD BETWEEN INSTRUMENT AND STANCHION. USE STAINLESS STEEL BOLTS AND INSULATING WASHERS AND SLEEVES.

A SUN SHIELD DETAIL



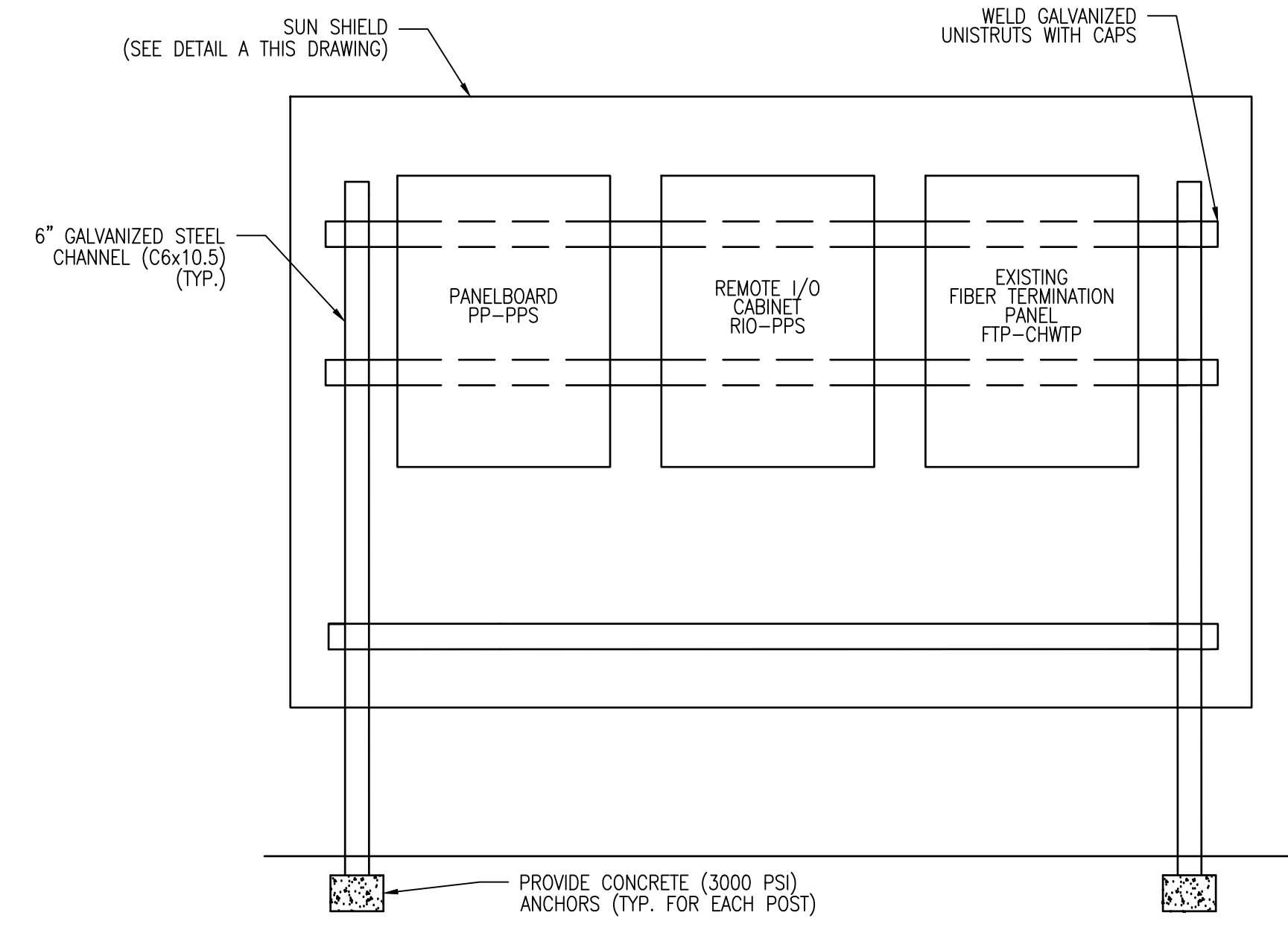
- NOTES:
1. CONTRACTOR SHALL PROVIDE ANCHORS, CHANNELS AND UNISTRUTS AS REQUIRED TO SUPPORT EQUIPMENT.
 2. SEE ELECTRICAL PLAN DRAWING FOR ACTUAL EQUIPMENT LAYOUT.

B RIVER INTAKE PUMP STATION DROP/CONSTRUCTION SHAFT UNISTRUT LAYOUT



- NOTES:
1. CONTRACTOR SHALL PROVIDE ANCHORS, CHANNELS AND UNISTRUTS AS REQUIRED TO SUPPORT EQUIPMENT.
 2. SEE ELECTRICAL PLAN DRAWING FOR ACTUAL EQUIPMENT LAYOUT.

C CHATTAHOOCHEE VALVE VAULT UNISTRUT LAYOUT

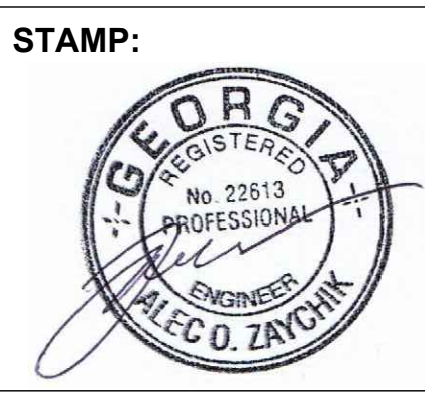


- NOTES:
1. CONTRACTOR SHALL PROVIDE ANCHORS, CHANNELS AND UNISTRUTS AS REQUIRED TO SUPPORT EQUIPMENT.
 2. SEE ELECTRICAL PLAN DRAWING FOR ACTUAL EQUIPMENT LAYOUT.

D PPS DROP/CONSTRUCTION SHAFT



No.	Description	Date

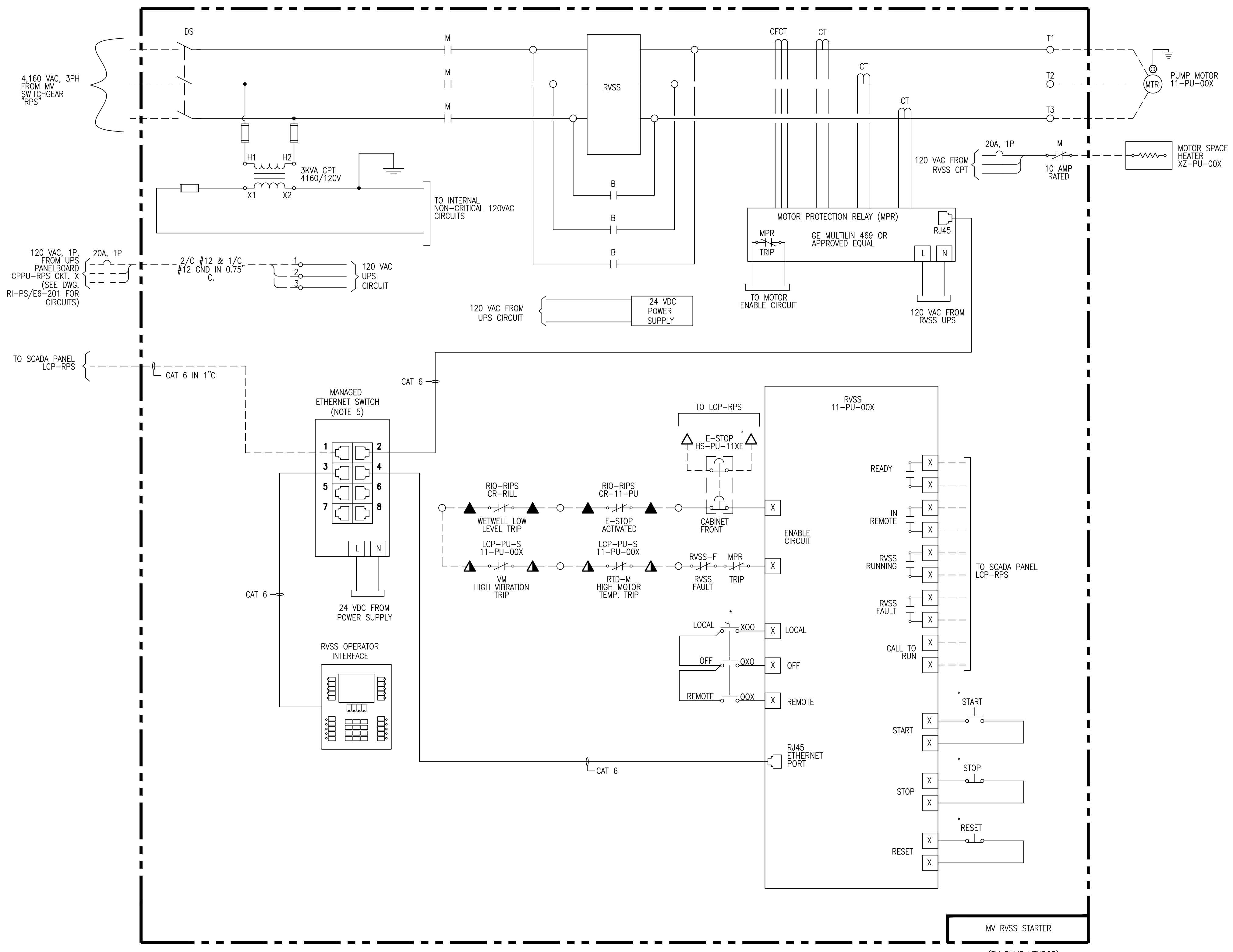


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 BGR2-JV
 6 CONCOURSE PARKWAY
 SUITE 1600
 ATLANTA, GA 30328
 (770) 569-7038 x101
 FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
 INSTRUMENTATION
 INSTALLATION DETAILS

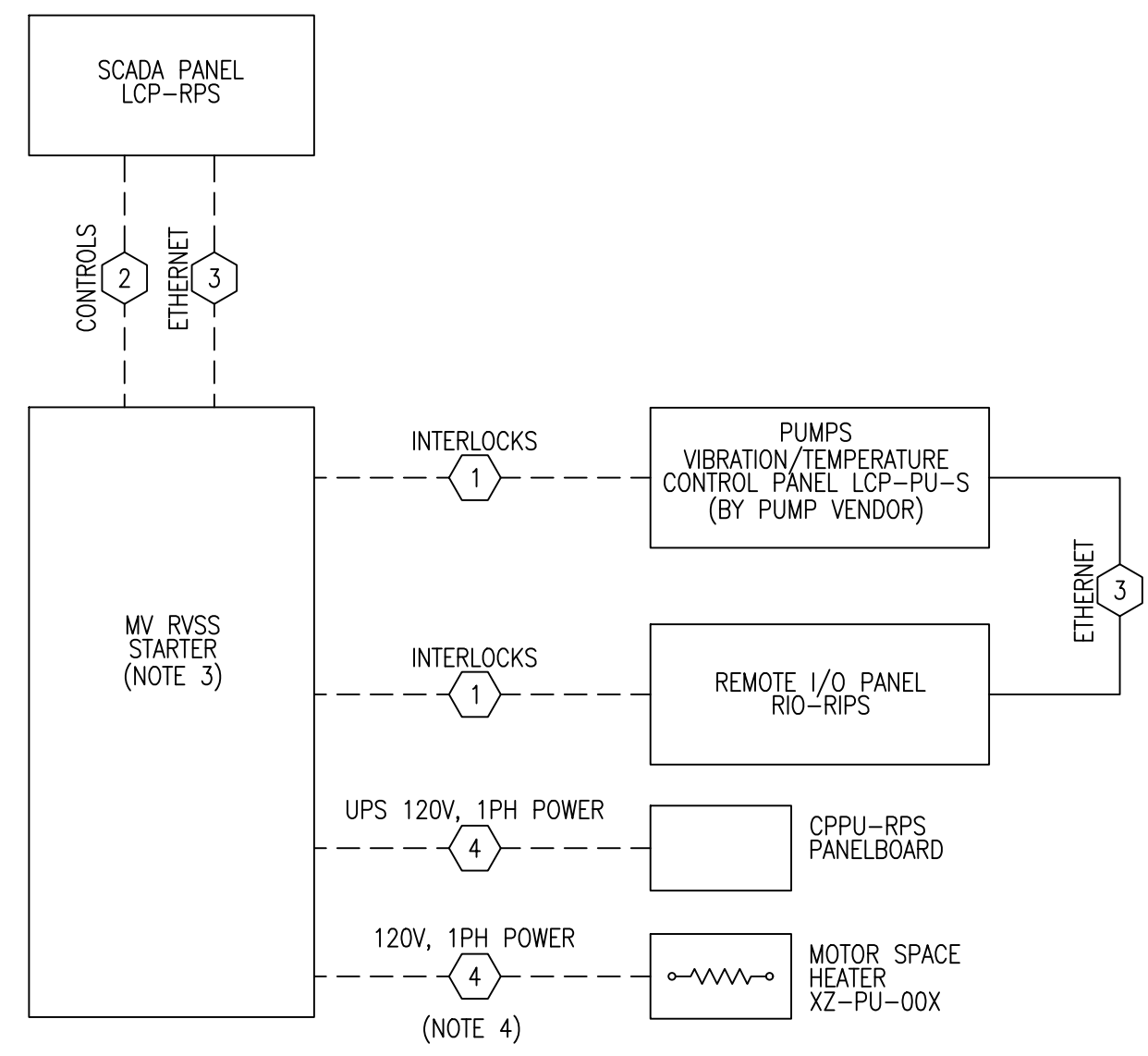
DRAWING NO.
RI-PS
IG-002
 SHEET OF



- NOTES:**
1. SCHEMATIC WIRING DIAGRAM IS GENERIC IN NATURE. RVSS MANUFACTURER SHALL INCLUDE ALL NECESSARY COMPONENTS INCLUDING, BUT NOT LIMITED TO DC POWER SUPPLIES, RELAYS, TIMERS, PILOT LIGHTS, PUSH BUTTONS, SELECTOR SWITCHES, ETC. AND AS REQUIRED BY PUMP VENDOR FOR PROPER RVSS OPERATION AND INTERFACE WITH SCADA SYSTEM.
 2. CONTRACTOR SHALL INCLUDE ALL CONTROL/SIGNAL CABLES AND CONDUITS AS REQUIRED BY APPROVED SHOP DRAWINGS.
 3. SEE ONE LINE DIAGRAM FOR POWER CABLES AND CONDUITS INFORMATION.
 4. FEEDER TO THE MOTOR SPACE HEATER(S) SHALL BE ADJUSTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER BASED ON THE ACTUAL NUMBER AND POWER REQUIREMENTS OF THE SPACE MOTOR HEATER(S).
 5. SEE OVERALL SCADA NETWORK BLOCK DIAGRAM EJ-101 FOR ETHERNET IP NETWORK DETAILS.
- LEGEND:**
- - RVSS POWER TERMINAL
 - - RVSS CONTROL TERMINAL
 - △ - SCADA PANEL TERMINAL
 - ▲ - RIO-RIPS PANEL TERMINALS
 - ▲ - PUMPS VIBRATION/TEMPERATURE PANEL LCP-PU-S TERMINALS
 - ⊗ - LOCAL CONTROL PANEL TERMINAL
 - - DEVICE TERMINAL
 - - - - SHORT DASHED LINE INDICATES FIELD WIRING
 - — — — SOLID LINE INDICATES WIRING INTERNAL INSIDE AN ENCLOSURE (i.e. CONTROL, RVSS CAB. OR SCADA PANEL).

CONTROLS CONDUCTOR/CONDUIT SCHEDULE (TYPICAL FOR 3)

1	8/c #14 IN 1" C.
2	20/c #14 IN 1.5" C.
3	ETHERNET CAT-6 CABLE IN 1" C.
4	2/C #12 & 1/C #12 GND IN 1" C.



1 RIVER INTAKE PUMP STATION PUMPS RVSS SCHEMATIC
TYPICAL FOR 3

PUMP	DESCRIPTION	RVSS	RVSS E-STOP	XZ-PU-00X	CPPU-RPS 120V CKT X
11-PU-001	RAW WATER PUMP #1	RVSS-11-PU-001	HS-PU-111E	XZ-PU-001	1
11-PU-002	RAW WATER PUMP #2	RVSS-11-PU-002	HS-PU-112E	XZ-PU-002	3
11-PU-003	RAW WATER PUMP #3	RVSS-11-PU-003	HS-PU-113E	XZ-PU-003	5



No.	Description	Date



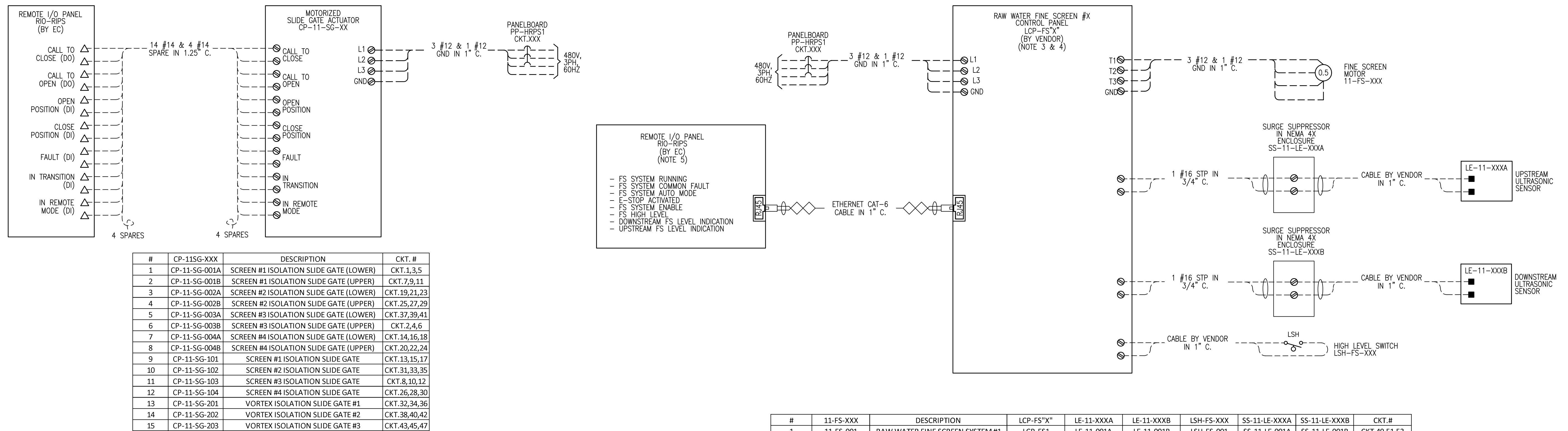
ADDRESS:
BGR2-JV
6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

**CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM**

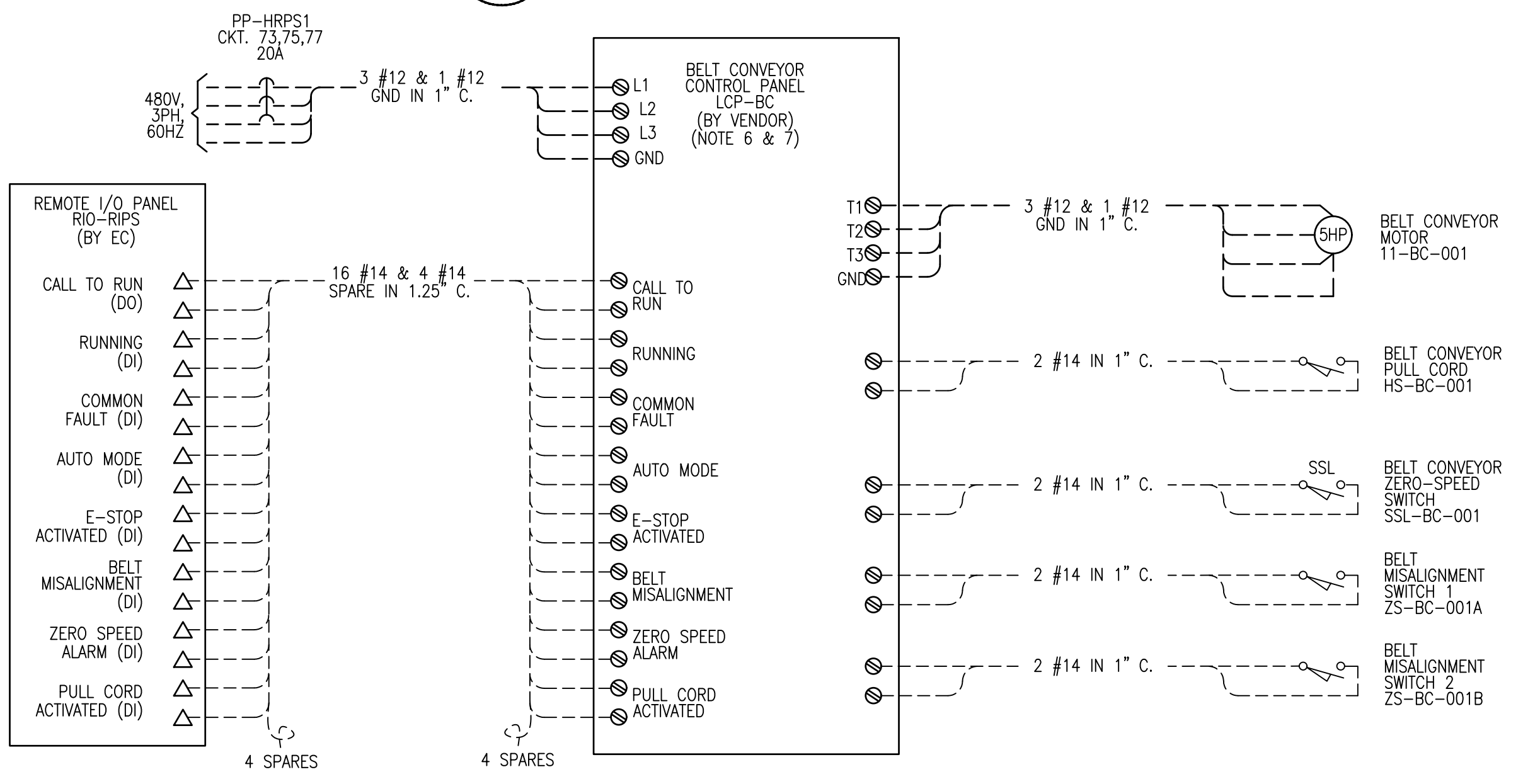
**RIVER INTAKE PUMP STATION
SCHEMATIC DIAGRAMS**

DRAWING NO.
**RI-PS
EI-001**
SHEET OF



1 SLIDE GATE ACTUATOR SCHEMATIC
(TYPICAL FOR 15)

2 FINE SCREEN SYSTEM CONTROL PANEL SCHEMATIC
(TYPICAL FOR 2)



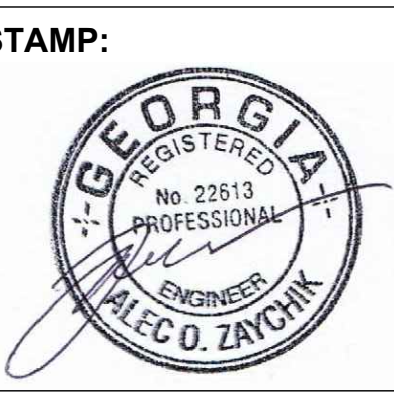
3 BELT CONVEYOR CONTROL PANEL SCHEMATIC

- LEGEND:**
- - RVSS POWER TERMINAL
 - - RVSS CONTROL TERMINAL
 - △ - SCADA PANEL TERMINAL
 - ▲ - RIO PANEL TERMINALS
 - ▲ - PUMPS VIBRATION/TEMPERATURE PANEL TERMINALS
 - ⊗ - LOCAL CONTROL PANEL TERMINAL
 - - DEVICE TERMINAL
 - - SHORT DASHED LINE INDICATES FIELD WIRING
 - - SOLID LINE INDICATES WIRING INTERNAL INSIDE AN ENCLOSURE (i.e. CONTROL, RVSS CAB. OR SCADA PANEL).

