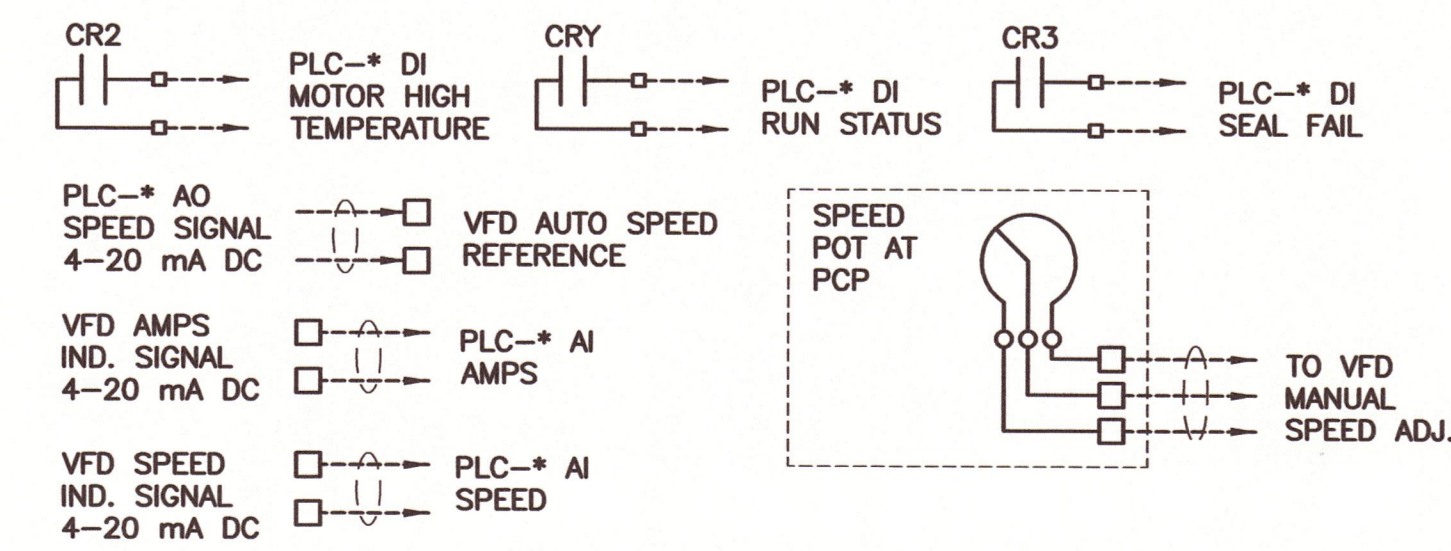
