

| LIGHTING | COMMUNICATIONS | CONTROL | ONE-LINE SYMBOLS (CONTINUED) |
|--|---|--|---|
| <div><div><div><div><div></div><div></div><div></div><div></div></div><div>LUMINAIRE LEGEND</div><div>—FIXTURE ID</div><div>—'E' DESIGNATES EMERGENCY LIGHT</div><div>—CIRCUIT NUMBER</div><div>—SWITCH CIRCUIT ID</div></div></div></div> | <div><div><div>▼</div><div>DATA OUTLET</div></div><div><div>▽</div><div>VOICE (TELEPHONE) OUTLET</div></div><div><div>↘</div><div>VOICE/DATA OUTLET</div></div><div><div>📺</div><div>TELEVISION (TV) OUTLET</div></div><div><div>🕒</div><div>CLOCK OUTLET</div></div><div><div>📻</div><div>INTERCOM STATION</div></div><div><div>🔊</div><div>SPEAKER, WALL MOUNT</div></div><div><div>🔊</div><div>SPEAKER, CEILING MOUNT</div></div><div><div>🎙</div><div>MICROPHONE OUTLET</div></div><div><div>🎧</div><div>AUDIO/VIDEO OUTLET</div></div><div><div>🔊</div><div>VOLUME CONTROL</div></div><div><div>📽</div><div>PROJECTOR</div></div><div><div>📽</div><div>PROJECTOR CONTROL OUTLET</div></div><div><div>🔔</div><div>BELL/CHIME/AUDIBLE NOTIFICATION DEVICE</div></div></div> | <div><div>🌡</div><div>LEVEL TRANSDUCER</div></div> <div><div>📏</div><div>FLOW METER/FLOW TUBE</div></div> <div><div>🌡</div><div>TEMPERATURE TRANSDUCER</div></div> <div><div>🔌</div><div>LIMIT SWITCH</div></div> <div><div>🔌</div><div>PRESSURE SWITCH</div></div> <div><div>🌡</div><div>TEMPERATURE SWITCH/THERMOSTAT</div></div> <div><div>🔌</div><div>FLOOD SWITCH</div></div> <div><div>📊</div><div>LEVEL (FLOAT) SWITCH</div></div> <div><div>🔌</div><div>MOTORIZED DAMPER</div></div> <div><div>🔌</div><div>SOLENOID</div></div> <div><div>🚪</div><div>EMERGENCY PUSHBUTTON STATION</div></div> <div><div>🔌</div><div>CORD AND PLUG</div></div> <div><div>📶</div><div>CONTROL STATION</div></div> | <div><div>🔌</div><div>SOLID STATE REDUCED VOLTAGE STARTER</div></div> <div><div>📊</div><div>POWER MONITOR</div></div> <div><div>📊</div><div>METER</div></div> <div><div>🔌</div><div>HIGH VOLTAGE CIRCUIT BREAKER</div></div> <div><div>⚡</div><div>DRAW OUT/BUSS STABS</div></div> <div><div>⚡</div><div>LIGHTNING ARRESTOR</div></div> |
| <div><div><div><div><div></div><div></div><div></div><div></div></div><div>RECESSED LUMINAIRE</div></div><div><div><div></div><div></div><div></div><div></div></div><div>NIGHT LIGHT</div></div><div><div><div></div><div></div><div></div><div></div></div><div>PENDANT MOUNTED</div></div><div><div><div></div><div></div><div></div><div></div></div><div>INDICATES WALL WASH RECESSED CAN LUMINAIRE</div></div><div><div><div></div><div></div><div></div><div></div></div><div>WALL MOUNT LUMINAIRE</div></div><div><div><div></div><div></div><div></div><div></div></div><div>TRACK LIGHTING</div></div><div><div><div></div><div></div><div></div><div></div></div><div>POLE MOUNTED LUMINAIRE</div></div><div><div><div></div><div></div><div></div><div></div></div><div>SHADE REGION INDICATES FACE EXIT LIGHT WALL MOUNT</div></div><div><div><div></div><div></div><div></div><div></div></div><div>EMERGENCY LIGHTING UNIT</div></div><div><div><div></div><div></div><div></div><div></div></div><div>OCCUPANCY SENSOR, CEILING MOUNTED</div></div><div><div><div></div><div></div><div></div><div></div></div><div>OCCUPANCY SENSOR, WALL MOUNTED</div></div></div></div> | <div><div><div></div><div>CABLE TRAY</div></div><div><div><div></div><div></div><div></div><div></div></div><div>WIRELESS ACCESS POINT</div></div><div><div><div></div><div></div><div></div><div></div></div><div>FIRE ALARM SYSTEMS</div></div><div><div><div></div><div></div><div></div><div></div></div><div>ALARM STROBE AND HORN/SPEAKER</div></div><div><div><div></div><div></div><div></div><div></div></div><div>ALARM STROBE</div></div><div><div><div></div><div></div><div></div><div></div></div><div>ALARM HORN/SPEAKER</div></div><div><div><div></div><div></div><div></div><div></div></div><div>ALARM PULL STATION</div></div><div><div><div></div><div></div><div></div><div></div></div><div>SMOKE DETECTOR</div></div><div><div><div></div><div></div><div></div><div></div></div><div>HEAT DETECTOR</div></div><div><div><div></div><div></div><div></div><div></div></div><div>DUCT SMOKE DETECTOR</div></div><div><div><div></div><div></div><div></div><div></div></div><div>FIRE ALARM REMOTE ANNUNCIATOR</div></div><div><div><div></div><div></div><div></div><div></div></div><div>FIRE ALARM CONTROL PANEL</div></div><div><div><div></div><div></div><div></div><div></div></div><div>MAGNETIC DOOR HOLD OPEN</div></div><div><div><div></div><div></div><div></div><div></div></div><div>FIRE ALARM CONTROL RELAY</div></div><div><div><div></div><div></div><div></div><div></div></div><div>FIRE ALARM FLOW SWITCH</div></div><div><div><div></div><div></div><div></div><div></div></div><div>FIRE ALARM TAMPER SWITCH</div></div></div> | <div><div><div></div><div>GENERAL</div></div><div><div><div></div><div></div><div></div><div></div></div><div>CONDUIT/WIRE RUN - EXPOSED/SURFACE MOUNT</div></div><div><div><div></div><div></div><div></div><div></div></div><div>CONDUIT/WIRE RUN - CONCEALED/UNDERGROUND</div></div><div><div><div></div><div></div><div></div><div></div></div><div>JUNCTION BOX - CEILING MOUNT</div></div><div><div><div></div><div></div><div></div><div></div></div><div>JUNCTION BOX - WALL MOUNT</div></div><div><div><div></div><div></div><div></div><div></div></div><div>JUNCTION BOX - FLOOR MOUNT</div></div><div><div><div></div><div></div><div></div><div></div></div><div>NURSE CALL LIGHT - WALL MOUNT</div></div><div><div><div></div><div></div><div></div><div></div></div><div>NURSE CALL LIGHT - CEILING MOUNT</div></div><div><div><div></div><div></div><div></div><div></div></div><div>NURSE CALL PULL STATION</div></div><div><div><div></div><div></div><div></div><div></div></div><div>NURSE CALL STAFF LOCATION</div></div><div><div><div></div><div></div><div></div><div></div></div><div>NURSE CALL STAFF EMERGENCY LOCATION</div></div><div><div><div></div><div></div><div></div><div></div></div><div>NURSE CALL MASTER STATION</div></div><div><div><div></div><div></div><div></div><div></div></div><div>NURSE CALL TERMINAL</div></div></div> | <div><div><div></div><div>RELAY COIL (NUMBER DENOTED)</div></div><div><div><div></div><div></div><div></div><div></div></div><div>NORMALLY OPEN CONTACT</div></div><div><div><div></div><div></div><div></div><div></div></div><div>NORMALLY CLOSED CONTACT</div></div><div><div><div></div><div></div><div></div><div></div></div><div>THREE POSITION SELECTOR SWITCH (HAND-OFF-AUTO DENOTED)</div></div><div><div><div></div><div></div><div></div><div></div></div><div>TWO POSITION SELECTOR SWITCH (RUN-OFF DENOTED)</div></div><div><div><div></div><div></div><div></div><div></div></div><div>PUSH TO TEST PILOT LIGHT (COLOR DENOTED)</div></div><div><div><div></div><div></div><div></div><div></div></div><div>PILOT LIGHT (COLOR DENOTED)</div></div><div><div><div></div><div></div><div></div><div></div></div><div>PUSH BUTTON - NORMALLY CLOSED</div></div><div><div><div></div><div></div><div></div><div></div></div><div>PUSH BUTTON - NORMALLY OPEN</div></div><div><div><div></div><div></div><div></div><div></div></div><div>TIMING RELAY</div></div><div><div><div></div><div></div><div></div><div></div></div><div>CLOSED SWITCH - TIME DELAY OPEN</div></div><div><div><div></div><div></div><div></div><div></div></div><div>OPEN SWITCH - TIME DELAY CLOSED</div></div><div><div><div></div><div></div><div></div><div></div></div><div>CLOSED SWITCH - TIME DELAY CLOSED</div></div><div><div><div></div><div></div><div></div><div></div></div><div>OPEN SWITCH - TIME DELAY OPEN</div></div><div><div><div></div><div></div><div></div><div></div></div><div>TEMPERATURE SWITCH - CLOSE ON RISING TEMPERATURE</div></div><div><div><div></div><div></div><div></div><div></div></div><div>TEMPERATURE SWITCH - OPEN ON RISING TEMPERATURE</div></div><div><div><div></div><div></div><div></div><div></div></div><div>SOLENOID</div></div><div><div><div></div><div></div><div></div><div></div></div><div>CONTROL POWER TRANSFORMER</div></div><div><div><div></div><div></div><div></div><div></div></div><div>GROUND</div></div><div><div><div></div><div></div><div></div><div></div></div><div>OVERLOAD</div></div><div><div><div></div><div></div><div></div><div></div></div><div>HEATER</div></div><div><div><div></div><div></div><div></div><div></div></div><div>TERMINAL BLOCK</div></div><div><div><div></div><div></div><div></div><div></div></div><div>CONNECTION NODE</div></div></div> |
| <div><div><div><div><div></div><div></div><div></div><div></div></div><div>SWITCH</div><div>—SWITCH CIRCUIT IDENTIFIER</div><div>—TYPE IDENTIFIER: 2-TWO POLE, SINGLE THROW 3-THREE WAY 4-FOUR WAY D-DIMMER P-WITH PILOT LIGHT T-TIMER SP-SPEED CONTROL K-KEYED MS-MANUAL MOTOR STARTER</div></div></div><div><div><div></div><div></div><div></div><div></div></div><div>LIGHTING CONTROL STATION</div></div><div><div><div></div><div></div><div></div><div></div></div><div>PHOTOCELL, DAY LIGHT SENSOR</div></div><div><div><div></div><div></div><div></div><div></div></div><div>REMOTE EMERGENCY LIGHTING HEAD</div></div></div> | <div><div><div></div><div></div><div></div><div></div></div><div>ALARM STROBE AND HORN/SPEAKER</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>ALARM STROBE</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>ALARM HORN/SPEAKER</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>ALARM PULL STATION</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>SMOKE DETECTOR</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>HEAT DETECTOR</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>DUCT SMOKE DETECTOR</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>FIRE ALARM REMOTE ANNUNCIATOR</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>FIRE ALARM CONTROL PANEL</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>MAGNETIC DOOR HOLD OPEN</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>FIRE ALARM CONTROL RELAY</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>FIRE ALARM FLOW SWITCH</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>FIRE ALARM TAMPER SWITCH</div></div> | <div><div><div></div><div>HEALTH CARE</div></div><div><div><div></div><div></div><div></div><div></div></div><div>NURSE CALL LIGHT - WALL MOUNT</div></div><div><div><div></div><div></div><div></div><div></div></div><div>NURSE CALL LIGHT - CEILING MOUNT</div></div><div><div><div></div><div></div><div></div><div></div></div><div>NURSE CALL PULL STATION</div></div><div><div><div></div><div></div><div></div><div></div></div><div>NURSE CALL STAFF LOCATION</div></div><div><div><div></div><div></div><div></div><div></div></div><div>NURSE CALL STAFF EMERGENCY LOCATION</div></div><div><div><div></div><div></div><div></div><div></div></div><div>NURSE CALL MASTER STATION</div></div><div><div><div></div><div></div><div></div><div></div></div><div>NURSE CALL TERMINAL</div></div></div> | <div><div><div></div><div></div><div></div><div></div></div><div>TEMPERATURE SWITCH - CLOSE ON RISING TEMPERATURE</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>TEMPERATURE SWITCH - OPEN ON RISING TEMPERATURE</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>SOLENOID</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>CONTROL POWER TRANSFORMER</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>GROUND</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>OVERLOAD</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>HEATER</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>TERMINAL BLOCK</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>CONNECTION NODE</div></div> |
| <div><div><div><div><div></div><div></div><div></div><div></div></div><div>POWER</div></div><div><div><div></div><div></div><div></div><div></div></div><div>DUPLX RECEPTACLE</div></div><div><div><div></div><div></div><div></div><div></div></div><div>DUPLX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER</div></div><div><div><div></div><div></div><div></div><div></div></div><div>DUPLX RECEPTACLE, ISOLATED GROUND</div></div><div><div><div></div><div></div><div></div><div></div></div><div>DUPLX RECEPTACLE, SWITCHED (SPLIT)</div></div><div><div><div></div><div></div><div></div><div></div></div><div>DUPLX RECEPTACLE, ON EMERGENCY/STANDBY POWER CIRCUIT</div></div><div><div><div></div><div></div><div></div><div></div></div><div>DUPLX RECEPTACLE, CEILING MOUNTED</div></div><div><div><div></div><div></div><div></div><div></div></div><div>DUPLX RECEPTACLE, FLOOR MOUNTED</div></div><div><div><div></div><div></div><div></div><div></div></div><div>SPECIAL PURPOSE RECEPTACLE</div></div><div><div><div></div><div></div><div></div><div></div></div><div>WELDING RECEPTACLE</div></div></div></div> | <div><div><div></div><div></div><div></div><div></div></div><div>SECURITY SYSTEMS</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>CARD READER</div></div> | <div><div><div></div><div>ONE-LINE SYMBOLS</div></div></div> | |
| <div><div><div><div><div></div><div></div><div></div><div></div></div><div>POWER, DISTRIBUTION, CONTROL PANEL</div></div><div><div><div></div><div></div><div></div><div></div></div><div>TRANSFORMER (ID NOTED)</div></div><div><div><div></div><div></div><div></div><div></div></div><div>GENERATOR</div></div><div><div><div></div><div></div><div></div><div></div></div><div>MOTOR, SINGLE PHASE</div></div><div><div><div></div><div></div><div></div><div></div></div><div>MOTOR, THREE PHASE</div></div><div><div><div></div><div></div><div></div><div></div></div><div>DISCONNECT/SAFETY SWITCH</div></div><div><div><div></div><div></div><div></div><div></div></div><div>FUSED DISCONNECT/SAFETY SWITCH</div></div><div><div><div></div><div></div><div></div><div></div></div><div>COMBINATION MOTOR STARTER</div></div><div><div><div></div><div></div><div></div><div></div></div><div>DISCONNECT/ENCLOSED CIRCUIT BREAKER</div></div><div><div><div></div><div></div><div></div><div></div></div><div>UTILITY METER SOCKET</div></div></div></div> | <div><div><div></div><div></div><div></div><div></div></div><div>KEYNOTE/LEGEND SYMBOLS</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>KEYED NOTE (NUMBER DENOTED)</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>EQUIPMENT DESCRIPTION EQUIPMENT TAG (REFER TO SCHEDULE) EQUIPMENT NUMBER EQUIPMENT NAME IDENTIFIER</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>CONDUIT/WIRE TAG (REFER TO SCHEDULE) CONDUIT IDENTIFIER</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>REVISION (NUMBER DENOTED)</div></div> | <div><div><div></div><div></div><div></div><div></div></div><div>GENERATOR</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>AUTOMATIC TRANSFER SWITCH (ATS)</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>CAPACITOR</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>CONTACTOR</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>STARTER COMPLETE W/OVERLOADS (NEMA SIZE DENOTED)</div></div> <div><div><div></div><div></div><div></div><div></div></div><div>VARIABLE FREQUENCY DRIVE (VFD)</div></div> | <div><div><div></div><div>SYMBOL LEGEND</div></div><div><div>WP = WEATHER PROOF AC = ABOVE COUNTER</div></div></div> |

| SHEET LIST | |
|--------------|--|
| SHEET NUMBER | SHEET NAME |
| E001 | DRAWING INDEX, SYMBOLS AND ABBREVIATIONS |
| E201 | ELECTRICAL SITE PLAN |
| E301 | BASEMENT LIGHTING PLAN |
| E302 | FIRST FLOOR LIGHTING PLAN |
| E401 | BASEMENT POWER PLAN |
| E402 | FIRST FLOOR POWER PLAN |
| E601 | ENLARGED ELECTRICAL PLANS |
| E602 | ENLARGED ELECTRICAL PLANS |
| E701 | ELECTRICAL DETAILS |
| E702 | ELECTRICAL DETAILS |
| E703 | ELECTRICAL DETAILS |
| E801 | ELECTRICAL RISER DIAGRAMS |
| E901 | ELECTRICAL SCHEDULES |
| E902 | ELECTRICAL SCHEDULES |

ELECTRICAL ABBREVIATIONS LIST

| | | | | |
|-------------------------------------|--|--|------------------------------|-----------------------------------|
| 1P 1 POLE (2P, 3P, 4P, ETC.) | DOP DOMESTIC WATER CIRCULATING PUMP | HT HEIGHT | NEMA NATIONAL ELECTRICAL | SWBD SWITCHBOARD |
| A AMPERE | DPPT DEPARTMENT | HTG HEATING | MANUFACTURER'S ASSOCIATION | SYM SYMMETRICAL |
| AC ABOVE COUNTER OR AIR CONDITIONER | DET DETAIL | HTR HEATER | NFDS NON-FUSED SAFETY | SYS SYSTEM |
| ACLG ABOVE CEILING | DIA DIAMETER | HV HIGH VOLTAGE | DISCONNECT SWITCH | TEL TELEPHONE |
| ADO AUTOMATIC DOOR OPENER | DISC DISCONNECT | HVAC HEATING, VENTILATING AND AIR CONDITIONING | NIC NOT IN CONTRACT | TEL/DATA TELEPHONE/DATA |
| AF AMP FRAME | DIST DISTRIBUTION | HWP HYDRONIC WATER PUMP | NL NIGHT LIGHT | TERM TERMINAL |
| AFF ABOVE FINISHED FLOOR | DN DOWN | IC INTERRUPTING CAPACITY | N.O. NORMALLY OPEN | TL TWIST LOCK |
| AFG ABOVE FINISHED GRADE | DR/DAMPER | IG ISOLATED GROUND | N.P. NORMAL POWER FACTOR | TR TAMPER RESISTANT |
| AFI ARC FAULT CIRCUIT INTERRUPTER | DS SAFETY DISCONNECT SWITCH | IMC INTERMEDIATE METAL CONDUIT | NTS NOT TO SCALE | T-STAT THERMOSTAT |
| AHU AIR HANDLING UNIT | DWG DRAWING | IR INFRARED | OH OVERHEAD | TTC TELEPHONE TERMINAL |
| AL ALUMINUM | EC ELECTRICAL CONTRACTOR | I/W INTERLOCK WITH | OL OVERLOADS | TV TELEVISION |
| ALT ALTERNATE | ELEC ELECTRIC, ELECTRICAL | J-BOX JUNCTION BOX | PA PUBLIC ADDRESS | TVP TYPICAL |
| AMP AMPERE | ELEV ELEVATOR | KV KILOVOLT | PB PULL BOX OR PUSHBUTTON | UC UNDER COUNTER |
| AMPL AMPLIFIER | EM EMERGENCY | KVA KILOVOLT-AMPERE | PE PNEUMATIC ELECTRIC | UE UNDERGROUND ELECTRICAL |
| ANNUN ANNUNCIATOR | EMT ELECTRICAL METALLIC TUBING | KVAR KILOVOLT-AMPERE REACTIVE | PF POWER FACTOR | UG UNDERGROUND |
| APPROX APPROXIMATELY | EP ELECTRIC PNEUMATIC | KW KILOWATT | PH PHASE | UH UNIT HEATER |
| AQ-STAT AQUASTAT | EQUIP EQUIPMENT | KWH KILOWATT HOUR | PV POST INDICATING VALVE | UNO UNLESS NOTED OTHERWISE |
| ARCH ARCHITECT, ARCHITECTURAL | EWC ELECTRIC WATER COOLER | LOC LOCATE OR LOCATION | PNL PANEL | UNO UNDERGROUND TELEPHONE |
| AS AMP SWITCH | EXIST EXISTING | LT LIGHT | PP POWER POLE | UTIL UTILITY |
| AT AMP TRIP | EXH EXHAUST | LTG LIGHTING | PR PAIR | UV UNIT VENTILATOR OR ULTRAVIOLET |
| ATS AUTOMATIC TRANSFER SWITCH | EXP EXPLOSION PROOF | LV LOW VOLTAGE | PRI PRIMARY | |
| AUTO AUTOMATIC | FA FIRE ALARM | MAX MAXIMUM | PROJ PROJECTION | V VOLT |
| AUX AUXILIARY | FABP FIRE ALARM BOOSTER POWER SUPPLY PANEL | MAG S MAGNETIC STARTER | PRV POWER ROOF VENTILATOR | VA VOLT-AMPERES |
| AV AUDIO VISUAL | FACP FIRE ALARM CONTROL PANEL | MIC MOMENTARY CONTACT | PT POTENTIAL TRANSFORMER | VDT VIDEO DISPLAY TERMINAL |
| AWG AMERICAN WIRE GAUGE | FLR FLOOR | MC MECHANICAL CONTRACTOR | POLYVINYL CHLORIDE (CONDUIT) | VERT VERTICAL |
| BATT BATTERY | FLUOR FLUORESCENT | MCB MAIN CIRCUIT BREAKER | PWR POWER | VFD VARIABLE FREQUENCY DRIVE |
| BD BOARD | FU FUSE | MCC MOTOR CONTROL CENTER | QUAN QUANTITY | VOL VOLUME |
| BLDG BUILDING | FUDS FUSED SAFETY DISCONNECT SWITCH | MDR MAIN DISTRIBUTION PANEL | RCPT RECEPTACLE | W WATT |
| BMS BUILDING MANAGEMENT SYSTEM | GA GAUGE | MFC MANUFACTURER | REQD REQUIRED | W/ WITH |
| C CONDUIT | GALV GALVANIZED | MFR MAIN FUSED DISCONNECT | RM ROOM | WG WIRE GUARD |
| CAB CABINET | GND GROUND | MIS MISCELLANEOUS | RSC RIGID STEEL CONDUIT | WH WATER HEATER |
| CAT CATALOG | GEN GENERATOR | MIN MINIMUM | RTU ROOF TOP UNIT | W/O WITHOUT |
| CATV CABLE TELEVISION | GFI GROUND FAULT CIRCUIT INTERRUPTER | MISC MISCELLANEOUS | STA STATION | WP WEATHERPROOF |
| CB CIRCUIT BREAKER | GFP GROUND FAULT PROTECTOR | MLO MAIN LUGS ONLY | SPEC SPECIFICATION | XFR TRANSFORMER |
| CCTV CLOSED CIRCUIT TELEVISION | GND GROUND | MMS MANUAL MOTOR STARTER | SPR SPEAKER | XFR TRANSFER |
| CKT CIRCUIT | GRS GALVANIZED RIGID STEEL (CONDUIT) | MCA MULTI-OUTLET ASSEMBLY | SS SURFACE | |
| CLG CEILING | GVP GVP COPPER BOARD | MSP MOTOR STARTER PANELBOARD | SSW SURFACE RACEWAY | |
| COMB COMBINATION | HDA HANDS-OFF-AUTOMATIC SWITCH | MTS MANUAL TRANSFER SWITCH | SS STAINLESS STEEL | |
| COMB COMBINATION | MT MOUNT | MTS MANUAL TRANSFER SWITCH | STA STATION | |
| CONNECTION CONNECTION | MTS MANUAL TRANSFER SWITCH | MTS MANUAL TRANSFER SWITCH | SPARE SPARE | |
| CONST CONSTRUCTION | N.C. NORMALLY CLOSED | MTS MANUAL TRANSFER SWITCH | SR SURFACE RACEWAY | |
| CONT CONTINUATION OR CONTINUOUS | NEC NATIONAL ELECTRICAL CODE | MTS MANUAL TRANSFER SWITCH | SSW SURFACE RACEWAY | |
| CONTR CONTRACTOR | | MTS MANUAL TRANSFER SWITCH | SS STAINLESS STEEL | |
| CONV CONVECTOR | | MTS MANUAL TRANSFER SWITCH | STA STATION | |
| CP CIRCULATING PUMP | | MTS MANUAL TRANSFER SWITCH | SPR SPEAKER | |
| CRT CATHODE RAY TUBE | | MTS MANUAL TRANSFER SWITCH | SSW SURFACE RACEWAY | |
| CTR CURRENT TRANSFORMER | | MTS MANUAL TRANSFER SWITCH | SS STAINLESS STEEL | |
| CU COPPER | | MTS MANUAL TRANSFER SWITCH | STA STATION | |