- NOTES:**
- SEE ELECTRICAL DRAWINGS FOR POWER FEED TO MOTORIZED VALVE ACTUATORS, SLIDE GATES AND FINE SCREEN CONTROL PANELS.
 - CONTRACTOR SHALL INCLUDE ALL POWER AND CONTROL/SIGNAL CABLES AND CONDUITS AS REQUIRED BY THE APPROVED SHOP DRAWINGS.
 - RAW WATER FINE SCREEN CONTROL PANELS SHALL BE SUPPLIED BY FINE SCREENS MANUFACTURER. SEE PROCESS EQUIPMENT SPECIFICATION FOR CONTROL PANEL DETAILS. CONTRACTOR SHALL BE RESPONSIBLE FOR WIRING ALL SYSTEM COMPONENTS AS REQUIRED BY ACCEPTED SHOP DRAWINGS.
 - FINE SCREEN VENDOR SHALL FURNISH AND CONTRACTOR SHALL INSTALL FINE SCREEN CONTROL PANEL IN NEMA 4X SS ENCLOSURE INCLUDING AS A MINIMUM THE FOLLOWING EQUIPMENT:
 - HOA SWITCHES, START/STOP PUSHBUTTONS FOR "HAND MODE"
 - 2KVA, 480/120V CONTROL POWER TRANSFORMER
 - ONE - NEMA RATED FVNR MOTOR STARTER WITH MOTOR CIRCUIT PROTECTOR SIZED FOR BELT CONVEYOR MOTOR
 - MAIN POWER DISCONNECT SWITCH,
 - AUXILIARY DRY CONTACTS (120VAC, 5AMP RATED)
 1. BELT CONVEYOR RUNNING
 2. BELT CONVEYOR COMMON FAULT
 3. BELT CONVEYOR AUTO MODE
 4. BELT CONVEYOR E-STOP ACTIVATED
 5. BELT CONVEYOR CALL TO RUN
 - RELAYS, TERMINALS, CONTROLLERS, RECEPTACLES ETC. AS REQUIRED
 - LIGHTING ARRESTOR
 - SPACE HEATER
 - AIR CONDITIONER
 - CONTRACTOR SHALL SUBMIT THE DETAILED WIRING DIAGRAM AND BILL OF MATERIALS FOR ENGINEER'S APPROVAL PRIOR TO FABRICATION.
 - CONTRACTOR SHALL INCLUDE ALL THE REQUIRED PROVISIONS TO REMOTE I/O PANEL RIO-RIPS TO ACCOMMODATE TWO (2) FUTURE FINE SCREENS ADDITION (ASSUME THAT FUTURE FINE SCREENS ARE THE SAME TYPE AS TWO (2) INCLUDED SCREENS).



No.	Description	Date



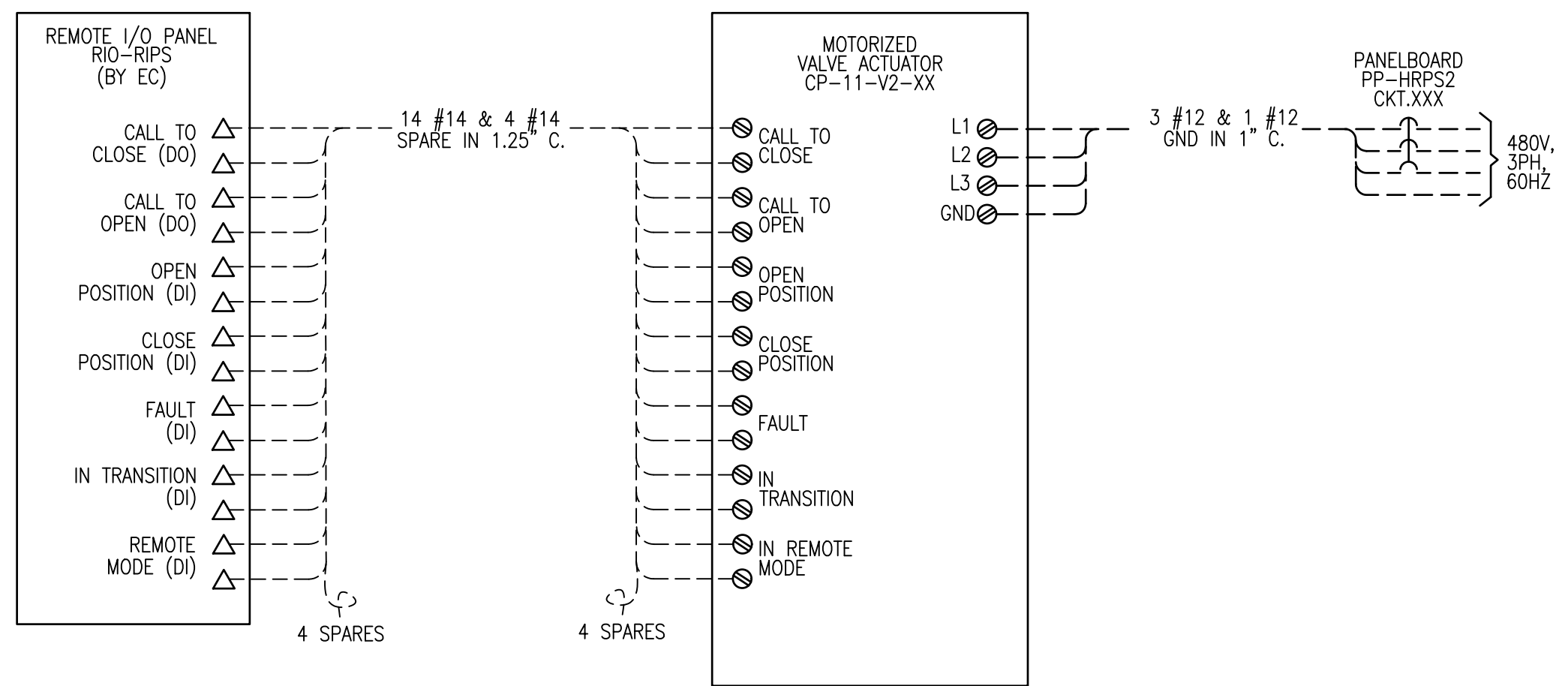
ADDRESS:
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**CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM**

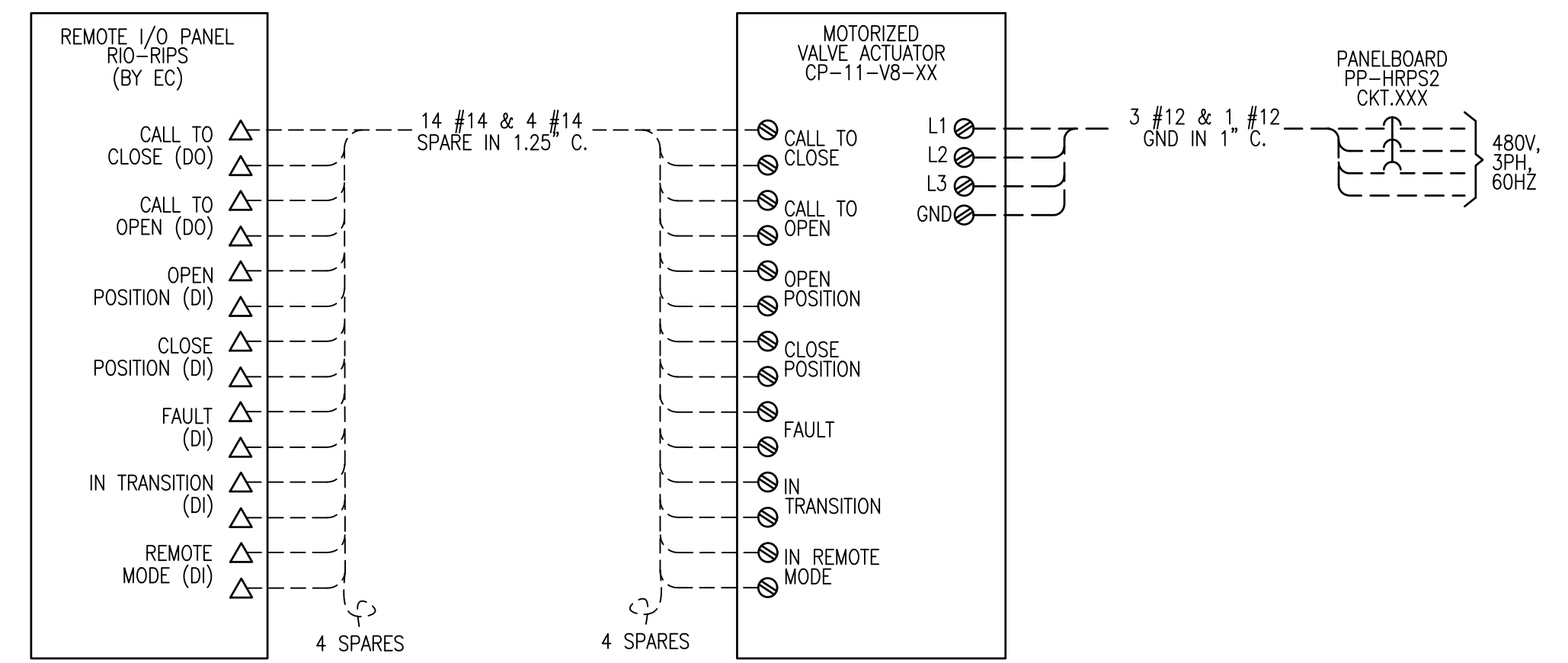
**RIVER INTAKE PUMP STATION
SCHEMATIC DIAGRAMS**

DRAWING NO.
RI-PS
EI-002
SHEET OF



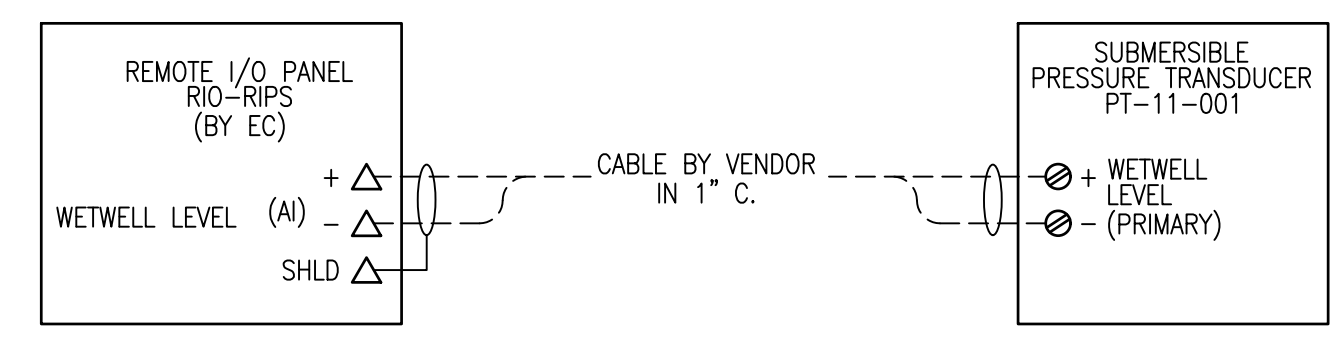
#	CP-11-V2-XXX	DESCRIPTION	CKT#
1	CP-11-V2-001	PUMP 1 ISOLATION GATE VALVE	CKT.2,4,6
2	CP-11-V2-002	PUMP 2 ISOLATION GATE VALVE	CKT.8,10,12
3	CP-11-V2-003	PUMP 3 ISOLATION GATE VALVE	CKT.14,16,18
4	CP-11-V2-007	PUMP 1, 2 AND 3 ISOLATION GATE VALVE	CKT.38,40,42

1 RIVER INTAKE PS ISOLATION VALVE ACTUATOR SCHEMATIC (TYPICAL FOR 4)

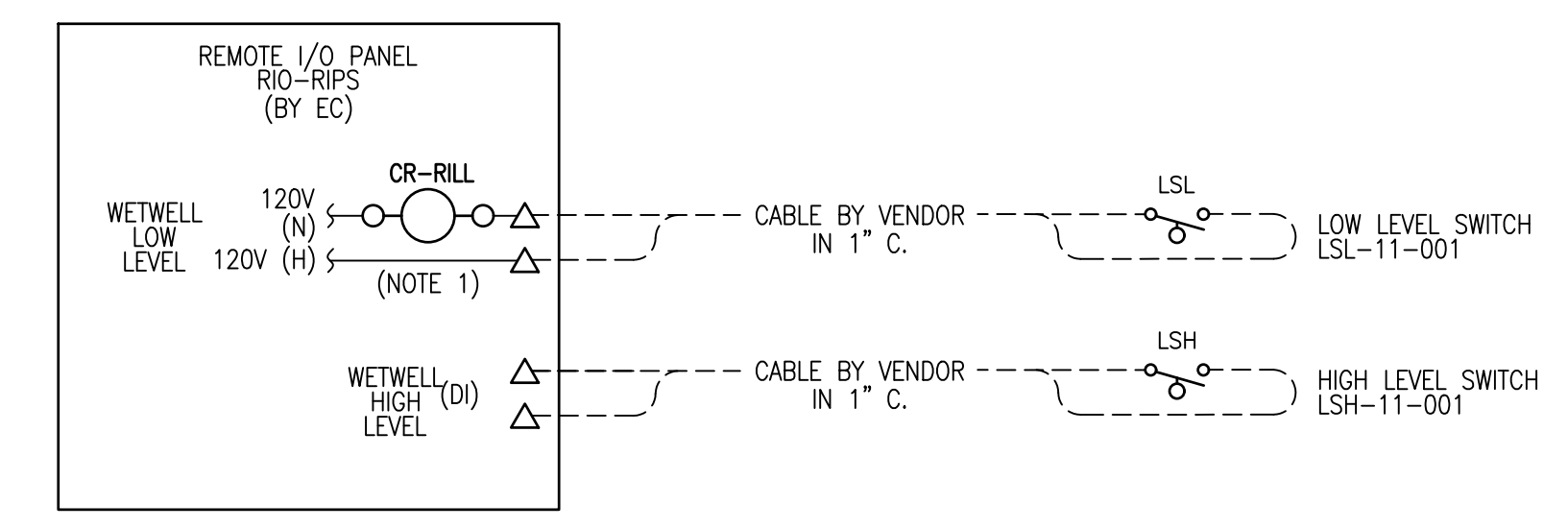


#	CP-11-VX-XXX	DESCRIPTION	CKT#
1	CP-11-V8-001	PUMP 1 CONTROL VALVE	CKT.1,3,5
2	CP-11-V8-002	PUMP 2 CONTROL VALVE	CKT.7,9,11
3	CP-11-V8-003	PUMP 3 CONTROL VALVE	CKT.13,15,17

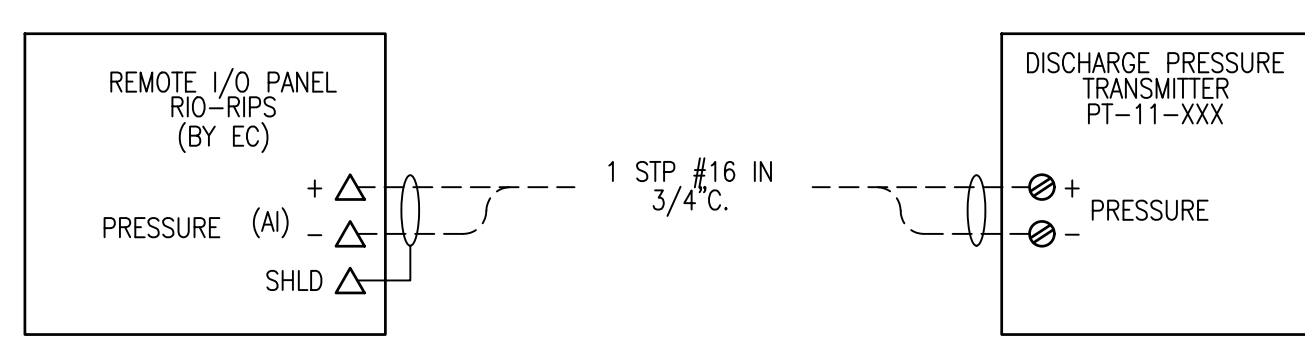
2 RIVER INTAKE PS PUMP CONTROL VALVE ACTUATOR SCHEMATIC (TYPICAL FOR 3)



3 RIVER INTAKE PS SUBMERSIBLE PRESSURE TRANSDUCER SCHEMATIC



4 RIVER INTAKE PS WETWELL FLOAT LEVEL SWITCHES SCHEMATIC



#	DESCRIPTION	PIT-PU-XXX
1	PUMP 1 DISCHARGE PRESSURE TRANSMITTER	PIT-PU-111
2	PUMP 2 DISCHARGE PRESSURE TRANSMITTER	PIT-PU-112
3	PUMP 3 DISCHARGE PRESSURE TRANSMITTER	PIT-PU-113

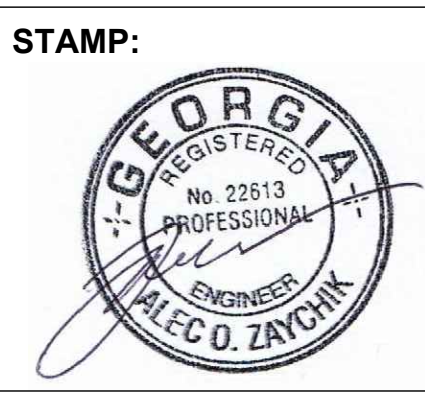
5 PUMP DISCHARGE PRESSURE TRANSMITTER SCHEMATIC

- * MOUNTED ON MCC
- LEGEND:
- - RVSS POWER TERMINAL
 - - RVSS CONTROL TERMINAL
 - △ - SCADA PANEL TERMINAL
 - ▲ - RIO PANEL TERMINALS
 - ▲ - PUMPS VIBRATION/TEMPERATURE PANEL TERMINALS
 - - LOCAL CONTROL PANEL TERMINAL
 - - DEVICE TERMINAL
 - - - SHORT DASHED LINE INDICATES FIELD WIRING
 - SOLID LINE INDICATES WIRING INTERNAL INSIDE AN ENCLOSURE (ie. CONTROL, RVSS CAB. OR SCADA PANEL).

NOTES:
1. SEE DRAWING RI-PS EI-001 FOR RELAY CONTACTS CONNECTION TO MV SWITCHGEAR "RSG" RVSS SECTION.



No.	Description	Date

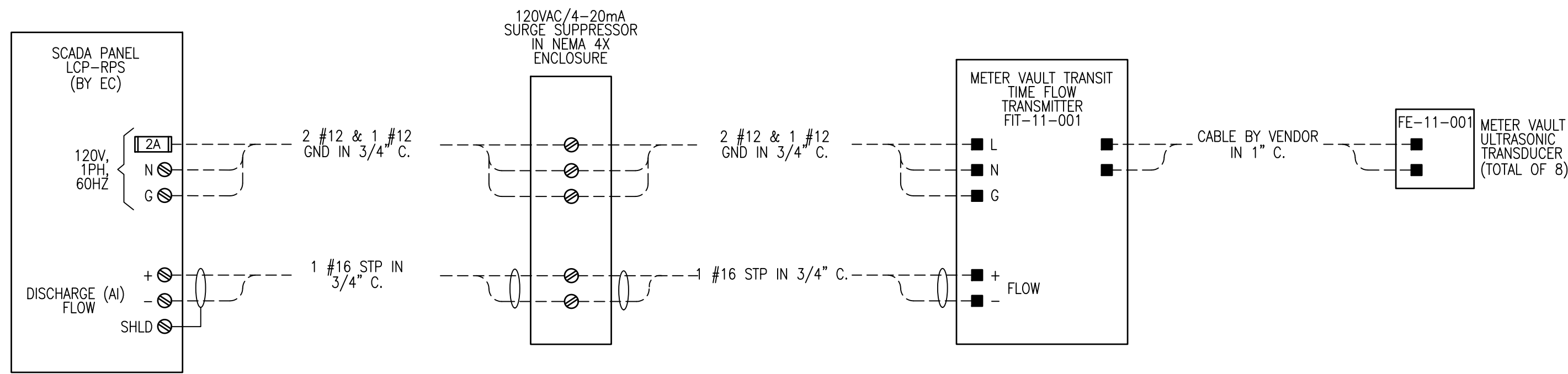


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6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
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FAX: (770) 993-5082

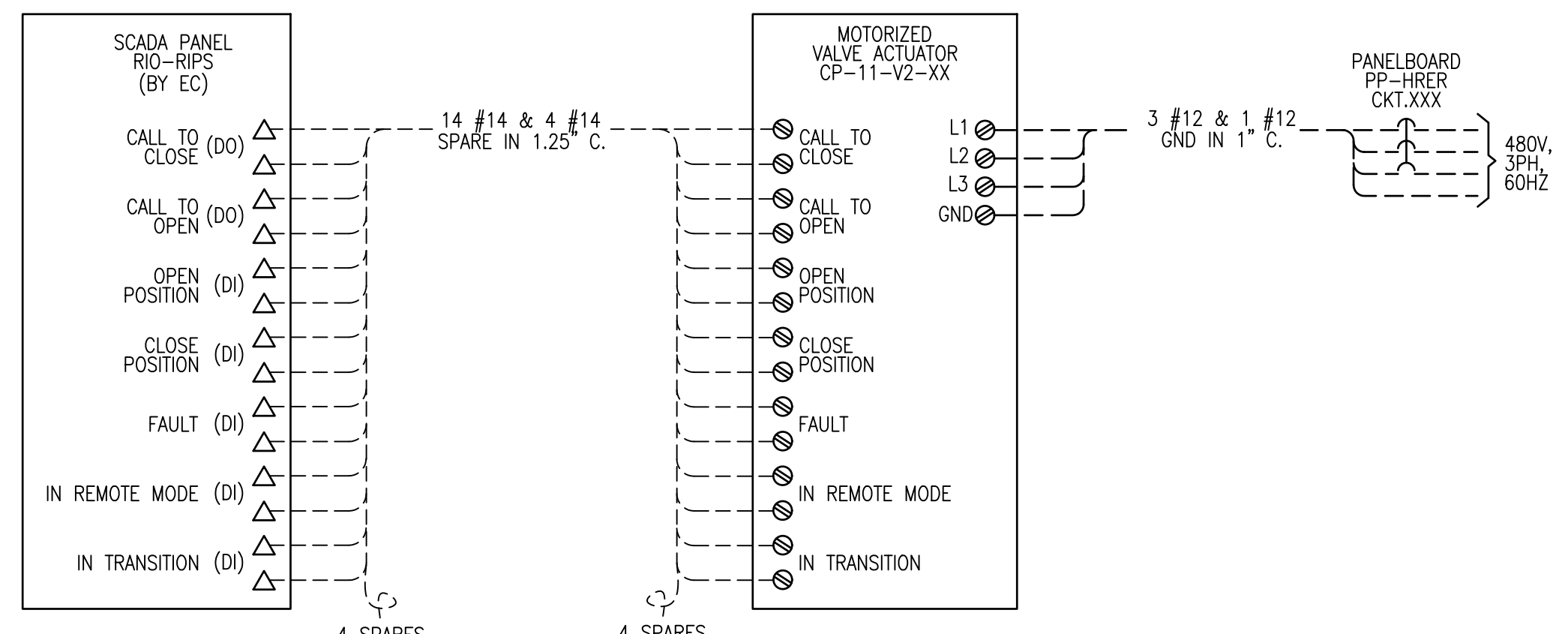
PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
SCHEMATIC DIAGRAMS