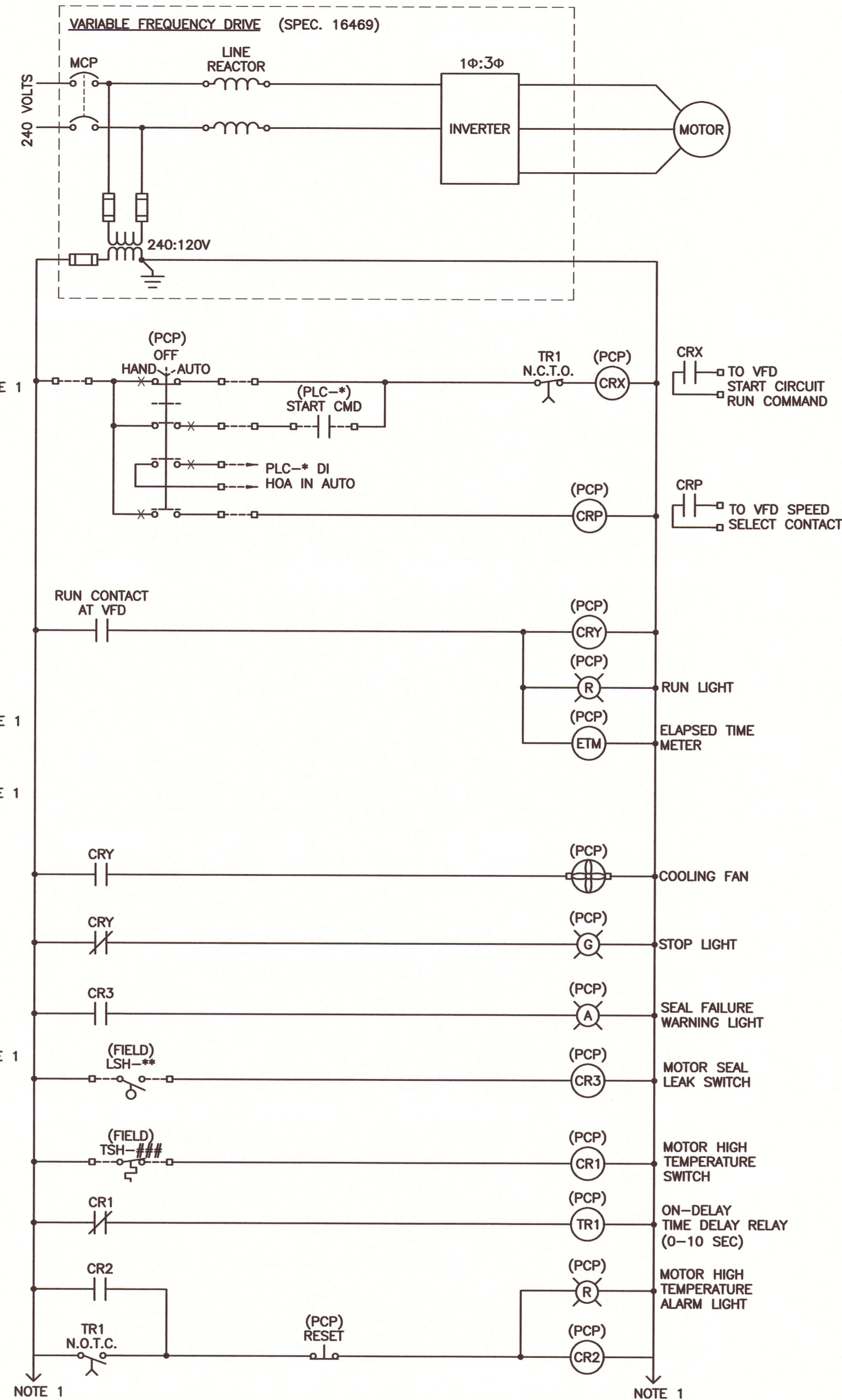