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A

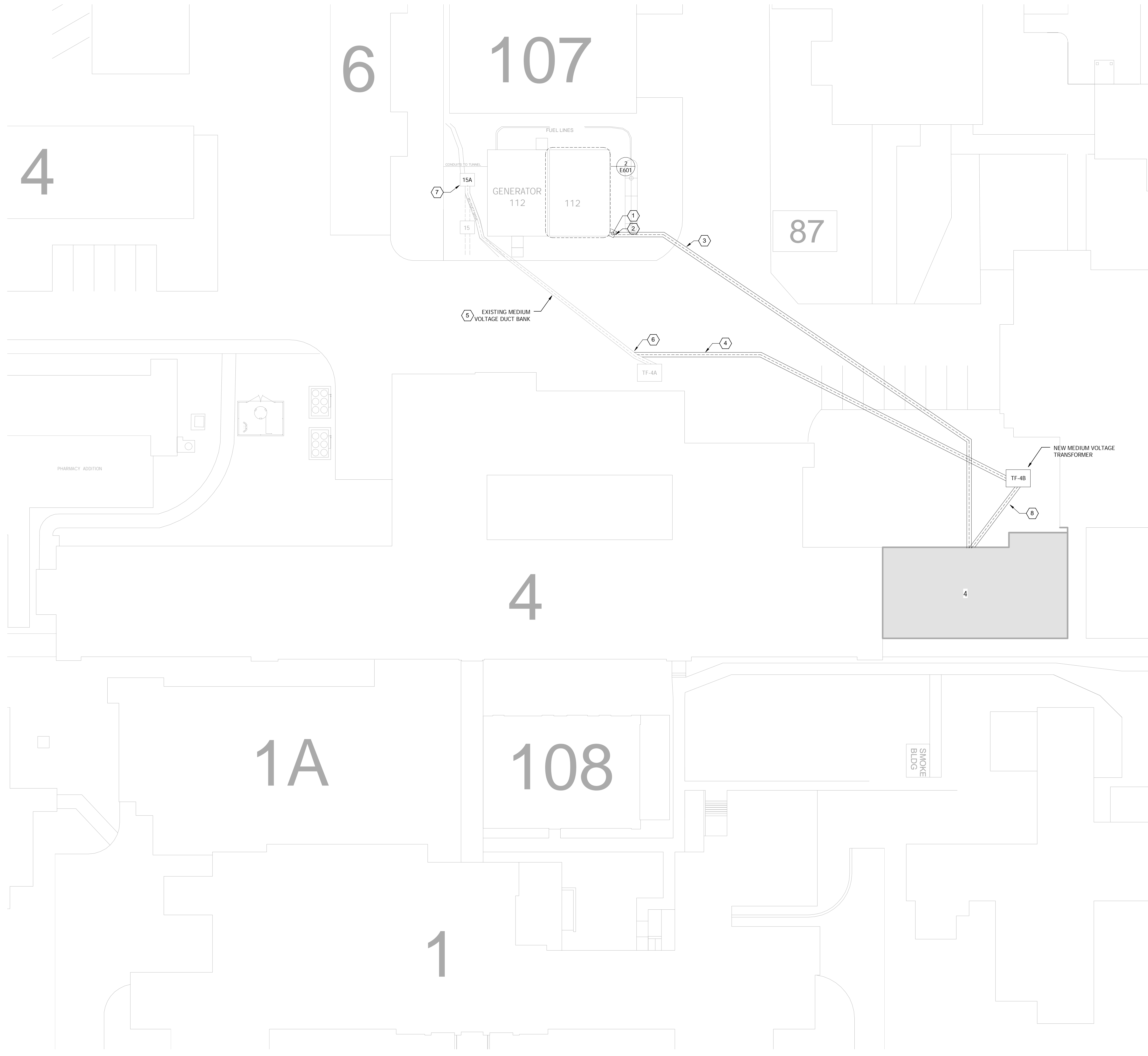
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- GENERAL NOTES:
- COORDINATE AND SCHEDULE ALL POWER OUTAGES WITH THE COR.
 - SAWCUT EXISTING ASPHALT AND CONCRETE SURFACES TO INSTALL NEW DUCT BANKS. ALL SURFACES SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION.

- (X) KEYNOTES:
- EXISTING UNDERGROUND CONDUITS STUBBED OUT FROM BUILDING 112E. CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF STUB OUTS PRIOR TO INSTALLATION. CONDUIT STUBB OUT ARE AS FOLLOWS:
1) TWO (2) 3" CONDUITS TO EMERGENCY EQUIPMENT FEED SWITCHBOARD
2) ONE (1) 1.5" CONDUIT TO EMERGENCY ESSENTIAL FEED SWITCHBOARD.
3) ONE (1) 1" CONDUIT TO GENERATOR CONTROL CIRCUIT
 - SPLICE NEW 3" UNDERGROUND CONDUITS TO EXISTING UNDERGROUND CONDUITS PRIOR TO PULLING NEW CONDUCTORS. NEW 2" UNDERGROUND CONDUITS TO BE RAN INSIDE THE BUILDING. SPLICE NEW 1" UNDERGROUND CONDUIT TO EXISTING UNDERGROUND 1" CONDUIT PRIOR TO PULLING NEW CONDUCTORS.
 - CONDUITS TO GENERATOR BUILDING SHALL BE ENCASED IN A CONCRETE DUCT BANK.
 - MEDIUM VOLTAGE CONDUIT AND WIRE TO BE ENCASED IN A CONCRETE DUCT BANK.
 - EXISTING UNDERGROUND DUCT BANK CONTAINS TWO 4" PVC CONDUITS. ONE CONDUIT FEED BUILDING 4 TRANSFORMER, THE OTHER CONDUIT IS A SPARE. USE THE SPARE CONDUIT TO FEED THE NEW TRANSFORMER.
 - INTERCEPT THE SPARE CONDUIT IN THE EXISTING DUCTBANK. REPAIR DUCTBANK AND INTEGRATE INTO NEW DUCT BANK. PROTECT END OF SPARE CONDUIT ENTERING X-FORMER. CONTRACTOR SHALL OBTAIN GOVERNMENT'S APPROVAL PRIOR TO PATCHING CONCRETE AND BACKFILL.
 - EXISTING 4-COMPARTMENT MEDIUM VOLTAGE SWITCH WITH ONE SPARE COMPARTMENT. USE THE SPARE COMPARTMENT TO FEED THE NEW TRANSFORMER. PROVIDE CABLE TERMINATIONS AND DEAD FRONT LOAD BREAKS. PROVIDE SML-20 30E FUSE AND N-FITTINGS FOR EACH PHASE. REPLACE EXISTING IDENTIFICATION NAMEPLATE ON THE EXTERIOR OF THE CABINET.
 - CONDUITS FROM NEW TRANSFORMER TO NEW BUILDING SERVICE ENTRANCE SHALL BE ENCASED IN A CONCRETE DUCT BANK.

1 ELECTRICAL SITE PLAN
0 10' 20' 40'

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REG. NO. MN 43184

DRAWING TITLE
ELECTRICAL SITE PLAN

PROJECT TITLE
CONSTRUCT NEW IT CENTER
FOR HEALTH CARE
TECHNOLOGY MANAGEMENT
EXPANSION

DATE
12.03.14

PLAT SCALE
AS NOTED

PROJECT NO.
656-13-240

BUILDING No.
NEW IT

DIRECTED BY
RSB

DRAWN
ARM

CAD FILE

LOCATION
ST. CLOUD VA HCS
ST. CLOUD, MN 56303

DRAWING NO.
E201



three inches = one foot

one and one half inches = one foot

one inch = one foot

three quarters inch = one foot

one half inch = one foot

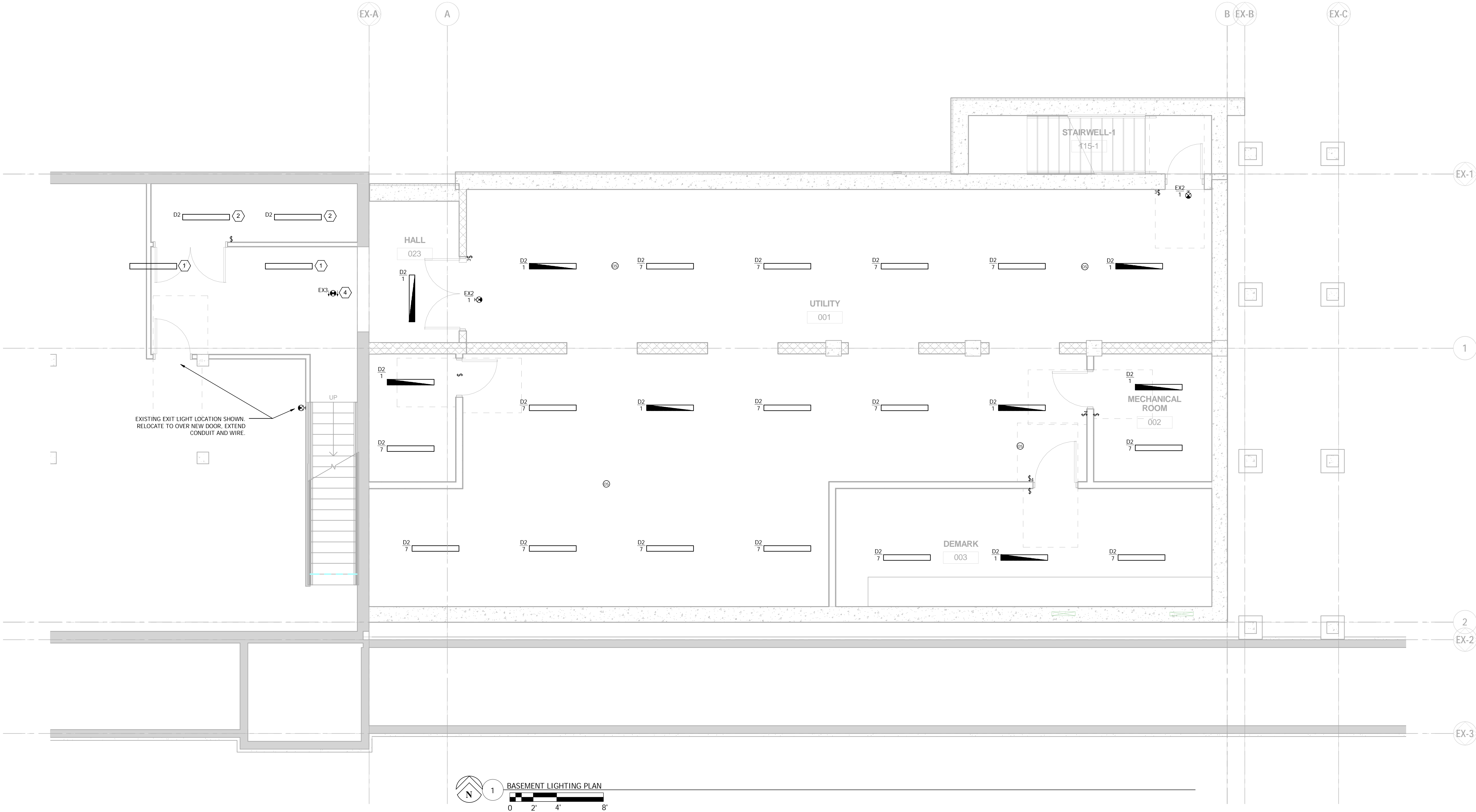
three eighths inch = one foot

one quarter inch = one foot

one eighth inch = one foot

- GENERAL NOTES:
- LUMINAIRES IN ARE TO BE MOUNTED TO THE CEILING, UNLESS NOTED OTHERWISE.
 - IN MECH ROOM 002 AND DEMARK ROOM 003, CHAIN HANG FIXTURE SO THAT LENS OF FIXTURE IS FLUSH WITH BOTTOM OF CEILING MOUNTED DUCT WORK.
 - FIXTURES SHOWN AS NIGHT LIGHTS ARE TO ALSO SERVE AS EMERGENCY EGRESS LIGHTING. LUMINAIRES SHALL BE POWERED FROM AN EMERGENCY POWERED PANEL AS CIRCUITED AND SHALL BE UNSWITCHED.

- KEYNOTES:
- EXISTING CHAIN HUNG FIXTURES. RELOCATE FIXTURES TO POSITION THEM IN THE STAIRWELL AREA SO NOT TO CONFLICT WITH EXISTING WALLS. RECIRCUIT FIXTURES SO THEY BECOME UNSWITCHED NIGHT LIGHTS.
 - NEW CHAIN HUNG FIXTURES. POWER FROM EXISTING LIGHTING CIRCUIT.
 - CIRCUIT NEW EXIT LIGHT WITH RELOCATED STAIRWELL LIGHTING.



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DRAWING TITLE

BASEMENT LIGHTING PLAN

PROJECT TITLE

CONSTRUCT NEW IT CENTER FOR HEALTH CARE TECHNOLOGY MANAGEMENT EXPANSION

BUILDING No

NEW IT

DRAWN BY

RSB

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ARM

LOCATION

ST. CLOUD VA HCS

ST. CLOUD, MN 56303

DATE

12.03.14

PROJECT NO.

656-13-240

DRAWING NO.

E301

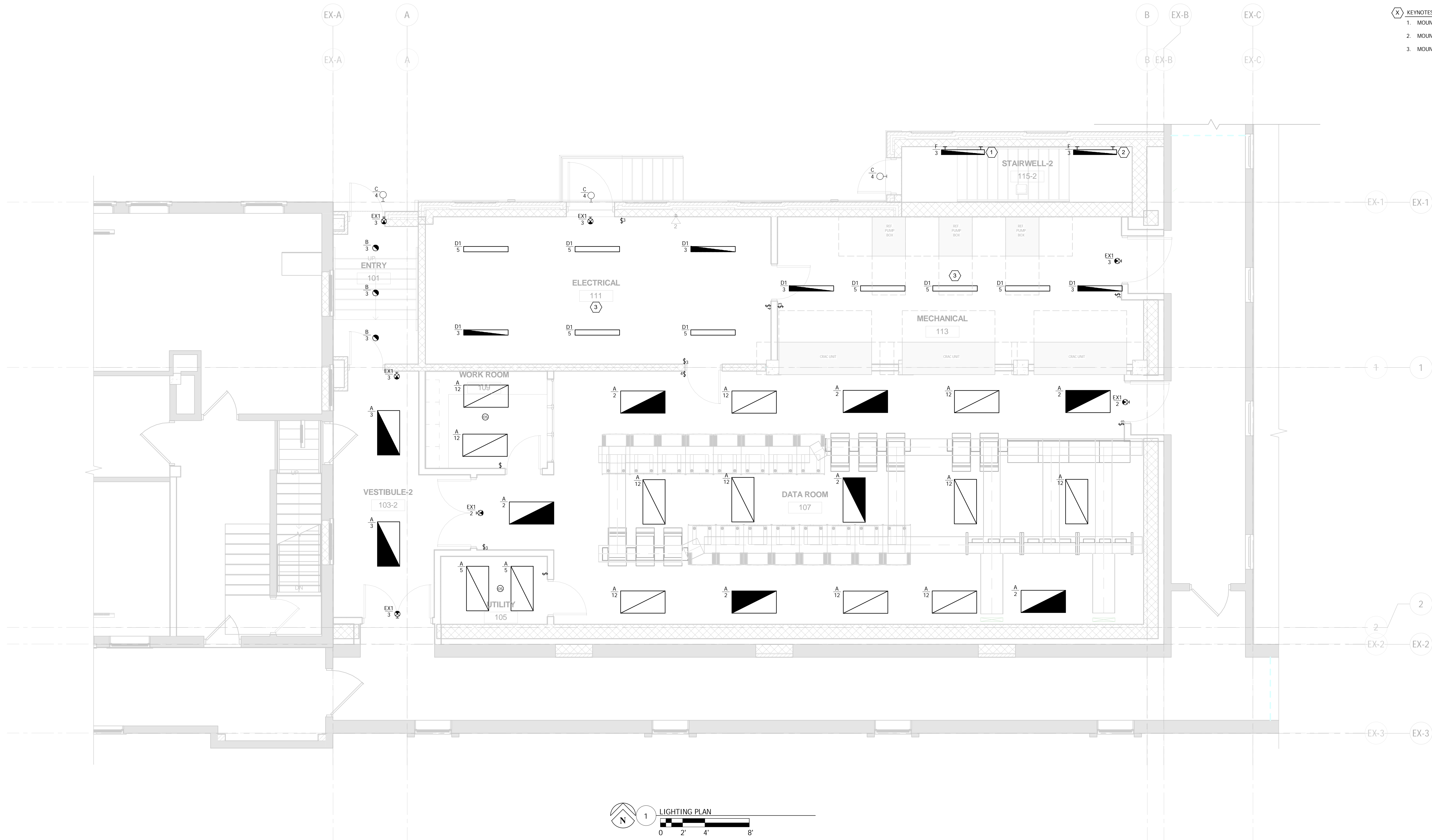
St. Cloud VA Health Care System

Brainerd | Montevideo | Alexandria

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one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot

- GENERAL NOTES:
1. FIXTURES SHOWN AS NIGHT LIGHTS ARE TO ALSO SERVE AS EMERGENCY EGRESS LIGHTING. LUMINAIRES SHALL BE POWERED FROM AN EMERGENCY POWERED PANEL AS CIRCUITED AND SHALL BE UNSWITCHED.
 2. EXTERIOR LUMINAIRES SHALL BE POWERED FROM AN EMERGENCY POWERED PANEL AS CIRCUITED AND DUALY SERVE AS EMERGENCY EGRESS LIGHTING.

- KEYNOTES:
1. MOUNT LUMINAIRE 8'-6" ABOVE STAIR LANDING.
 2. MOUNT LUMINAIRE 8'-6" ABOVE FINISHED FLOOR.
 3. MOUNT LUMINAIRES IN THIS SPACE 9' ABOVE FINISHED FLOOR.



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DRAWING TITLE
FIRST FLOOR LIGHTING PLAN

PROJECT TITLE
CONSTRUCT NEW IT CENTER
FOR HEALTH CARE
TECHNOLOGY MANAGEMENT
EXPANSION

DATE
12.03.14
PROJECT NO.
656-13-240

DRAWING NO.
E302



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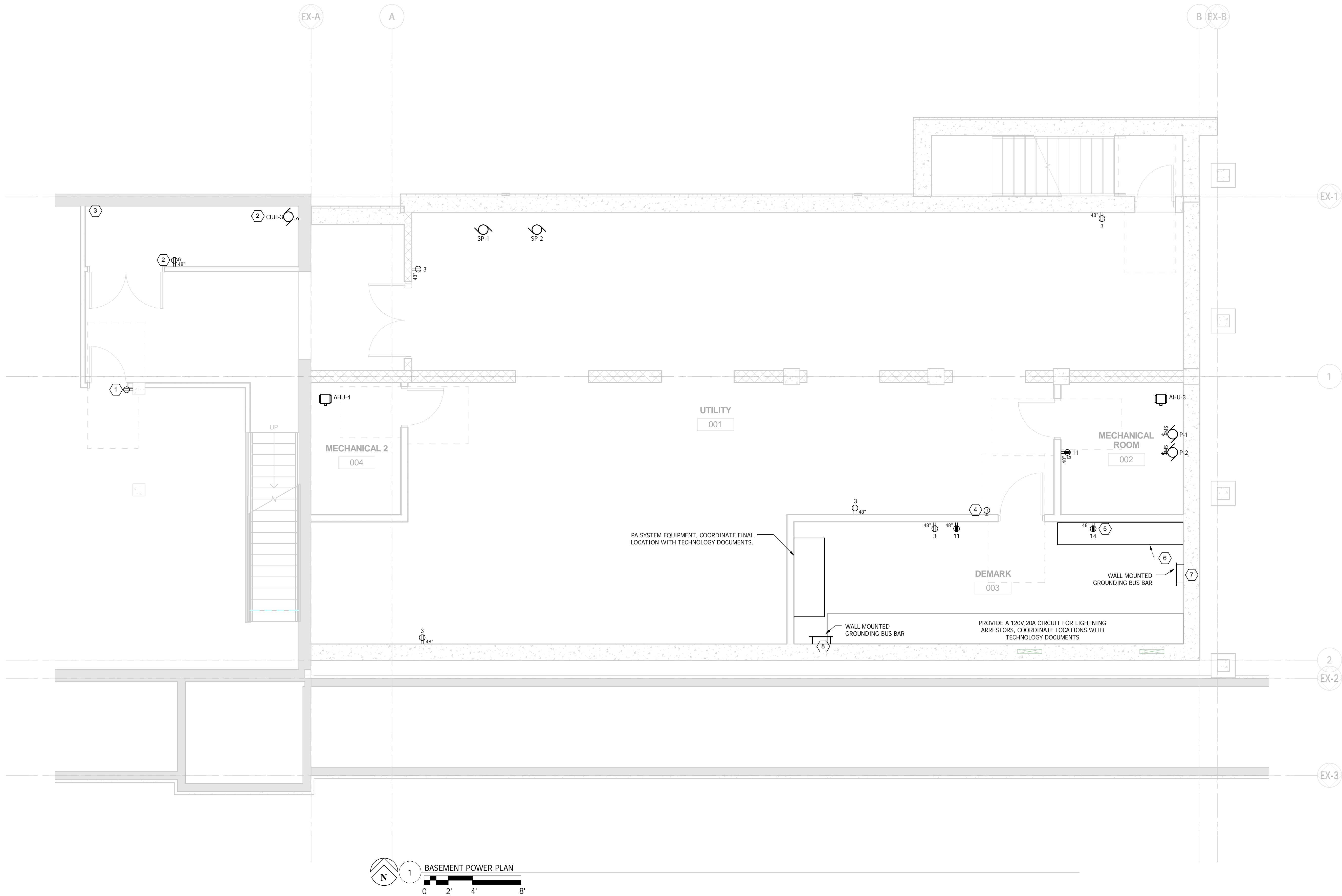
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- KEYNOTES:**
1. REMOVE EXISTING RECEPTACLE.
 2. CIRCUIT NEW DEVICE TO EXISTING RECEPTACLE CIRCUIT IN BASEMENT OF BUILDING 4.
 3. COORDINATE WALL MOUNTED MECHANICAL EQUIPMENT MODIFICATIONS NEEDED FOR COORDINATION OF NEW WALL WITH THE MECHANICAL DOCUMENTS.
 4. DOUBLE GANG JUNCTION BOX MOUNTED AT DOOR HANDLE HEIGHT FOR CARD READER. PROVIDE CONDUIT STUBBED UP ABOVE ACCESSIBLE CEILING FOR INSTALLATION OF CABLING UNDER DIVISION 28. COORDINATE SIZE OF JUNCTION BOX REQUIRED FOR THE KEYPAD PROVIDED UNDER DIVISION 28 PRIOR TO INSTALLATION. COORDINATE ADDITIONAL CONDUIT REQUIREMENTS WITH DIVISION 28.
 5. EMERGENCY RECEPTACLE DEDICATED FOR CENTURYLINK EQUIPMENT. COORDINATE FINAL LOCATION WITH CENTURYLINK AND THE COR.
 6. SPACE DEDICATED FOR CENTURYLINK VOICE/DATA SERVICE EQUIPMENT. CONTRACTOR SHALL INCLUDE ALL CENTURYLINK WORK IN THE BASEBID PRICE. CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION WITH CENTURYLINK AND ESTABLISHING THE NEW SERVICE AT THE BUILDING. REFER TO TECHNOLOGY DOCUMENTS FOR ADDITIONAL INFORMATION.
 7. GROUNDING BUS BAR DEDICATED FOR CENTURYLINK EQUIPMENT. COORDINATE FINAL LOCATION WITH CENTURYLINK. PROVIDE A 1/0AWG GROUNDING CONDUCTOR TO SERVICE ENTRANCE EQUIPMENT.
 8. GROUNDING BUS BAR DEDICATED FOR LIGHTNING ARRESTORS AND DEMARK EQUIPMENT. COORDINATE FINAL LOCATION WITH TECHNOLOGY EQUIPMENT SUPPLIER. PROVIDE A 1/0AWG GROUNDING CONDUCTOR TO SERVICE ENTRANCE EQUIPMENT.
- GENERAL NOTES:**
1. PROVIDE A 208V/20A CIRCUIT TO THE PA EQUIPMENT. COORDINATE FINAL LOCATION WITH THE TECHNOLOGY DOCUMENTS AND THE COR. CONTRACTOR SHALL FIELD VERIFY VOLTAGE AND RATING OF EXISTING PA EQUIPMENT PRIOR TO ROUGH-INS. REFER TO TECHNOLOGY DOCUMENTS FOR ADDITIONAL INFORMATION.