DRAWING NO.
RI-PS
EI-003
SHEET OF

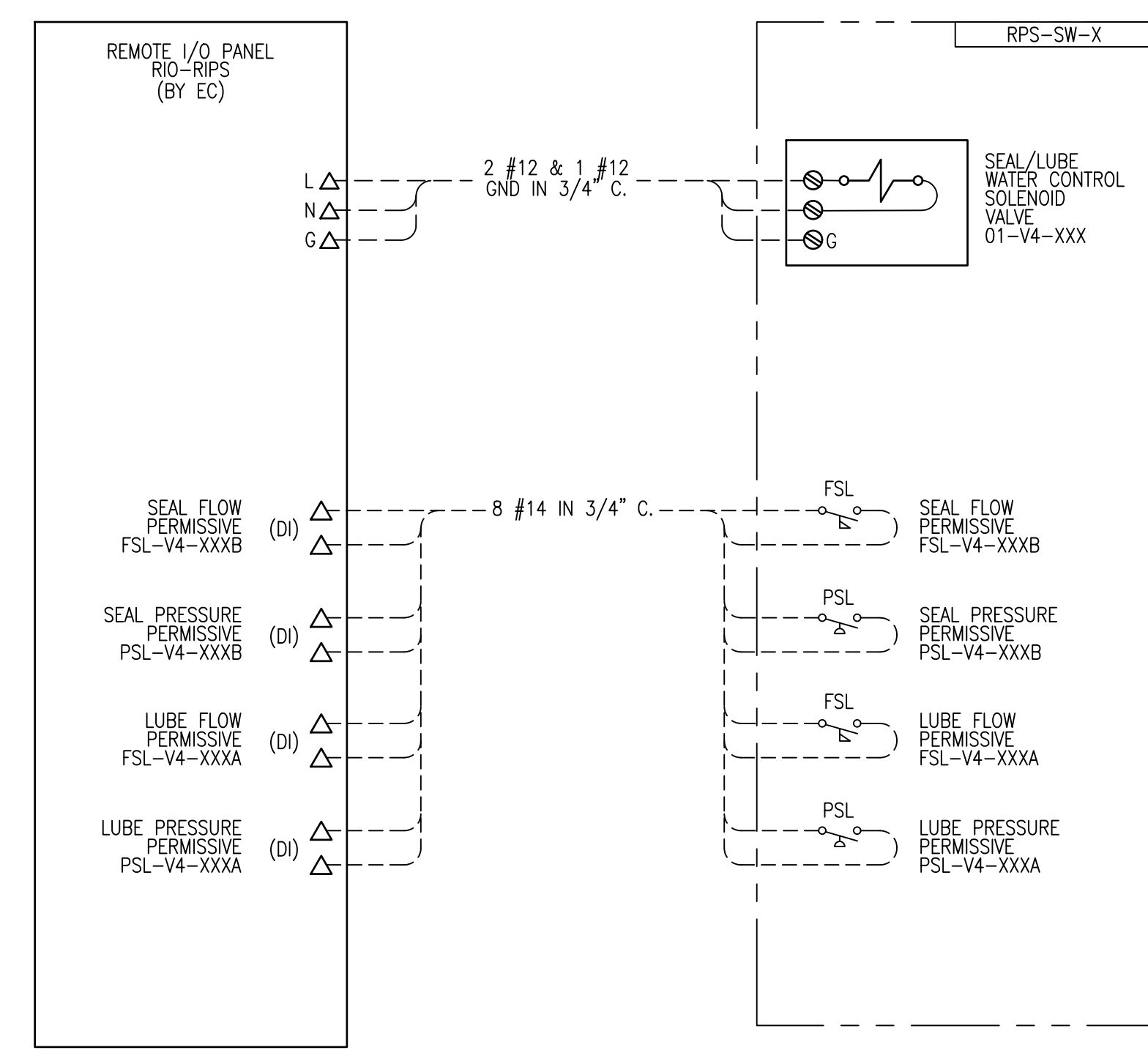


1 METER VAULT TRANSIT TIME FLOW METER SCHEMATIC



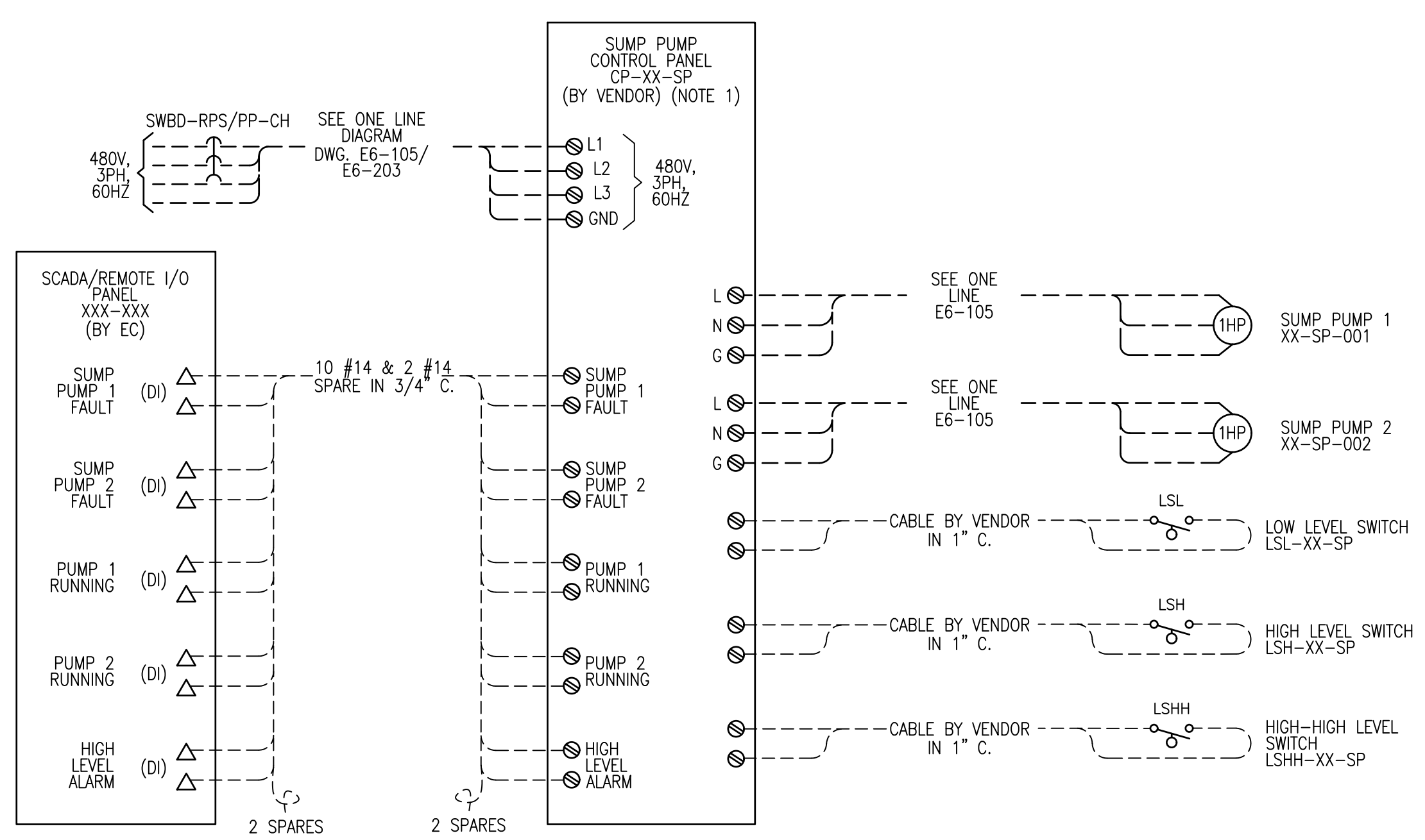
#	CP-11-V2-XXX	DESCRIPTION	CKT#
1	CP-11-V2-008	ISOLATION GATE VALVE	CKT.1,3,5
2	CP-11-V2-009	ISOLATION GATE VALVE	CKT.7,9,11

2 METER VAULT ISOLATION VALVE ACTUATOR SCHEMATIC (TYPICAL FOR 2)



#	DESCRIPTION	RPS-SW-XXX	01-V4-XXX	FSL-V4-XXXXA	PSL-V4-XXXXA	FSL-V4-XXXXB	PSL-V4-XXXXB
1	PUMP #1 SEAL/LUBE WATER SYSTEM	RPS-SW-1	01-V4-001	FSL-V4-101A	PSL-V4-101A	FSL-V4-101B	PSL-V4-101B
2	PUMP #2 SEAL/LUBE WATER SYSTEM	RPS-SW-2	01-V4-002	FSL-V4-102A	PSL-V4-102A	FSL-V4-102B	PSL-V4-102B
3	PUMP #3 SEAL/LUBE WATER SYSTEM	RPS-SW-3	01-V4-003	FSL-V4-103A	PSL-V4-103A	FSL-V4-103B	PSL-V4-103B

3 RIVER INTAKE PS LUBE AND SEAL WATER SYSTEM SCHEMATIC (TYPICAL FOR 3)



#	DESCRIPTION	CP-XX-SP	XX-SP-001	XX-SP-002	LSL-XX-SP	LSH-XX-SP	LSHH-XX-SP	XXX-XXX
1	METER VAULT SUMP PUMP CONTROL PANEL	CP-11-SP	11-SP-001	11-SP-002	LSL-11-SP	LSH-11-SP	LSHH-11-SP	LCP-RPS
2	VALVE VAULT SUMP PUMP CONTROL PANEL	CP-10-SP	10-SP-001	10-SP-002	LSL-10-SP	LSH-10-SP	LSHH-10-SP	RIO-CH

4 SUMP PUMP CONTROL PANEL SCHEMATIC (TYPICAL FOR 2)

* MOUNTED ON MCC

- LEGEND:
- - RVSS POWER TERMINAL
 - - RVSS CONTROL TERMINAL
 - △ - SCADA PANEL TERMINAL
 - ▲ - RIO PANEL TERMINALS
 - ▲ - PUMPS VIBRATION/TEMPERATURE PANEL TERMINALS
 - - LOCAL CONTROL PANEL TERMINAL
 - - DEVICE TERMINAL
 - - - SHORT DASHED LINE INDICATES FIELD WIRING
 - SOLID LINE INDICATES WIRING INTERNAL INSIDE AN ENCLOSURE (ie. CONTROL, RVSS CAB. OR SCADA PANEL).

NOTE:

- SUMP PUMP VENDOR SHALL FURNISH AND CONTRACTOR SHALL INSTALL SUMP PUMP CONTROL PANEL IN NEMA 4X SS ENCLOSURE INCLUDING AS A MINIMUM THE FOLLOWING EQUIPMENT:
 - HOA SWITCHES, START/STOP PUSHBUTTONS FOR "HAND MODE"
 - 2KVA, 480/120V CONTROL POWER TRANSFORMER
 - TWO - FULL VOLTAGE NON-REVERSE, 480V, 3P STARTERS
 - MAIN DISCONNECT SWITCH
 - AUXILIARY DRY CONTACTS (120VAC, 5AMP RATED)
 - PUMP 1 RUNNING
 - PUMP 1 FAULT
 - PUMP 2 RUNNING
 - PUMP 2 FAULT
 - HIGH LEVEL ALARM
 - RELAYS, TERMINALS, CONTROLLERS, RECEPTACLES ETC. AS REQUIRED
 - LIGHTING ARRESTOR

CONTRACTOR SHALL SUBMIT THE DETAILED WIRING DIAGRAM AND BILL OF MATERIALS FOR ENGINEER'S APPROVAL PRIOR TO FABRICATION.



No.	Description	Date



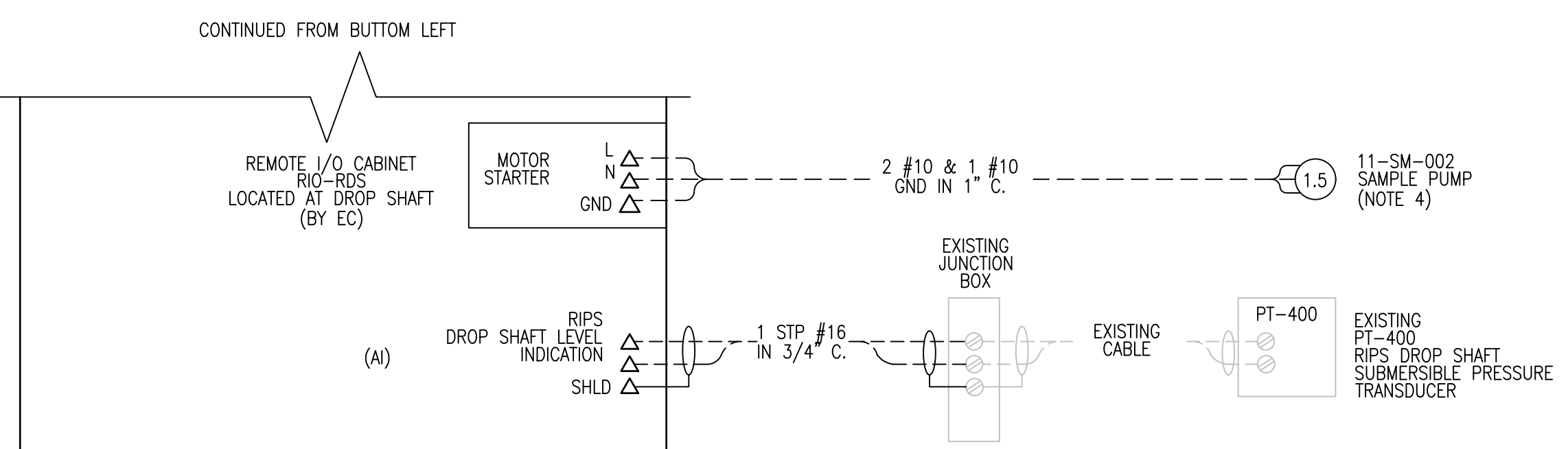
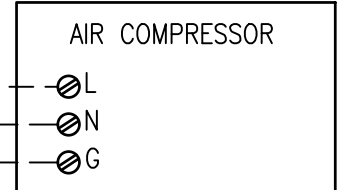
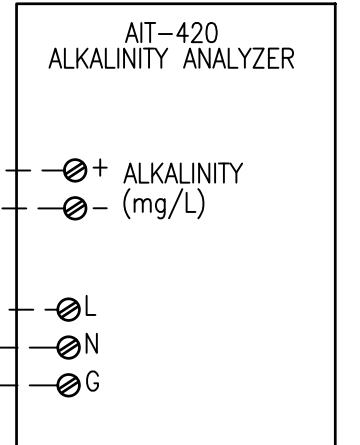
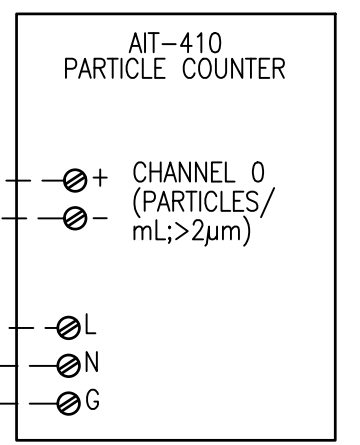
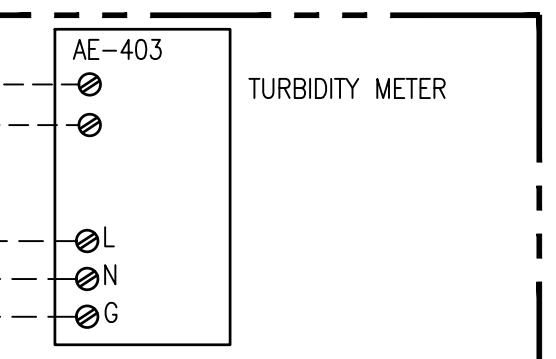
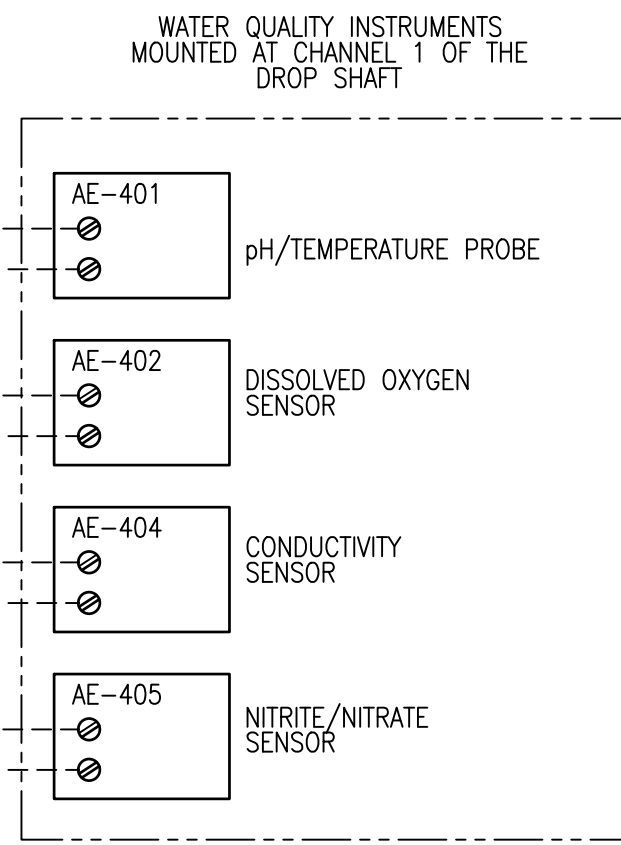
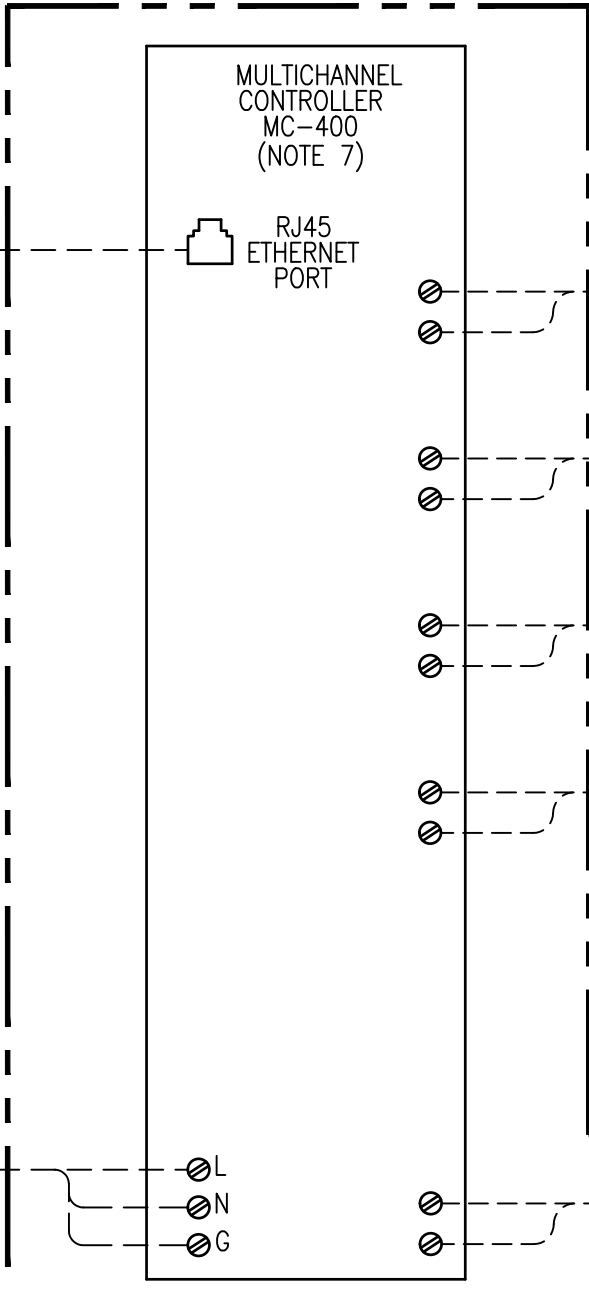
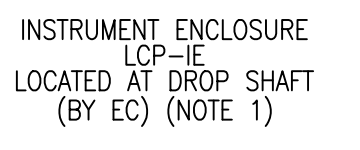
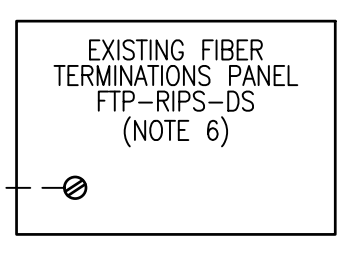
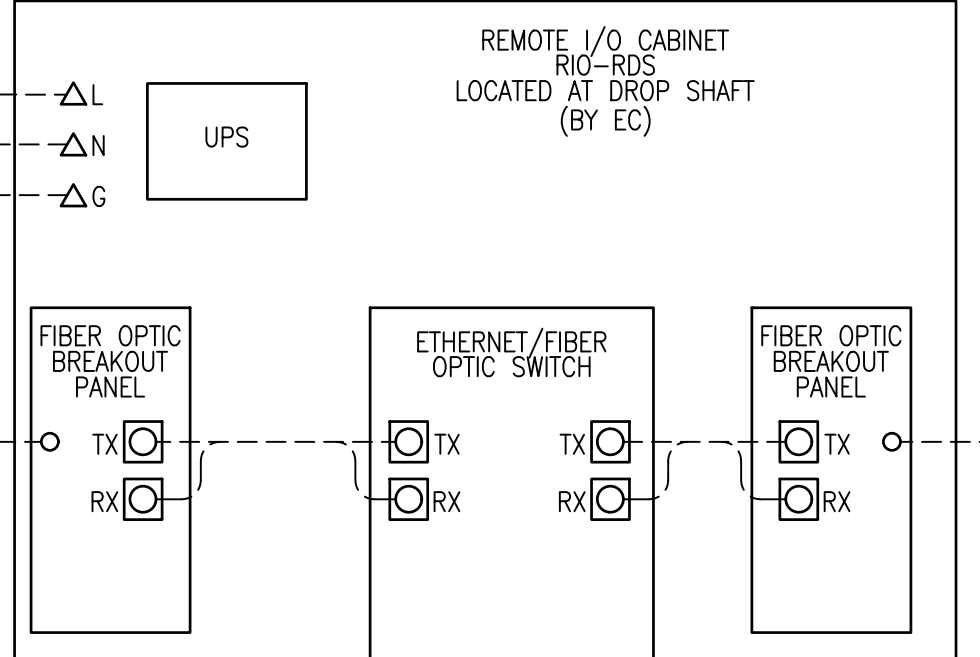
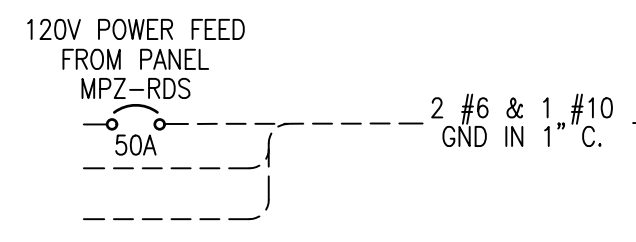
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FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

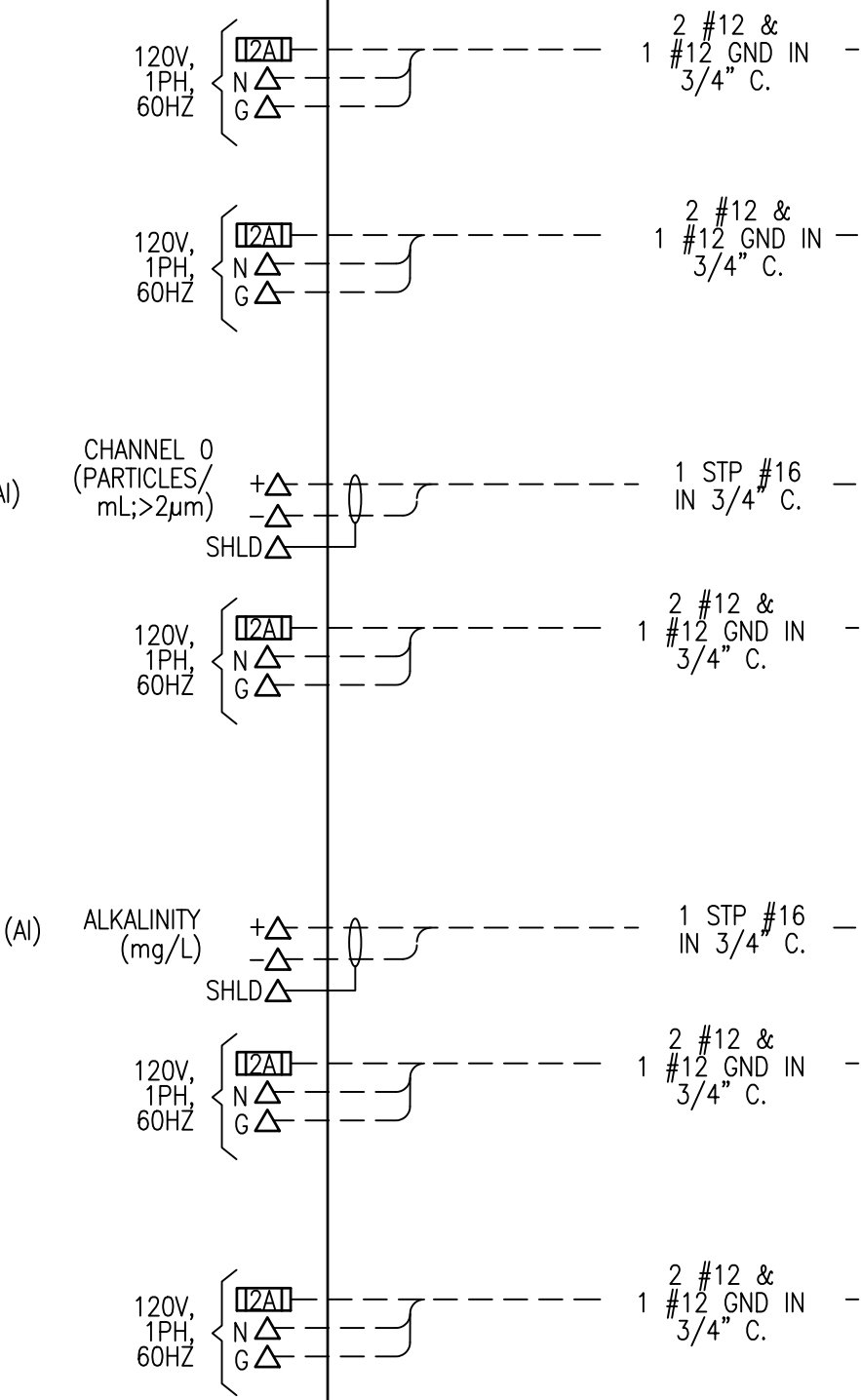
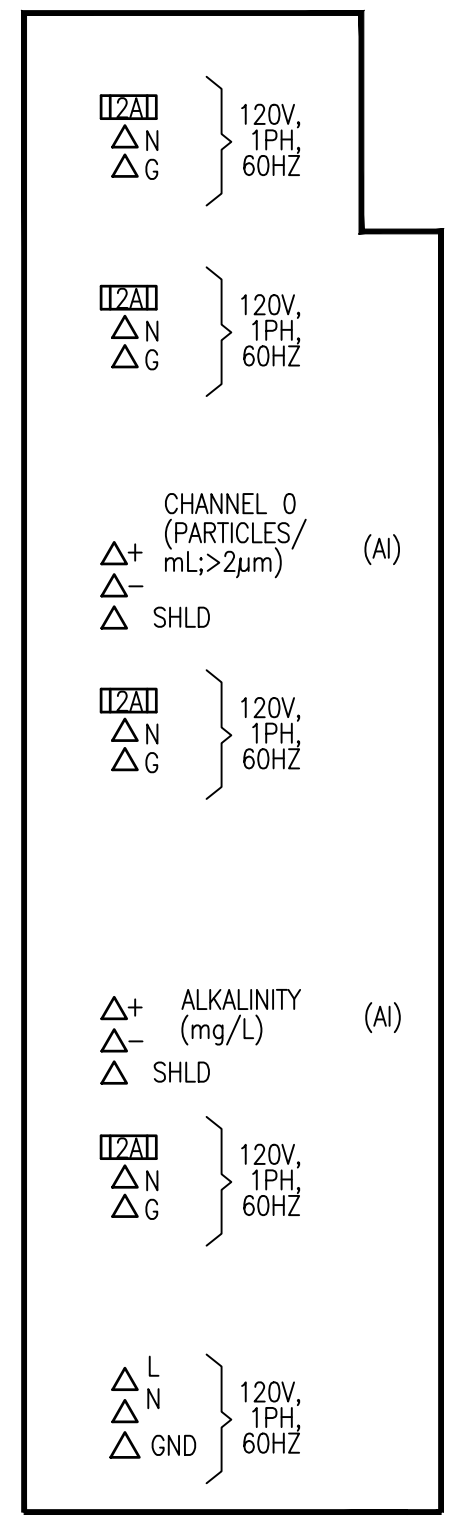
CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
SCHEMATIC DIAGRAMS