G:\DWG\MA\LEXINGTON\12938-RD\ELE\12938A-ES-SCHEDULES-DETAILS - DETAILSCHEMATICSDWG | 12938A-ES-SCHEDULES-DETAILS - DetailsSchematics | 1:10.1236 | 7/28/2016 4:40:41 PM | DON.SAVAGE 7/28/2016 4:36 PM

| BRIGHAM ROAD PUMP STATION CONDUIT AND WIRE SCHEDULE | | | | | |
|---|----------|----------------|---------------------------------|---------------------------------|------------------|
| CONDUIT NO | SIZE | | DESTINATION | | REMARKS |
| | CONDUIT | CONDUCTOR | FROM | TO | |
| P1 | 1.25" | 3#2 | UTILITY METER SOCKET | MAIN CIRCUIT BREAKER MCB-1 | |
| P1A | 2" | 3#2 | UTILITY METER SOCKET | CULDESAC SERVICE BOX | |
| P2 | 1.25" | 3#2, 1#8 GND | MAIN CIRCUIT BREAKER MCB-1 | AUTOMATIC TRANSFER SWITCH ATS-1 | |
| P3 | 1.25" | PULL STRING | MAIN DISTRIBUTION PANEL MDP-1 | WETWELL | SPARE |
| P4 | 1.5" | 3#1/0, 1#6 GND | AUTOMATIC TRANSFER SWITCH ATS-1 | EMERGENCY GENERATOR GEN-1 | |
| P5 | 1.5" | PULL STRING | AUTOMATIC TRANSFER SWITCH ATS-1 | EMERGENCY GENERATOR GEN-1 | |
| P6 | 1.5" | 3#1/0, 1#6 GND | AUTOMATIC TRANSFER SWITCH ATS-1 | MANUAL TRANSFER SWITCH PGM TS-1 | |
| P7 | 1.5" | 3#1/0, 1#6 GND | MANUAL TRANSFER SWITCH PGM TS-1 | PORTABLE GENERATOR RECEPTACLE | |
| P8 | 1.5" | 3#1/0, 1#6 GND | MANUAL TRANSFER SWITCH PGM TS-1 | MAIN DISTRIBUTION PANEL MDP-1 | |
| P9 | 3/4" | 2#12, 1#12 GND | PUMP CONTROL PANEL (PCP) | IS-1 | |
| P10 | NOT USED | | | | |
| P11 | 1.25" | 4#10 SH | SEWER PUMP VFD NO.1 | SEWER PUMP NO.1 P-120 | VIA JUNCTION BOX |
| P12 | 1.25" | 4#10 SH | SEWER PUMP VFD NO.2 | SEWER PUMP NO.1 P-121 | VIA JUNCTION BOX |
| P13 | 3/4" | 2#12, 1#12 GND | MAIN DISTRIBUTION PANEL MDP-1 | MAIN CONTROL PANEL (MCP) | |
| P14 | 3/4" | 2#8, 1#10 GND | MAIN DISTRIBUTION PANEL MDP-1 | PUMP CONTROL PANEL (PCP) | |
| P15 | 3/4" | 2#12, 1#12 GND | MAIN CONTROL PANEL (MCP) | MISSION ALARM PANEL | |
| P16 | 3/4" | 2#12, 1#12 GND | MAIN DISTRIBUTION PANEL MDP-1 | PANEL HEATER | |
| P17 | 1" | 4#12, 2#12 GND | MAIN DISTRIBUTION PANEL MDP-1 | GENERATOR BATT. CHARGER/CP | |
| P18 | 1" | 2#12, 1#12 GND | MAIN DISTRIBUTION PANEL MDP-1 | GENERATOR JACKET WATER HEATER | |
| P19 | 3/4" | 2#12, 1#12 GND | MAIN DISTRIBUTION PANEL MDP-1 | PANEL LIGHT/RECEPTACLE | |
| P20 | 1" | #2 BARE GND | GROUND ROD | MAIN CIRCUIT BREAKER MCB-1 | |
| P21 | NOT USED | | | | |
| C1 | 3/4" | NOT USED | | | |
| C2 | 3/4" | NOT USED | | | |
| C3 | 3/4" | 6#14 | TSH-120, LSH-120 | PUMP CONTROL PANEL (PCP) | VIA JUNCTION BOX |
| C4 | 3/4" | 6#14 | TSH-121, LSH-121 | PUMP CONTROL PANEL (PCP) | VIA JUNCTION BOX |
| C5 | 1" | 20#14 | MAIN CONTROL PANEL (MCP) | PUMP CONTROL PANEL (PCP) | |
| C6 | 3/4" | 6#14 | MAIN CONTROL PANEL (MCP) | IS-1 | |
| C7 | 1" | 6#14 | LSSL-110, LSH-110 | IS-1 | VIA JUNCTION BOX |
| C8 | 3/4" | 10#14 | MAIN CONTROL PANEL (MCP) | MISSION CONTROL ALARM PANEL | |
| C9 | 3/4" | 12#14 | MAIN CONTROL PANEL (MCP) | AUTOMATIC TRANSFER SWITCH ATS-1 | |
| C10 | 1" | 8#14 | GENERATOR CONTROL PANEL | AUTOMATIC TRANSFER SWITCH ATS-1 | |
| C11 | NOT USED | | | | |
| C12 | NOT USED | | | | |
| S1 | 1.25" | NOT USED | | | |
| S2 | 1.25" | NOT USED | | | |
| S3 | 1.25" | 8-2#16 TWS | MAIN CONTROL PANEL (MCP) | PUMP CONTROL PANEL (PCP) | |
| S4 | 3/4" | 2-2#16 TWS | MAIN CONTROL PANEL (MCP) | IS-1 | |
| S5 | 1" | 2-2#16 TWS | LE/LT-110 | IS-1 | VIA JUNCTION BOX |
| S6 | 3/4" | 2-2#16 TWS | MAIN CONTROL PANEL (MCP) | MISSION CONTROL ALARM PANEL | |
| S7 | NOT USED | | | | |