CONSTRUCTION DOCUMENTS 100%

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[Signature]
Aron K. Mueller, PE
DATE: 12/03/14 REG. NO. MN 43184

DRAWING TITLE
BASEMENT POWER PLAN

PROJECT TITLE
CONSTRUCT NEW IT CENTER
FOR HEALTH CARE
TECHNOLOGY MANAGEMENT
EXPANSION

DATE
12.03.14

PROJECT NO.
656-13-240

DRAWING NO.
E401

BUILDING No.
NEW IT

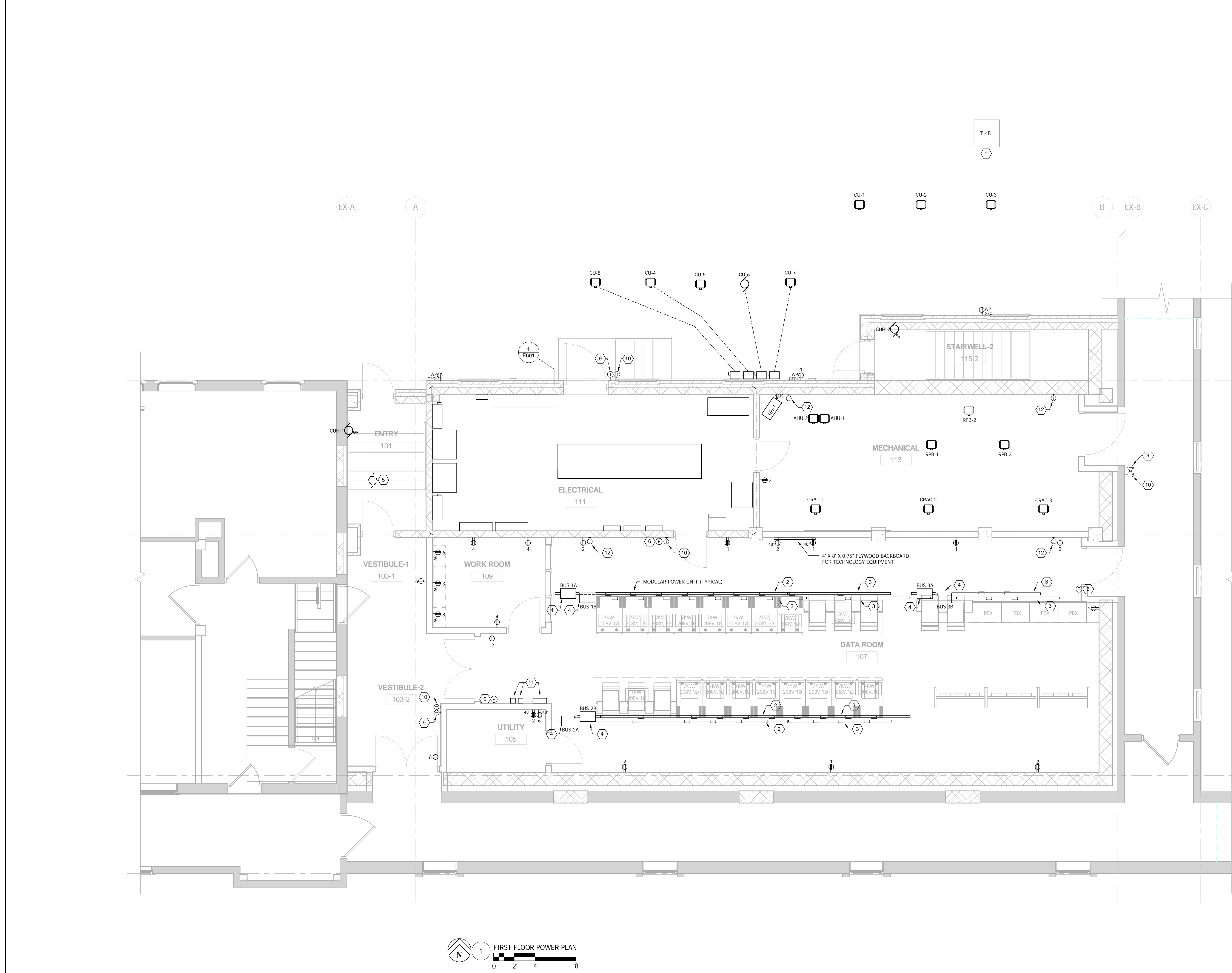
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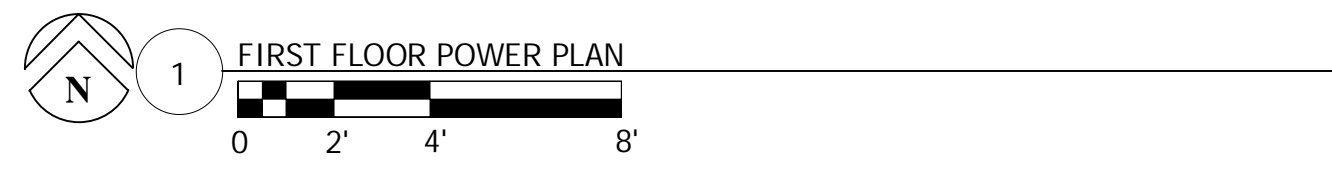
LOCATION
ST. CLOUD VA HCS
ST. CLOUD, MN 56303



three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



- GENERAL NOTES:
1. MOUNT MODULAR BUSWAY TO THE STRUCTURAL CEILING. PROVIDE MANUFACTURER MOUNTING HARDWARE AND DEVICES FOR SECURING THE BUSWAY. MODULAR DEVICES SHALL BE LOCATED UNDER THE GRID CEILING. COORDINATE LOCATION WITH OTHER CEILING MOUNTED EQUIPMENT AND DATA RACK LOCATIONS.
 2. SEAL ALL CONDUIT OPENINGS THROUGH DATA ROOM WALLS WITH DUCT SEAL OR SIMILAR TO PREVENT THE FIRE SUPPRESSION GAS TO LEAK INTO ADJACENT AREAS.
 3. REFER TO TECHNOLOGY DRAWINGS FOR CONDUIT ROUGH-INS REQUIRED FOR SECURITY EQUIPMENT. NOT ALL ROUGH-INS ARE SHOWN ON THIS DRAWING.
 4. PROVIDE A 120V CIRCUIT ABOVE EACH DOOR WITH A CARD READER. REFER TO TECHNOLOGY DOCUMENTS FOR ADDITIONAL INFORMATION.
- KEYNOTES:
1. MEDIUM VOLTAGE PAD MOUNT TRANSFORMER. REFER TO SITE PLANS FOR LOCATION.
 2. 20' OF MODULAR BUSWAY. QUANTITY OF MODULAR POWER UNITS AS SHOWN.
 3. 10' OF MODULAR BUSWAY. QUANTITY OF MODULAR POWER UNITS AS SHOWN.
 4. MODULAR BUSWAY END POWER FEED UNIT. SIZE AND ORIENTATE FOR INSTALLATION IN SPACE ABOVE CEILING.
 5. DISCONNECT EXISTING CONDENSING UNIT AND OUTDOOR WALL MOUNTED DISCONNECT SWITCH. REMOVE ALL CONDUIT BACK TO NEAREST JUNCTION BOX UTILIZED BY OTHER CIRCUITS AND REMOVE AND WIRING BACK TO EXISTING PANELBOARD IN BUILDING 4.
 6. UPS EMERGENCY POWER SHUTDOWN PUSHBUTTON PROVIDED IN A PROTECTED ENCLOSURE WITH FLIP OPEN COVER.
 7. MODULAR BUSWAY END POWER FEED UNIT. SIZE AND ORIENTATE FOR INSTALLATION IN SPACE ABOVE CEILING. POWER FEED UNIT TO BE FED FROM SAME CIRCUIT FEEDING BUS 3A.
 8. MODULAR BUSWAY END POWER FEED UNIT. SIZE AND ORIENTATE FOR INSTALLATION IN SPACE ABOVE CEILING. POWER FEED UNIT TO BE FED FROM SAME CIRCUIT FEEDING BUS 3B.
 9. DOUBLE GANG JUNCTION BOX MOUNTED AT DOOR HANDLE HEIGHT FOR CARD READER. PROVIDE CONDUIT STUBBED UP ABOVE ACCESSIBLE CEILING FOR INSTALLATION OF CABLING UNDER DIVISION 28. COORDINATE SIZE OF JUNCTION BOX REQUIRED FOR THE KEYPAD PROVIDED UNDER DIVISION 28 PRIOR TO INSTALLATION. COORDINATE ADDITIONAL CONDUIT REQUIREMENTS WITH DIVISION 28.
 10. DOUBLE GANG JUNCTION BOX MOUNTED AT 46" AFF FOR KEY PAD. PROVIDE CONDUIT STUBBED UP ABOVE ACCESSIBLE CEILING FOR INSTALLATION OF CABLING UNDER DIVISION 28. COORDINATE SIZE OF JUNCTION BOX REQUIRED FOR THE KEYPAD PROVIDED UNDER DIVISION 28 PRIOR TO INSTALLATION. COORDINATE ADDITIONAL CONDUIT REQUIREMENTS WITH DIVISION 28.
 11. FIRE SUPPRESSION AND DETECTION EQUIPMENT. PROVIDE 120V CIRCUITS TO THIS EQUIPMENT UNDER DIVISION 26. COORDINATE EQUIPMENT REQUIREMENTS AND LOCATION WITH THE DIVISION 28 DOCUMENTS.
 12. SINGLE GANG JUNCTION BOX MOUNTED AT 8" AFF FOR MOTION DETECTOR. PROVIDE CONDUIT STUBBED UP ABOVE ACCESSIBLE CEILING FOR INSTALLATION OF CABLING UNDER DIVISION 28.

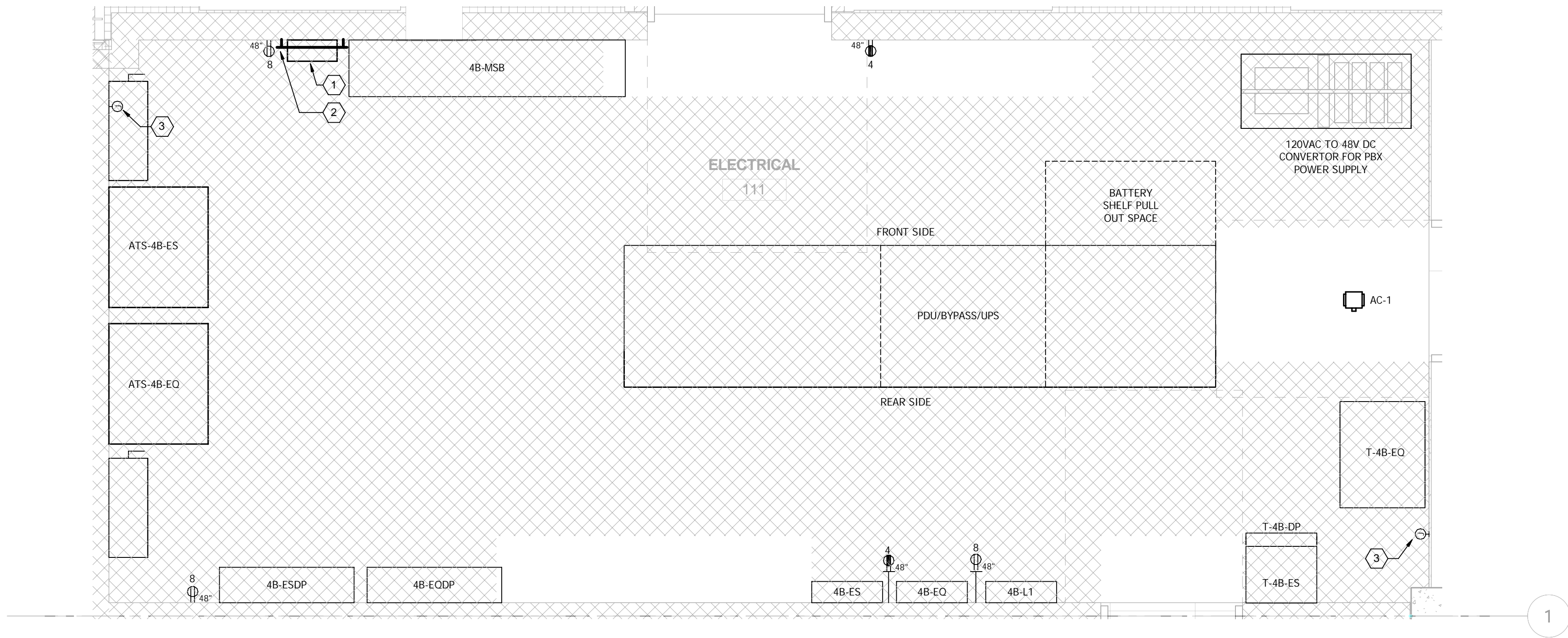


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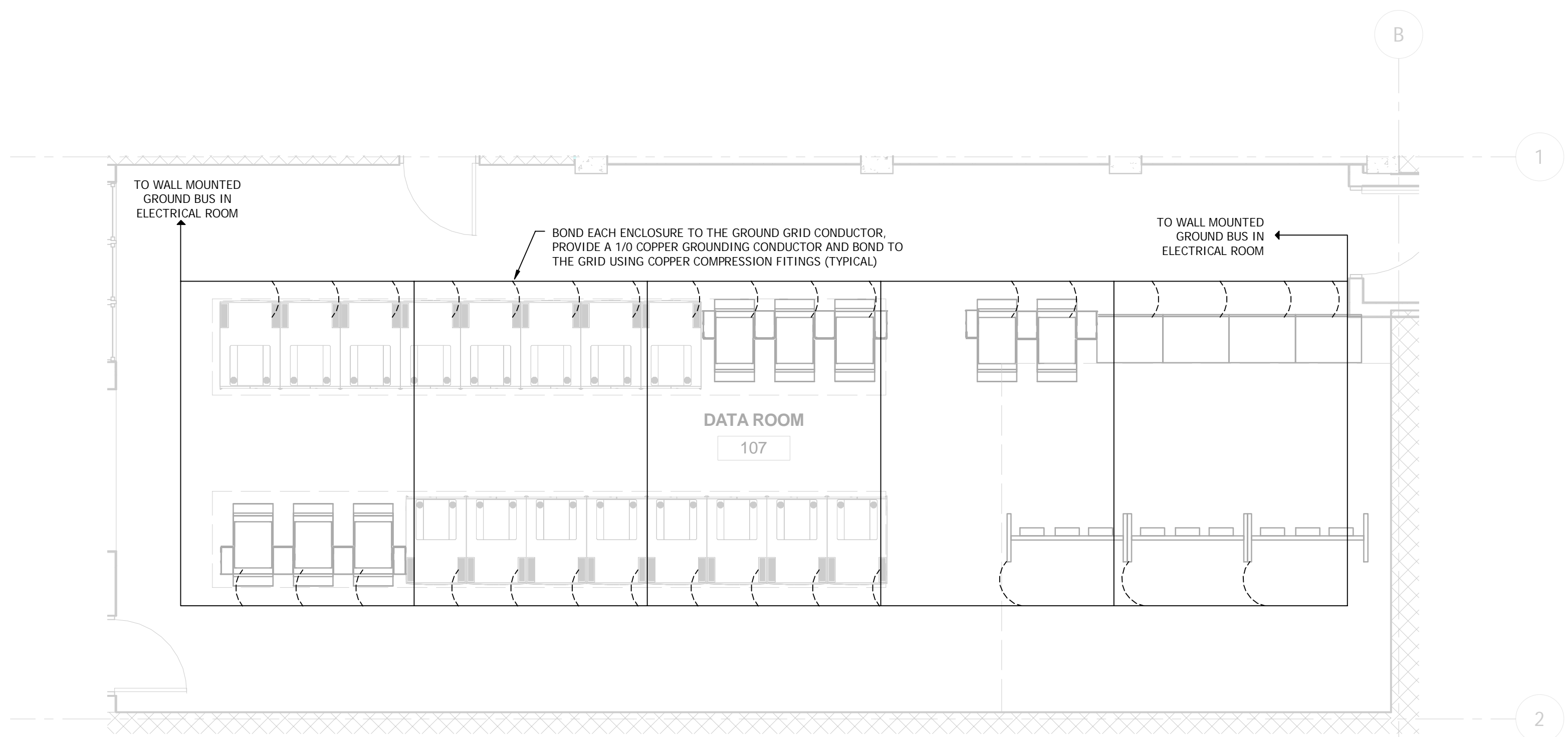
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- KEYNOTES:**
- POWER METERING EQUIPMENT - PROVIDE SQUARE D ION 7550 IN AN WALL MOUNTED ENCLOSURE. PROVIDE A SQUARE D POWER LOGIC METER IN A SEPERATE ENCLOSURE MOUNTED BELOW THE ION 7550 ENCLOSURE. PROVIDE CT'S AT THE MAIN SWITCHBOARD AND CABLING TO THE POWER METER. PROVIDE A REIDEN 9842 CABLE BETWEEN THE POWER METER AND THE ION 7550. PROVIDE REQUIRED CONDUIT, CABLING AND PROGRAMING TO CONNECT THE METERING SYSTEMS TO THE CAMPUS MONITORING NETWORK.
 - WALL MOUNTED GROUNDING BUSS BAR MOUNTED ABOVE POWER METERING EQUIPMENT.
 - SINGLE GANG JUNCTION BOX MOUNTED AT 8' AFF FOR MOTION DETECTOR. PROVIDE CONDUIT STUBBED UP ABOVE ACCESSIBLE CEILING FOR INSTALLATION OF CABLING UNDER DIVISION 28.

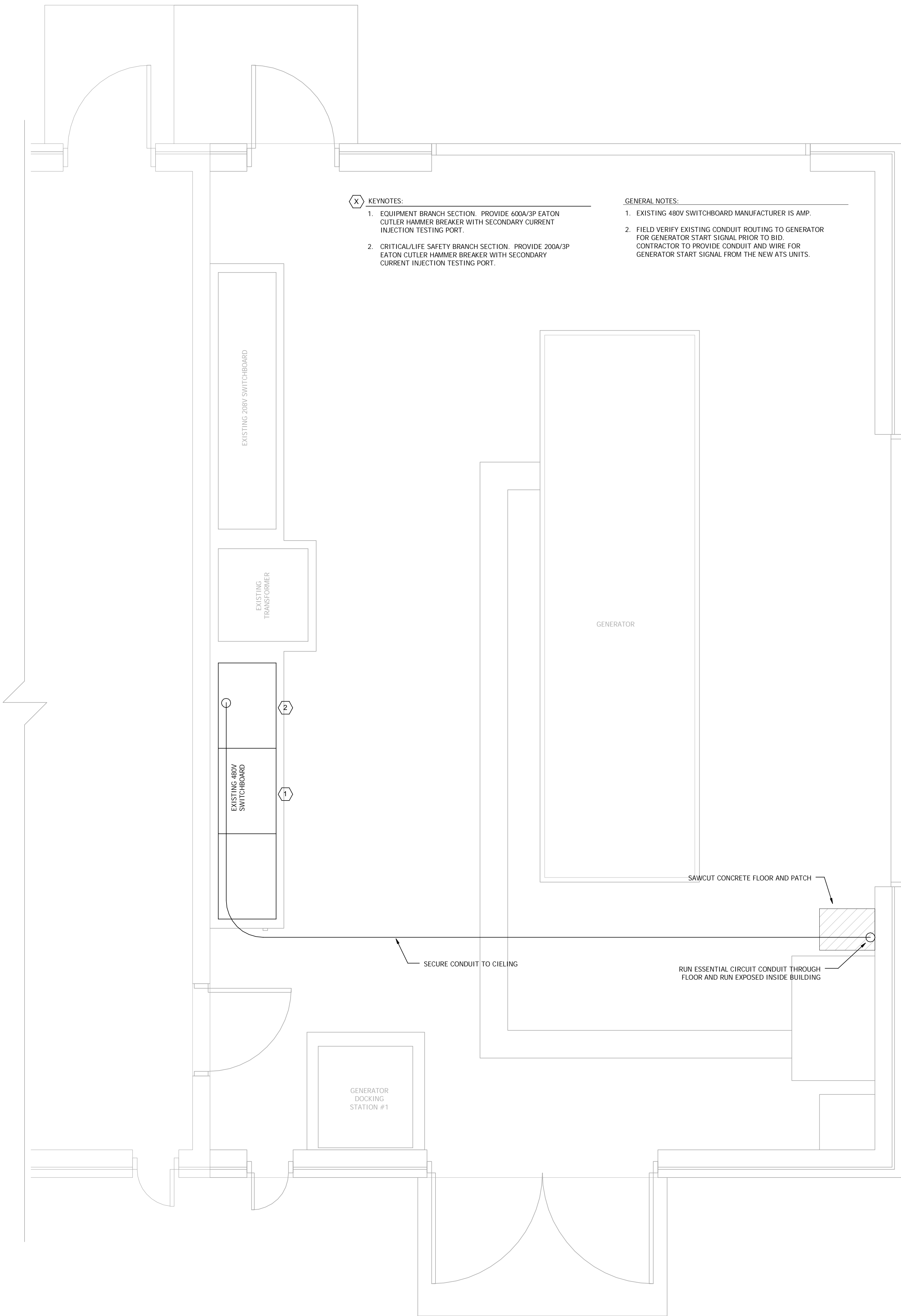
- GENERAL NOTES:**
- VERIFY ALL EQUIPMENT DIMENSIONS, DEDICATED/WORK SPACE AND ROOM LAYOUT PRIOR TO ORDERING EQUIPMENT. IF A CONFLICT EXISTS NOTIFY THE COR.
 - PROVIDE A SCALED DRAWING OF THE EQUIPMENT LAYOUT IN THE SPACE SHOWING ACTUAL DIMENSIONS OF ALL PROPOSED EQUIPMENT. THE DRAWING SHALL BE PROVIDED WITH THE EQUIPMENT SUBMITTALS.
 - GRAY CROSSHATCHING REPRESENTS SPACE DEDICATED FOR ELECTRICAL EQUIPMENT TO MEET NFPA 70 REQUIRED EQUIPMENT CLEARANCES.
 - ALL DIMENSIONS ARE BASED ON EQUIPMENT USED AS BASIS OF DESIGN.
 - PDU/UPS TO BE CONNECTED TO THE CAMPUS MONITORING SYSTEM. COORDINATE REQUIREMENTS WITH THE CONTROL SYSTEM PROVIDER. PROVIDE CONDUIT AND CABLING AS NEEDED TO ESTABLISH COMMUNICATIONS.