DRAWING NO.
RI-PS
EI-004
SHEET OF

ISSUED FOR BIDDING



- NOTES:**
- SEE SHEET E5-114 IN THIS SET FOR INSTRUMENT LOCATIONS AND INSTALLATION REQUIREMENTS.
 - CONTRACTOR SHALL INCLUDE ALL POWER AND CONTROL/SIGNAL CABLES AND CONDUITS AS REQUIRED BY THE APPROVED SHOP DRAWINGS.
 - SEE SHEET EJ-101 IN THIS SET FOR SCADA BLOCK DIAGRAM.
 - CONTRACTOR SHALL PROVIDE AND INSTALL 120V, 1P CIRCUIT BREAKER AND A MANUAL MOTOR STARTER RATED FOR SAMPLE PUMP MOTOR AND A MANUAL MOTOR STARTER RATED FOR SAMPLE PUMP MOTOR INSIDE REMOTE I/O PANEL RIO-RDS. THE STARTER SHALL HAVE H-0-A SELECTOR SWITCH AND OVERLOAD SIZED FOR THE MOTOR HORSEPOWER. THE BREAKER SHALL BE RATED PROPERLY FOR SELECTED SAMPLE PUMP.
 - CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING ALL CABLES AND CONDUITS FOR WATER QUALITY MONITORING COMPONENTS AS REQUIRED FOR PROPER SYSTEM OPERATION.
 - EXISTING FIBER TERMINATION PANEL FTP-RIPS-DS INCLUDES PROVISIONS FOR 72-ST SCADA FIBER CONNECTION AND 48-ST AIM FIBER CONNECTION.
 - THE MULTICHANNEL CONTROLLER SHALL BE ABLE TO RECEIVE INPUTS FROM UP TO SIX (6) PROBES. THE CONTROLLER SHALL HAVE EIGHT ANALOG OUTPUTS. THE CONTROLLER SHALL BE SUPPLIED WITH AN RJ45 ETHERNET PORT FOR COMMUNICATION WITH THE PLC.



- LEGEND:**
- - RVSS POWER TERMINAL
 - - RVSS CONTROL TERMINAL
 - △ - SCADA PANEL TERMINAL
 - ▲ - RIO PANEL TERMINALS
 - ▲ - PUMPS VIBRATION/TEMPERATURE PANEL TERMINALS
 - ⊙ - LOCAL CONTROL PANEL TERMINAL
 - - DEVICE TERMINAL
 - - - SHORT DASHED LINE INDICATES FIELD WIRING
 - SOLID LINE INDICATES WIRING INTERNAL INSIDE AN ENCLOSURE (i.e. CONTROL, RVSS CAB. OR SCADA PANEL).

1 PPS DROP/CONSTRUCTION SHAFT CONTROL SCHEMATIC



No.	Description	Date

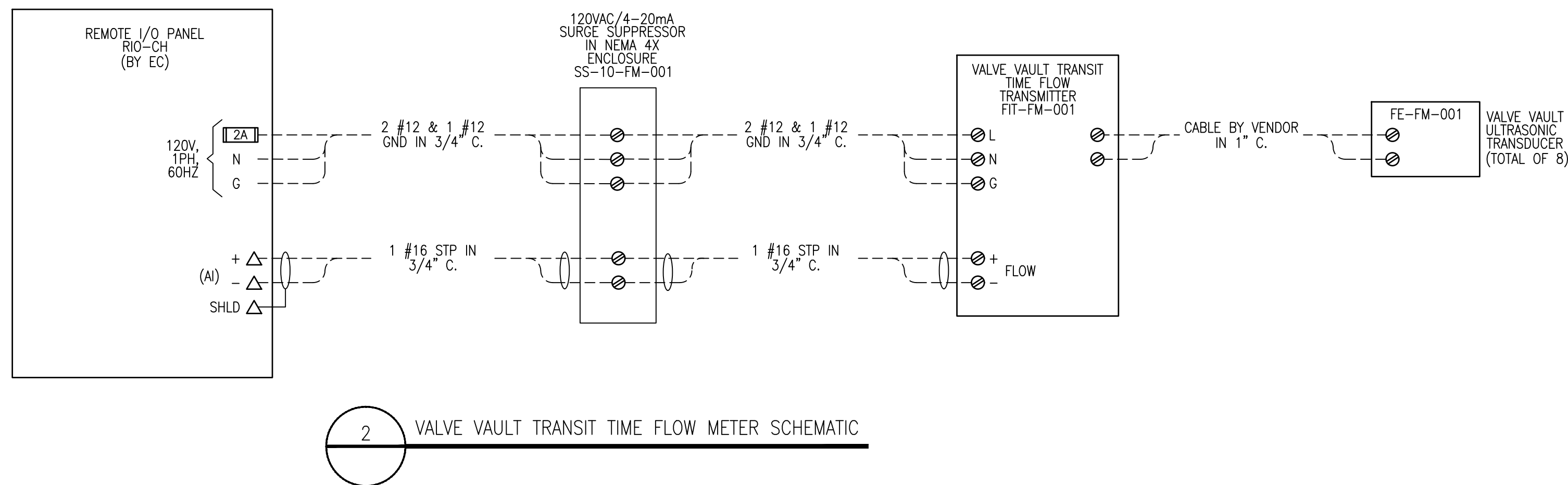
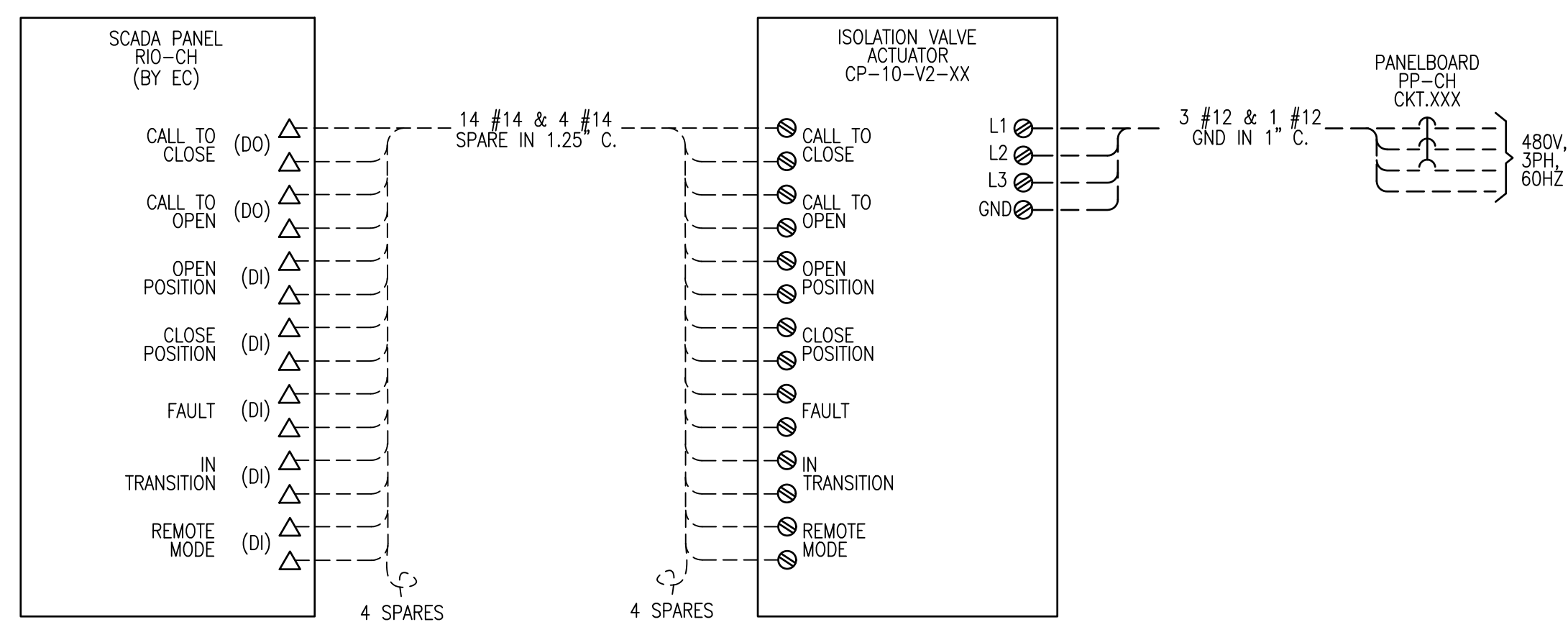


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PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

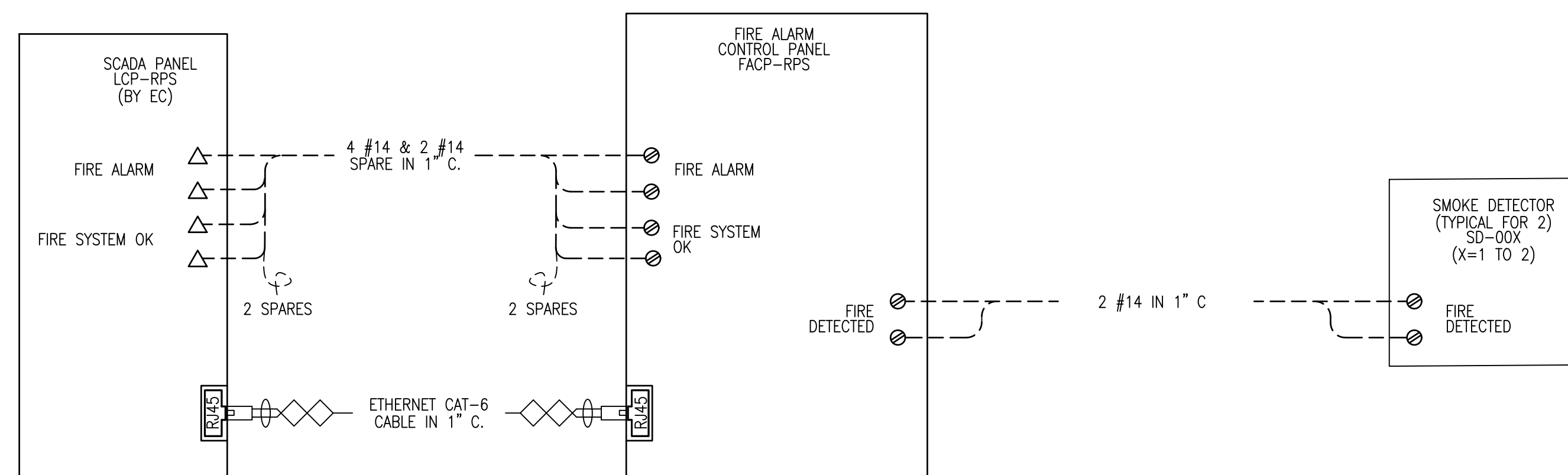
CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
SCHEMATIC DIAGRAMS

DRAWING NO.
 RI-PS
 EI-005
SHEET OF

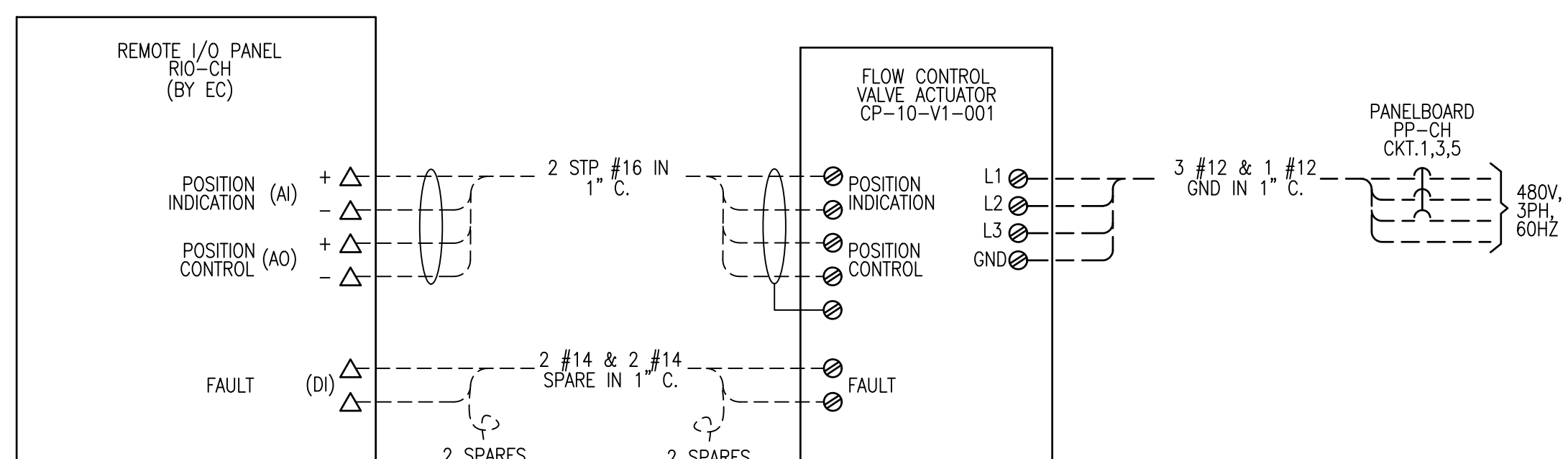


#	CP-10-V2-XXX	DESCRIPTION	CKT. #
1	CP-10-V2-001	FLOW CONTROL ISOLATION VALVE #1	CKT. 7,9,11
2	CP-10-V2-002	FLOW CONTROL ISOLATION VALVE #2	CKT. 13,15,17
3	CP-10-V2-003	FLOW CONTROL ISOLATION VALVE #3	CKT. 19,21,23
4	CP-10-V2-004	FLOW CONTROL ISOLATION VALVE #4	CKT. 2,4,6

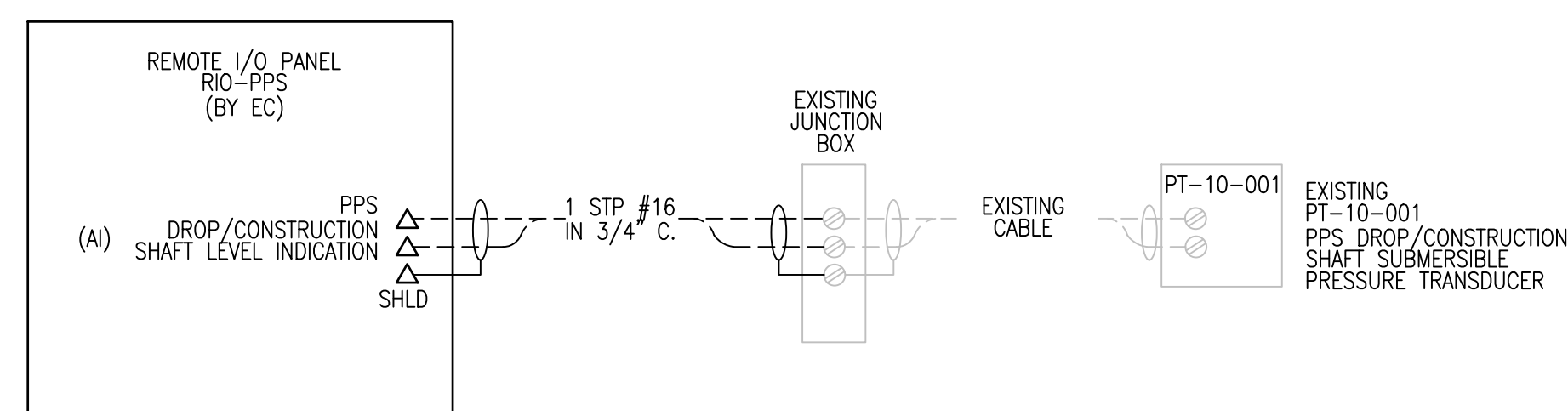
1 FLOW CONTROL ISOLATION VALVE SCHEMATIC (TYPICAL FOR 4)



4 FIRE ALARM CONTROL PANEL CABLE/CONDUIT RISER DIAGRAM



3 FLOW CONTROL MODULATING VALVE SCHEMATIC

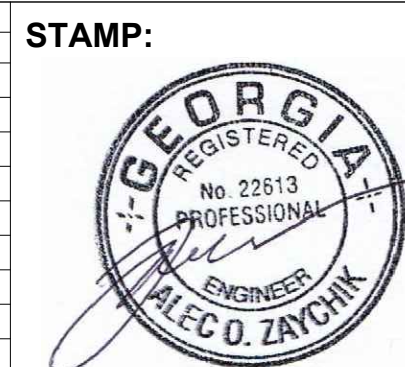


5 PPS DROP/CONSTRUCTION SHAFT CONTROL SCHEMATIC

- * MOUNTED ON MCC
- LEGEND:
- - RVSS POWER TERMINAL
- - RVSS CONTROL TERMINAL
- △ - SCADA PANEL TERMINAL
- ▲ - RIO PANEL TERMINALS
- ▲ - PUMPS VIBRATION/TEMPERATURE PANEL TERMINALS
- ⊗ - LOCAL CONTROL PANEL TERMINAL
- - DEVICE TERMINAL
- - - SHORT DASHED LINE INDICATES FIELD WIRING
- SOLID LINE INDICATES WIRING INTERNAL INSIDE AN ENCLOSURE (ie. CONTROL, RVSS CAB. OR SCADA PANEL).



No.	Description	Date



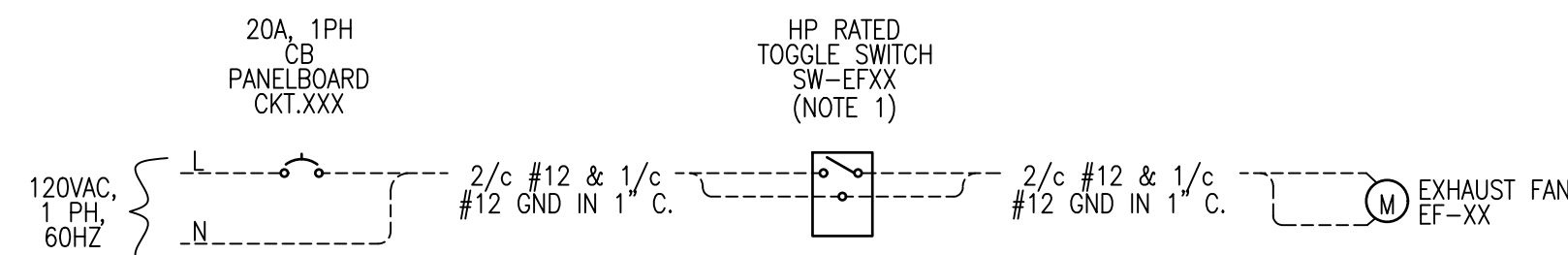
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SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM

