



ISSUE
01/29/12 ISSUED FOR PERMIT
02/16/12 ISSUE FOR BID

SPECIFICATIONS

- GENERAL**
- ENERGY ALL DIMENSIONS AT THE JOB SITE AND FROM THE ARCHITECTURAL PLANS.
- UNLESS OTHERWISE NOTED, CONTRACTOR AND SUBCONTRACTOR SHALL PAY FOR ALL PERMITS AND CHARGES REQUIRED AND SHALL COMPLY WITH ALL GOVERNING CODES AND ORDINANCES.
- VISING THE SITE, EACH BIDDER SHALL VISIT THE SITE OF THE PROPOSED WORK AND SHALL FULLY INFORM HIMSELF REGARDING THE FACILITIES, NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR WORK OR MATERIAL OBTAINED FROM THE BIDDER'S CONTRACT PROPOSAL DUE TO HIS FAILURE TO SO INFORM HIMSELF BY SUCH INVESTIGATION.
- ALL CHANNING AND PATCHING OF ROOF, FLOOR, CEILING AND WALLS SHALL BE GENERAL CONTRACTOR.
- CONTRACTOR TO PROVIDE RECORD DRAWINGS TO OWNER.
- FURNISH AND INSTALL A COMPLETE ELECTRICAL SYSTEM AS INDICATED ON PLANS. ELECTRICAL CONTRACTOR TO MAKE ALL FINAL CONNECTIONS TO ALL EQUIPMENT. MATERIAL SHALL BE AS FOLLOWS:
 - CONDUIT:**
 - ALL ELECTRICAL CONDUCTORS SHALL BE INSTALLED IN CONDUIT COMPARING WITH THE NATIONAL ELECTRICAL CODE. WHERE SHOWN OTHERWISE FROM PLANS, ALL CONDUIT SHALL BE GALVANIZED RIGID STEEL. WHERE RIGID STEEL CONDUIT IS NOT REQUIRED, CONDUCTORS SHALL BE INSTALLED IN ELECTRICAL METALLIC TUBING WITH ELECTRO-GALVANIZING OUT SIZE AND ENAMEL INSIDE. TUBING SHALL BE BY TRIANGLE OR AN BE USED AT ALL MOTOR CONNECTIONS, OR WHERE MOVEMENT/VIBRATION IS A CONCERN, UNLESS NOTED OTHERWISE FLEXIBLE METAL CONDUIT MAY BE USED ONLY FOR CONNECTION TO LIGHTING FIXTURES, IN LENGTHS NOT TO EXCEED 6 (SIX) FEET. MINIMUM CONDUIT SIZE SHALL BE 1/2 INCH. CONDUIT/ TUBING SHALL BE FOR FLEXIBLE METAL CONDUIT SHALL BE 1/2 INCH. CONDUIT/ TUBING OR TILL SHALL CONFORM TO NATIONAL ELECTRICAL CODE, LATEST EDITION.
 - CARLON PVC TYPE RSH 40 HEAVY WALL CONDUIT WITH GROUND WIRE MAY BE USED BELOW FLOOR SLAB OR UNDERGROUND IN USE OF RIGID, THREADED, GALVANIZED CONDUIT. PVC SCH. 40 CONDUIT SHALL NOT BE RUN IN OR ABOVE FLOOR SLAB, OR IN TILT WALL PANELS. PVC CONDUIT SHALL REMAIN BELOW FLOOR SLAB WITH RIGID, THREADED METAL CONDUIT ABOVE FLOOR. CONDUIT ABOVE SLAB SHALL BE METAL.
 - A GROUND CONDUCTOR SHALL BE SUPPLIED IN NONMETALLIC CONDUIT OR E.M.T. UTILIZING SET SCREW TYPE CONNECTORS. THE GROUND CONDUCTOR SHALL BE BARE, STRANDED, ANNEALED COPPER.
 - CONDUIT TO BE SUPPORTED FROM JOIST, PROVIDED HANGERS, SUPPORTS AND FASTENINGS AS REQUIRED BY NATIONAL ELECTRICAL CODE DO NOT SUPPORT FROM ROOF DECK.