ENLARGED PLAN - ELECTRICAL ROOM 111



- GENERAL NOTES:**
- GROUNDING GRID AND EQUIPMENT CONNECTIONS SHALL BE LOCATED IN THE RAISED FLOOR SPACE.
 - MOUNT THE GROUNDING GRID CONDUCTOR TO THE RAISED FLOOR SUPPORTS USING BRONZE, U-BOLT GROUNDING CLAMPS. SPACE BETWEEN CLAMPS SHALL NOT BE GREATER THAN 5'.

DATA ROOM GROUNDING GRID



- KEYNOTES:**
- EQUIPMENT BRANCH SECTION - PROVIDE 600A/3P EATON CUTLER HAMMER BREAKER WITH SECONDARY CURRENT INJECTION TESTING PORT.
 - CRITICAL/LIFE SAFETY BRANCH SECTION - PROVIDE 200A/3P EATON CUTLER HAMMER BREAKER WITH SECONDARY CURRENT INJECTION TESTING PORT.

- GENERAL NOTES:**
- EXISTING 480V SWITCHBOARD MANUFACTURER IS AMP.
 - FIELD VERIFY EXISTING CONDUIT ROUTING TO GENERATOR FOR GENERATOR START SIGNAL. PRIOR TO BID, CONTRACTOR TO PROVIDE CONDUIT AND WIRE FOR GENERATOR START SIGNAL FROM THE NEW ATS UNITS.

ENLARGED PLAN - BUILDING 112E

CONSTRUCTION DOCUMENTS 100%

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Author K. Mueller, PE REG. NO. MN 43184

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| ENLARGED ELECTRICAL PLANS | | | |
| | | | |

| PROJECT TITLE | | | |
|---|----------|--------|----------|
| CONSTRUCT NEW IT CENTER FOR HEALTH CARE TECHNOLOGY MANAGEMENT EXPANSION | | | |
| | | | |
| BUILDING No | DRAWN BY | DRAWN | CAD FILE |
| NEW IT | RSB | Author | |
| LOCATION | | | |
| ST. CLOUD VA HCS ST. CLOUD, MN 56303 | | | |
| DRAWING NO. | | | |
| E601 | | | |

DATE

12.03.14

PLAT SCALE

AS NOTED

PROJECT NO.

656-13-240



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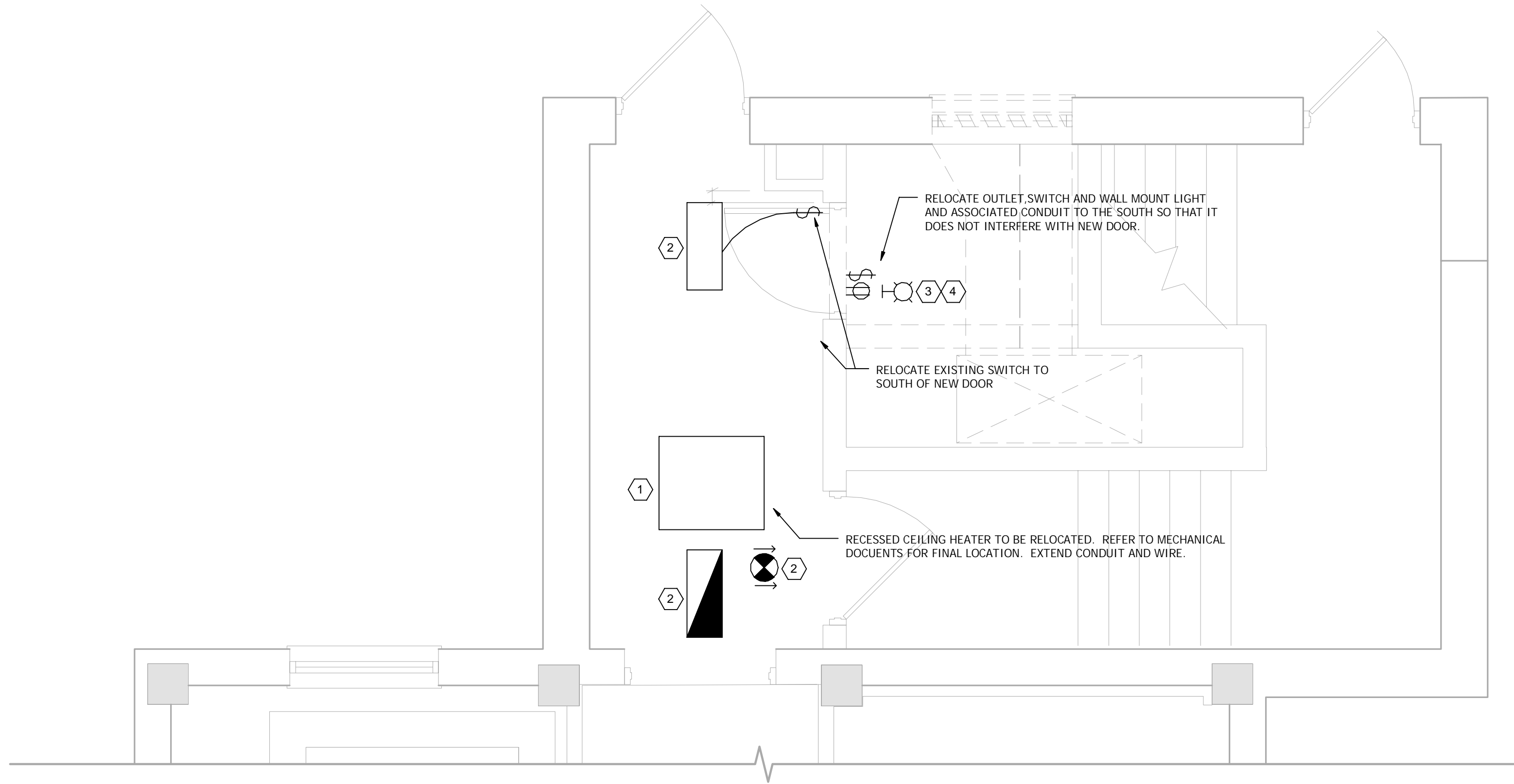
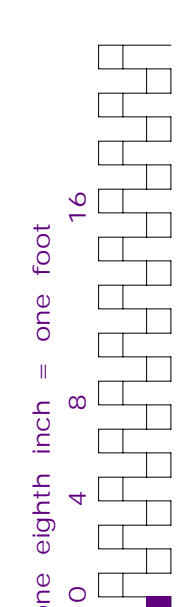
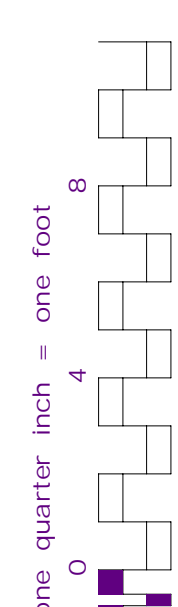
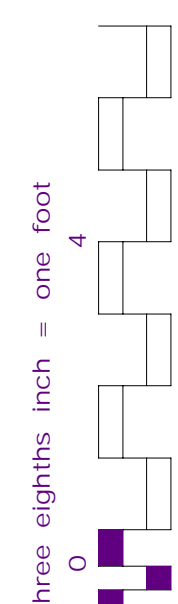
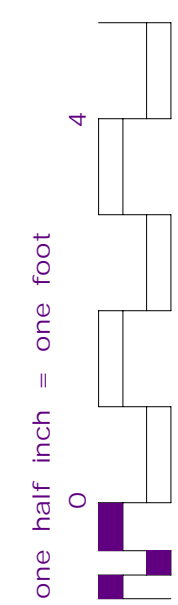
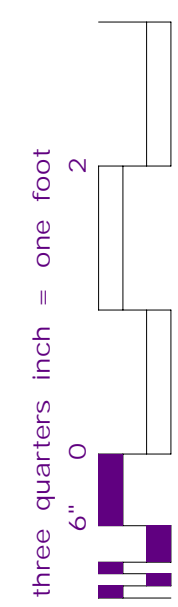
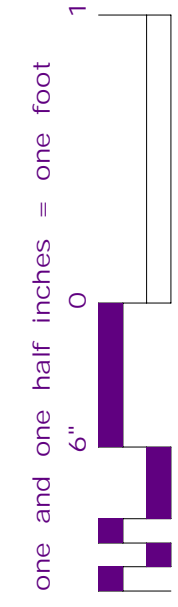
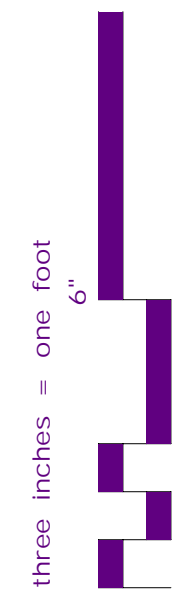
B

C

D

E

F



- KEYNOTES:**
- EXISTING RECESSED CEILING HEATER TO BE RELOCATED. REFER TO MECHANICAL DOCUMENTS FOR FINAL LOCATION. EXTEND CONDUIT AND WIRE.
 - REMOVE EXISTING LUMINAIRE AND REINSTALL ON NEW CEILING. EXTEND CONDUIT AND WIRE.
 - CONDUIT EXTENDS FROM LIGHT INTO CEILING. CONDUIT SHALL BE RELOCATED/MODIFIED AS NEEDED TO ALLOW INSTALLATION OF NEW DOOR. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID.
 - REPLACE EXISTING LIGHT WITH A TYPE 'C' LUMINAIRE WITHOUT A PHOTOCELL. LUMINAIRE TO BE SWITCHED FROM EXISTING LIGHT SWITCH.
- GENERAL NOTES:**
- DISCONNECT ALL EXISTING MECHANICAL EQUIPMENT IN THIS SPACE. REMOVE ABANDONED CONDUIT, WIRE AND DEVICES.
 - CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS OF SPACES PRIOR TO BID.
 - REFER TO CABLING PLANS FOR ADDITIONAL REQUIREMENTS.

B29 CORRIDOR - ELECTRICAL PLAN
REFER TO ARCHITECTURAL DOCUMENTS FOR ACTUAL DIMENSIONS OF SPACE

CONSTRUCTION DOCUMENTS 100%

| No. | REVISION | DATE |
|-----|----------|------|
| | | |

VA FORM 08-6231



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(520) 762-1290

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St. Cloud, MN 56301
(320) 217-5557



JLG 130708

STAMPED:
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

[Signature]
ARON K. Mueller, PE
DATE: 12/03/14

REG. NO. 4814384

DRAWING TITLE
ENLARGED ELECTRICAL PLANS

PROJECT TITLE
CONSTRUCT NEW IT CENTER FOR HEALTH CARE TECHNOLOGY MANAGEMENT EXPANSION

DATE
12.03.14

PROJECT NO.
656-13-240

BUILDING No.
NEW IT

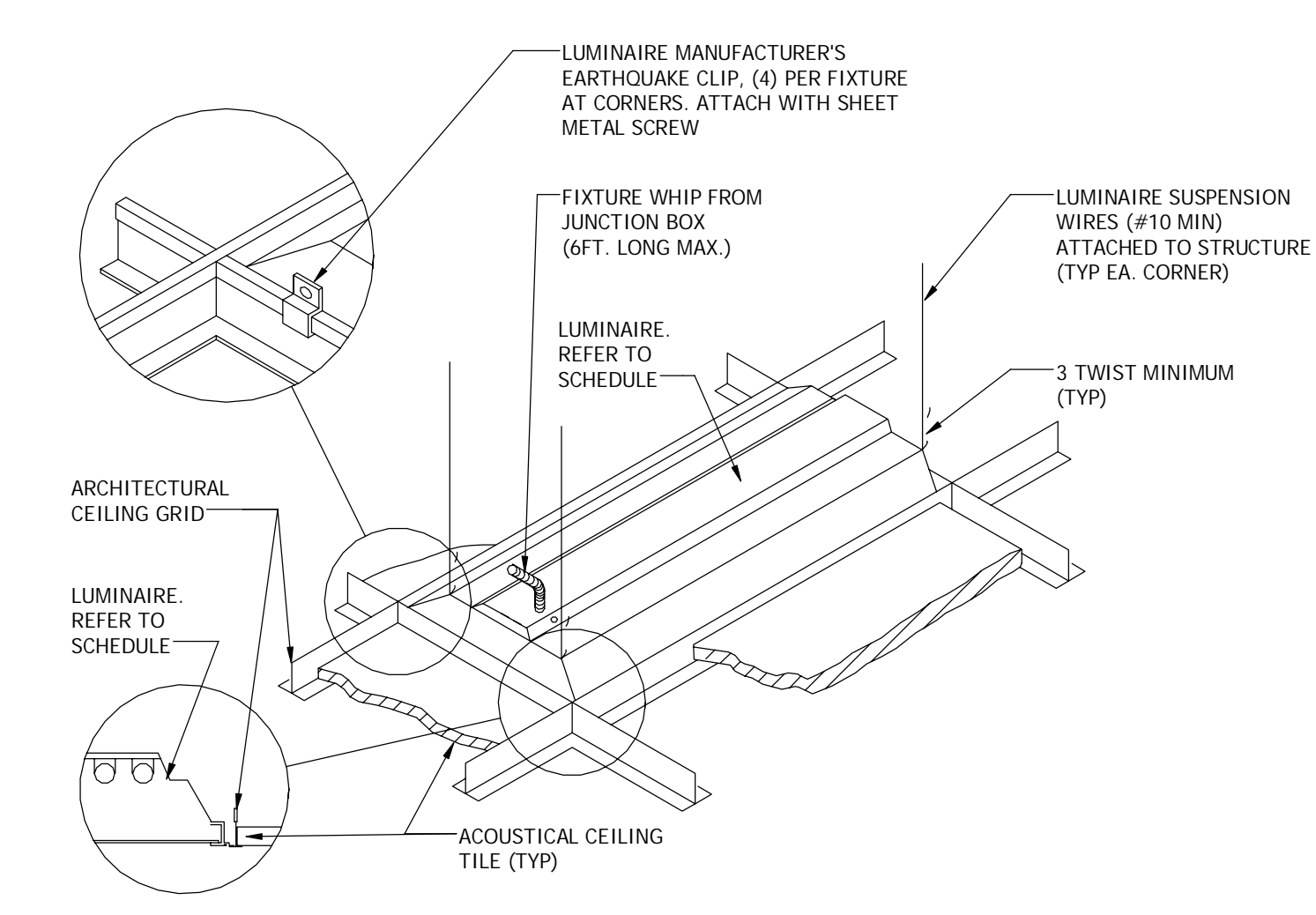
LOCATION
ST. CLOUD VA HCS
ST. CLOUD, MN 56303

DRAWING NO.
E602

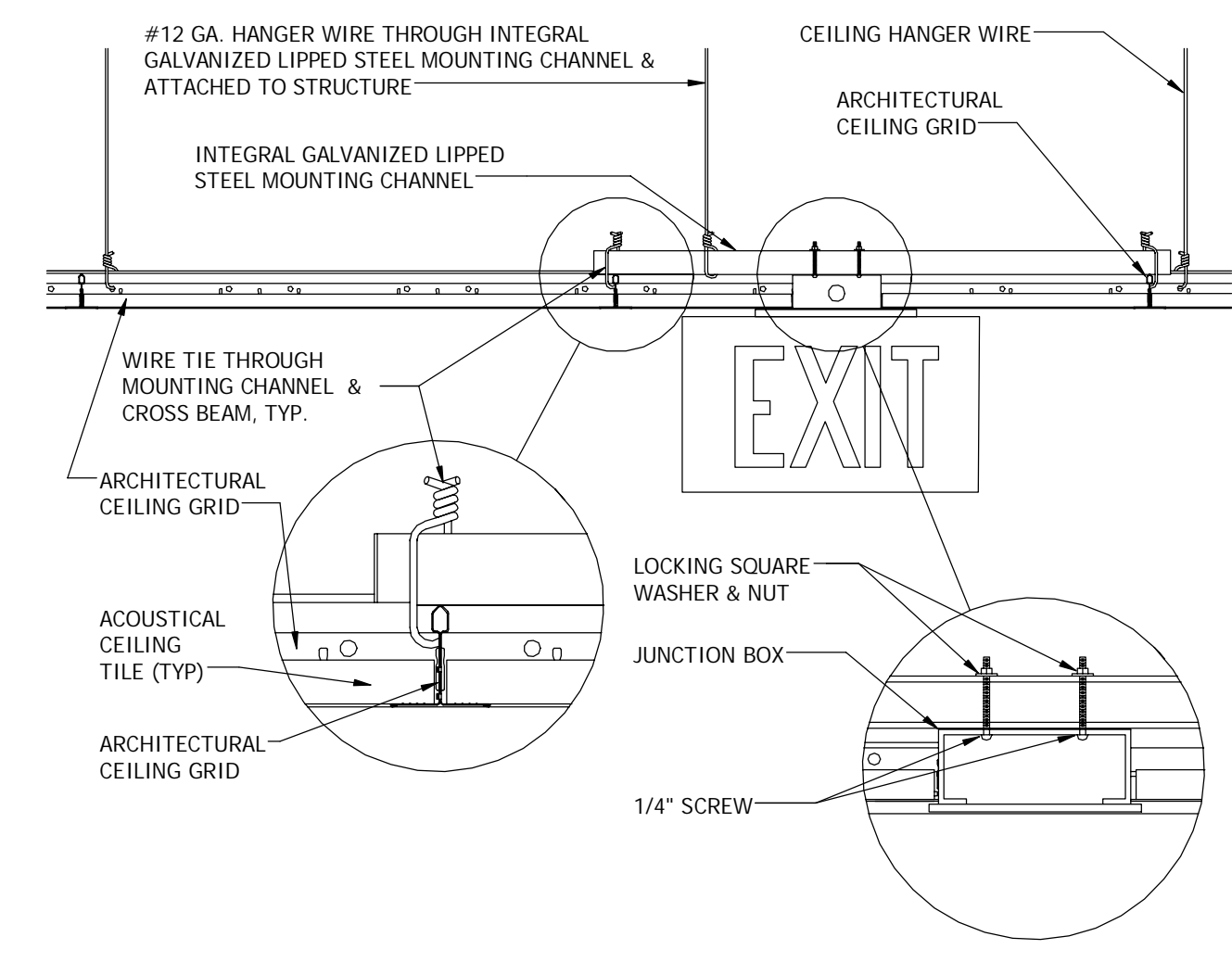


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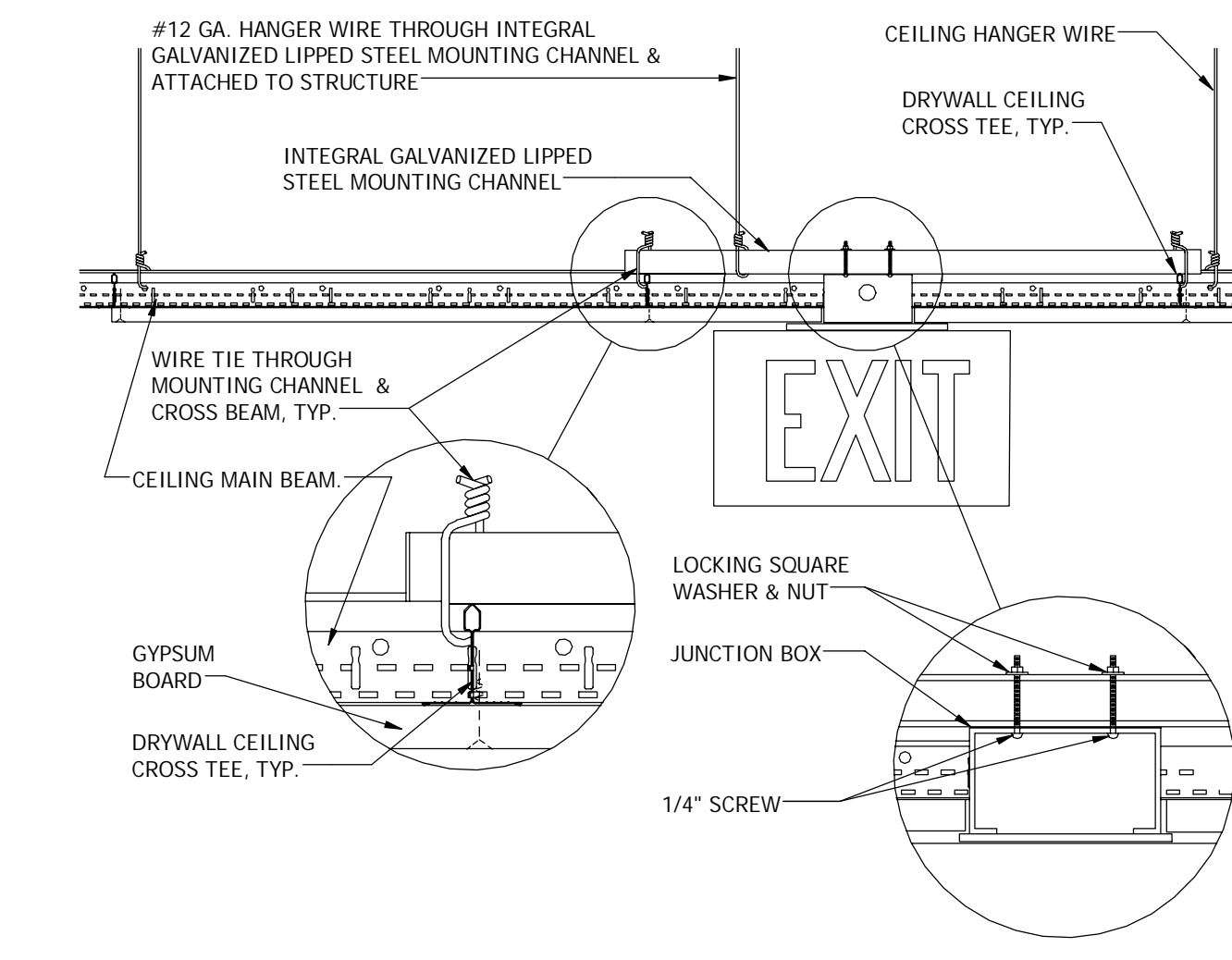
three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot
one eighth inch = one foot