RIVER INTAKE PUMP STATION
SCHEMATIC DIAGRAMS

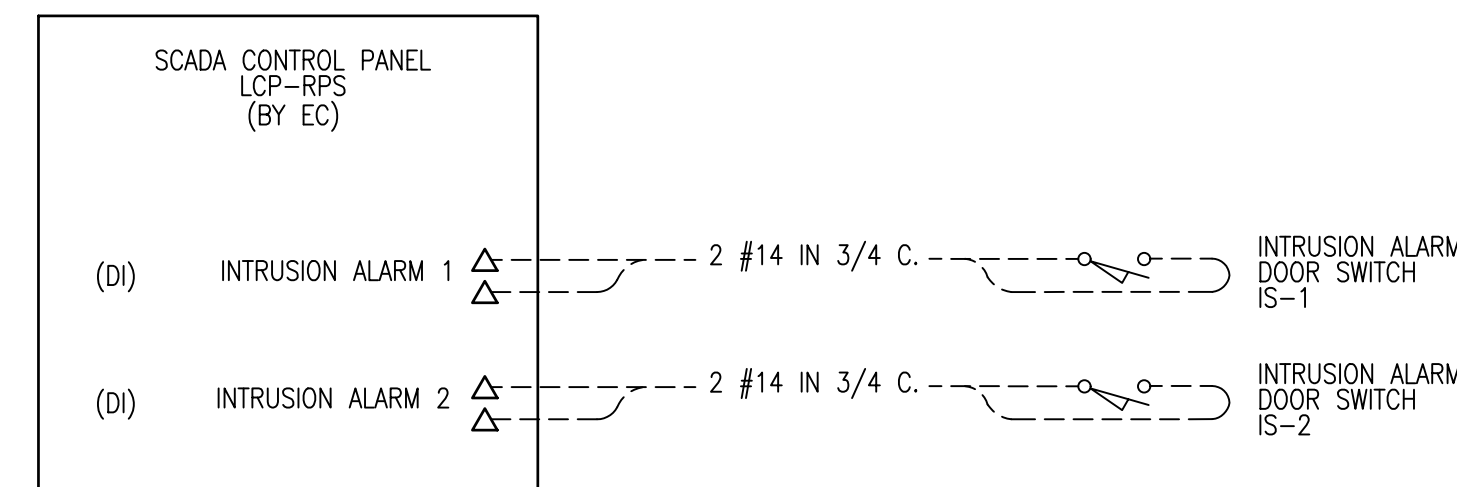
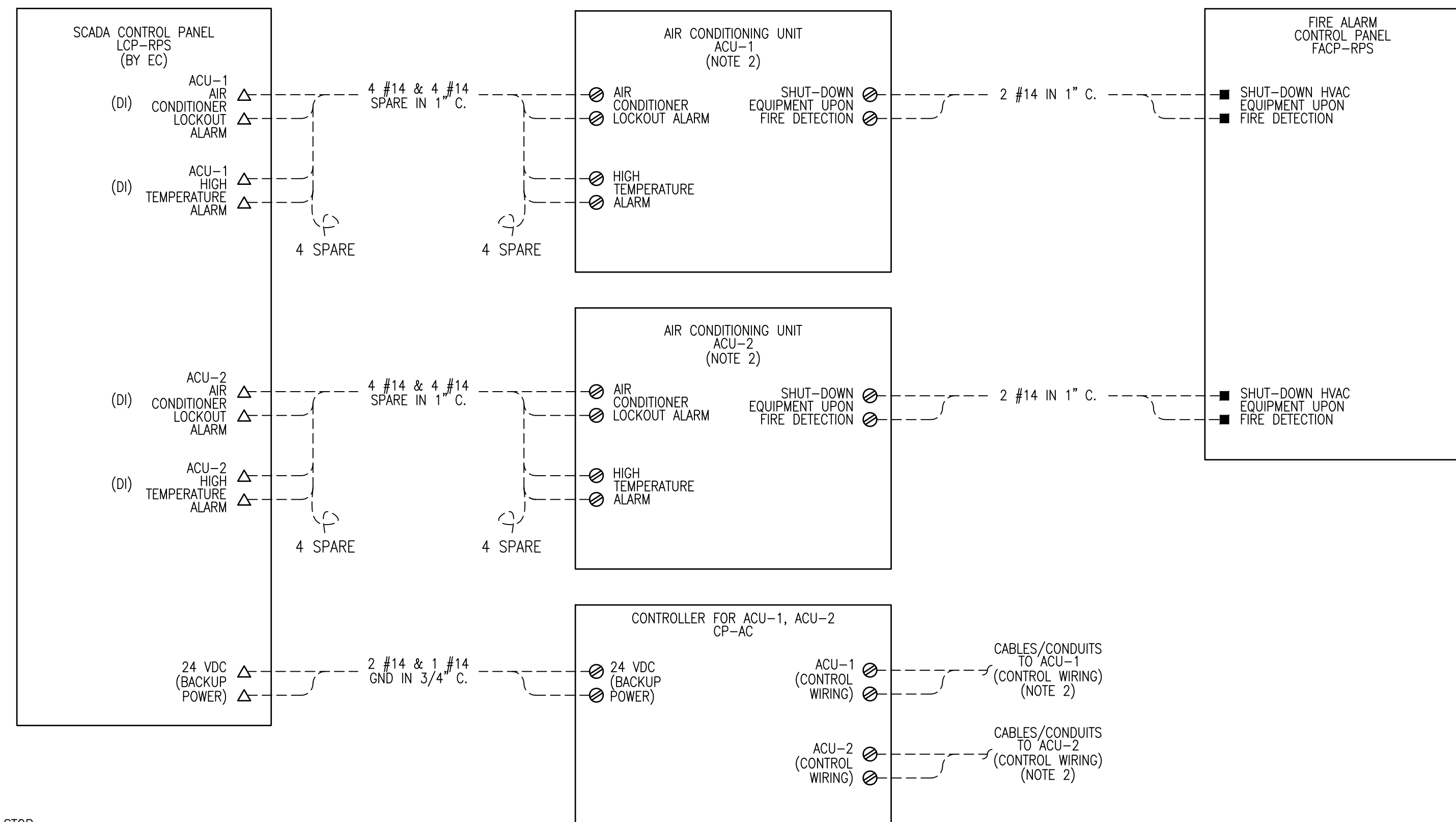
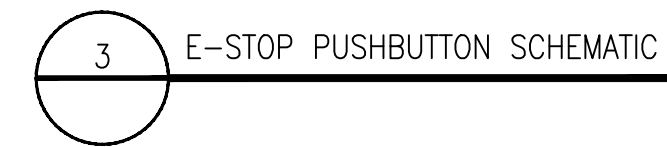
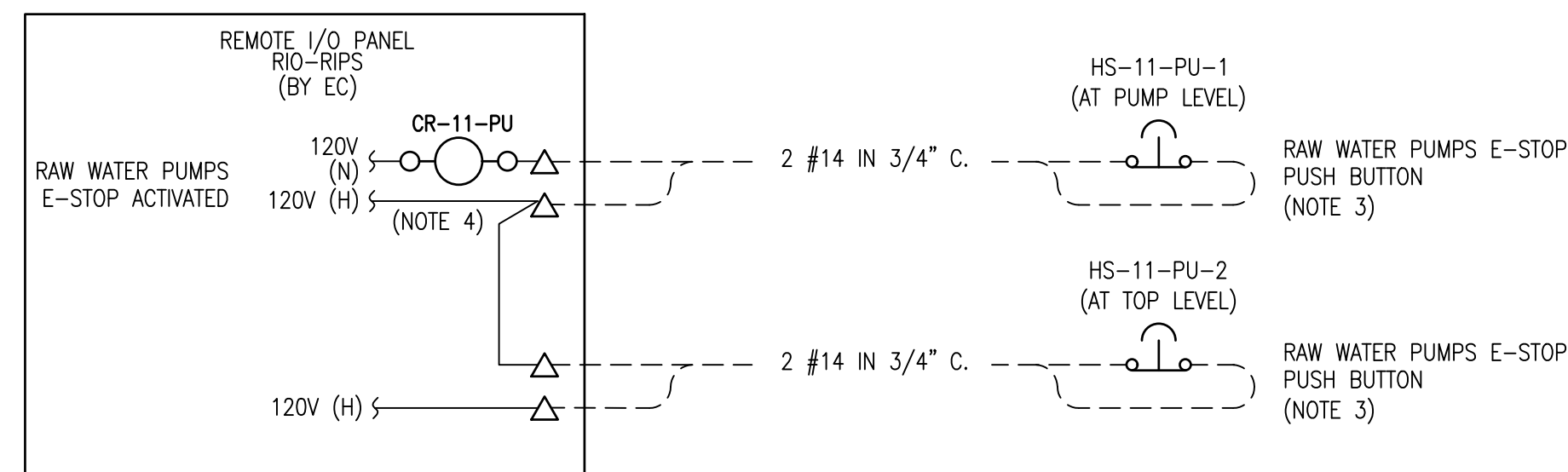
DRAWING NO.
RI-PS
EI-006
SHEET OF



NOTES:

- CONTRACTOR SHALL FURNISH AND INSTALL A TOGGLE SWITCH HP RATED FOR EXHAUST FAN MOTOR. SWITCH SHALL HAVE AN ENCLOSURE TYPE AS SHOWN ON POWER PLAN DRAWINGS.

EF-X	DESCRIPTION	PANELBOARD	HP	CKT.XX	SW-EF-X
EF-SV-1	METER VAULT EXHAUST FAN	MP2-CH	1/4	CKT.3	SW-EF-SV1
EF-DV-2	VALVE VAULT EXHAUST FAN	LP-RPS	1/4	CKT.11	SW-EF-DV2



NOTES:

- SEE DRAWING RI-PS EI-001 FOR RELAY CONTACTS CONNECTION TO MV SWITCHGEAR "RSG" RVSS SECTION.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING ALL CABLES AND CONDUITS FOR HVAC SYSTEM AS REQUIRED BY THE APPROVED VENDOR DRAWINGS.
- CONTRACTOR SHALL PROVIDE AND INSTALL E-STOP PUSHBUTTON IN A NEMA 4X SS ENCLOSURE WITH ONE (1) N.C. CONTRACTOR.
- SEE DRAWING RI-PS EI-001 FOR RELAY CONTACTS CONNECTION TO MV SWITCHGEAR "RSG" RVSS SECTION.

* MOUNTED ON MCC

LEGEND:

- - RVSS POWER TERMINAL
- - RVSS CONTROL TERMINAL
- △ - SCADA PANEL TERMINAL
- ▲ - RIO PANEL TERMINALS
- ▲ - PUMPS VIBRATION/TEMPERATURE PANEL TERMINALS
- ⊗ - LOCAL CONTROL PANEL TERMINAL
- - DEVICE TERMINAL
- SHORT DASHED LINE INDICATES FIELD WIRING
- SOLID LINE INDICATES WIRING INTERNAL INSIDE AN ENCLOSURE (i.e. CONTROL, RVSS CAB. OR SCADA PANEL).



No.	Description	Date

STAMP:



ADDRESS:

BGR2-JV
6 CONCOURSE PARKWAY
SUITE 1600
ATLANTA, GA 30328
(770) 569-7038 x101
FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM

RIVER INTAKE PUMP STATION
SCHEMATIC DIAGRAMS

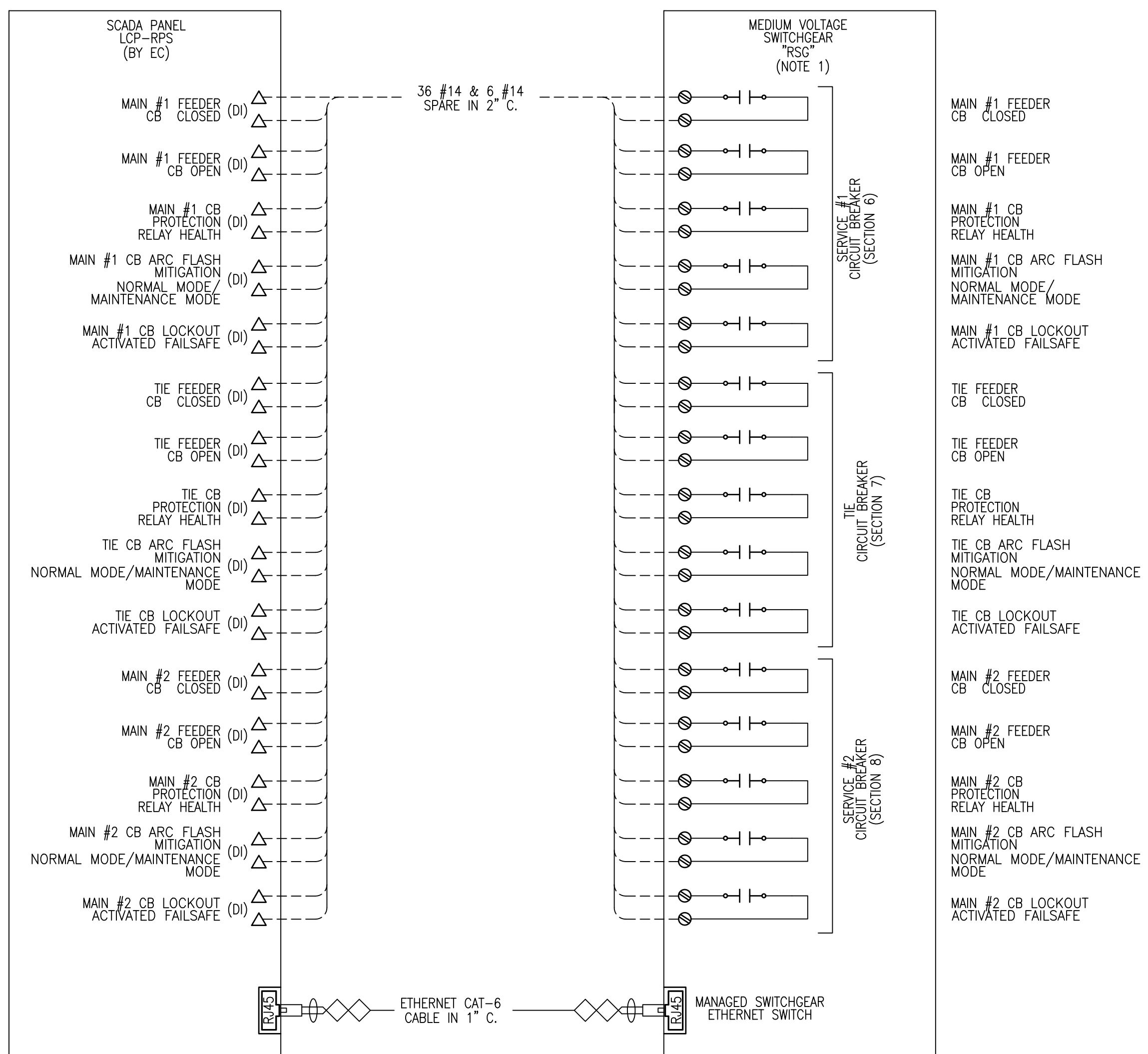
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RI-PS

EI-007

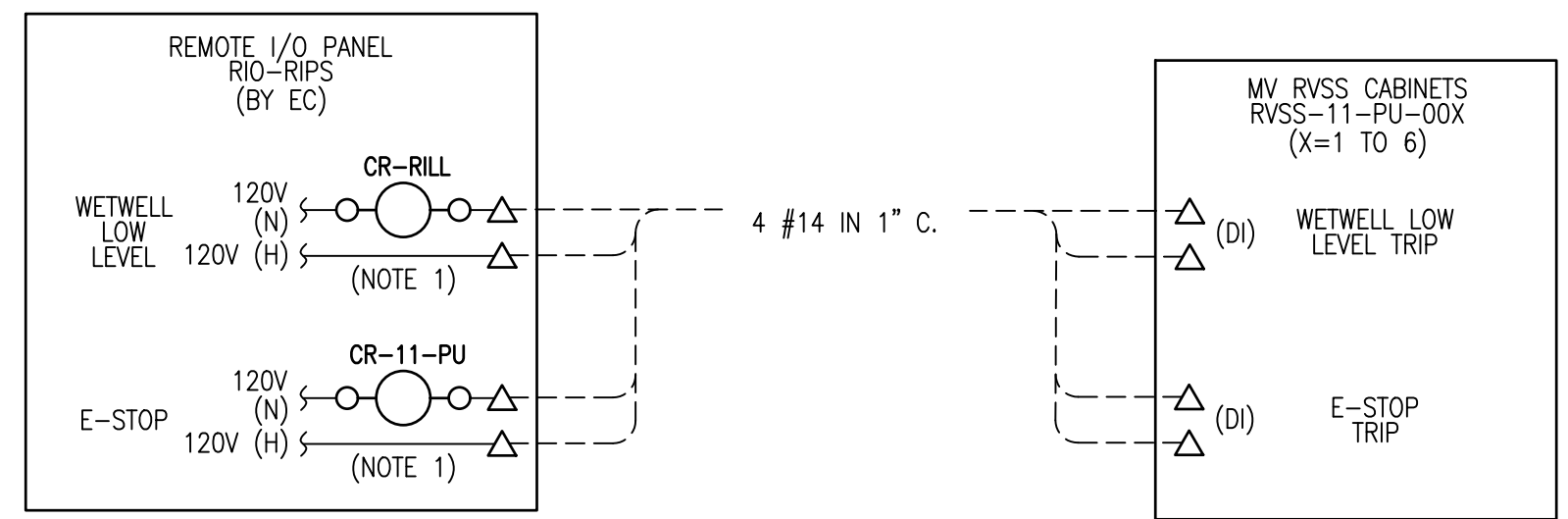
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- NOTES:
- VENDOR SHALL SUBMIT WIRING FOR MAIN-TIE-MAIN CIRCUIT BREAKER INTERLOCK WIRING PER SPECS AND OPERATIONAL DESCRIPTION.

1 RIVER INTAKE PS MV SWITCHGEAR SCHEMATIC



- NOTES:
- SEE DRAWING RI-PS EI-001 FOR RELAY CONTACTS CONNECTION TO MV SWITCHGEAR "RSG" RVSS SECTION.
 - CONTRACTOR SHALL INCLUDE ALL CONTROL/SIGNAL CABLES AND CONDUITS AS REQUIRED BY THE APPROVED SHOP DRAWINGS.

2 LOW LEVEL AND E-STOP TRIP SCHEMATIC

- LEGEND:
- - RVSS POWER TERMINAL
 - - RVSS CONTROL TERMINAL
 - △ - SCADA PANEL TERMINAL
 - ▲ - RIO PANEL TERMINALS
 - ▲ - PUMPS VIBRATION/TEMPERATURE PANEL TERMINALS
 - ⊗ - LOCAL CONTROL PANEL TERMINAL
 - - DEVICE TERMINAL
 - - SHORT DASHED LINE INDICATES FIELD WIRING
 - - SOLID LINE INDICATES WIRING INTERNAL INSIDE AN ENCLOSURE(i.e. CONTROL, RVSS CAB. OR SCADA PANEL).



No.	Description	Date

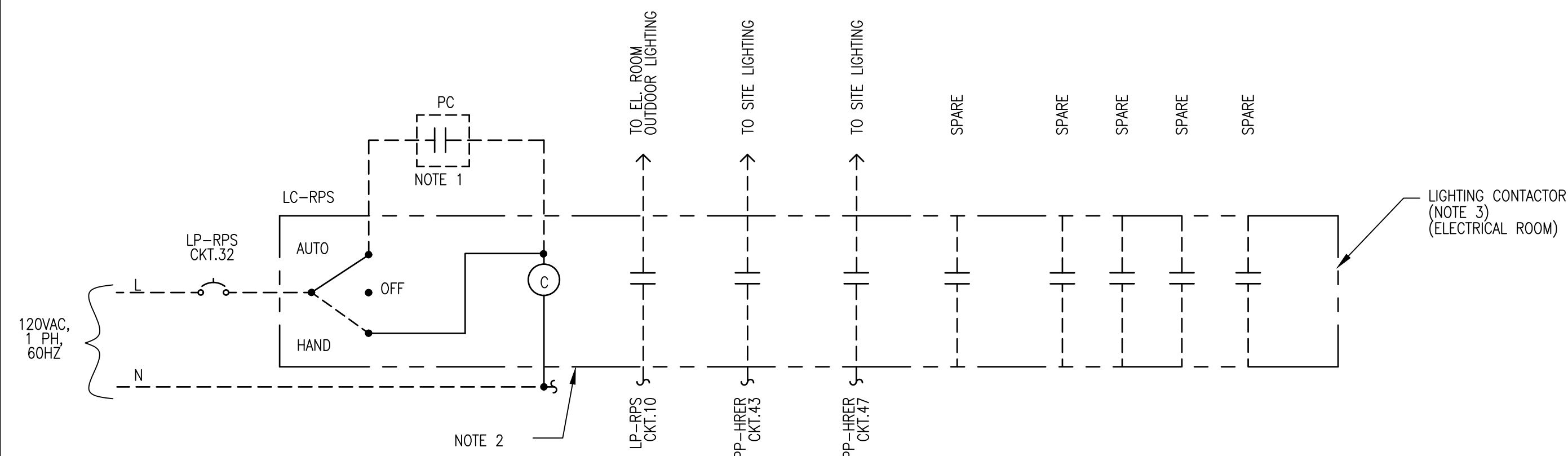


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SCALE:	N.T.S.

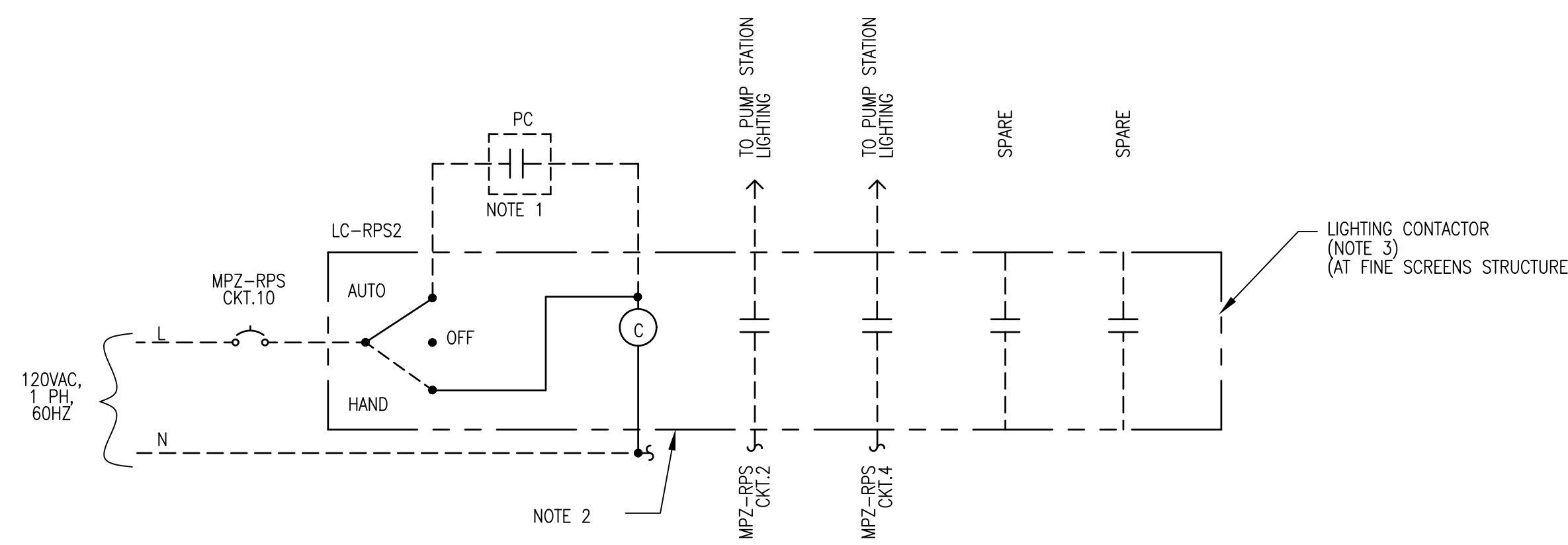
CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
 SCHEMATIC DIAGRAMS

DRAWING NO.
RI-PS
EI-008
 SHEET OF



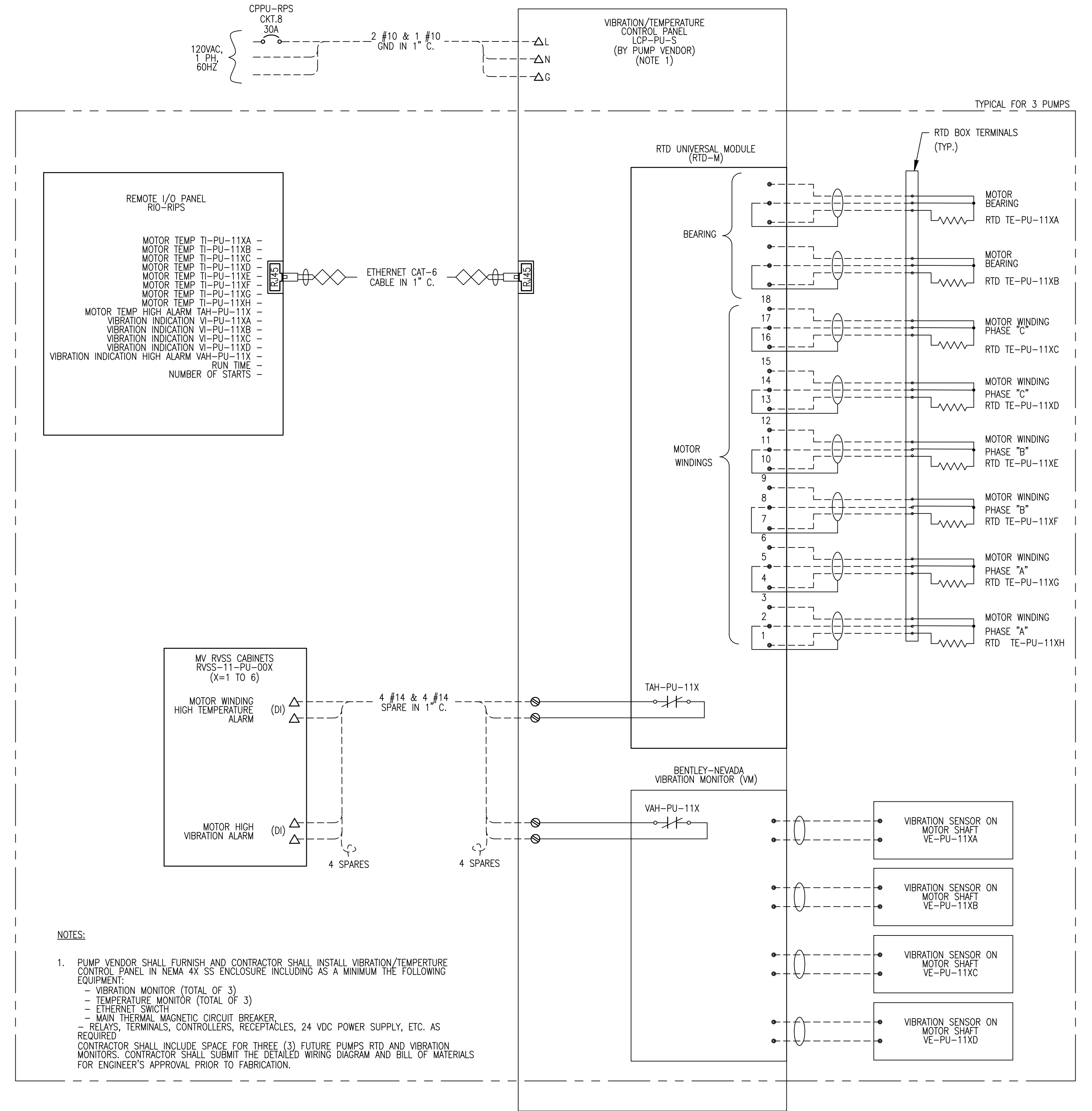
- NOTES:**
- "PC" - PHOTOCCELL, 120V, LOCATE ON THE ROOF FACING NORTH. "TS" - TIME SWITCH WITH MANUAL INTEGRAL OVERRIDE SWITCH.
 - ELECTRICALLY-HELD HEAVY-DUTY LIGHTING CONTACTOR, 8 POLES, 20A RATED CONTACTS. TAG THE CONDUCTORS ON THE LINE SIDE OF THE LIGHTING CONTACTOR WITH THEIR RESPECTIVE CIRCUIT NUMBER.
 - INSTALL LIGHTING CONTROL IN NEMA 1, 12 GAUGE GALVANIZED STEEL CABINET, FINISHED IN GRAY ENAMEL WITH HINGED DOOR AND LOCKING HANDLE. THE CONTACTOR SHALL BE 8 POLES, 120V COIL VOLTAGE EATON CLASS ECCO3 OR ACCEPTED EQUAL.