 - CONDUIT FITTINGS:**
 - ALL CONDUIT FITTINGS SHALL BE STEEL, SET SCREW OR COMPRESSION TYPE, INSULATED THROAT, UL LISTED. FITTINGS SHALL BE AS MANUFACTURED BY APPELTON ELECTRIC, OZ GEDNEY CO., ARROW CONDUIT AND FITTINGS CORP., OR EQUAL.
 - CONDUCTORS:**
 - ALL CONDUCTORS SHALL BE COPPER. EACH CONDUCTOR SHALL BE CONTINUOUS WITHOUT WELD, SPLICED OR JOINT. THROUSHOUS LENGTH, ALL CONDUCTORS SHALL BE INSULATED TO THE FULL VOLTAGE RATED TYPE "THINW" INSULATION. WIRE #8 AWG AND SMALLER SHALL HAVE DUAL RATED TYPE "THIN/THIN" INSULATION. MINIMUM WIRE SIZE, EXCEPT FOR CONTROL WIRING, SHALL BE #12 AWG. ALL WIRING INSIDE LIGHTING FIXTURES SHALL BE TEMPERATURE RATED PER THE N.E.C. - 90 DEGREES C MINIMUM. ALL WIRING INSIDE LIGHTING FIXTURES SHALL BE TEMPERATURE RATED FOR 90 DEGREES C.
 - DATA/TELEPHONE/CATV/CABLING:**
 - ALL WIRING ABOVE CEILING SHALL BE PLUMB RATED OR INSTALLED IN CONDUIT. CONTRACTOR TO PROVIDE WIRING FROM EACH DEVICE TO PLYWOOD BACKBOARD LOCATED IN KITCHEN.
 - DATA CABLE SHALL BE CAT5 OR BETTER.
 - TELEPHONE CABLE SHALL BE CAT3 OR BETTER.
 - ANY CABLE SHALL BE 60-94K.
 - WIRING DEVICES:**
 - 1. ALL WIRING DEVICES TO BE "LENTON" DECORA SERIES. THIS INCLUDES SWITCHES, DIMMERS, RECEPTACLES, AND TELEPHONE/DATA OUTLETS.
 - 2. ALL ISOLATED GROUND RECEPTACLES SHALL BE ORANGE 16-5-20R*.
 - 3. ALL OTHERS TO BE GREY 5-20R*.
 - 4. ALL COVERPLATES TO BE "LENTON" DECORA SERIES WITH STAINLESS-STEEL FINISH. (VERIFY EVERY DEVICE AND COVERPLATE FINISH ON THIS PROJECT WITH OWNER.)
 - LIGHTING PANELBOARDS:**
 - 1. 120/208V, 3-PHASE, 4-WIRE, 120/240V, 1-PHASE, 3-WIRE OR 277/480V, 3-PHASE, 4-WIRE; FORMS AND INSTALL AS SHOWN ON PLANS. LIGHTING PANELBOARDS SHALL BE MOUNTED ON STEEL OR PLYWOOD BACKBOARD OR OTHER APPROVED SUPPORT. APPROVED SUPPORT SHALL BE IDENTIFIED FOR EXISTING PANELBOARDS SHALL BE OF THE MATCHING THE EXISTING BREAKERS.
 - 2. PROVIDE TYPED DIRECTORY CARDS UNDER PLASTIC ON ALL DOORS OR PANELS.
 - SAFETY SWITCHES:**
 - SAFETY SWITCHES SHALL BE FINISHED AND INSTALLED AT ALL LOCATIONS INDICATED ON PLANS OR REQUIRED BY THE NATIONAL ELECTRICAL CODE. ALL SWITCHES SHALL BE HEAVY DUTY TYPE AND SHALL HAVE CLIPS FOR REJECTION TYPE FUSES AND SHALL BE BY SQUARE D®, G.E. OR EQUAL. FOR THE WIRING AND LOAD INVOLVED, PROVIDE A COMPLETE LIST OF ALL SAFETY SWITCHES TO BE INSTALLED ON THIS PROJECT (BUSMAN "LOW PEAK" FOR CIRCUITS UP TO 600 AMPS AND CLASS 1 (BUSMAN "H-QP" KRP-C) FOR CIRCUITS ABOVE 600 AMPS.