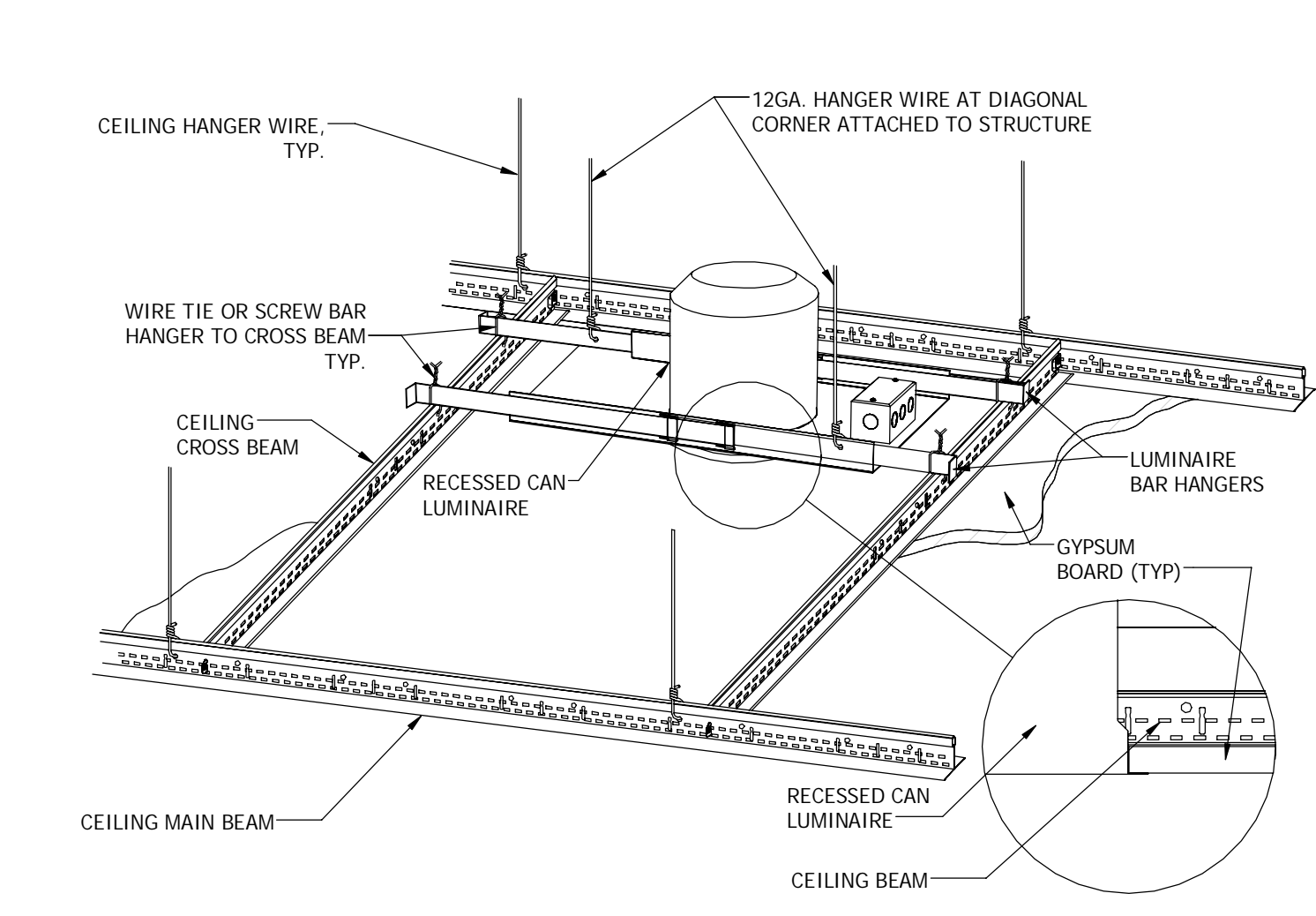
1 LUMINAIRE MOUNTING - LAY-IN CEILING
NOT TO SCALE



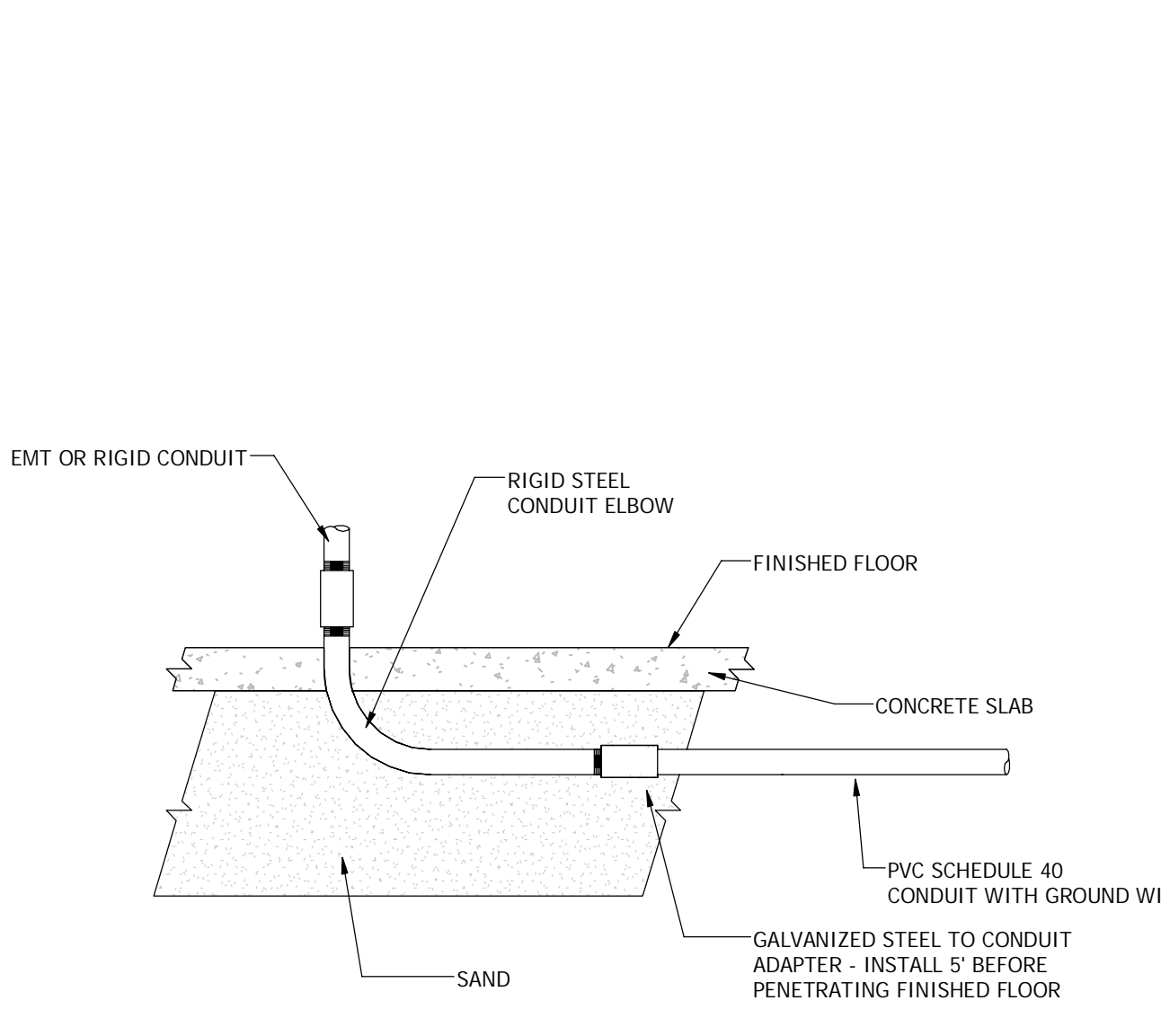
2 EXIT SIGN MOUNTING - LAY-IN CEILING
NOT TO SCALE



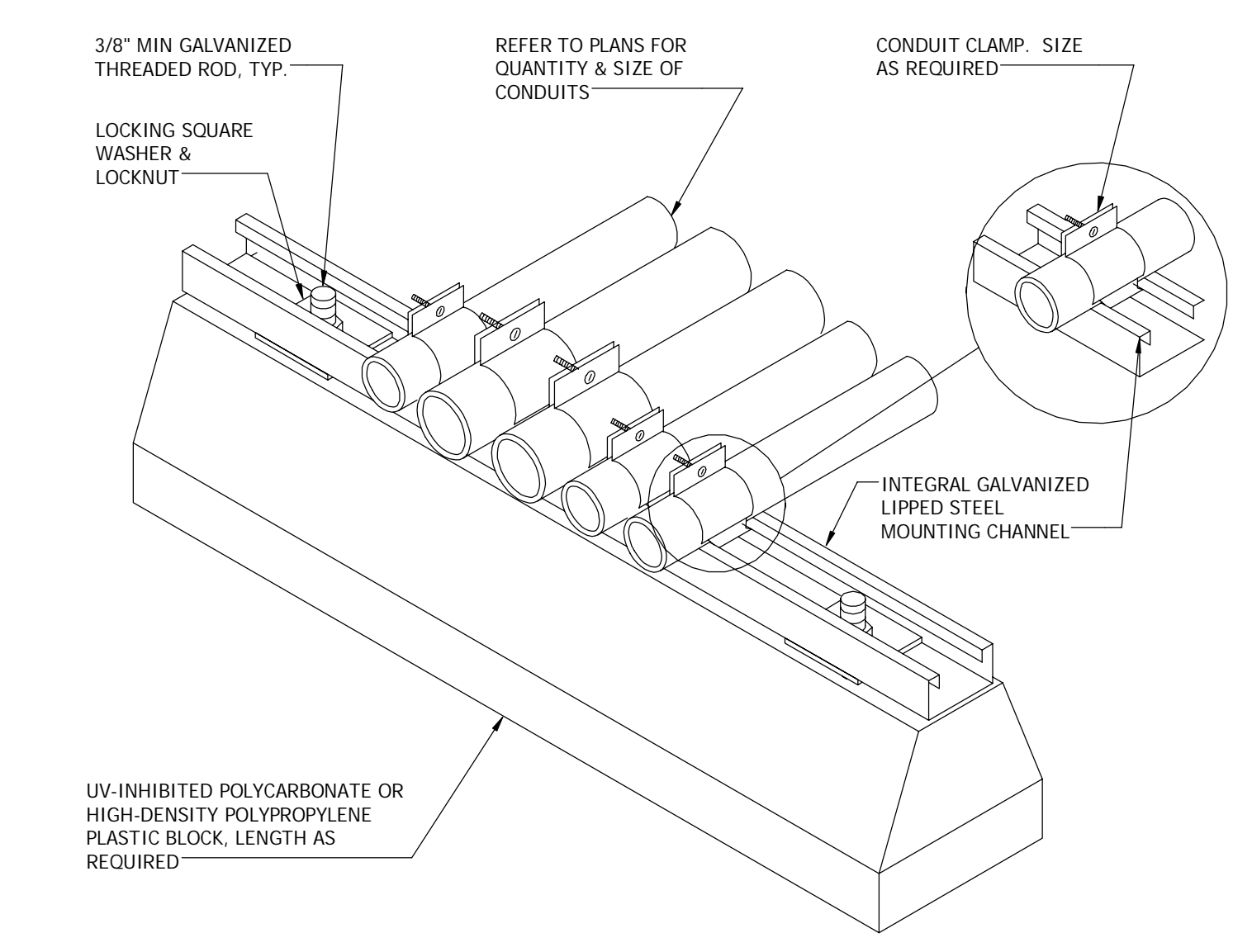
3 EXIT SIGN MOUNTING - GYPBOARD CEILING
NOT TO SCALE



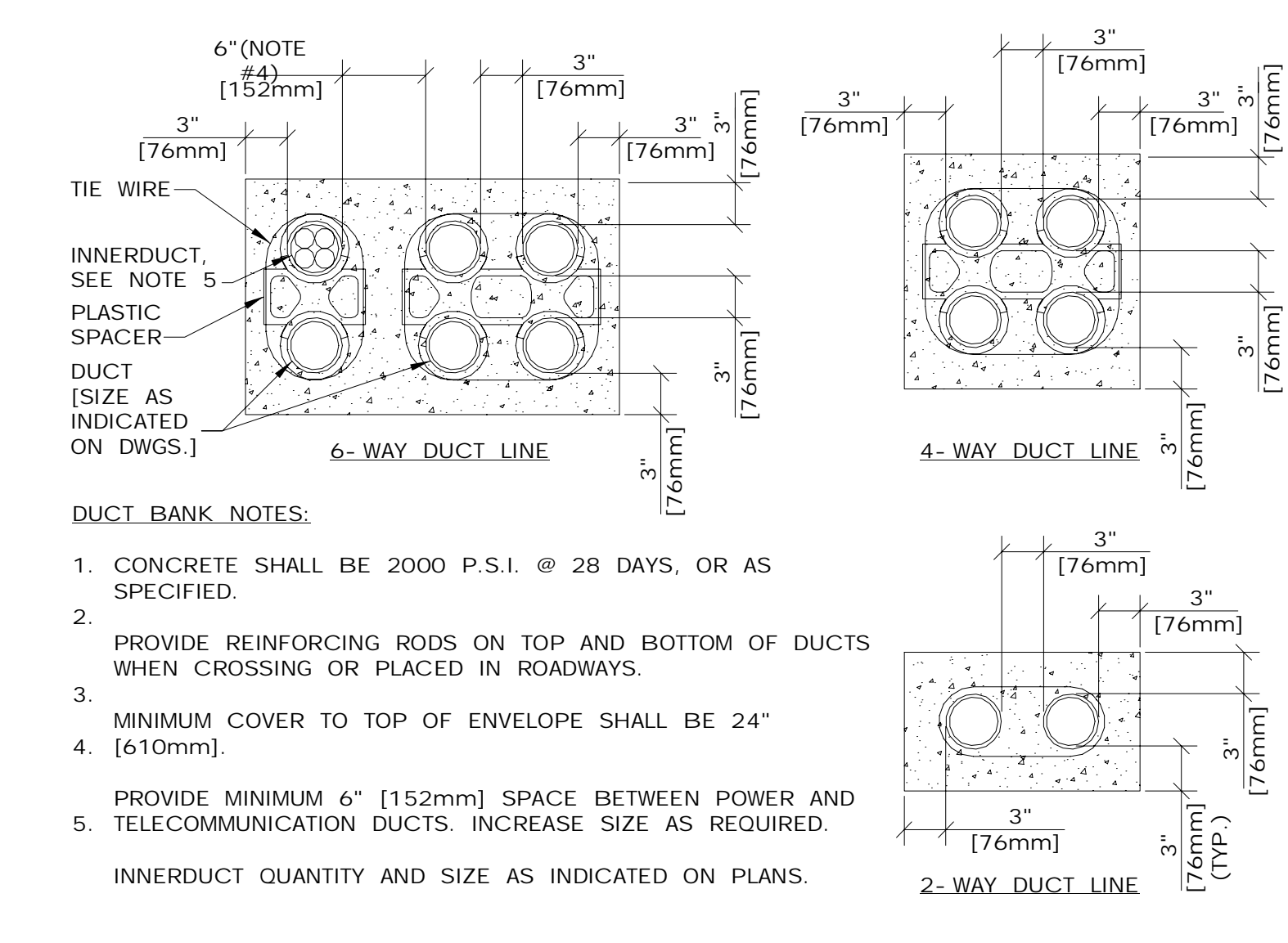
4 DOWNLIGHT MOUNTING - GYPBOARD CEILING
NOT TO SCALE



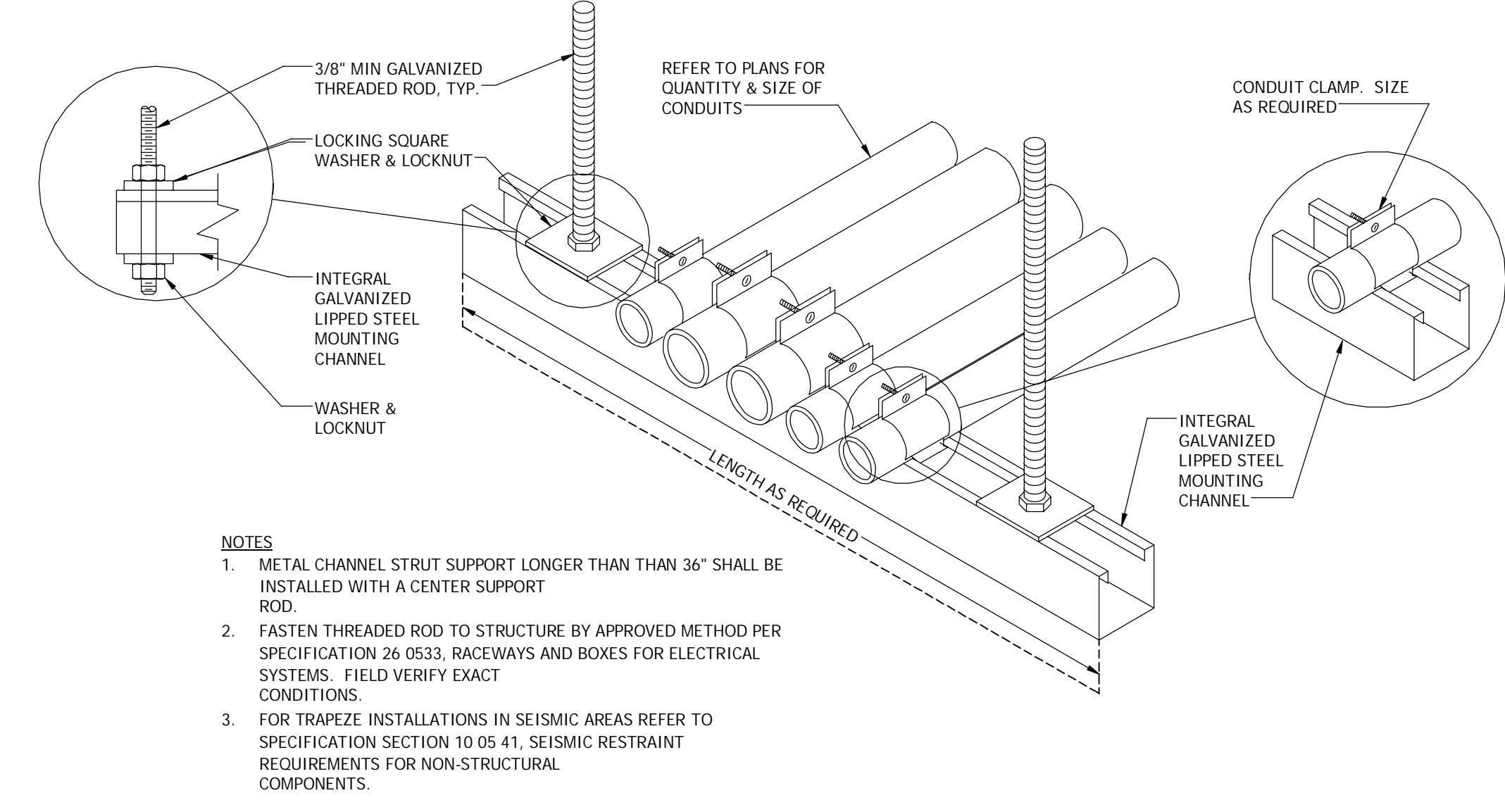
5 BELOW SLAB CONDUIT
NOT TO SCALE



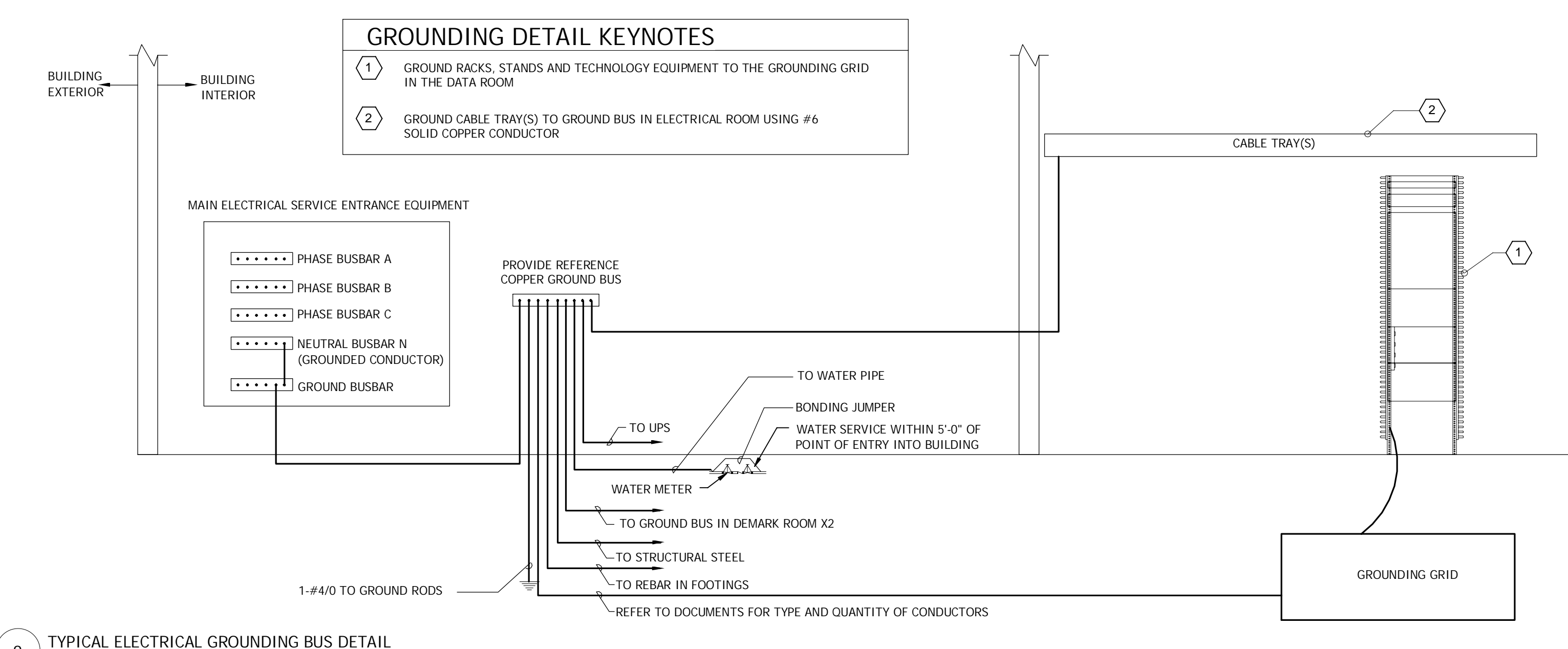
6 ROOF CONDUIT SUPPORT
NOT TO SCALE



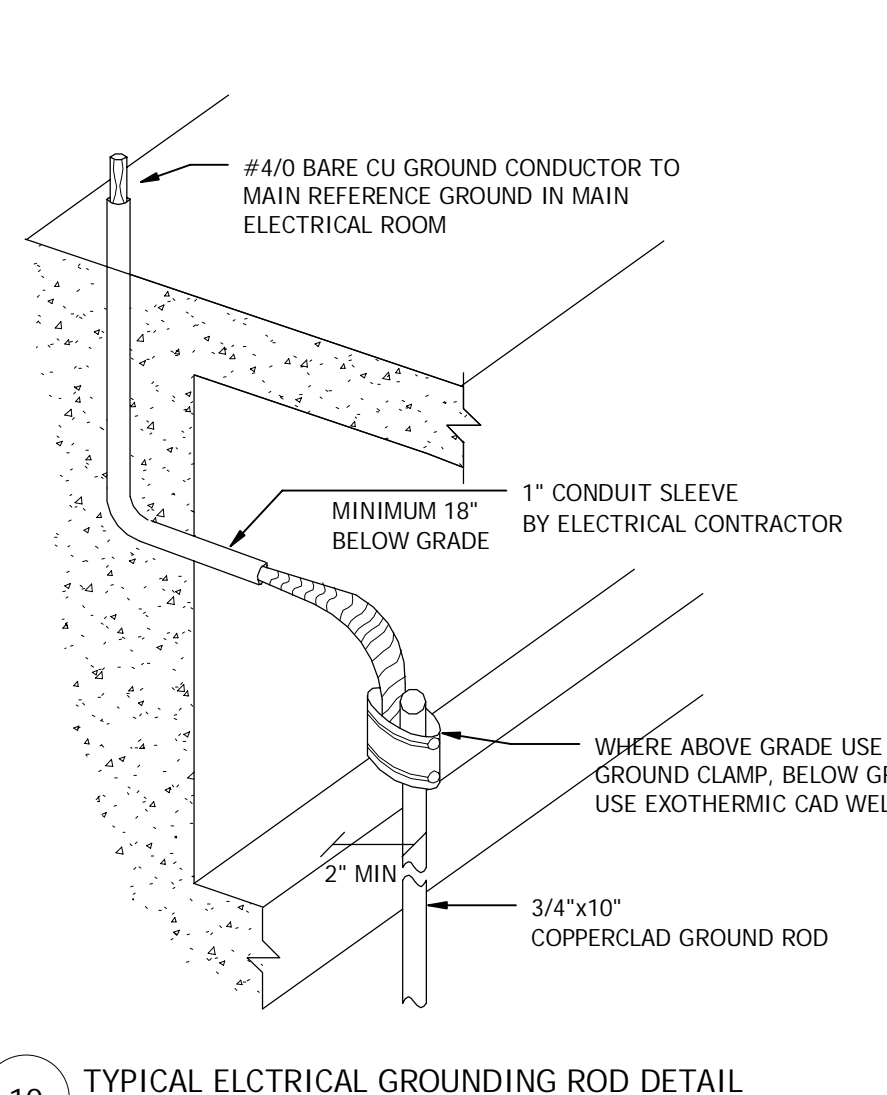
7 VA STANDARD DUCT BANK DETAILS
NOT TO SCALE