1 LIGHTING CONTACTOR LC-RPS SCHEMATIC



- NOTES:**
- "PC" - PHOTOCCELL, 120V, LOCATE ON THE ROOF FACING NORTH. "TS" - TIME SWITCH WITH MANUAL INTEGRAL OVERRIDE SWITCH.
 - ELECTRICALLY-HELD HEAVY-DUTY LIGHTING CONTACTOR, 8 POLES, 20A RATED CONTACTS. TAG THE CONDUCTORS ON THE LINE SIDE OF THE LIGHTING CONTACTOR WITH THEIR RESPECTIVE CIRCUIT NUMBER.
 - INSTALL LIGHTING CONTROL IN NEMA 4X SS CABINET WITH LOCKING HANDLE. THE CONTACTOR SHALL BE 4 POLES, 120V COIL VOLTAGE EATON CLASS ECCO3 OR ACCEPTED EQUAL.

2 LIGHTING CONTACTOR LC-RPS2 SCHEMATIC



- NOTES:**
- PUMP VENDOR SHALL FURNISH AND CONTRACTOR SHALL INSTALL VIBRATION/TEMPERATURE CONTROL PANEL IN NEMA 4X SS ENCLOSURE INCLUDING AS A MINIMUM THE FOLLOWING EQUIPMENT:
 - VIBRATION MONITOR (TOTAL OF 3)
 - TEMPERATURE MONITOR (TOTAL OF 3)
 - ETHERNET SWITCH
 - MAIN THERMAL MAGNETIC CIRCUIT BREAKER
 - RELAYS, TERMINALS, CONTROLLERS, RECEPTACLES, 24 VDC POWER SUPPLY, ETC. AS REQUIRED
 - CONTRACTOR SHALL INCLUDE SPACE FOR THREE (3) FUTURE PUMPS RTD AND VIBRATION MONITORS. CONTRACTOR SHALL SUBMIT THE DETAILED WIRING DIAGRAM AND BILL OF MATERIALS FOR ENGINEER'S APPROVAL PRIOR TO FABRICATION.

3 VIBRATION/TEMPERATURE CONTROL PANEL LCP-PU-S SCHEMATIC

- LEGEND:**
- - RVSS POWER TERMINAL
 - - RVSS CONTROL TERMINAL
 - △ - SCADA PANEL TERMINAL
 - ▲ - RIO PANEL TERMINALS
 - ▲ - PUMPS VIBRATION/TEMPERATURE PANEL TERMINALS
 - ⊗ - LOCAL CONTROL PANEL TERMINAL
 - - DEVICE TERMINAL
 - - - SHORT DASHED LINE INDICATES FIELD WIRING
 - SOLID LINE INDICATES WIRING INTERNAL INSIDE AN ENCLOSURE (i.e. CONTROL, RVSS CAB. OR SCADA PANEL).

#	DESCRIPTION	TE-PU-10X	VE-PU-10X	TAH-PU-11X	VAH-PU-11X
1	PUMP 1 RTD AND VIBRATION	TE-PU-101	VE-PU-101	TAH-PU-111	VAH-PU-111
2	PUMP 1 RTD AND VIBRATION	TE-PU-102	VE-PU-102	TAH-PU-112	VAH-PU-112
3	PUMP 1 RTD AND VIBRATION	TE-PU-103	VE-PU-103	TAH-PU-113	VAH-PU-113



No.	Description	Date

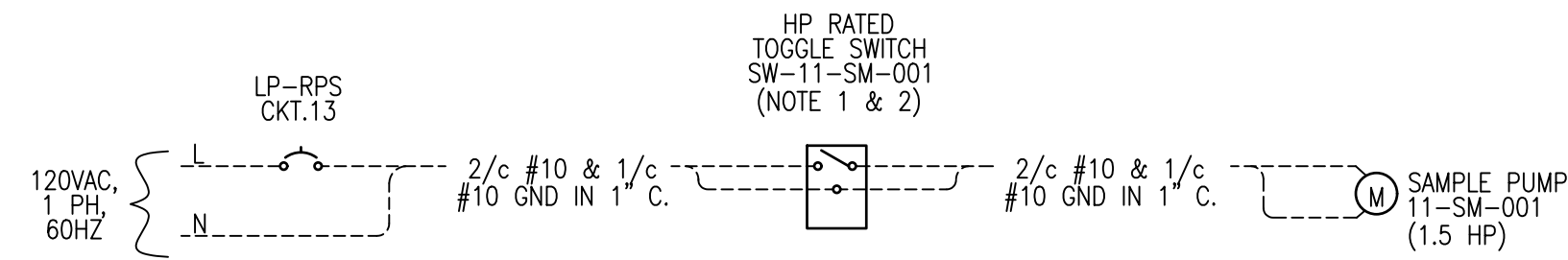


ADDRESS:
 BGR2-JV
 6 CONCOURSE PARKWAY
 SUITE 1600
 ATLANTA, GA 30328
 (770) 569-7038 x101
 FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
SCHEMATIC DIAGRAMS

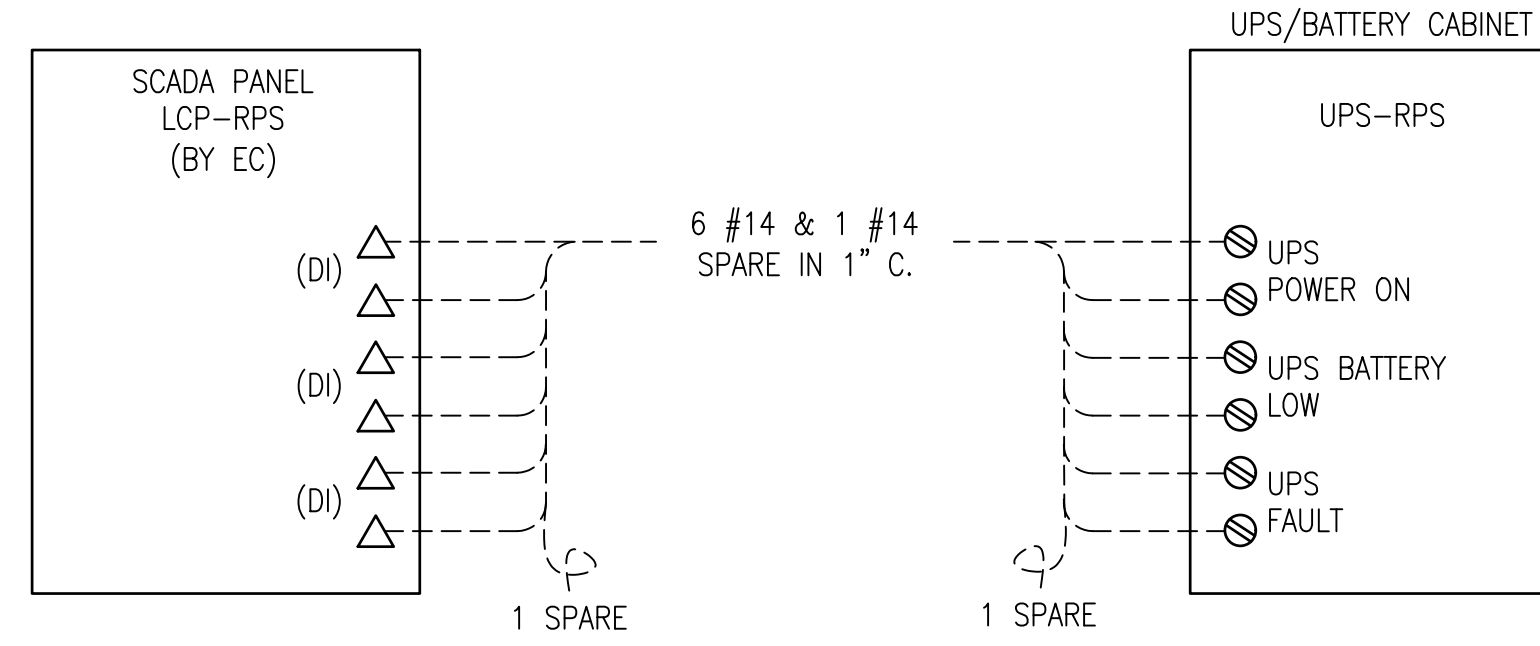
DRAWING NO.
RI-PS
EI-009
SHEET OF



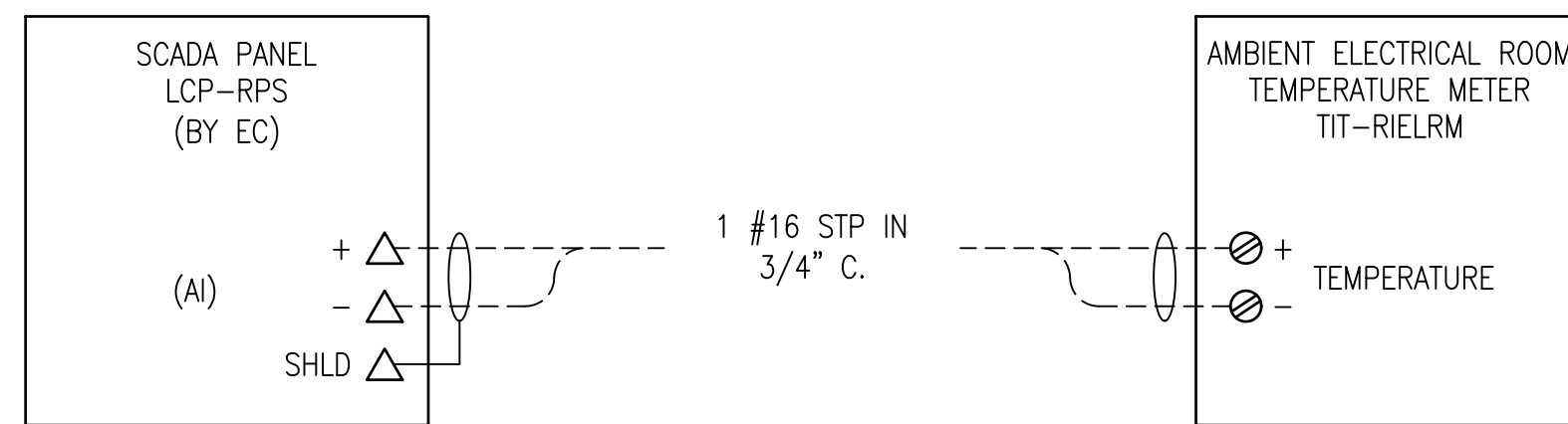
NOTES:

- CONTRACTOR SHALL FURNISH AND INSTALL A TOGGLE SWITCH HP RATED FOR SAMPLE PUMP MOTOR. SWITCH SHALL HAVE AN ENCLOSURE TYPE AS SHOWN ON POWER PLAN DRAWINGS.
- MOUNT TOGGLE SWITCH AT THE LOCATION SHOWN ON DWG. E5-112 OR AS DIRECTED BY OWNER.

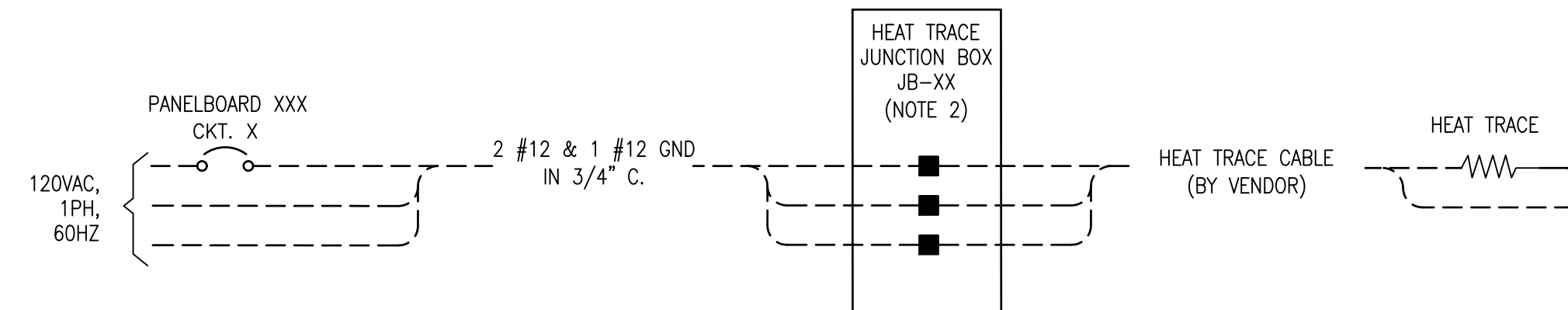
1 SAMPLE PUMP SCHEMATIC



4 RIVER INTAKE PS UPS SCHEMATIC

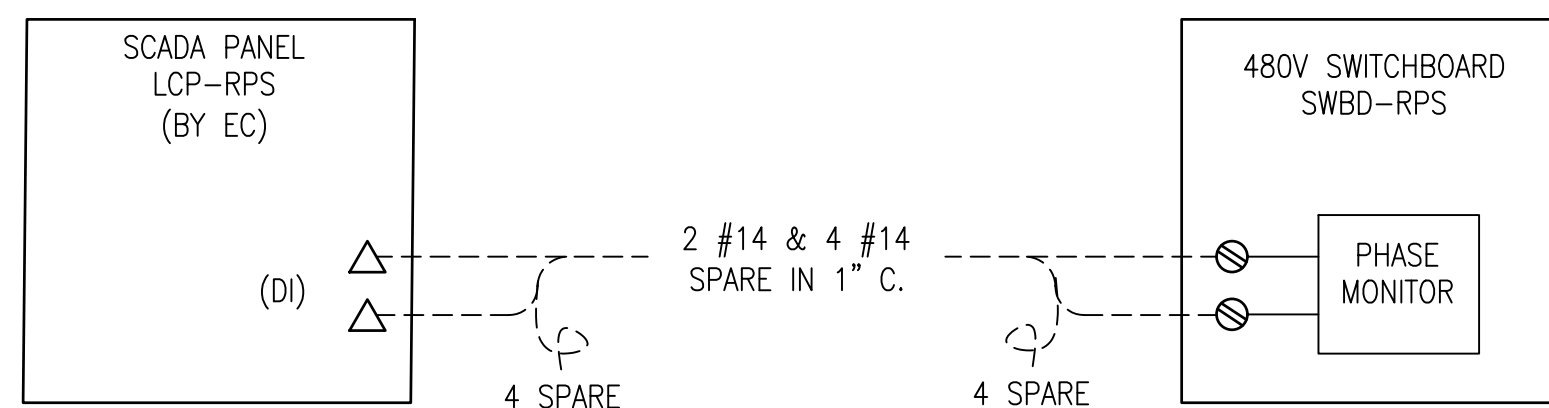


2 RIVER INTAKE PS ELECTRICAL ROOM TEMPERATURE TRANSMITTER SCHEMATIC



#	DESCRIPTION	JB-XX	PANELBOARD	CKT.XX
1	SEAL WATER HEAT TRACE	JB-SW-RHT	MPZ-RPS	CKT.3
2	SAMPLE PUMP 2 HEAT TRACE	JB-SM-RHT2	MPZ-RDS	CKT.3
3	SAMPLE PUMP AT RIVER INTAKE HEAT TRACE	JB-SM-RHT1	LP-RPS	CKT.9

5 HEAT TRACE SCHEMATIC



3 RIVER INTAKE PS 480V SWITCHBOARD PHASE MONITOR SCHEMATIC

NOTES:

- CONTRACTOR SHALL PROVIDE 120V POWER TO ALL EXTERNAL PIPEWORK WHICH SHALL BE INSULATED AND HEAT TRACED TO ENSURE ADEQUATE PROTECTION AGAINST FREEZING AT ALL TIMES.
- CONTRACTOR SHALL PROVIDE AND INSTALL A NEMA 4X SS JUNCTION BOX ADEQUATELY SIZED FOR HEAT TRACE CABLES AND CONDUITS.

* MOUNTED ON MCC

LEGEND:

- - RVSS POWER TERMINAL
- - RVSS CONTROL TERMINAL
- △ - SCADA PANEL TERMINAL
- ▲ - RIO PANEL TERMINALS
- ▲ - PUMPS VIBRATION/TEMPERATURE PANEL TERMINALS
- ⊗ - LOCAL CONTROL PANEL TERMINAL
- - DEVICE TERMINAL
- - - - SHORT DASHED LINE INDICATES FIELD WIRING
- _____ SOLID LINE INDICATES WIRING INTERNAL INSIDE AN ENCLOSURE (ie. CONTROL, RVSS CAB. OR SCADA PANEL).



No.	Description	Date

STAMP:



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CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM

**RIVER INTAKE PUMP STATION
SCHEMATICS**

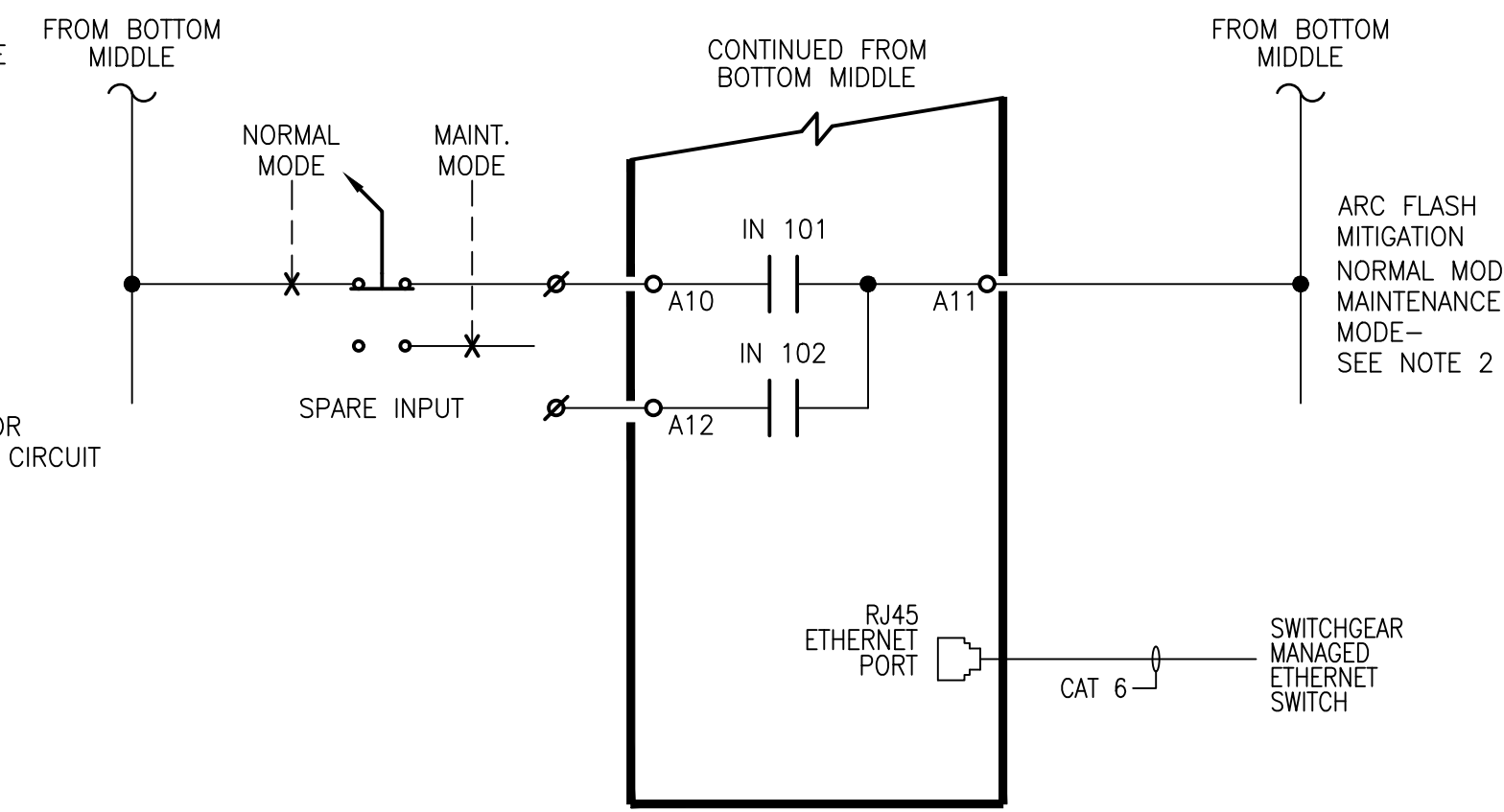
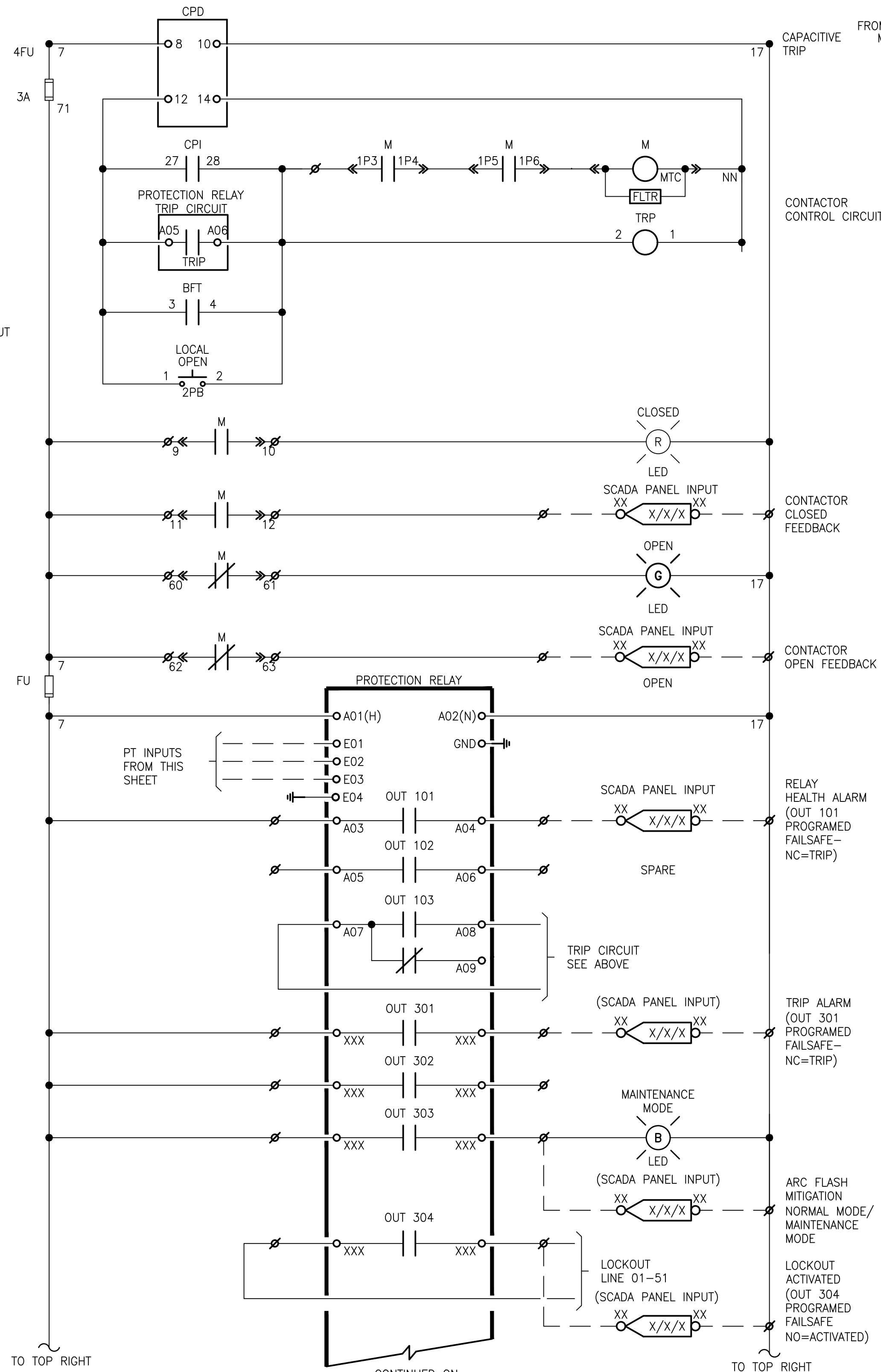
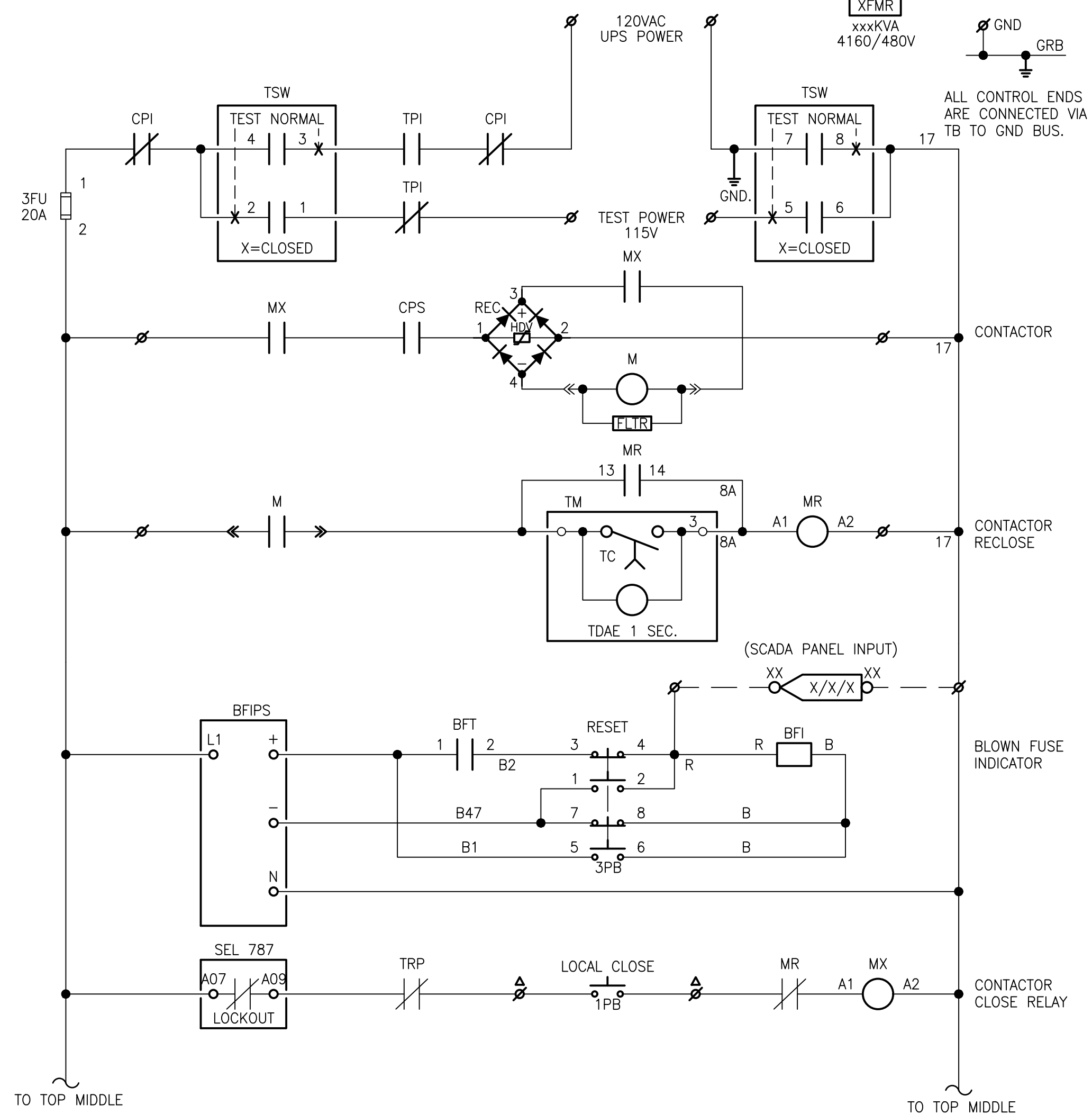
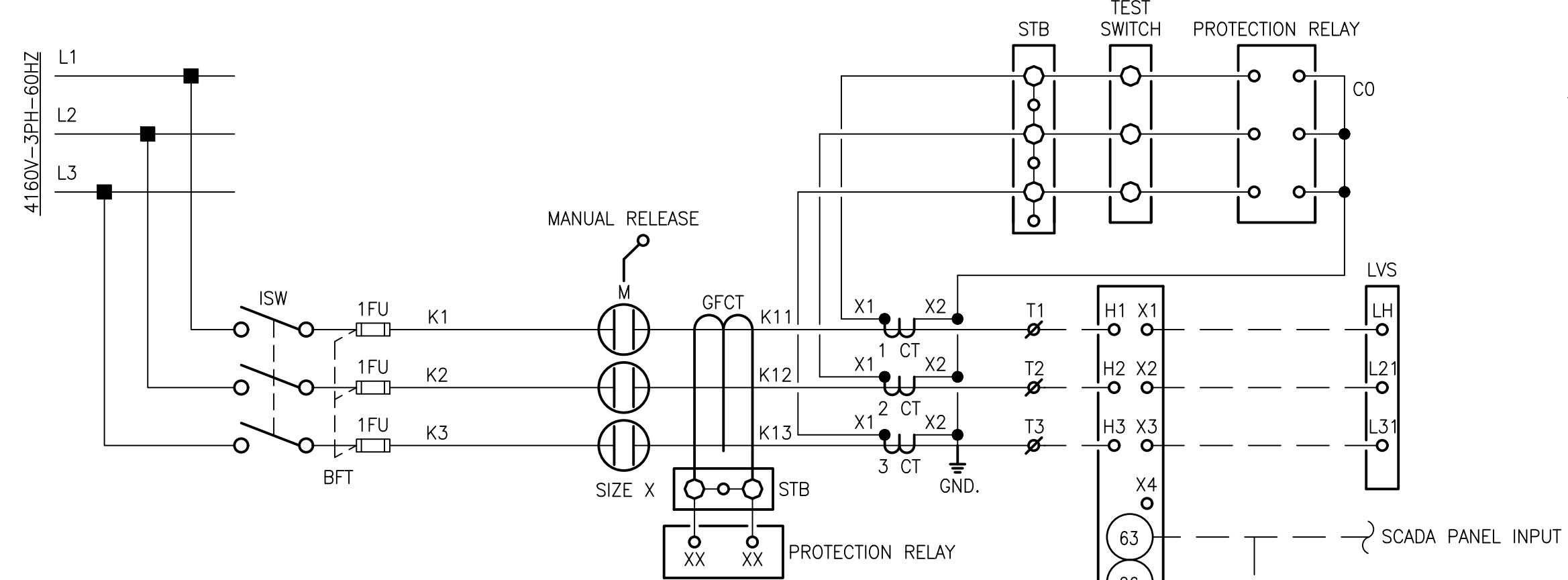
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RI-PS