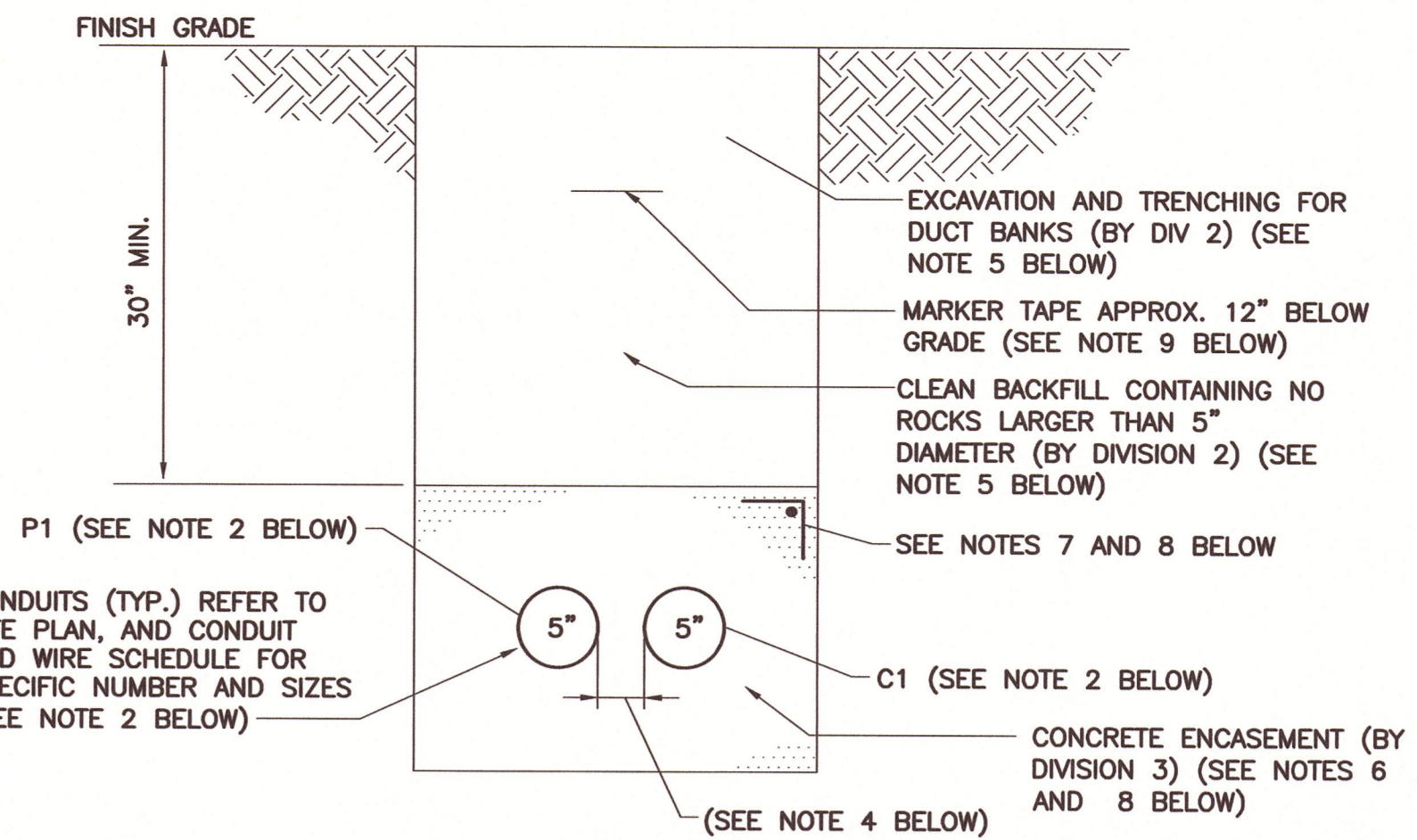
CONDUIT AND WIRE SCHEDULE NOTES:
 1. AFTER JUNCTION BOX CABLE IS MANUFACTURER PROVIDED.