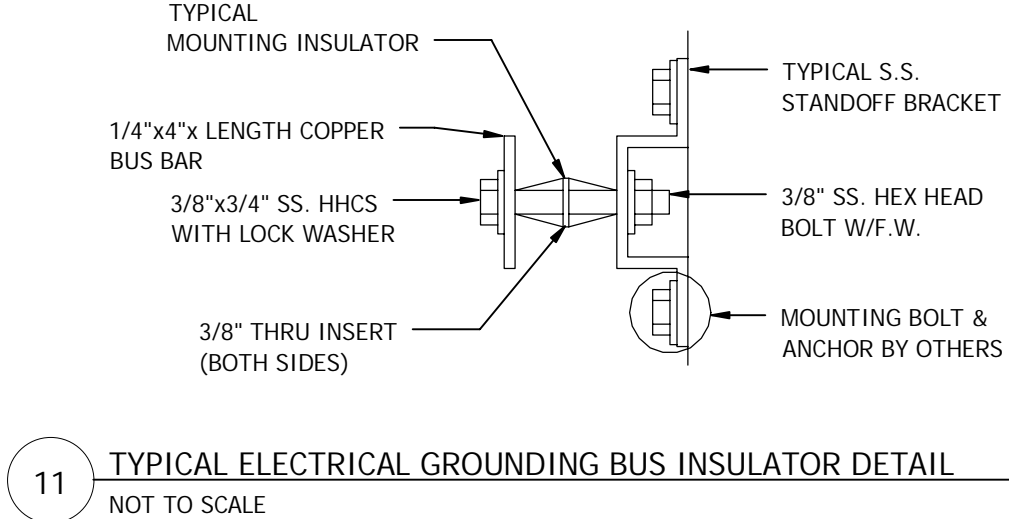
8 CONDUIT TRAPEZE MOUNTING
NOT TO SCALE



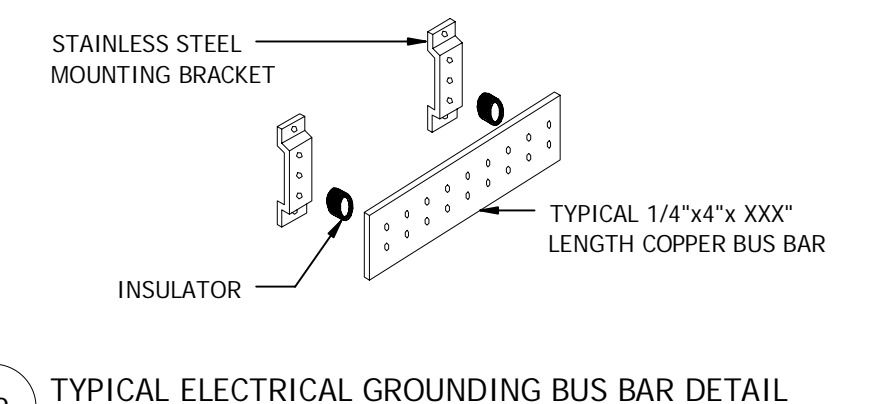
9 TYPICAL ELECTRICAL GROUNDING BUS DETAIL
NOT TO SCALE



10 TYPICAL ELECTRICAL GROUNDING ROD DETAIL
NOT TO SCALE



11 TYPICAL ELECTRICAL GROUNDING BUS INSULATOR DETAIL
NOT TO SCALE



12 TYPICAL ELECTRICAL GROUNDING BUS BAR DETAIL
NOT TO SCALE

CONSTRUCTION DOCUMENTS 100%

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BUILDING #
EQUIPMENT TYPE
EQUIPMENT NAME (4B-MSB)

PROVIDE THE FOLLOWING INFORMATION:
FEEDER SIZE(CONDUIT AND CONDUCTORS): (4) 3 1/2" C-4#350 & 1#3/0 GND
DATE OF INSTALL, TRANSFORMER IMPEDANCE, UTILITY TRANSFORMER SIZE (KVA)
LABEL "SERVICE EQUIPMENT RATED", AIC RATING
EXAMPLE:
FED FROM TRANSFORMER T-95, (4) 3 1/2" C-4#350 & 1#3/0 GND
DATE OF INSTALLATION MARCH 12, 2015, 9.6% IMPEDANCE, 750KVA
SERVICE EQUIPMENT RATED: 65000 AIC.

NOTES:

1. PROVIDE SIGNS ON EXTERIOR OF ALL ENCLOSURES CONTAINING CONDUCTORS OPERATING AT POTENTIALS UNDER 600 VOLTS.
2. THE ABOVE LABELING IS MINIMUM REQUIRED. IN ADDITION TO THE MINIMUM REQUIREMENT, ADD ALL LABELING REQUIRED PER THE NEC.
3. LABEL SHALL BE ATTACHED TO THE FRONT OF EQUIPMENT SO IT'S IN SIGHT.

1 SERVICE EQUIPMENT LABEL
NOT TO SCALE

PANEL TYPE
BUILDING #
FLOOR #
PANEL #
4B-LP1-1

PROVIDE THE FOLLOWING INFORMATION:
PRIMARY DISCONNECT LOCATION, SIZE/FUSE AND FEEDER SIZE(CONDUIT AND CONDUCTORS).
DATE OF INSTALL.
IF SERVICE RATED LABEL "SERVICE EQUIPMENT RATED".
IF FED BY A TRANSFORMER ADD THE FOLLOWING: POWER FACTOR, TRANSFORMER SIZE (KVA), K RATING.
EXAMPLE:
PRIMARY DISCONNECT LOCATION SWBD-1 IN ROOM 12, 200A-3P F@200A, 2" 4#3/0 & 1#6GND.
DATE OF INSTALL MARCH 12, 2012.
IF SERVICE RATED LABEL "SERVICE EQUIPMENT RATED".
TRANSFORMER T-1 LOCATED IN ROOM 10, 9.6% POWER FACTOR, 45KVA, K13 RATED.

NOTES:

1. PROVIDE SIGNS ON EXTERIOR OF ALL ENCLOSURES CONTAINING CONDUCTORS OPERATING AT POTENTIALS UNDER 600 VOLTS.
2. THE ABOVE LABELING IS MINIMUM REQUIRED. IN ADDITION TO THE MINIMUM REQUIREMENT, ADD ALL LABELING REQUIRED PER THE NEC.
3. LABEL SHALL BE ATTACHED TO THE FRONT OF EQUIPMENT SO IT'S IN SIGHT.

2 PANEL LABEL
NOT TO SCALE

BUILDING #
FLOOR #
EQUIPMENT NAME (4B-DS1-1)
DISCONNECT NUMBER

PROVIDE THE FOLLOWING INFORMATION:
PRIMARY DISCONNECT LOCATION, SIZE/FUSE AND FEEDER SIZE(CONDUIT AND CONDUCTORS).
SECONDARY FEEDER SIZE (CONDUIT AND CONDUCTORS) AND WHAT IT FEEDS AND LOCATION.
DATE OF INSTALL.
IF SERVICE RATED LABEL "SERVICE EQUIPMENT RATED".

NOTES:

1. PROVIDE SIGNS ON EXTERIOR OF ALL ENCLOSURES CONTAINING CONDUCTORS OPERATING AT POTENTIALS UNDER 600 VOLTS.
2. THE ABOVE LABELING IS MINIMUM REQUIRED. IN ADDITION TO THE MINIMUM REQUIREMENT, ADD ALL LABELING REQUIRED PER THE NEC.
3. LABEL SHALL BE ATTACHED TO THE FRONT OF EQUIPMENT SO IT'S IN SIGHT.

3 DISCONNECT LABEL
NOT TO SCALE

SWITCH 15A
COMPARTMENT C-4
TAP FEEDER
F-35A TO TF-4B
FUSE SMU-20 30E

NOTES:

1. LABEL SHALL BE ATTACHED TO THE FRONT OF EQUIPMENT SO IT'S IN SIGHT.

4 MEDIUM VOLTAGE SWITCH LABEL
NOT TO SCALE

MODULAR BUS TRACK INSTALLED
SO THAT BOTTOM OF TRACK IS
FLUSH WITH CEILING GRID

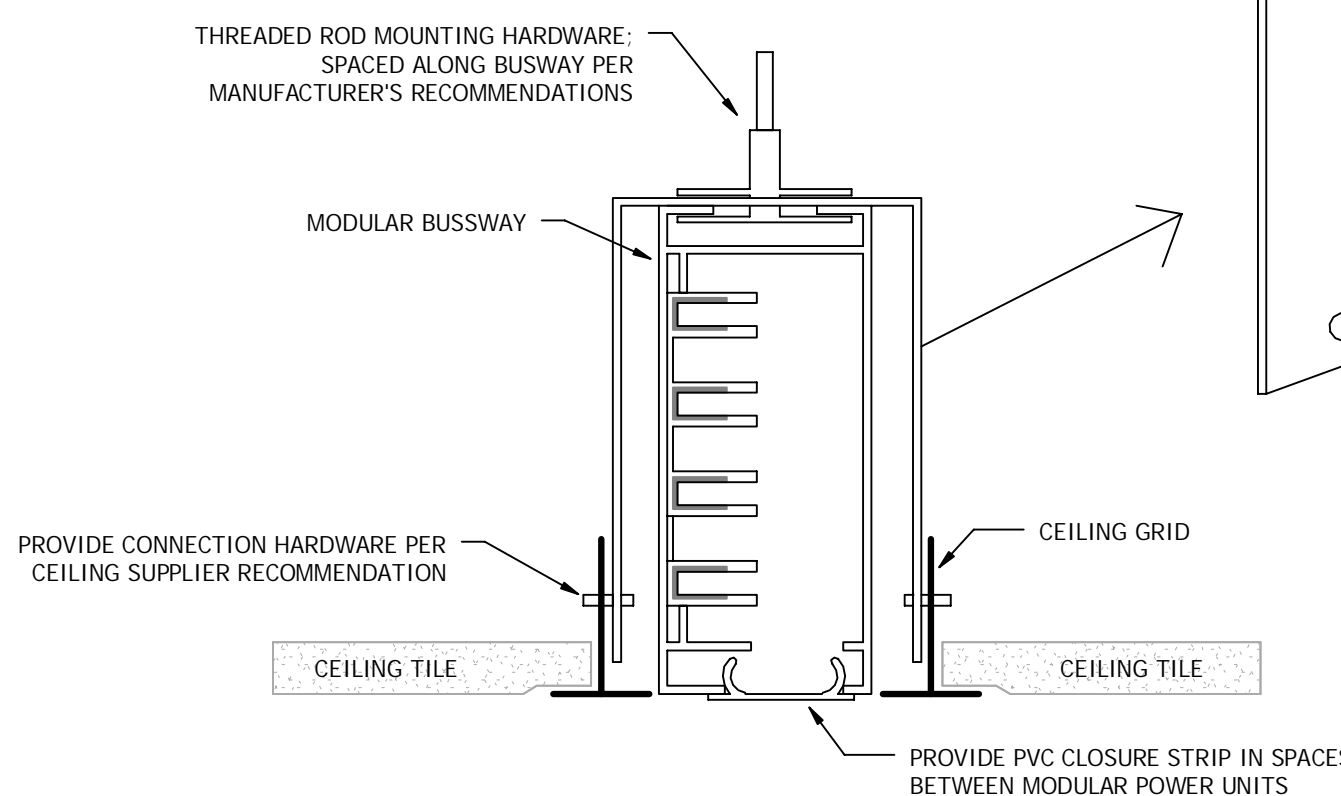
END POWER FEED UNIT MOUNTED ON TOP OF BUS
TRACK, ORIENTATE AND LOCATE UNIT TO ALLOW
INSTALLATION OF TWO UNITS FOR EACH BUS RUN

MODULAR POWER UNIT

GENERAL NOTES:

1. PROVIDE MOUNTING HARDWARE FOR MODULAR BUS PER MANUFACTURER RECOMMENDATIONS.
2. MODULAR BUS MOUNTING HARDWARE SHALL BE MOUNTED TO THE UNISTRUT GRID WHICH IS PROVIDED UNDER THE ARCHITECTURAL DOCUMENTS. PROVIDE ADDITIONAL UNITRACK PEICES AND ACCESSORIES AS NEEDED TO ALIGN UNITRACK WITH MODULAR BUS MOUNTING HARDWARE.
3. COORDINATE CEILING GRID PEICES AND ACCESSORIES FOR MOUNTING IN THE GRID CEILING WITH THE CEILING SUPPLIER AND MODULAR BUS MANUFACTURER. PROVIDE ALL HARDWARE REQUIRED FOR A COMPLETE INSTALLATION.
4. NOT ALL EQUIPMENT IS SHOWN.

5 MODULAR BUS ELEVATION (TYPICAL)
0 1' 2' 4'



6 MODULAR BUSS CROSS SECTION MOUNTING DETAIL
NOT TO SCALE

BUSSWAY MANUFACTURER'S
SUSPEND CEILING MOUNTING BRACKET

30A TWIST LOCK RECEPTACLE

30A/2P BREAKER

LABEL TO IDENTIFY PHASES
A-B

7 MODULAR POWER UNIT
NOT TO SCALE

CONSTRUCTION DOCUMENTS 100%



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Alexandria, MN 56308
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facsimile 320.759.9062
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JLG 130708

STAMPED:
I HEREBY CERTIFY THAT THIS PLAN,
SPECIFICATION OR REPORT WAS PREPARED
BY ME OR UNDER MY DIRECT SUPERVISION AND
THAT I AM A LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE OF
MINNESOTA.
ANNEX K: Member PE REG. NO. MN 43184
DATE: 12/03/14

DRAWING TITLE
ELECTRICAL DETAILS

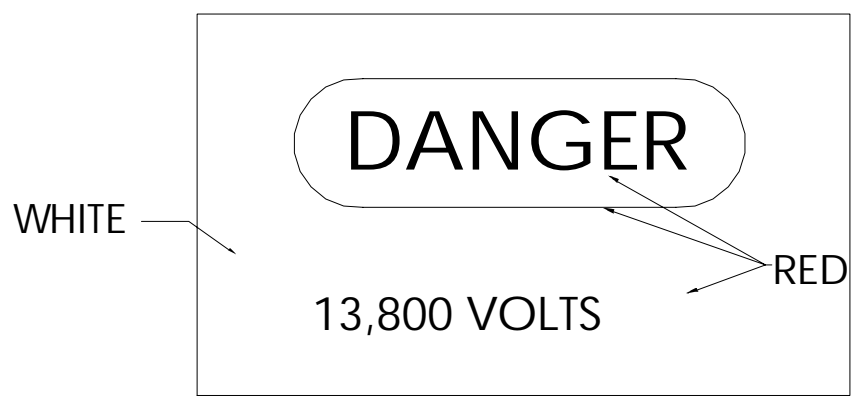
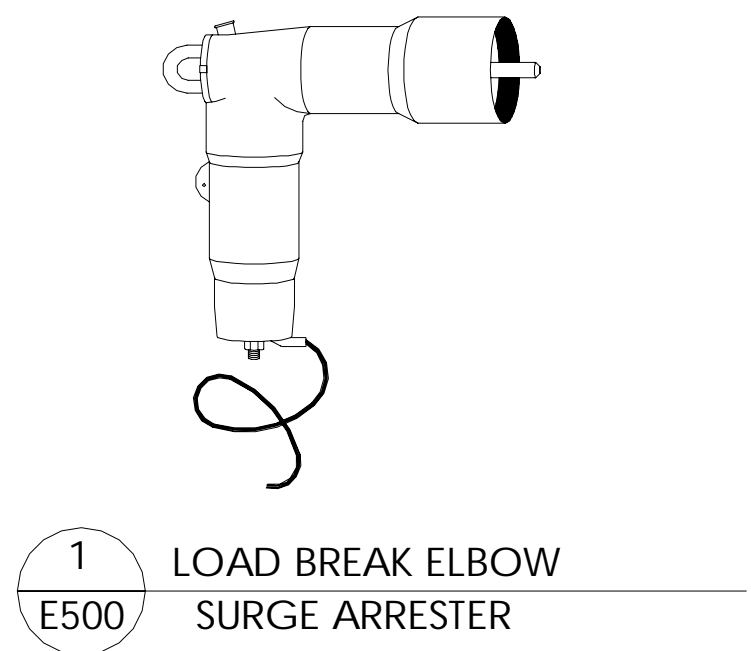
PROJECT TITLE
CONSTRUCT NEW IT CENTER
FOR HEALTH CARE
TECHNOLOGY MANAGEMENT
EXPANSION

BUILDING No: NEW IT
CHECKED BY: RSB
DRAWN: ARM
LOCATION: ST. CLOUD VA HCS
ST. CLOUD, MN 56303

DATE: 12.03.14
PROJECT SCALE: AS NOTED
PROJECT NO: 656-13-240
CADD FILE:
DRAWING NO: E702



| 13.8 KV TRANSFORMER SCHEDULE | | | | | | | |
|------------------------------|------------------------------|------|--------------------|----------------------|--------------------|--------|---------|
| NUMBER | TRANSFORMER (By Building) | TYPE | PRIMARY VOLTAGE | SECONDARY VOLTAGE | CONNECTION TYPE | RATING | REMARKS |
| TF-4B | BUILDING 4 | PAD | 13.8 KV | 480Y/277 | DELTA-WYE | 750KVA | |



NOTE:
USE "DANGER" SIGNS ON ALL DUCTS, PULLBOXES, AND JUNCTION BOXES CONTAINING CONDUCTORS OPERATING AT POTENTIALS OVER 600 VOLTS.
USE "WARNING" SIGNS ON EXTERIOR OF ALL ENCLOSURES CONTAINING CONDUCTORS OPERATING AT POTENTIALS UNDER 600 VOLTS.

| STANDARD PROPORTIONS ALL DIMENSIONS IN INCHES | | | | |
|---|-------|----------------|-------|-------------|
| SIGN SIZE | | RED OVAL | | WORD DANGER |
| Min. Height | Width | Height | Width | Height |
| 3 1/2 x 5 | | 1 7/16 x 4 1/4 | | 23/32 |

"DANGER" / "WARNING" SIGN

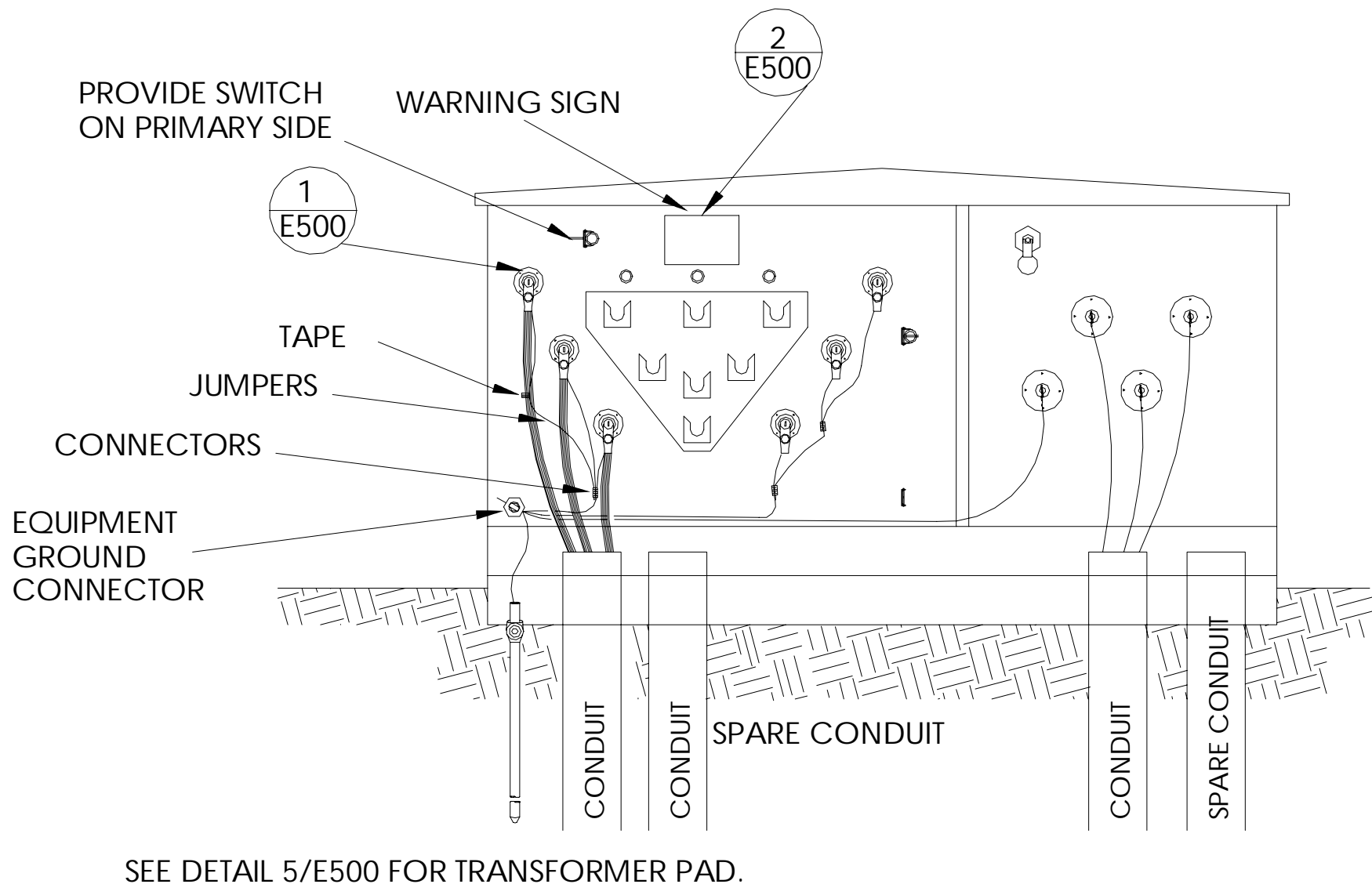


EQUIPMENT NAME

PRIMARY DISCONNECT LOCATION, SIZE/FUSE AND FEEDER SIZE(CONDUIT AND CONDUCTORS).
SECONDARY DISCONNECT LOCATION, SIZE/FUSE AND FEEDER SIZE(CONDUIT AND CONDUCTORS).
DATE, TRANSFORMER POWER FACTOR, TRANSFORMER SIZE IF FEED FROM TRANSFORMER
IF SERVICE RATED LABEL "SERVICE EQUIPMENT RATED".
AIC RATING.