EI-010

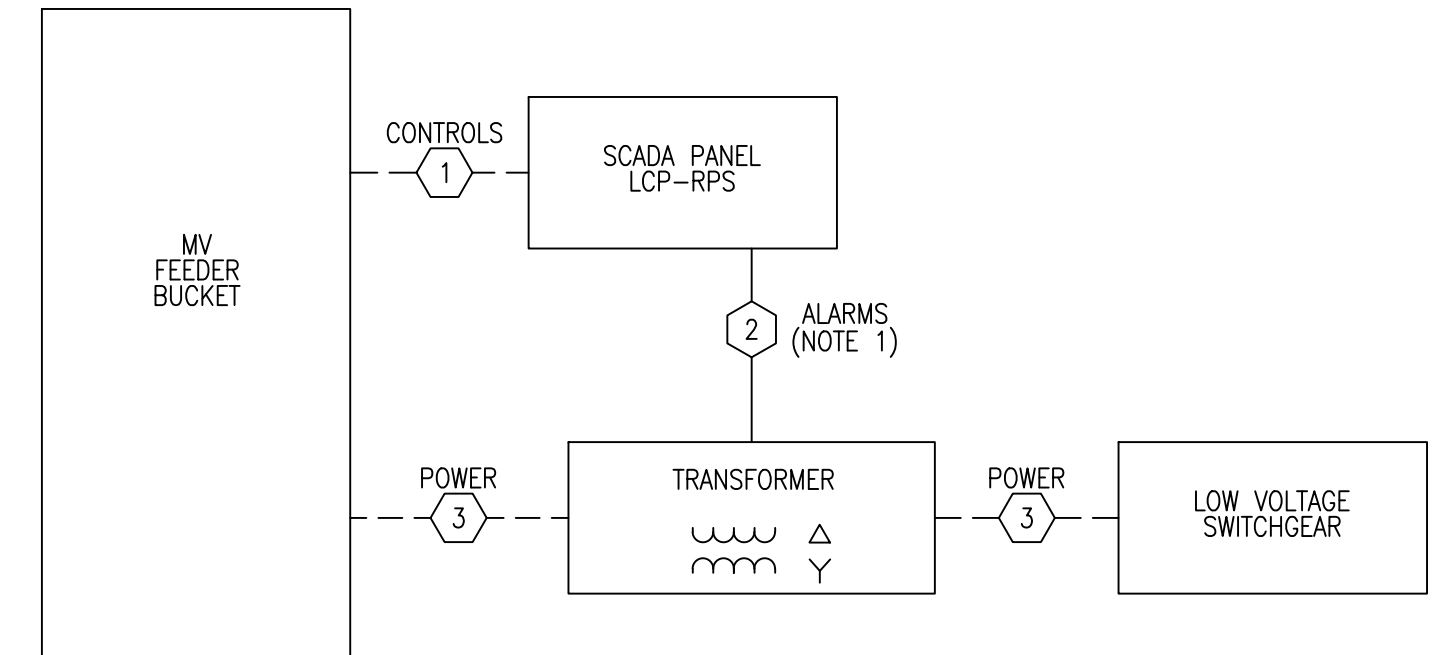
SHEET OF

ISSUED FOR BIDDING



CONTROLS CONDUCTOR/CONDUIT SCHEDULE (TYPICAL FOR 3)

1	14/c #14 & 4/c #14 SPARE IN 1.5" C.
2	6/c #14 IN 1" C.
3	SEE ONE LINE DIAGRAMS FOR SIZING



RISER NOTES:
1. CABLES FOR TRANSFORMER TFR-RPS1 AND TFR-RPS2 ONLY.



SCHEMATIC NOTES:
1. THIS SCHEMATIC IS GENERIC AND SHOWN FOR FUNCTIONALITY ONLY. VENDOR TO PROVIDE EQUIPMENT SCHEMATIC TO MATCH FUNCTIONALITY.
2. TEST SWITCH SHOWN DIAGRAMMATICALLY. ACTUAL WIRING WILL BE DIFFERENT.
3. ∅ = TERMINAL IN MV CONTROLLER. PROVIDED BY VENDOR.
4. RTD'S, TEMPERATURE SWITCHES, ETC. WIRED DIRECTLY TO SCADA.

1 TRANSFORMER FEEDER CONTACTOR SCHEMATIC TYPICAL FOR 3



No.	Description	Date

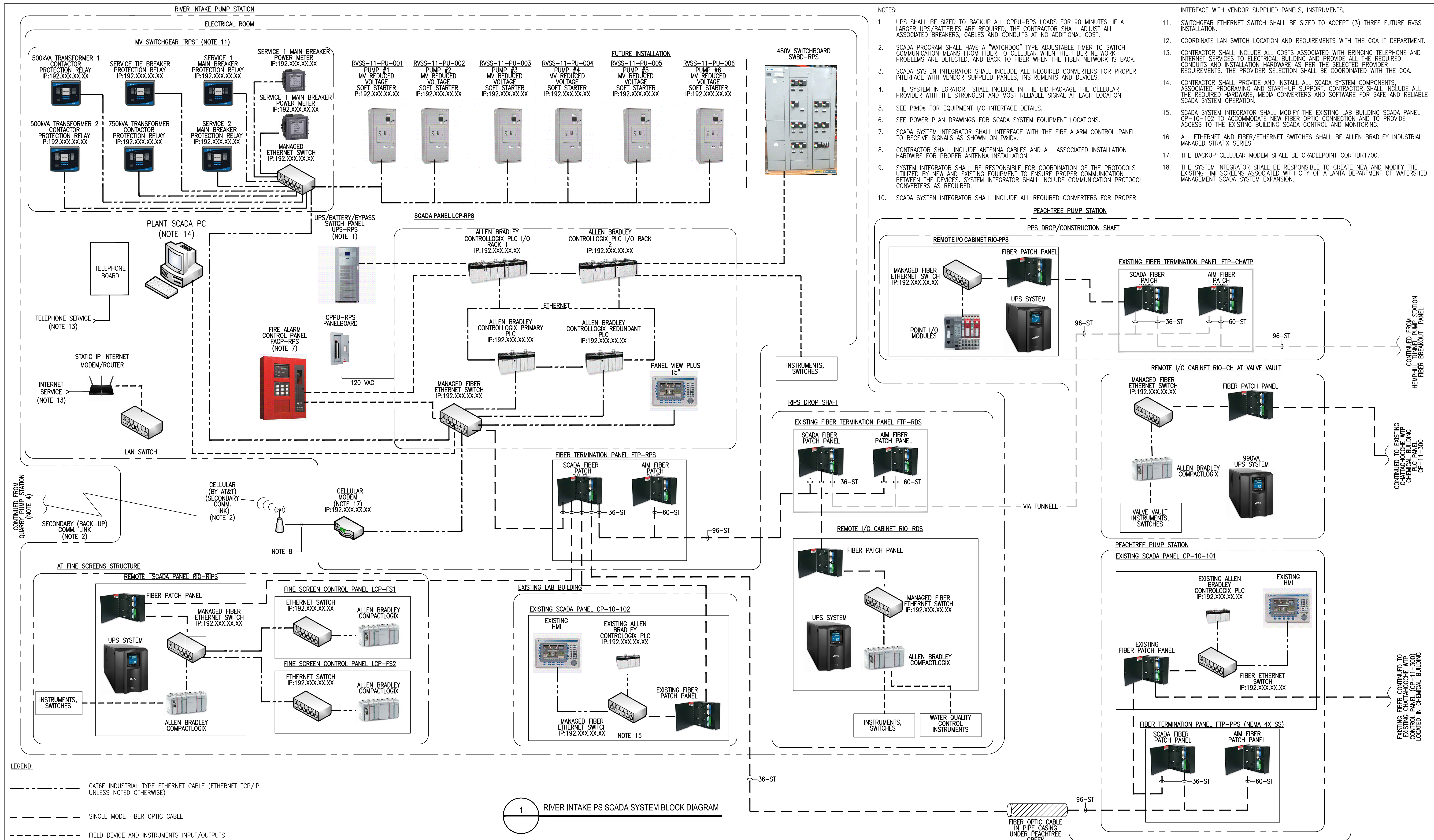


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CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
SCHEMATICS

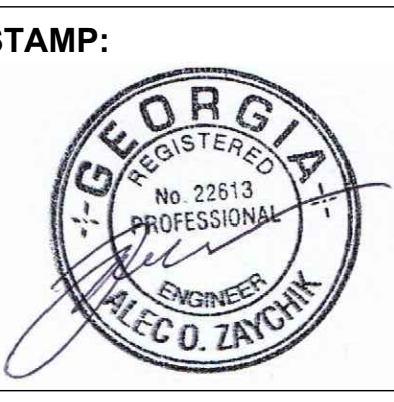
DRAWING NO.
RI-PS
EI-011
SHEET OF



1 RIVER INTAKE PS SCADA SYSTEM BLOCK DIAGRAM



No.	Description	Date



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CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
SCADA SYSTEM BLOCK DIAGRAM

DRAWING NO.
RI-PS
EJ-101
 SHEET OF

ISSUED FOR BIDDING

- PROCESS LINES**
- PROCESS FLOW LINE
 - DRAIN/WASTE LINE
 - OVERFLOW LINE
 - BLOWER AIR LINE
 - BACKWASH LINE
 - SAMPLE LINE
 - CHEMICAL INJECTION POINT
- () AVERAGE FLOW
[] PEAK FLOW
- ABBREVIATIONS**
- A TO C - AIR TO CLOSE
 - A TO O - AIR TO OPEN
 - AVG - AVERAGE
 - B/EL - BOTTOM ELEVATION
 - CL - CENTER LINE
 - CFM - CUBIC FEET PER MINUTE
 - CV - CONTROL VALVE
 - CW - CITY WATER (POTABLE)
 - DIA - DIAMETER
 - DWG - DRAWING
 - EL - ELEVATION
 - F.C. - FAIL CLOSED
 - F.O. - FAIL OPEN
 - FRL - FILTER/REGULATOR/LUBRICATOR
 - FTR - FAIL TO RESPOND OR FAIL TO RUN
 - GAL - GALLONS
 - GPD - GALLONS PER DAY
 - GPH - GALLONS PER HOUR
 - GPM - GALLONS PER MINUTE
 - HB - HOSE BIB
 - HG - INCHES OF MERCURY
 - HI - HIGH
 - HOA - HAND/OFF/AUTO
 - HMI - HUMAN MACHINE INTERFACE
 - HP - HORSEPOWER
 - IA - INSTRUMENT AIR
 - ID - INSIDE DIAMETER
 - INV - INVERT
 - LO - LOW
 - MH - MANHOLE
 - MV - MODULATING VALVE
 - MW - MANWAY
 - N.C. - NORMALLY CLOSED
 - N.O. - NORMALLY OPEN
 - OAL - OVERALL LENGTH
 - O.D. - OUTSIDE DIAMETER
 - PA - PLANT AIR
 - PLC - PROGRAMMABLE LOGIC CONTROLLER
 - PSIG - POUNDS PER SQUARE INCH - GAUGE
 - PW - PLANT WATER
 - RED - REDUCER
 - RPM - REVOLUTIONS PER MINUTE
 - SCFM - STANDARD CUBIC FEET PER MINUTE
 - SCH - SCHEDULE
 - SG - SPECIFIC GRAVITY
 - SP - SETPOINT
 - SSH - STRAIGHT SIDE HEIGHT
 - STD - STANDARD
 - SW - SEAL WATER
 - TWD - SIDE WATER DEPTH
 - TDH - TOTAL DYNAMIC HEAD (FT OF FLUID)
 - T/EL - TOP ELEVATION
 - TYP - TYPICAL
 - VAC - VACUUM
 - VSD - VARIABLE SPEED DRIVE
 - VTP - VERTICAL TURBINE PUMP
 - WC - WATER COLUMN
 - WD - WATER DEPTH
 - WL - WATER LEVEL
 - WV - WORKING VOLUME (DOES NOT INCLUDE FREEBOARD OR HEEL)
 - WSF - WATER STORAGE FACILITY
 - WTP - WATER TREATMENT PLANT

- VALVE SYMBOLS**
- ANGLE
 - BALL
 - BUTTERFLY
 - CHECK
 - DIAPHRAGM
 - GATE
 - GLOBE
 - KNIFE
 - NEEDLE
 - PINCH
 - PLUG
 - BACK PRESSURE VALVE
 - PRESSURE REDUCING
 - AIR RELIEF
 - SQUEEZE
 - THREE WAY
 - FOUR WAY
 - VACUUM BREAKER
 - AIR RELEASE
 - HOSE BIBB
 - INTEGRAL BLOCK & BLEED
 - RUPTURE DISK
 - MUD VALVE
 - BACKFLOW PREVENTER
 - SURGE ANTICIPATOR VALVE
 - SLIDE GATE
- INSTRUMENTATION AND RELATED ITEMS**
- CAPILLARY TUBING
 - ELECTRICAL
 - HYDRAULIC
 - PNEUMATIC
 - DATA LINK
 - FLUME
 - MAG - MAGNETIC FLOW METER
 - ROTAMETER
 - SONIC FLOW METER
 - TURBINE FLOW METER
 - VENTURI
 - WEIR
 - VORTEX SENSOR
 - ANNUBAR
 - ORIFICE PLATE
 - POSITIVE DISPLACEMENT METER
 - SAMPLE POINT

- PIPING AND TUBING MATERIALS**
- ABS - ACRYLONITRILE BUTADIENE STYRENE TRUSS PIPE
 - ALM - ALUMINUM PIPE OR TUBING
 - ARP - ALUMINUM REINFORCED PLASTIC PIPE
 - BL - BLACK IRON PIPE
 - BPT - BRAIDED PLASTIC TUBING-PVC
 - CI - CAST IRON PIPE
 - CISP - CAST IRON SOIL PIPE
 - CMCP - CORRUGATED METAL CULVERT PIPE
 - CMH - CHEMICAL HOSE
 - CMP - CORRUGATED METAL PIPE
 - COP - COPPER PIPE
 - CPVC - CHLORINATED POLYVINYL CHLORIDE PIPE
 - CS - CARBON STEEL PIPE
 - DI - DUCTILE CAST IRON PIPE
 - ERP - EPOXY RESIN PIPE
 - FRP - FIBERGLASS REINFORCED PLASTIC PIPE
 - GS - GALVANIZED STEEL PIPE
 - HOSE - FLEXIBLE HOSE
 - HSI - HIGH SILICON IRON PIPE
 - KLS - PVDF LINED STEEL PIPE (KYNAR LINED TYPICAL)
 - KYN - PVDF (KYNAR TYPICAL)
 - MI - CARBON STEEL PIPE W/MALLEABLE IRON FITTINGS
 - NEO - NEOPRENE HOSE
 - NI - NICKEL ALLOY PIPE
 - NLS - NEOPRENE LINED STEEL PIPE
 - PEP - POLYETHYLENE PIPE
 - PETB - POLYETHYLENE TUBING
 - PLS - POLYPROPYLENE LINED STEEL PIPE
 - POP - POLYPROPYLENE PIPE
 - PRP - PHENOLIC RESIN PIPE
 - PVC - POLYVINYL CHLORIDE PIPE
 - PVC HOSE - POLYVINYL CHLORIDE HOSE
 - PVDF - POLYVINYLIDENE FLUORIDE PIPE
 - PW - POTABLE WATER
 - RBR - RUBBER HOSE
 - RCCP - REINFORCED CONCRETE CULVERT PIPE
 - RCP - REINFORCED CONCRETE PIPE
 - SAR - SARAN TUBING
 - SLH - SLUDGE HOSE
 - SLS - SARAN LINED STEEL PIPE
 - SS - STAINLESS STEEL PIPE OR TUBING
 - TEF - TEFLON TUBING
 - TI - TITANIUM ALLOY PIPE
 - TLS - TEFLON LINED STEEL PIPE
 - TYB - TYGON TUBING-BRAIDED
 - TYG - TYGON TUBING-UNBRAIDED
- ACTUATORS**
- CYLINDER
 - DIAPHRAGM-SPRING
 - ELECTRO HYDRAULIC
 - ELECTRO PNEUMATIC
 - SOLENOID
 - POSITIONER - TYPE
 - MOTOR
 - MODULATING VALVE ACTUATOR
 - OPEN/CLOSE VALVE ACTUATOR

- CABLE TAGS**
- CABLE SUPPLIED BY VENDOR
- PIPING ACCESSORIES**
- DIAPHRAGM SEAL
 - EXPANSION JOINT
 - FLANGED CONNECTION
 - FLEXIBLE HOSE
 - HOSE CONNECTION
 - INSULATION
 - INSULATED PIPE WITH ELECTRIC HEAT TRACE
 - INSULATED PIPE WITH STEAM HEAT TRACE
 - PIPE TO TUBING ADAPTER
 - PULSATION DAMPENERS
 - QUICK DISCONNECT
 - CONCENTRIC REDUCER
 - ECCENTRIC REDUCER
 - RUPTURE DISK
- PUMPS AND EQUIPMENTS**
- STATIC MIXER
 - MECHANICAL FLOCCULATOR
 - CENTRIFUGAL PUMP
 - SAMPLE PUMP
 - BLOWER
 - PUMP, ROTARY LOBE
 - PUMP, SUBMERSIBLE TURBINE
 - HOSE PUMP
 - AIR COMPRESSOR
 - PUMP, DIAPHRAGM
 - PUMP, GEAR
 - PUMP, METERING
 - PUMP, PROGRESSING CAVITY
 - PUMP, VERTICAL TURBINE
 - PUMP, SUBMERSIBLE
- LINE NUMBER IDENTIFICATION**
- 1" - PA - CS
- MATERIAL CLASS
FLOW STREAM IDENTIFICATION
LINE SIZE
- LINE CONTINUATIONS**
- INDICATES A LINE GOING TO OR COMING FROM BATTERY LIMITS (CONTRACT LIMITS)
- INDICATES CONTINUATION OF LINE IS ON SHEET NUMBER 5 (SAME DRAWING NUMBER) IN ZONE A 2
- INDICATES CONTINUATION OF A SIGNAL IS ON SHEET NUMBER 5

ISA INSTRUMENT IDENTIFICATION TABLE

PROCESS VARIABLE	FIRST LETTER		SUCCEEDING LETTERS	
	PROCESS VARIABLE	MODIFIER (IF NEEDED)	READOUT OR COMPUTER FUNCTION	MODIFIER (IF NEEDED)
A	ANALYSIS		ALARM	
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE
C	USER'S CHOICE		CONTROL	
D	USER'S CHOICE	DIFFERENTIAL		
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)	
F	FLOW RATE	RATIO (FRACTION)		
G	USER'S CHOICE		GLASS, VIEWING DEVICE	
H	HAND			HIGH
I	CURRENT (ELECTRICAL)		INDICATE	
J	POWER	SCAN		
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE	CONTROL STATION	
L	LEVEL		LIGHT	LOW
M	USER'S CHOICE	MOMENTARY		MIDDLE, INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE (RESTRICTION)	
P	PRESSURE, VACUUM		POINT (TEST CONNECTION)	
Q	QUANTITY	INTEGRATE, TOTALIZE		
R	RADIATION		RECORD	
S	SPEED, FREQUENCY	SAFETY	SWITCH	
T	TEMPERATURE		TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECH. ANALYSIS		VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL	
X	UNCLASSIFIED	X-AXIS	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y-AXIS	RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z-AXIS	DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

LEGEND BASED ON ISA STANDARD S 5.1

INSTRUMENT TAG NUMBERS

TIC 103 - INSTRUMENTATION IDENTIFICATION OR TAG NUMBER
103 - LOOP NUMBER
TIC - FUNCTIONAL IDENTIFICATION
NOTE: HYPHENS ARE OPTIONAL AS SEPARATORS

ELECTRICAL AND RELATED ITEMS

- SELECTOR SWITCHES
- VARIABLE FREQUENCY DRIVE
- EMERGENCY POWER
- INTERLOCK
- PILOT LIGHT
- LENS COLOR REFERENCE

V/O SIGNALS:

- ETHERNET (CAT6)
- DISCRETE INPUT
- DISCRETE OUTPUT
- ANALOG INPUT
- ANALOG OUTPUT

EQUIPMENT / VALVE TAG

P-6 15-1A

EQUIPMENT NO. NUMBER DENOTES MULTIPLE DEVICES USED IN IDENTICAL DUPLICATE SYSTEMS. LETTER DISTINGUISHES MULTIPLE SIMILAR DEVICES IN THE SAME INSTRUMENT LOOP.