SCHEMATIC DIAGRAM
SUBMERSIBLE PUMP VFD

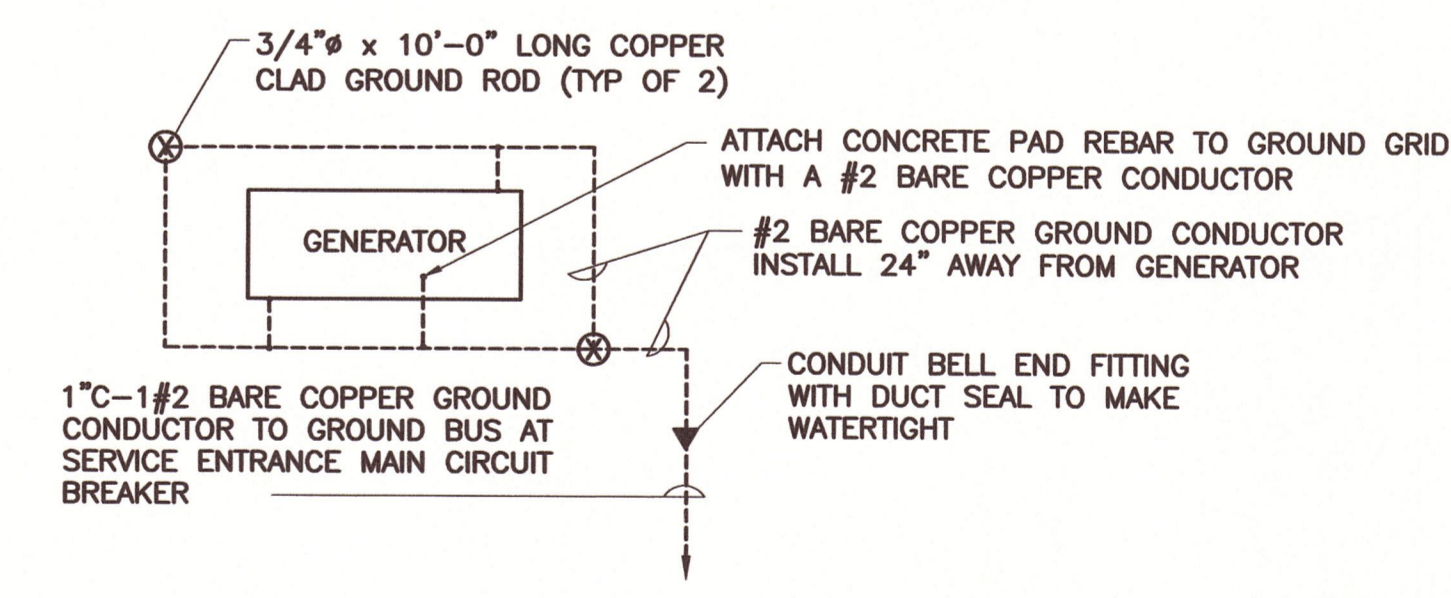
THE ABOVE CONTROL SCHEMATIC DIAGRAM APPLIES TO THE FOLLOWING EQUIPMENT:
 1. SEWER PUMP NO. 1; LOOP(S) 120
 2. SEWER PUMP NO. 2; LOOP(S) 121

NOTES:
 1. SEE SPECIFICATION SECTION 11306 FOR CONTINUATION AND SCHEMATIC FOR MANUAL BACK-UP LEVEL CONTROL.