NOTES:
USE "WARNING" SIGNS ON EXTERIOR OF ALL ENCLOSURES CONTAINING CONDUCTORS OPERATING AT POTENTIALS UNDER 600 VOLTS.
THE ABOVE LABELING IS MINIMUM REQUIRED ALSO ADD ALL LABELING PER NEC.

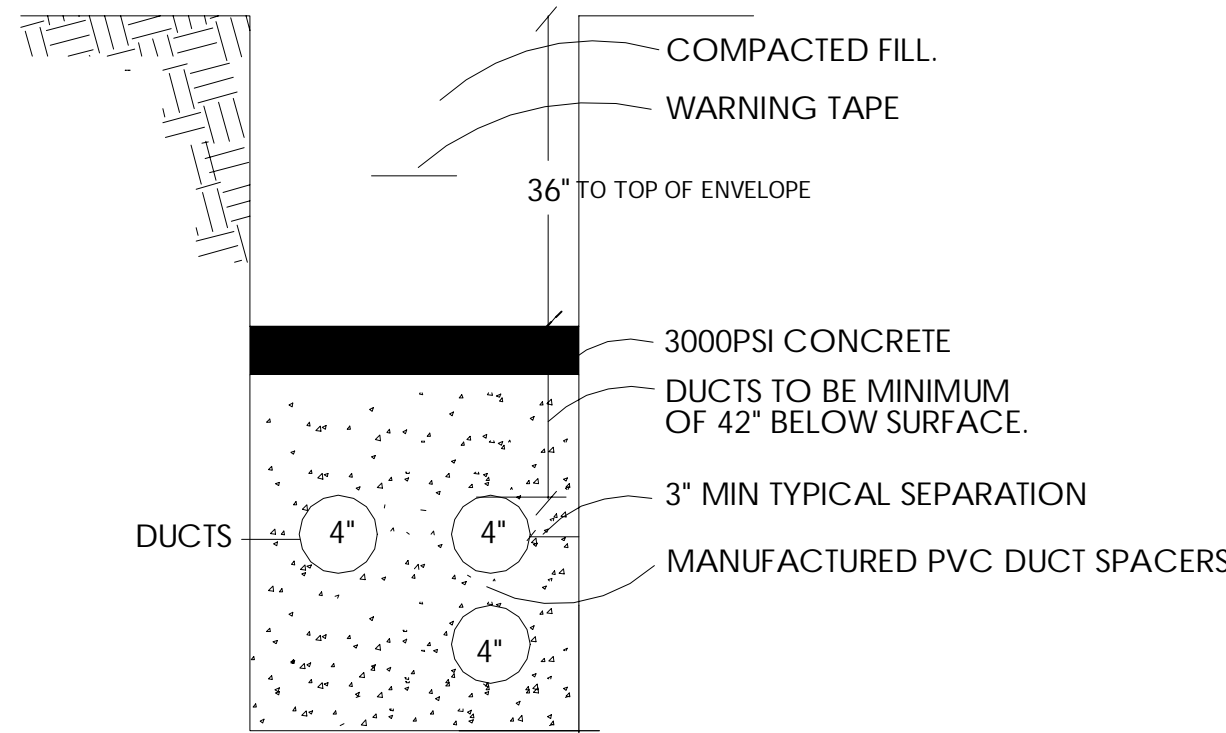
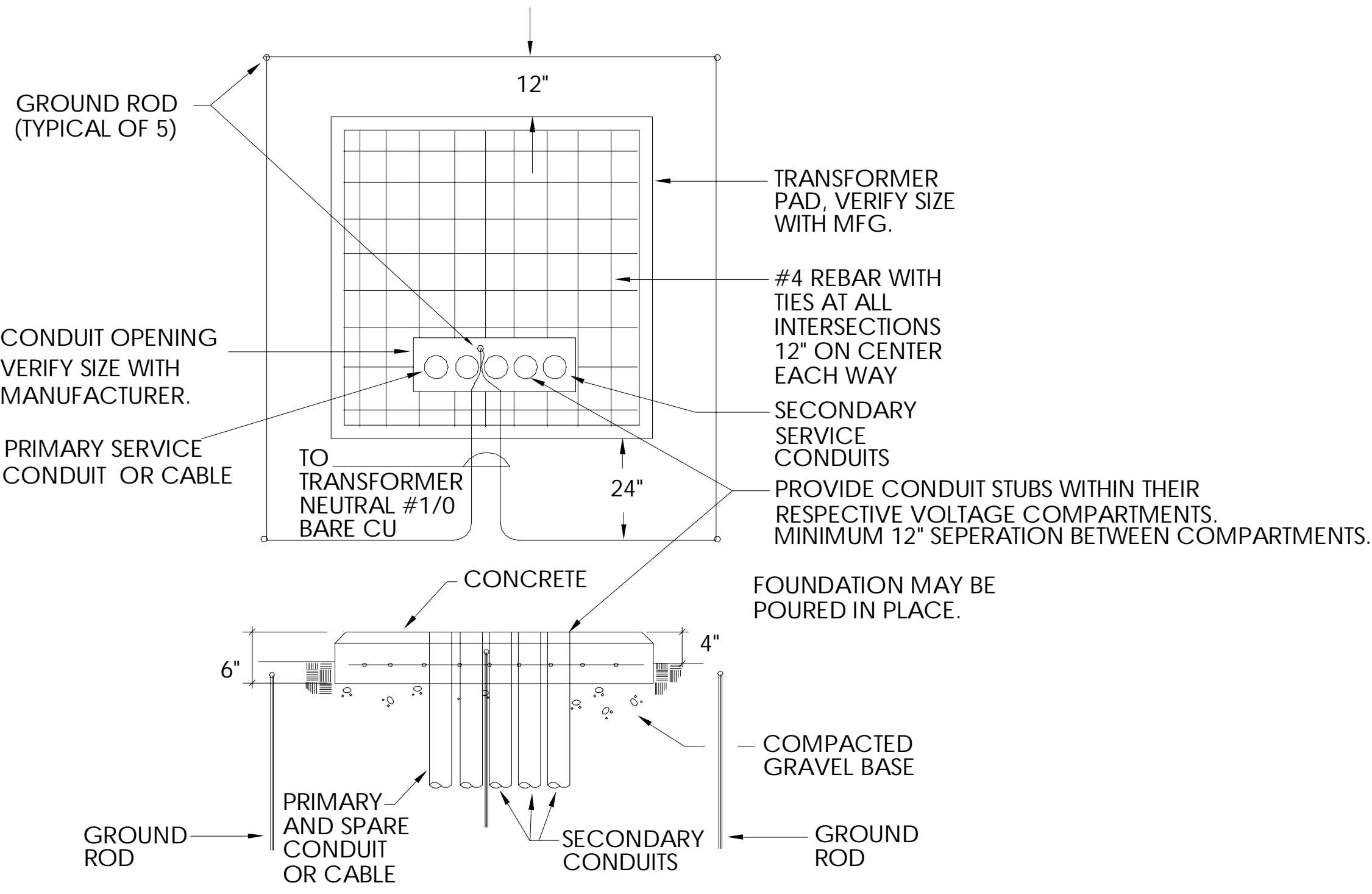
LABEL SHALL BE ATTACHED TO THE FRONT OF EQUIPMENT WITH BOLTS OR RIVETS.



SEE DETAIL 5/E500 FOR TRANSFORMER PAD.



TRANSFORMER BY CONTRACTOR.
INCLUDING FEATURES:
ADJUSTABLE TAP SETTINGS.
BAYONET FUSES
PRIMARY ROTARY SWITCH (OIL COMPARTMENT)
OIL SAMPLE PORT ON SECONDARY SIDE
LOCKABLE DOOR
SEE SPECIFICATIONS 26-12-19



CONSTRUCTION DOCUMENTS 100%

| NO | REVISION | DATE |
|----|----------|------|
| | | |

VA FORM 08-6231



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St. Cloud Office
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St. Cloud, MN 56301
(320) 217-5557



JLG 130708

STAMPED
I hereby certify that this plan
specification or report was prepared
by me or under my direct supervision and
that I am a duly Licensed Professional
Engineer under the laws of the State of
Minnesota.

DATE: 12/03/14

DRAWING TITLE
ELECTRICAL DETAILS

PROJECT TITLE
CONSTRUCT NEW IT CENTER
FOR HEALTH CARE
TECHNOLOGY MANAGEMENT
EXPANSION

DATE
12.03.14

BUILDING No
NEW IT

DRAWN BY
RSB

CAD FILE

DATE
12.03.14

REG. NO.

LOCATION
ST. CLOUD VA HCS
ST. CLOUD, MN 56303

DRAWING NO.
E703



1 RISER DIAGRAM
NOT TO SCALE

- GENERAL NOTES:
1. RISER DIAGRAM IS PROVIDED FOR DIAGRAMMATIC PURPOSES ONLY. DO NOT TAKE ILLUSTRATION LITERALLY.
 2. COORDINATE NEW PRIMARY POWER SERVICE WORK, INCLUDING BUT NOT LIMITED TO, TRANSFORMER TYPE, TRANSFORMER LOCATIONS, CONCRETE WORK, POLE INSTALLATION, AND GROUNDING. PROVIDE WORK AS REQUIRED.
 3. PROVIDE 4" HIGH HOUSE KEEPING PADS FOR FREE STANDING AND FLOOR MOUNTED EQUIPMENT.
 4. REFER TO DRAWINGS FOR EQUIPMENT LOCATIONS.
 5. ALL EQUIPMENT SHALL BE FULLY RATED FOR AVAILABLE SHORT CIRCUIT CURRENT.
 6. NOT ALL EXISTING EQUIPMENT IS SHOWN IN RISER DIAGRAM.

| (ID) | AMPERAGE | CONDUIT AND WIRE SIZE |
|------|----------|---------------------------|
| 1 | AMPERAGE | SIZE |
| 2 | 800 | (3) 2.5"C-4#300KCMIL |
| 3 | 400 | (2) 2"C-4#3/0,1#3G |
| 4 | 400 | (2) 2.5"C-4#250KCMIL,1#2G |
| 5 | 25 | 0.75"C-3#12,1#12G |
| 6 | 60 | 1"C-4#4,1#10G |
| 7 | 15 | 1"C-8#10,1#10G |
| 8 | 350 | 3"C-3#500KCMIL,1#3G |
| 9 | --- | 3"C-PULL CORD |
| 10 | 15 | 0.75"C-4#12,1#12G |
| 11 | 100 | 1.25"C-3#2,1#8G |
| 12 | 200 | 2"C-4#3/0,1#6G |
| 13 | 45 | 0.75"C-4#8,1#10G |
| 14 | 100 | 1.25"C-4#2,1#8G |
| 15 | 25 | 1"C-6#10,1#10G |

CONSTRUCTION DOCUMENTS 100%

| NO | REVISION | DATE |
|----|----------|------|
| | | |

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St. Cloud, MN 56301
(320) 217-5557



JLG 130708

STAMPED
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Arvin K. Mueller, PE
DATE: 12/03/14
REG. NO. MN 43184

DRAWING TITLE
ELECTRICAL RISER DIAGRAMS

PROJECT TITLE
CONSTRUCT NEW IT CENTER
FOR HEALTH CARE
TECHNOLOGY MANAGEMENT
EXPANSION

BUILDING No: NEW IT
CHECKED BY: ARM
DRAWN: ARM

DATE: 12.03.14
PROJECT NO: 656-13-240
DRAWING NO: E801



| LUMINAIRE SCHEDULE | | | | | | | | | |
|--------------------|--------------------------------|------------|---------------|---|-----------------------------|--|--------------------------------------|--|--|
| ID TAG | TYPE | INPUT LOAD | MOUNTING | LIGHT SOURCE | VOLTAGE/BALLAST | DESCRIPTION | COLOR | APPROVED MANUFACTURER | |
| A | 2x4 ARCHITECTURAL LED TROFFER | 40 VA | RECESSED | LED, 4000 MIN. DELIVERED LUMENS, 3,500K, CRI OF 90+ | MULTIVOLT/ELECTRONIC DIMING | 20-GAUGE STEEL HOUSING, FIELD REPLACEABLE LIGHT ENGINE, POWER SUPPLY, THERMAL MANAGEMENT, AND POSTICAL MIXING COMPONENTS; ONE-PIECE LOWER REFLECTOR WITH A TEXTURED HIGH REFLECTANCE WHITE POLYESTER POWDER COATING; DIFFUSING LENS INTEGRATED WITH UPWARD-FACING LED STRIP TO ELIMINATE DIRECT VIEW OF LEDS WITH LOWER REFLECTOR. | WHITE | CRE24 SERIES, OR EQUAL | |
| B | 6" DOWNLIGHT | 25 VA | RECESSED WALL | LED 1700 LUMENS | 120V | OPEN CLEAR | | GOTHAM LIGHTING EVO SERIES, OR EQUAL | |
| C | EXTERIOR WALL | 27 VA | | LED (T) 21 LED LIGHT/BAR 80CRI | 120V | TWO PIECE, DIE CAST ALUMINUM HOUSING AND REMOVABLE HINGED DOOR FRAME, TYPE 4 DIST., BRONZE IN COLOR, INTEGRAL PHOTOCELL | BRONZE | COOPER ISW IMPACT ELITE SMALL WEDGE SERIES, OR EQUAL | |
| D1 | 4' LED STRIPLIGHT | 43 VA | CHAIN HUNG | LED, 3000 DELIVERED LUMENS, 4000K | 120V/ELECTRONIC | CODE-GAUGE COLD ROLLED STEEL HOUSING CHANNEL, SNAP ON/OFF LENS DIFFUSER, TOOLLESS CHANNEL COVER REMOVAL | WHITE | LITHONIA ZL2N SERIES, OR EQUAL | |
| D2 | 4' LED STRIPLIGHT | 43 VA | SURFACE MOUNT | LED, 3000 DELIVERED LUMENS, 4000K | 120V/ELECTRONIC | CODE-GAUGE COLD ROLLED STEEL HOUSING CHANNEL, SNAP ON/OFF LENS DIFFUSER, TOOLLESS CHANNEL COVER REMOVAL | WHITE | LITHONIA ZL2N SERIES, OR EQUAL | |
| E2 | EXIT SIGN W/EMERGENCY LIGHTING | 6 VA | UNIVERSAL | LED | 120V | TERMOPLASTIC IMPACT RESISTANT, SCRATCH RESISTANT, CORROSION RESISTANT HOUSING, LED LAMP HEADS | WHITE W/RED LETTERING | LITHONIA LHQM SERIES, SURE-LITE APCHYR, OR EQUAL | |
| EX1 | EXIT SIGN | 6 VA | UNIVERSAL | LED | 120V | DIE CAST, BRUSHED ALUMINUM FACE, BLACK HOUSING, RED LETTERS, FACES AND ARROWS AS SHOWN ON PLANS | BRUSHED ALUMINUM FACE, BLACK HOUSING | LITHONIA LE SERIES, OR EQUAL | |
| EX2 | EXIT SIGN W/EMERGENCY LIGHTING | 6 VA | UNIVERSAL | LED | 120V | TERMOPLASTIC IMPACT RESISTANT, SCRATCH RESISTANT, CORROSION RESISTANT HOUSING, LED LAMP HEADS | WHITE WIRED LETTERING | LITHONIA LHQM SERIES, SURE-LITE APCHYR, OR EQUAL | |
| EX3 | EXIT SIGN | 5 VA | UNIVERSAL | LED | 120V | TERMOPLASTIC IMPACT RESISTANT, SCRATCH RESISTANT, CORROSION RESISTANT HOUSING | WHITE HOUSING, RED LETTERING | LITHONIA LQM SERIES, OR EQUAL | |
| F | LED STAIR LIGHT | 24 VA | SURFACE/WALL | LED; 2505 DELIVERED LUMENS, 3500K | 120V/ELECTRONIC | INTEGRAL OCCUPANCY SENSOR TO DIM LIGHT TO 25% ON WHEN UNOCCUPIED AND 100% ON WHEN OCCUPIED, HIGH IMPACT ACRYLIC DIFFUSER, CRESCENT-SHAPE LINEAR FACETED REFRACTOR SYSTEM, CODE GAUGE ROLLED STEEL HOUSING | WHITE POLYESTER POWDER COAT | LITHONIA WL SERIES, OR EQUAL | |

| SWITCHBOARD: 4B-MSB | | | | | |
|----------------------------|-------------|-------|-----------------|---------|--|
| LOCATION: ELECTRICAL 111 | | | VOTLS: 480Y/277 | | BUSS RATING: 1000 A |
| ENCLOSURE: NEMA 1 | | | PHASES: 3 | | MAINS TYPE: BREAKER |
| MOUNTING: FREE STANDING | | | WIRES: 4 | | MAINS RATING: 800 A |
| CKT | DESCRIPTION | POLES | RATING | LOAD | NOTES |
| 1 | 4B-ESDP | 3 | 400 A | 248.145 | 100% RATED BREAKER 100% RATED BREAKER |
| 2 | 4B-EQDP | 3 | 400 A | 226.854 | |
| 3 | T-4B-DP | 3 | 20 A | 10.871 | |
| 4 | CU-4 | 3 | 20 A | 9.650 | |
| 5 | CU-7 | 3 | 15 A | 5.000 | |
| 6 | CU-8 | 3 | 20 A | 9.650 | |
| 7 | AHU-1 | 3 | 15 A | 1.000 | |
| 8 | AHU-2 | 3 | 15 A | 1.000 | |
| 9 | AHU-3 | 3 | 20 A | 1.000 | |
| 10 | AHU-4 | 3 | 15 A | 1.500 | |
| 11 | SPARE | 3 | 100 A | | |
| 12 | SPARE | 3 | 20 A | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
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| 35 | | | | | |
| 36 | | | | | |
| TOTAL CONNECTED LOAD | | | | 514670 | TOTAL CALCULATED LOAD: 620 AMPS |
| NOTES: | | | | | |
| 1. 100% RATED MAIN BREAKER | | | | | |
| 2. PROVIDE INTEGRAL SPD | | | | | |

| MOTOR AND EQUIPMENT SCHEDULE | | | | | | | | | | | | | | | | |
|---|----------------------|----------------|-------|-----|------------|-------|-------|-------------|------------|--------------|-----------|-------------|--------------------|--------------------|-----------|----------|
| EQUIPMENT ID | LOCATION | EQUIPMENT DATA | | | DISCONNECT | | | | | STARTER DATA | | | FEEDER SIZE | NOTES | | |
| | | HP | FLA | KW | MOP | VOLTS | PHASE | PROVIDED BY | AMPS/POLES | FUSES | LOCATION | PROVIDED BY | | | TYPE/SIZE | LOCATION |
| AC-1 | ELECTRICAL RM 111 | 19.8 | ----- | 25 | 480 | 3 | ----- | ----- | ----- | ----- | ----- | ----- | 0.75" C-3#10.1#10G | ----- | | |
| AHU-1 | MECHANICAL RM 113 | 1.0 | ----- | 15 | 480 | 3 | MECH | ----- | ----- | ----- | ----- | ----- | 0.75" C-3#12.1#12G | ----- | | |
| AHU-2 | MECHANICAL RM 113 | 1 | ----- | 15 | 480 | 3 | MECH | ----- | ----- | ----- | ----- | ----- | 0.75" C-3#12.1#12G | ----- | | |
| AHU-3 | MECH ROOM 002 | 1.0 | ----- | 15 | 480V | 3 | MECH | ----- | ----- | ----- | MECH | ----- | 0.75" C-3#12.1#12G | ----- | | |
| AHU-4 | MECH RM 2 004 | 1.75 | ----- | 15 | 480V | 3 | MECH | ----- | ----- | ----- | MECH | ----- | 0.75" C-3#12.1#12G | ----- | | |
| CRAC-1 | MECHANICAL RM 3 | 59.6 | ----- | 80 | 480 | 3 | MECH | ----- | ----- | ----- | AT UNIT | MECH | 1" C-3#3.1#8G | ----- | | |
| CRAC-2 | MECHANICAL RM 3 | 59.6 | ----- | 80 | 480 | 3 | MECH | ----- | ----- | ----- | AT UNIT | MECH | 1" C-3#3.1#8G | ----- | | |
| CRAC-3 | MECHANICAL RM 3 | 59.6 | ----- | 80 | 480 | 3 | MECH | ----- | ----- | ----- | AT UNIT | MECH | 1" C-3#3.1#8G | ----- | | |
| CU-1 | EXTERIOR | 5.6 | ----- | 15 | 480V | 3 | MECH | ----- | ----- | ----- | AT UNIT | MECH | 0.75" C-3#12.1#12G | ----- | | |
| CU-2 | EXTERIOR | 5.6 | ----- | 15 | 480V | 3 | MECH | ----- | ----- | ----- | AT UNIT | MECH | 0.75" C-3#12.1#12G | ----- | | |
| CU-3 | EXTERIOR | 4656 | ----- | 15 | 480V | 3 | MECH | ----- | ----- | ----- | AT UNIT | MECH | 0.75" C-3#12.1#12G | ----- | | |
| CU-4 | EXTERIOR | 11.6 | ----- | 20 | 480 | 3 | ELEC | 30A/3P | ----- | ----- | NEAR UNIT | MECH | 0.75" C-3#12.1#12G | ----- | | |
| CU-5 | EXTERIOR | 11.7 | ----- | 20 | 480 | 3 | MECH | ----- | ----- | ----- | ----- | MECH | 0.75" C-3#12.1#12G | ----- | | |
| CU-6 | EXTERIOR | 12.4 | ----- | 20 | 208V | 1 | ELEC | 30A/3P | ----- | ----- | AT UNIT | MECH | 0.75" C-2#12.1#12G | ----- | | |
| CU-7 | EXTERIOR | 6 | ----- | 15 | 480V | 3 | ELEC | 30A/3P | ----- | ----- | AT UNIT | MECH | 0.75" C-3#12.1#12G | ----- | | |
| CU-8 | EXTERIOR | 11.6 | ----- | 20 | 480 | 3 | ELEC | 30A/3P | ----- | ----- | AT UNIT | MECH | 0.75" C-3#12.1#12G | ----- | | |
| CUH-1 | ENTRY 101 | ----- | ----- | 15 | 120V | 1 | ELEC | ----- | ----- | ----- | AT UNIT | MECH | 0.75" C-2#12.1#12G | ----- | | |
| CUH-2 | STAIRWELL-2 RM 115-2 | ----- | ----- | 15 | 120V | 1 | ELEC | ----- | ----- | ----- | AT UNIT | MECH | 0.75" C-2#12.1#12G | ----- | | |
| CUH-3 | BASEMENT BUILDING 4 | ----- | ----- | 15 | 120V | 1 | ELEC | ----- | ----- | ----- | AT UNIT | MECH | 0.75" C-2#12.1#12G | ----- | | |
| P-1 | MECHANICAL ROOM 002 | ----- | ----- | 15A | 120V | 1 | ----- | ----- | ----- | ----- | MS | AT UNIT | 0.75" C-2#12.1#12G | ----- | | |
| P-2 | MECHANICAL ROOM 002 | ----- | ----- | 15A | 120V | 1 | ----- | ----- | ----- | ----- | ELEC | MS | AT UNIT | 0.75" C-2#12.1#12G | ----- | |
| RPB-1 | MECHANICAL RM 3 | 7.0 | ----- | 15 | 480V | 3 | MECH | ----- | ----- | ----- | AT UNIT | MECH | 0.75" C-3#12.1#12G | ----- | | |
| RPB-2 | MECHANICAL RM 3 | 7.0 | ----- | 15 | 480V | 3 | MECH | ----- | ----- | ----- | AT UNIT | MECH | 0.75" C-3#12.1#12G | ----- | | |
| RPB-3 | MECHANICAL RM 3 | 7.0 | ----- | 15 | 480V | 3 | MECH | ----- | ----- | ----- | AT UNIT | MECH | 0.75" C-3#12.1#12G | ----- | | |
| SP-1 | UTILITY RM 001 | ----- | ----- | 15A | 120V | 1 | MECH | ----- | ----- | ----- | AT UNIT | MECH | 0.75" C-2#12.1#12G | ----- | | |
| SP-2 | UTILITY RM 001 | ----- | ----- | 15A | 120V | 1 | MECH | ----- | ----- | ----- | AT UNIT | MECH | 0.75" C-2#12.1#12G | ----- | | |
| UH-1 | MECHANICAL RM 3 | ----- | ----- | 2 | ----- | 120 | 1 | ELEC | ----- | ----- | NEAR UNIT | ----- | 0.75" C-2#12.1#12G | ----- | | |
| NOTES: | | | | | | | | | | | | | | | | |
| 1. ----- | | | | | | | | | | | | | | | | |
| LEGEND: | | | | | | | | | | | | | | | | |
| FRAC = FRACTIONAL HORSEPOWER | | | | | | | | | | | | | | | | |
| MS = MANUAL MOTOR STARTER | | | | | | | | | | | | | | | | |
| VFD = VARIABLE FREQUENCY DRIVE | | | | | | | | | | | | | | | | |
| SSRV = SOLID STATE REDUCED VOLTAGE STARTER | | | | | | | | | | | | | | | | |
| FVNR = FULL VOLTAGE NON-REVERSING STARTER | | | | | | | | | | | | | | | | |
| M = MOTOR RATED SWITCH | | | | | | | | | | | | | | | | |
| MANUF = PROVIDE FUSES PER MANUFACTURER RECOMMENDATIONS | | | | | | | | | | | | | | | | |
| MECH = PROVIDED BY EQUIPMENT SUPPLIER OR WITH EQUIPMENT | | | | | | | | | | | | | | | | |
| ELEC = PROVIDED UNDER DIVISION 26 | | | | | | | | | | | | | | | | |