LOOP NO.

PROCESS I.D.

EQUIPMENT / VALVE IDENTIFICATION

EQUIPMENT FUNCTIONAL IDENTIFICATION

- BLOWER
- MECHANICAL EQUIPMENT
- PUMP
- PULSATION DAMPENERS
- STRAINER
- TANK
- CALIBRATION COLUMN
- INJECTION QUILL ASSEMBLY
- EDUCTOR

INSTRUMENT SYMBOLS	PRIMARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR	FIELD MOUNTED	AUXILIARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR	AUXILIARY LOCATION NORMALLY INACCESSIBLE TO OPERATOR
DISCRETE INSTRUMENTS				
SHARED DISPLAY, SHARED CONTROL				
COMPUTER FUNCTION				
PROGRAMMABLE LOGIC CONTROL				

* INSTRUMENT PROVIDED BY EQUIPMENT VENDOR

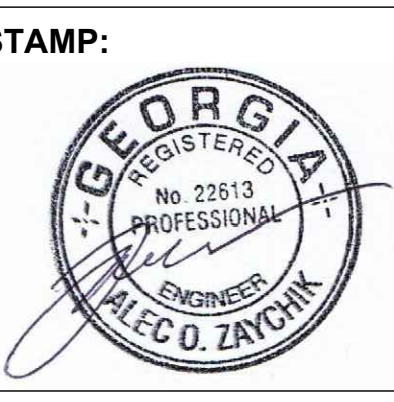
VENDOR SUPPLIED CONTROL PANEL

INSTRUMENTS

- LEVEL FLOAT SWITCH
- ULTRASONIC LEVEL SENSOR
- RADAR LEVEL SENSOR
- SUBMERSIBLE PRESSURE TRANSDUCER



No.	Description	Date



ADDRESS:

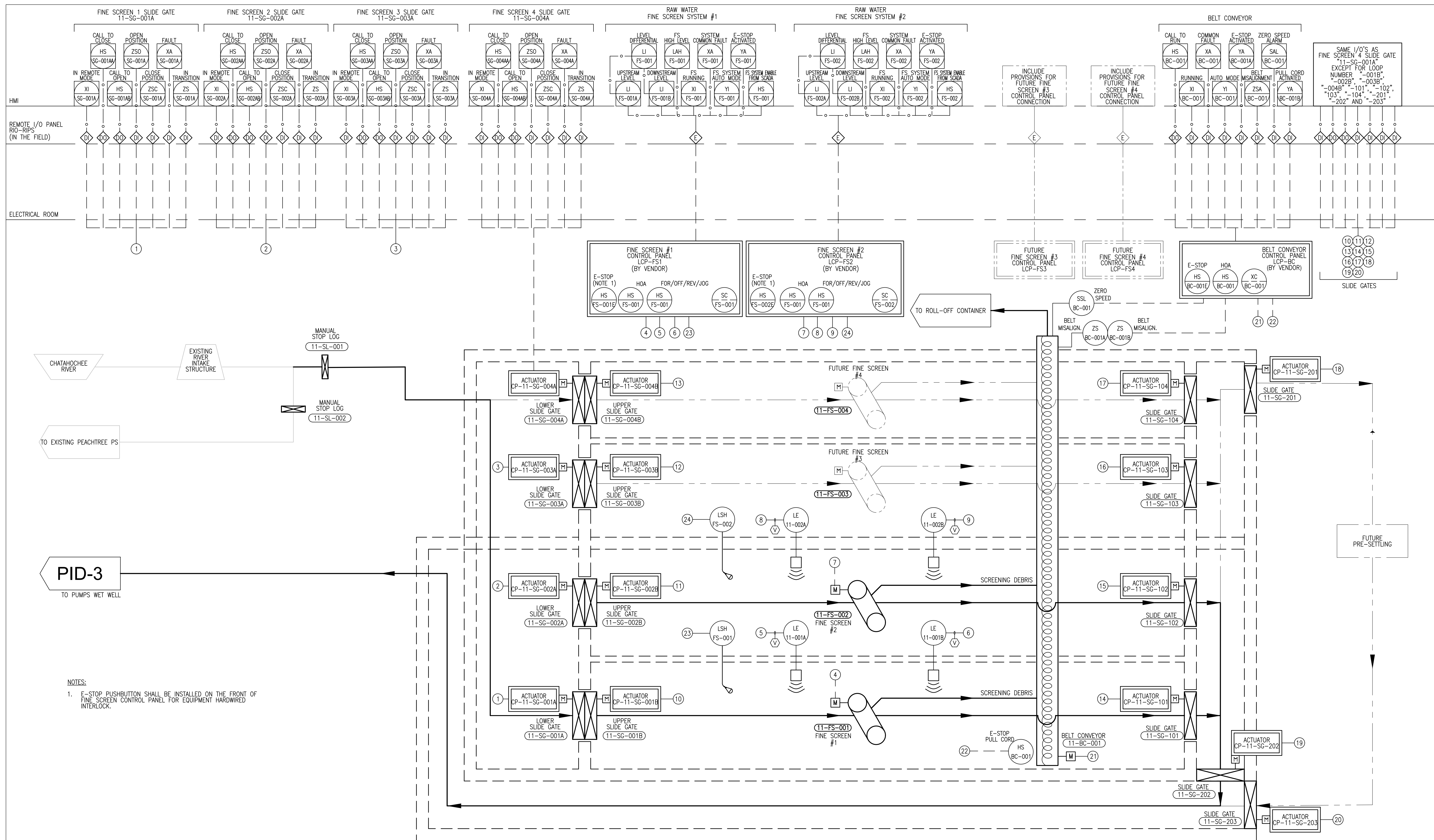
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CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM

RIVER INTAKE PUMP STATION
PROCESS P&ID'S
LEGEND AND SYMBOLS

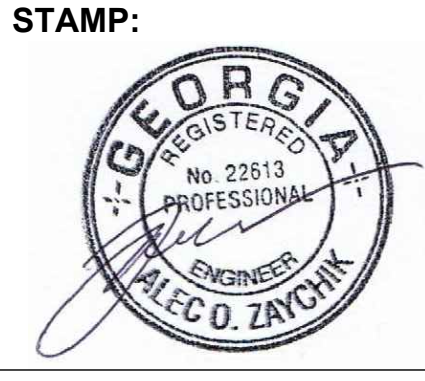
DRAWING NO.
RI-PS
PID-1
SHEET OF



NOTES:
 1. E-STOP PUSHBUTTON SHALL BE INSTALLED ON THE FRONT OF FINE SCREEN CONTROL PANEL FOR EQUIPMENT HARDWIRED INTERLOCK.



No.	Description	Date



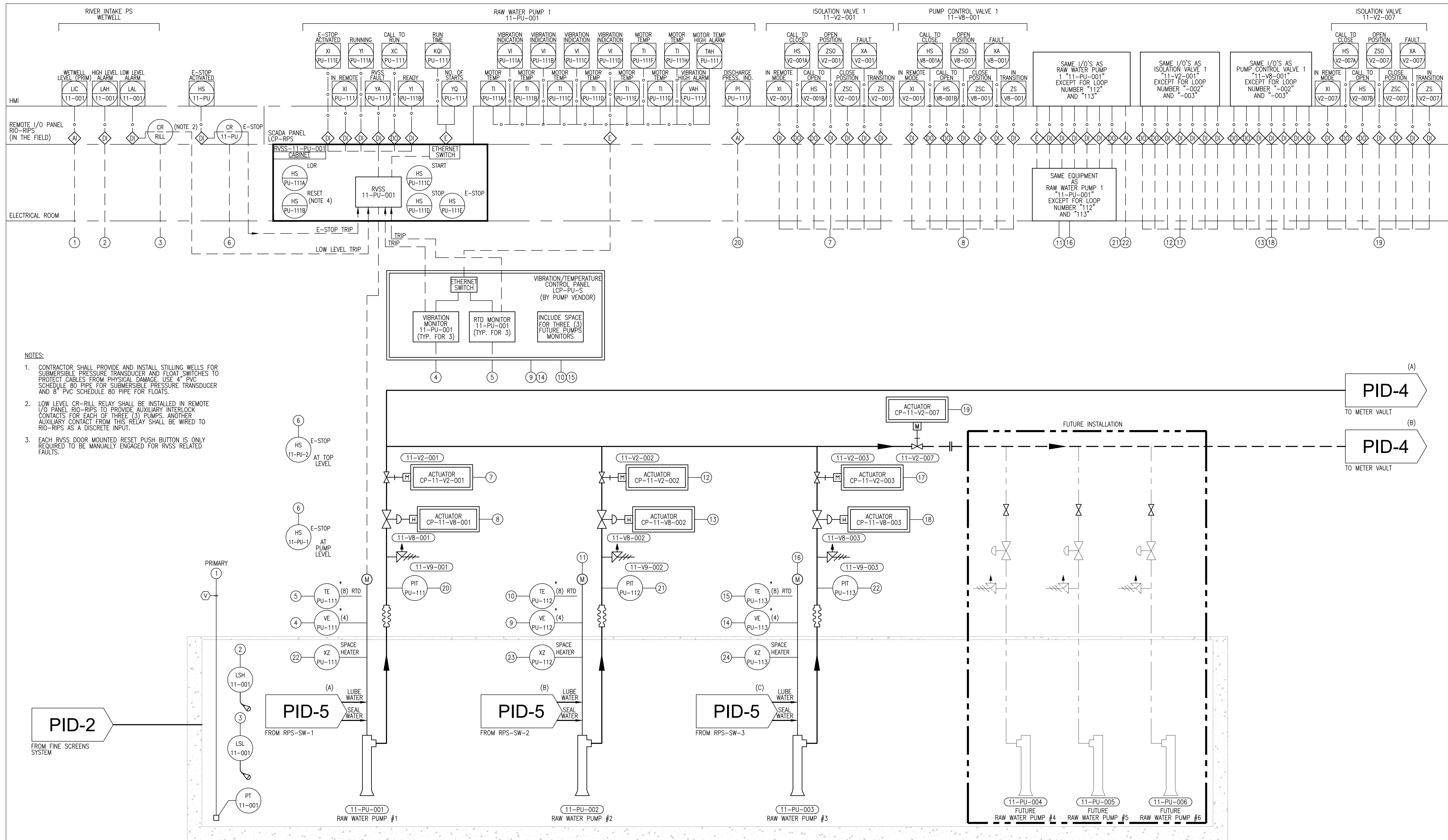
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CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
 PROCESS P&ID'S
FINE SCREENS

DRAWING NO.
RI-PS
PID-2
 SHEET OF

ISSUED FOR BIDDING



NOTES:

- CONTRACTOR SHALL PROVIDE AND INSTALL STILLING WELLS FOR SUBMERSIBLE PRESSURE TRANSDUCER AND FLOAT SWITCHES TO PROTECT CABLES FROM PHYSICAL DAMAGE. USE 4" PVC SCHEDULE 80 PIPE FOR SUBMERSIBLE PRESSURE TRANSDUCER AND 8" PVC SCHEDULE 80 PIPE FOR FLOATS.
- LOW LEVEL CR-RILL RELAY SHALL BE INSTALLED IN REMOTE I/O PANEL RIO-RIPS TO PROVIDE AUXILIARY INTERLOCK CONTACTS FOR EACH OF THREE (3) PUMPS. ANOTHER AUXILIARY CONTACT FROM THIS RELAY SHALL BE WIRED TO RIO-RIPS AS A DISCRETE INPUT.
- EACH RVSS DOOR MOUNTED RESET PUSH BUTTON IS ONLY REQUIRED TO BE MANUALLY ENGAGED FOR RVSS RELATED FAULTS.

PID-2
FROM FINE SCREENS SYSTEM

PID-5
FROM RPS-SW-1

PID-5
FROM RPS-SW-2

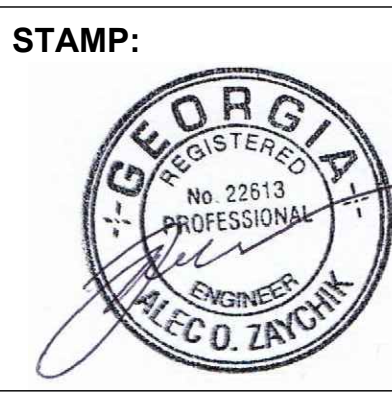
PID-5
FROM RPS-SW-3

PID-4
TO METER VAULT (A)

PID-4
TO METER VAULT (B)



No.	Description	Date



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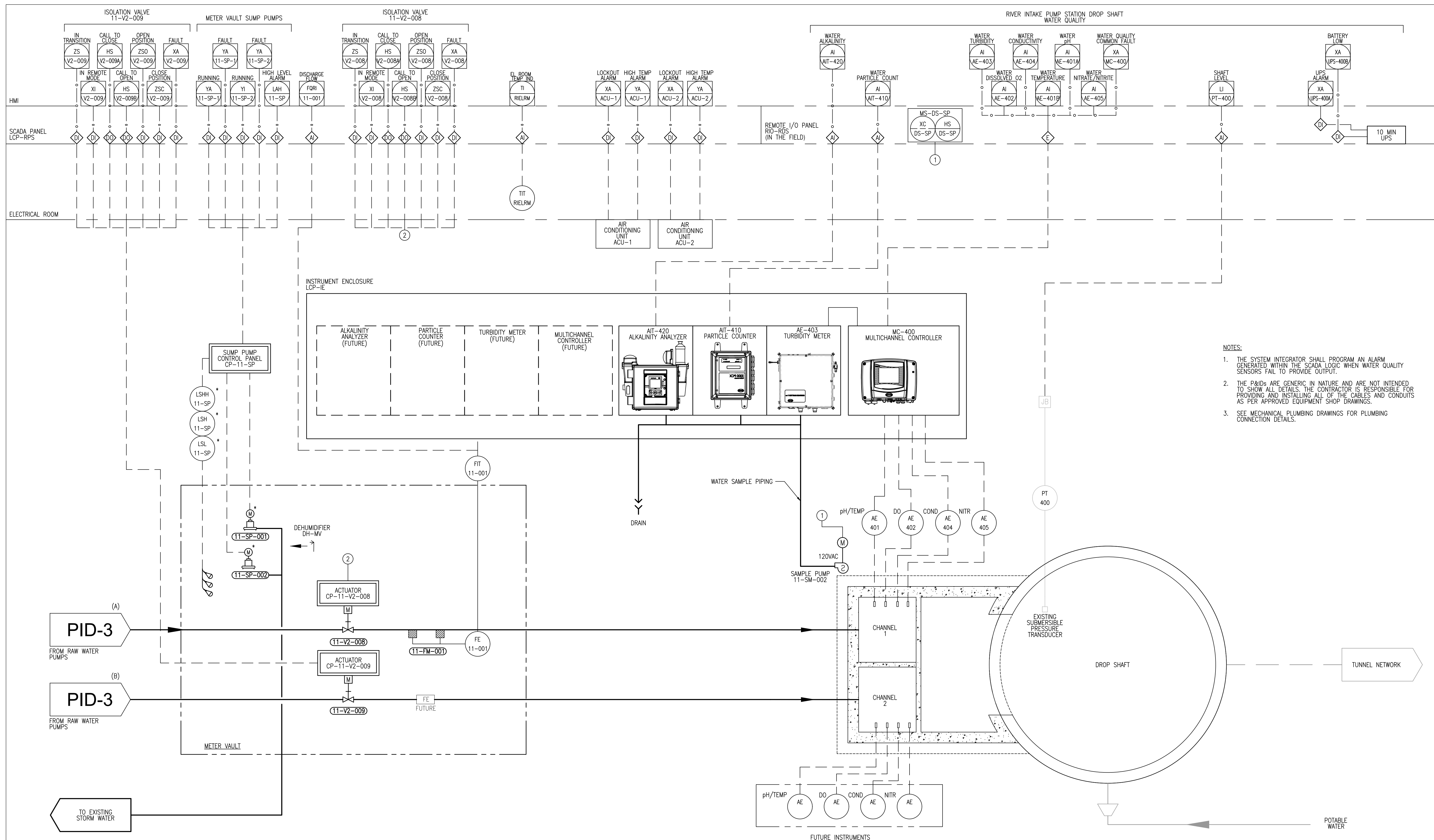
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**CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM**

**RIVER INTAKE PUMP STATION
PROCESS P&ID'S
RAW WATER WETWELL**

DRAWING NO.
**RI-PS
PID-3**
SHEET OF

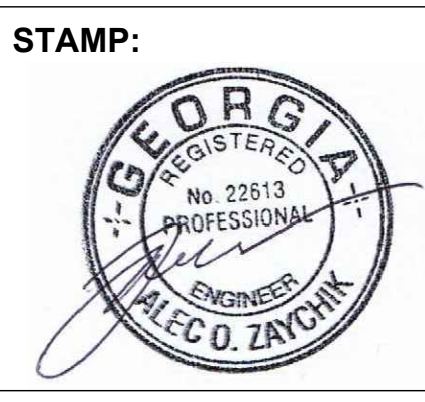
ISSUED FOR BIDDING



- NOTES:**
1. THE SYSTEM INTEGRATOR SHALL PROGRAM AN ALARM GENERATED WITHIN THE SCADA LOGIC WHEN WATER QUALITY SENSORS FAIL TO PROVIDE OUTPUT.
 2. THE P&IDs ARE GENERIC IN NATURE AND ARE NOT INTENDED TO SHOW ALL DETAILS. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING ALL OF THE CABLES AND CONDUITS AS PER APPROVED EQUIPMENT SHOP DRAWINGS.
 3. SEE MECHANICAL PLUMBING DRAWINGS FOR PLUMBING CONNECTION DETAILS.



No.	Description	Date



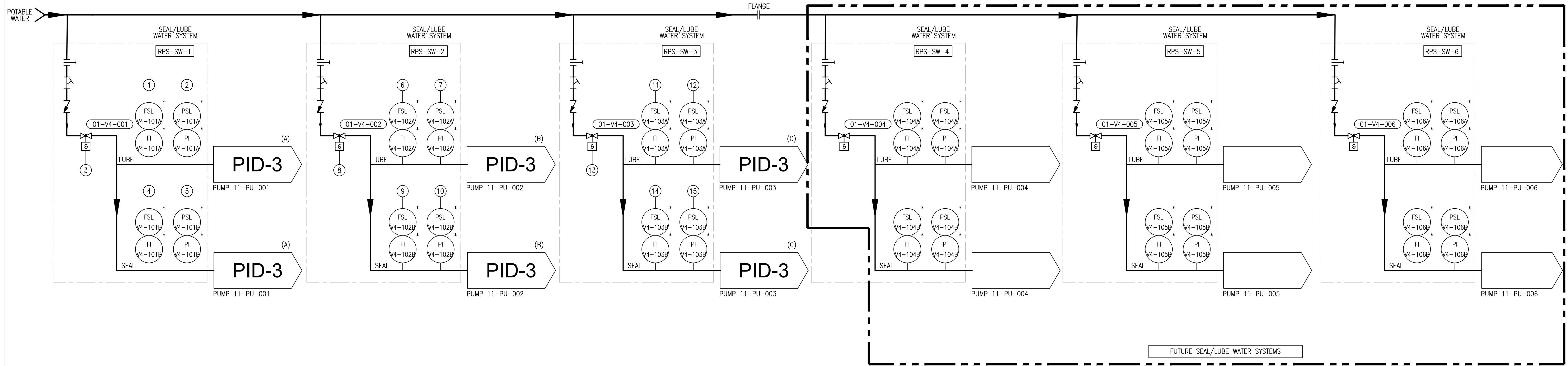
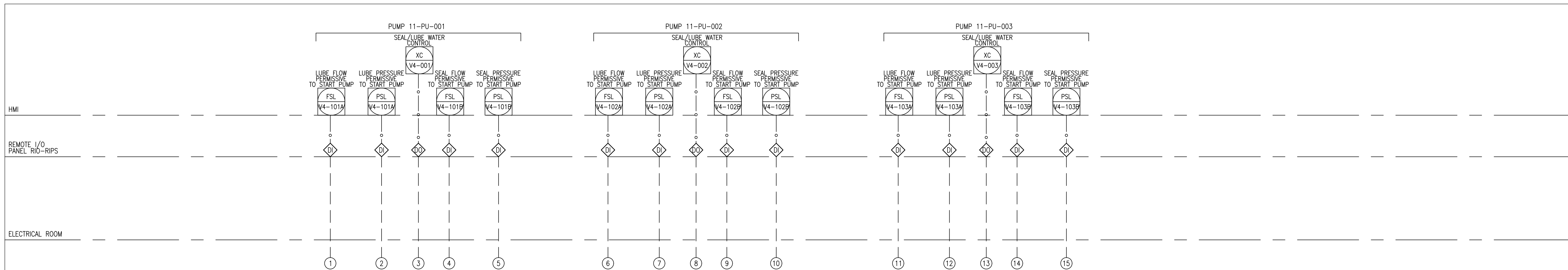
ADDRESS:
 BGR2-JV
 6 CONCOURSE PARKWAY
 SUITE 1600
 ATLANTA, GA 30328
 (770) 569-7038 x101
 FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

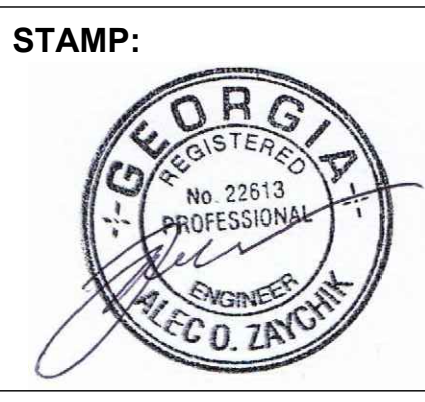
**CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
 WATER SUPPLY PROGRAM**

**RIVER INTAKE PUMP STATION
 PROCESS P&ID'S
 TUNNEL SHAFT**

DRAWING NO.
RI-PS
PID-4
 SHEET OF



No.	Description	Date



ADDRESS:
 BGR2-JV
 6 CONCOURSE PARKWAY
 SUITE 1600
 ATLANTA, GA 30328
 (770) 569-7038 x101
 FAX: (770) 993-5082

PROJECT NO:	TASK 1
DESIGNED BY:	RV
DRAWN BY:	RV
CHECKED BY:	AZ
DATE:	11-22-2019
SCALE:	N.T.S.

CITY OF ATLANTA DEPT. OF WATERSHED MANAGEMENT
WATER SUPPLY PROGRAM
RIVER INTAKE PUMP STATION
 PROCESS P&ID'S
 LUBE AND SEAL WATER SYSTEM

DRAWING NO.
RI-PS
PID-5
 SHEET OF

ISSUED FOR BIDDING