TYPICAL DUCT BANK DETAIL
 (REFER TO NOTES BELOW FOR ADDITIONAL REQUIREMENTS)
 NTS

- NOTES: (DUCT BANK DETAIL)**
- DIMENSIONS TYPICAL FOR ALL DUCT BANKS, UNLESS OTHERWISE NOTED.
 - FOR CONDUIT DETAILS, SEE CONDUIT AND WIRE SCHEDULES. REFERENCES P1 AND C1 DENOTES CONDUIT NUMBERS. REFER TO SPECIFIC DUCT BANK SECTIONS AND CONDUIT AND WIRE SCHEDULES FOR DETAILS.
 - THIS TYPICAL DUCT BANK SECTION HAS BEEN SHOWN AS AN EXAMPLE OF THE REQUIREMENTS FOR THE UNDERGROUND INSTALLATION FOR THE DUCT BANK SYSTEM. THIS DENOTES SPECIFIC SPACING, CONCRETE ENCASEMENT, REINFORCING, ETC. REQUIRED FOR DUCT BANK INSTALLATIONS. THE SPECIFIC CONDUIT SIZING AND NUMBERS HAVE BEEN SHOWN BY EACH SPECIFIC DUCT BANK SECTION.
 - IT SHALL BE REQUIRED THAT A MINIMUM OF 1'-0" CLEARANCE BE PROVIDED AT ALL TIMES BETWEEN ALL POWER CONDUITS AND ALL SIGNAL AND/OR CONTROL CONDUITS IN ORDER TO AVOID ANY ELECTRICAL NOISE INTERFERENCE WITH THE CABLES OR WIRES WITHIN THESE SIGNAL AND CONTROL CONDUITS.
 - EXCAVATION, TRENCHING AND BACKFILLING SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 2 OF THIS CONTRACT.
 - CONCRETE ENCASEMENT SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 3 OF THIS CONTRACT.
 - REINFORCING STEEL SHALL BE FURNISHED AND INSTALLED UNDER DRAWING C-5 OF THIS CONTRACT.
 - REFER TO THE CONTRACT SPEC AND DRAWING C-5 FOR SPECIFIC DETAILS FOR CONCRETE ENCASEMENT AND REINFORCING OF ELECTRICAL DUCT BANKS.
 - INSTALL MARKER TAPE THE ENTIRE LENGTH OF EACH DUCT BANK.



GENERATOR GROUNDING PLAN
 NTS

THESE RECORD DRAWINGS HAVE BEEN PREPARED, IN PART, ON THE BASIS OF THE INFORMATION COMPILED AND FURNISHED BY OTHERS. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THIS DOCUMENT AS A RESULT.

| | | | |
|--------------------|-----------------|------|------|
| DESIGNED BY: LJC | ISSUED FOR: BID | NO. | DATE |
| CAD: LJC | RECORD DRAWINGS | | |
| CHECKED BY: SAL | NO. | DATE | |
| DATE: 11/23/14 | | | |
| APPROVED BY: SAL | | | |
| DATE: 11/11/14 | | | |
| PROJECT NO: 12938A | | | |

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TOWN OF LEXINGTON, MA
 BRIGHAM ROAD WASTEWATER
 PUMP STATION UPGRADE
 ELECTRICAL SCHEMATICS AND DETAILS

DRAWING
 E-4