| PANELBOARD SCHEDULE | | | NAME: 4B-L1 | | CIRCUIT BREAKER: X | | | | MAIN RATING: 100A | | | | | | | |
|----------------------|-----------------------------------|--|---------------------------|-------|-------------------------------|------|------|------|-------------------|-----|-------|-------|-------------------------------|-----------------------|-----|----|
| | | | LOCATION: ELECTRICAL ROOM | | MAIN LUGS ONLY: | | | | VOLTAGE: 208Y/120 | | | | | | | |
| | | | MOUNTING: SURFACE | | WIRES: 4 | | | | PHASE: 3 | | | | | | | |
| CKT | CIRCUIT DESCRIPTION | | TRIP | POLES | A | | B | | C | | POLES | TRIP | CIRCUIT DESCRIPTION | | CKT | |
| 1 | R. EXTERIOR | | 20 A | 1 | 540 | 1260 | | | | | 1 | 20 A | R. RM 6 | | 2 | |
| 3 | R. RMS 001, 002, 003 | | 20 A | 1 | | | 900 | 540 | | | 1 | 20 A | R. RM 16 | | 4 | |
| 5 | L. RMS 105, 111, 113 | | 20 A | 1 | | | | | 381 | 540 | 1 | 20 A | R. RM. 17 | | 6 | |
| 7 | L. RMS 001, 002, 003, 023 | | 20 A | 1 | 645 | 540 | | | | | 1 | 20 A | R. RM 111, 113 | | 8 | |
| 9 | | | | | | | 1290 | 1500 | | | 1 | 20 A | DEMARC RM LIGHTNING ARRESTORS | | 10 | |
| 11 | CU-6 | | 20 A | 2 | | | | | | | 1 | 20 A | | | 12 | |
| 13 | CABINET UNIT HEATERS CUH-1, CUH-2 | | 20 A | 1 | 1000 | 0 | | | | | 1 | 20 A | SPARE | | 14 | |
| 15 | SPARE | | 20 A | 1 | | | 0 | 0 | | | 1 | 20 A | SPARE | | 16 | |
| 17 | SPARE | | 20 A | 1 | | | | | 0 | 0 | 1 | 20 A | SPARE | | 18 | |
| 19 | SPARE | | 20 A | 1 | 0 | 0 | | | | | 1 | 20 A | SPARE | | 20 | |
| 21 | SPARE | | 20 A | 1 | | | 0 | 0 | | | 1 | 20 A | SPARE | | 22 | |
| 23 | SPARE | | 20 A | 1 | | | | | 0 | 0 | 1 | 20 A | SPARE | | 24 | |
| 25 | SPARE | | 20 A | 1 | 0 | 0 | | | | | 1 | 20 A | SPARE | | 26 | |
| 27 | SPARE | | 20 A | 1 | | | 0 | 0 | | | 1 | 20 A | SPARE | | 28 | |
| 29 | SPARE | | 20 A | 1 | | | | | 0 | 0 | 1 | 20 A | SPARE | | 30 | |
| 31 | SPARE | | 20 A | 1 | 0 | 0 | | | | | 1 | 20 A | SPARE | | 32 | |
| 33 | SPACE | | -- | -- | | | 0 | 0 | | | -- | -- | SPACE | | 34 | |
| 35 | SPACE | | -- | -- | | | | | 0 | 0 | -- | -- | SPACE | | 36 | |
| 37 | SPACE | | -- | -- | 0 | 0 | | | | | -- | -- | SPACE | | 38 | |
| 39 | SPACE | | -- | -- | | | 0 | 0 | | | -- | -- | SPACE | | 40 | |
| 41 | SPACE | | -- | -- | | | | | 0 | 0 | -- | -- | SPACE | | 42 | |
| TOTAL CONNECTED LOAD | | | 10425 VA | | TOTAL CALCULATED DEMAND | | | | | | | 10871 | | TOTAL CALCULATED AMPS | | 30 |
| GENERAL NOTES: | | | | | KEY NOTES: | | | | | | | | | | | |
| 1. | | | | | * GFCI RATED BREAKER | | | | | | | | | | | |
| 2. | | | | | ** PROVIDE HACR RATED BREAKER | | | | | | | | | | | |
| 3. | | | | | *** ISOLATED GROUND CIRCUIT | | | | | | | | | | | |

| PANELBOARD SCHEDULE | | NAME: 4B-ESDP | | CIRCUIT BREAKER: X | | | | MAIN RATING: 400 | | | | | | |
|----------------------------|------------------------|-----------------------------|-------|-------------------------|------|-------|-------------------------------|-------------------|------|--------|------|-----------------------|-----|-----|
| | | LOCATION: ELECTRICAL RM 111 | | MAIN LUGS ONLY: | | | | VOLTAGE: 480Y/277 | | | | | | |
| | | MOUNTING: SURFACE | | WIRES: 4 | | | | PHASE: 3 | | | | | | |
| CKT | CIRCUIT DESCRIPTION | TRIP | POLES | A | | B | | C | | POLES | TRIP | CIRCUIT DESCRIPTION | CKT | |
| 1 | | | | 81200 | 2147 | | | | | | | | 2 | |
| 3 | UPS AC RECTIFIER INPUT | 350 A | 3 | | | 81200 | 1484 | | | | | | 4 | |
| 5 | | | | | | | | 81200 | 2000 | | | | 6 | |
| 7 | | | | 0 | 0 | | | | | | | | 8 | |
| 9 | SPARE | 20 A | 3 | | | 0 | 0 | | | | | | 10 | |
| 11 | | | | | | | | 0 | 0 | | | | 12 | |
| 13 | SPACE | -- | -- | 0 | 0 | | | | | -- | -- | SPACE | 14 | |
| 15 | SPACE | -- | -- | | | 0 | 0 | | | -- | -- | SPACE | 16 | |
| 17 | SPACE | -- | -- | | | | | 0 | 0 | -- | -- | SPACE | 18 | |
| 19 | SPACE | -- | -- | 0 | 0 | | | | | -- | -- | SPACE | 20 | |
| 21 | SPACE | -- | -- | | | 0 | 0 | | | -- | -- | SPACE | 22 | |
| 23 | SPACE | -- | -- | | | | | 0 | 0 | -- | -- | SPACE | 24 | |
| 25 | SPACE | -- | -- | 0 | 0 | | | | | -- | -- | SPACE | 26 | |
| 27 | SPACE | -- | -- | | | 0 | 0 | | | -- | -- | SPACE | 28 | |
| 29 | SPACE | -- | -- | | | | | 0 | 0 | -- | -- | SPACE | 30 | |
| TOTAL CONNECTED LOAD | | 249231 VA | | TOTAL CALCULATED DEMAND | | | | | | 248145 | | TOTAL CALCULATED AMPS | | 298 |
| GENERAL NOTES: | | | | | | | KEY NOTES: | | | | | | | |
| 1. PROVIDE INTEGRAL SPD | | | | | | | * GFCI RATED BREAKER | | | | | | | |
| 2. 100% RATED MAIN BREAKER | | | | | | | ** PROVIDE HACR RATED BREAKER | | | | | | | |
| 3. | | | | | | | *** ISOLATED GROUND CIRCUIT | | | | | | | |

| PANELBOARD SCHEDULE | | | | NAME: 4B-EQDP | | CIRCUIT BREAKER: X | | | | MAIN RATING: 400 | | | | | | |
|----------------------------|---------------------|--|-----------|-----------------------------|-------------------------|--------------------|-------|-------|-------|-------------------|--------|------|-----------------------|--|-------------------------------|-----|
| | | | | LOCATION: ELECTRICAL RM 111 | | MAIN LUGS ONLY: | | | | VOLTAGE: 480Y/277 | | | | | | |
| | | | | MOUNTING: SURFACE | | WIRES: 4 | | | | PHASE: 3 | | | | | | |
| CKT | CIRCUIT DESCRIPTION | | TRIP | POLES | A | | B | | C | | POLES | TRIP | CIRCUIT DESCRIPTION | | CKT | |
| 1 | SPARE | | 20 A | 3 | 0 | 16667 | | | | | | | CRAC-1 | | 2 | |
| | | | | | | 0 | 16667 | | | | | | | | | 3 |
| 3 | | | | | | | | 0 | 16667 | | | | | | | 4 |
| 5 | | | | | | | | | | 0 | 16667 | | | | | 6 |
| 7 | RPB-1 | | 15 A | 3 | 1940 | 16667 | | | | | | | CRAC-2 | | 8 | |
| | | | | | | | 1940 | 16667 | | | | | | | | 10 |
| 9 | | | | | | | | | | 1940 | 16667 | | | | | 12 |
| 11 | | | | | | | | | | | | | | | | 14 |
| 13 | RPB-2 | | 15 A | 3 | 1940 | 16667 | | | | | | | CRAC-3 | | 16 | |
| | | | | | | | 1940 | 16667 | | | | | | | | 18 |
| 15 | | | | | | | | | | 1940 | 16667 | | | | | 20 |
| 17 | | | | | | | | | | | | | | | | 22 |
| 19 | RPB-3 | | 15 A | 3 | 1940 | 1552 | | | | | | | CU-1 | | 24 | |
| | | | | | | | 1940 | 1552 | | | | | | | | 26 |
| 21 | | | | | | | | | | 1940 | 1552 | | | | | 28 |
| 23 | | | | | | | | | | | | | | | | 30 |
| 25 | AC-1 | | 25 A | 3 | 5487 | 1552 | | | | | | | CU-2 | | 32 | |
| | | | | | | | 5487 | 1552 | | | | | | | | 34 |
| 27 | | | | | | | | | | 5487 | 1552 | | | | | 36 |
| 29 | | | | | | | | | | | | 5487 | | | 1552 | 38 |
| 31 | SPARE | | 15 A | 3 | 0 | 1552 | | | | | | | CU-3 | | 40 | |
| | | | | | | | 0 | 1552 | | | | | | | | 42 |
| 33 | | | | | | | | | | 0 | 1552 | | | | | 44 |
| 35 | | | | | | | | | | | | | | | | 46 |
| 37 | T-4B-EQ | | 20 A | 3 | 4700 | 3215 | | | | | | | CU-5 | | 48 | |
| | | | | | | | 1920 | 3215 | | | | | | | | 50 |
| 39 | | | | | | | | | | | | 4420 | | | 3215 | 52 |
| 41 | | | | | | | | | | | | | | | | 54 |
| TOTAL CONNECTED LOAD | | | 227894 VA | | TOTAL CALCULATED DEMAND | | | | | | 226714 | | TOTAL CALCULATED AMPS | | | 273 |
| GENERAL NOTES: | | | | | | | | | | | | | | | KEY NOTES: | |
| 1. PROVIDE INTEGRAL SPD | | | | | | | | | | | | | | | * GFCl RATED BREAKER | |
| 2. 100% RATED MAIN BREAKER | | | | | | | | | | | | | | | ** PROVIDE HACR RATED BREAKER | |
| 3. | | | | | | | | | | | | | | | *** ISOLATED GROUND CIRCUIT | |

| PANELBOARD SCHEDULE | | | | NAME: 4B-ES | | CIRCUIT BREAKER: X | | | | MAIN RATING: 60 | | | | | | | |
|----------------------|--|--|--|-----------------------------|-------|-------------------------------|-----|------|----|-------------------|-----|-----------------------|------|------------------------|--|----|-----|
| | | | | LOCATION: ELECTRICAL RM 111 | | MAIN LUGS ONLY: | | | | VOLTAGE: 208Y/120 | | | | | | | |
| | | | | MOUNTING: SURFACE | | WIRES: 4 | | | | PHASE: 3 | | | | | | | |
| CKT | CIRCUIT DESCRIPTION | | | TRIP | POLES | A | | B | | C | | POLES | TRIP | CIRCUIT DESCRIPTION | | | CKT |
| 1 | L RMS 001 | | | 20 A | 1 | 356 | 291 | | | | | 1 | 20 A | L RM 107 | | | 2 |
| 3 | L RMS 101,103-2, 111, 113, 115-2 | | | 20 A | 1 | | | 403 | 81 | | | 1 | 20 A | L EXTERIOR | | | 4 |
| 5 | CLEAN AGENT CONTROL PANEL | | | 20 A | 1 | | | | | 1000 | 500 | 1 | 20 A | JOHNSON CONTROLS PANEL | | | 6 |
| 7 | EARLY WARNING AIR SAMPLING CONTROL PANEL 1 | | | 20 A | 1 | 1000 | 0 | | | | | 1 | 20 A | SPARE | | | 8 |
| 9 | EARLY WARNING AIR SAMPLING CONTROL PANEL 1 | | | 20 A | 1 | | | 1000 | 0 | | | 1 | 20 A | SPARE | | | 10 |
| 11 | PA SYSTEM EQUIPMENT | | | 20 A | 2 | | | | | 500 | 0 | 1 | 20 A | SPARE | | | 12 |
| 13 | | | | | | 500 | 0 | | | | | 1 | 20 A | SPARE | | | 14 |
| 15 | SPARE | | | 20 A | 1 | | | 0 | 0 | | | 1 | 20 A | SPARE | | | 16 |
| 17 | SPARE | | | 20 A | 1 | | | | | 0 | 0 | 1 | 20 A | SPARE | | | 18 |
| 19 | SPARE | | | 20 A | 1 | 0 | 0 | | | | | 1 | 20 A | SPARE | | | 20 |
| 21 | SPARE | | | 20 A | 1 | | | 0 | 0 | | | 1 | 20 A | SPARE | | | 22 |
| 23 | SPARE | | | 20 A | 1 | | | | | 0 | 0 | 1 | 20 A | SPARE | | | 24 |
| 25 | SPARE | | | 20 A | 1 | 0 | 0 | | | | | 1 | 20 A | SPARE | | | 26 |
| 27 | SPARE | | | 20 A | 1 | | | 0 | 0 | | | 1 | 20 A | SPARE | | | 28 |
| 29 | SPARE | | | 20 A | 1 | | | | | 0 | 0 | 1 | 20 A | SPARE | | | 30 |
| TOTAL CONNECTED LOAD | | | | 5631 VA | | TOTAL CALCULATED DEMAND | | | | 4545 | | TOTAL CALCULATED AMPS | | | | 13 | |
| GENERAL NOTES: | | | | | | KEY NOTES: | | | | | | | | | | | |
| 1. | | | | | | * GFCl RATED BREAKER | | | | | | | | | | | |
| 2. | | | | | | ** PROVIDE HACR RATED BREAKER | | | | | | | | | | | |
| 3. | | | | | | *** ISOLATED GROUND CIRCUIT | | | | | | | | | | | |

| PANELBOARD SCHEDULE | | NAME: 4B-EQ | | CIRCUIT BREAKER: X | | | | MAIN RATING: 200 | | | | | | | | | |
|------------------------|---|-----------------------------|--|--------------------|-------|-------------------------|------|-------------------|------|-------|------|-----------------------|------|--------------------------------|--|-------------------------------|--|
| | | LOCATION: ELECTRICAL RM 111 | | MAIN LUGS ONLY: | | | | VOLTAGE: 208Y/120 | | | | | | | | | |
| | | MOUNTING: SURFACE | | WIRES: 4 | | | | PHASE: 3 | | | | | | | | | |
| CKT | CIRCUIT DESCRIPTION | | | TRIP | POLES | A | | B | | C | | POLES | TRIP | CIRCUIT DESCRIPTION | | CKT | |
| 1 | R RM 6 | | | 20 A | 1 | 720 | 360 | | | | | 1 | 20 A | R RM 113.002, 105 | | 2 | |
| 3 | R RM 16 | | | 20 A | 1 | | | 360 | 360 | | | 1 | 20 A | R RM 4 | | 4 | |
| 5 | MECHANICAL ROOM 002 HW AND GLYCOL PUMPS | | | 20 A | 1 | | | | | 1000 | 360 | 1 | 20 A | R RM 16 | | 6 | |
| 7 | SUMP PUMP SP-1 | | | 20 A | 1 | 1000 | 360 | | | | | 1 | 20 A | R RM 16 | | 8 | |
| 9 | SUMP PUMP SP-1 | | | 20 A | 1 | | | 1000 | 200 | | | 1 | 20 A | UH-1 | | 10 | |
| 11 | R RMS 002, 003, 004 | | | 20 A | 1 | | | | | 540 | 440 | 1 | 20 A | L RMS 107, 109 | | 12 | |
| 13 | DOOR ELECTRIC STRIKES | | | 20 A | 1 | 500 | 180 | | | | | 1 | 20 A | RM 003 CENTURYLINK EQUIPMENT | | 14 | |
| 15 | SECURITY CONTROL | | | 20 A | 1 | | | 500 | 0 | | | 1 | 20 A | SPARE | | 16 | |
| 17 | SPARE | | | 20 A | 1 | | | | | 0 | 0 | 1 | 20 A | SPARE | | 18 | |
| 19 | SPARE | | | 20 A | 1 | 0 | 0 | | | | | 1 | 20 A | SPARE | | 20 | |
| 21 | SPARE | | | 20 A | 1 | | | 0 | 2080 | | | 2 | 25 A | DC POWER CONVERTER RECTIFIER 1 | | 22 | |
| 23 | SPARE | | | 20 A | 1 | | | | | 0 | 2080 | | | | | 24 | |
| 25 | SPARE | | | 20 A | 1 | 0 | 2080 | | | | | 2 | 25 A | DC POWER CONVERTER RECTIFIER 1 | | 26 | |
| 27 | SPARE | | | 20 A | 1 | | | 0 | 2080 | | | | | | | 28 | |
| 29 | SPARE | | | 20 A | 1 | | | | | 0 | 2080 | 2 | 25 A | DC POWER CONVERTER RECTIFIER 1 | | 30 | |
| 31 | SPARE | | | 20 A | 1 | 0 | 2080 | | | | | | | | | 32 | |
| 33 | SPARE | | | 20 A | 1 | | | 0 | 0 | | | 1 | 20 A | SPARE | | 34 | |
| 35 | SPARE | | | 20 A | 1 | | | | | 0 | 0 | 1 | 20 A | SPARE | | 36 | |
| 37 | SPARE | | | 20 A | 1 | 0 | 0 | | | | | 1 | 20 A | SPARE | | 38 | |
| 39 | SPARE | | | 20 A | 1 | | | 0 | 0 | | | 1 | 20 A | SPARE | | 40 | |
| 41 | SPARE | | | 20 A | 1 | | | | | 0 | 0 | 1 | 20 A | SPARE | | 42 | |
| TOTAL CONNECTED LOAD | | | | 20360 VA | | TOTAL CALCULATED DEMAND | | | | 19320 | | TOTAL CALCULATED AMPS | | | | 53 | |
| GENERAL NOTES: | | | | | | | | | | | | | | | | KEY NOTES: | |
| 1. | | | | | | | | | | | | | | | | * GFCl RATED BREAKER | |
| 2. | | | | | | | | | | | | | | | | ** PROVIDE HACR RATED BREAKER | |
| 3. | | | | | | | | | | | | | | | | *** ISOLATED GROUND CIRCUIT | |

CONSTRUCTION DOCUMENTS 100%

No

REVISION

DATE

VA FORM 08-6231

Design Tree

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MINNESOTA.

ANNEX K: Mueller, PE

DATE: 12/03/14

REG. NO.

MIN 63184

DRAWING TITLE

ELECTRICAL SCHEDULES

PROJECT TITLE

CONSTRUCT NEW IT CENTER
FOR HEALTH CARE
TECHNOLOGY MANAGEMENT
EXPANSION

BUILDING No

NEW IT

DRAWN BY

RSB

CHECKED BY

ARM

DATE

12/03/14

LOCATION

ST. CLOUD VA HCS
ST. CLOUD, MN 56303

DRAWING NO.

E902

DATE

12.03.14

PROJECT NO.

656-13-240

AS NOTED

ST. Cloud VA

Health Care System

Brainerd | Montevideo | Alexandria