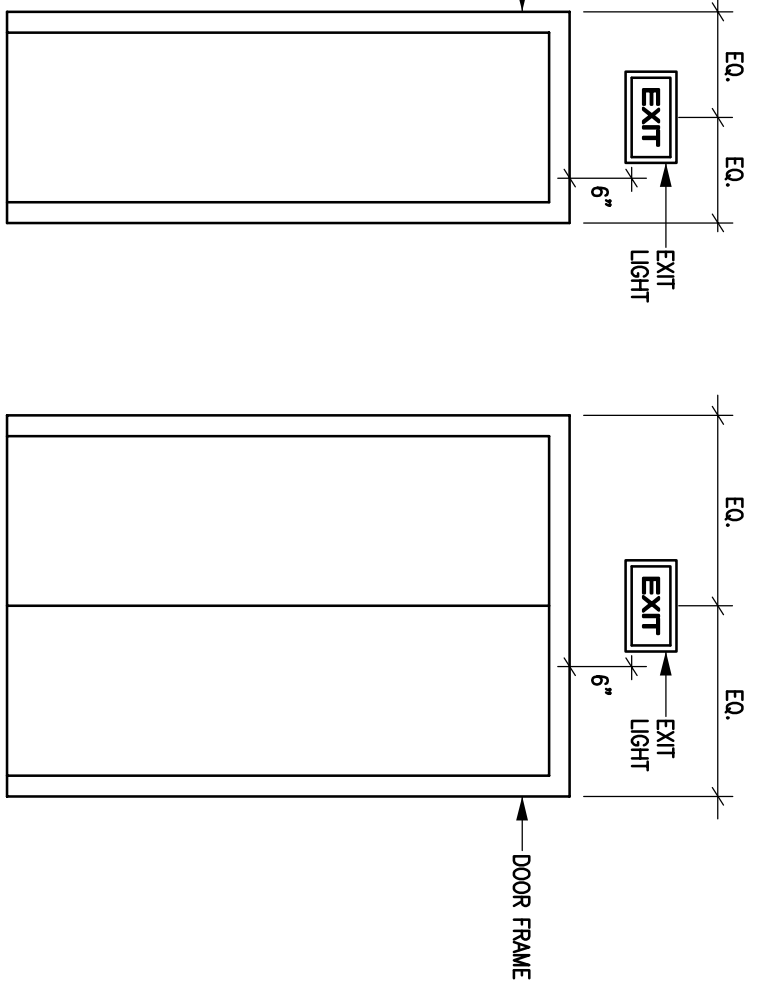
SYMBOL LEGEND

SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
⬢	FLUORESCENT FIXTURE ON EMERGENCY CIRCUIT
○	DOWNLIGHT FIXTURE
○	LIGHT FIXTURE - WALL MOUNTED
⊙	DOWNLIGHT FIXTURE ON EMERGENCY CIRCUIT
⊗	LIGHT FIXTURE - WALL MOUNTED ON EMERGENCY CIRCUIT
⊗	EXIT LIGHT-CEILING MTD WITH DIRECTIONAL ARROWS AS REQUIRED
⊗	EXIT LIGHT-WALL MTD WITH DIRECTIONAL ARROWS AS REQUIRED
⊗	EMERGENCY LIGHTING UNIT EQUIPMENT
\$	SINGLE POLE SWITCH
\$2	2-POLE SWITCH
\$3	3-WAY SWITCH
\$PL	PILOT LIGHT SWITCH
⊖	RECEPTACLES AND OUTLETS
⊖	DOUBLE DUPLEX IN 2-GANG BOX WITH SINGLE COVER PLATE
⊖	DOUBLE DUPLEX ISOLATED GROUND IN 2-GANG BOX WITH SINGLE COVER PLATE
⊖	ISOLATED GROUND DUPLEX RECEPTACLE
⊖	JUNCTION BOX
⊖	DOUBLE DUPLEX GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE IN 2-GANG BOX WITH SINGLE COVER PLATE
⊖	FLUSH FLOOR JUNCTION BOX
⊖	TELEPHONE OUTLET, 1-GANG BOX WITH TELEPHONE (CAT3) WIRING TO TELEPHONE TERMINAL BOARD AND R111 OUTLET.
⊖	TELEPHONE/DATA OUTLET, 1-GANG BOX WITH TELEPHONE (CAT3) AND DATA (CAT5E) WIRING WITH R111 OUTLET FOR TELEPHONE AND RJ45 OUTLET FOR DATA.
⊖	MOTOR CONTROLLERS AND EQUIPMENT
⊖	MOTOR, MAKE FINAL MOTOR CONNECTION
⊖	DISCONNECT SWITCH AS REQUIRED
⊖	MANUAL MOTOR SWITCH AS REQUIRED
\$M	ELECTRICAL EQUIPMENT
⊖	277/480 VOLT DISTRIBUTION OR PANELBOARD
⊖	120/208 VOLT PANELBOARD
⊖	TELEPHONE CABINET
⊖	PLYWOOD TELEPHONE BACKBOARD
⊖	DRY TYPE TRANSFORMER
⊖	CONDUIT
⊖	CONDUIT IN/OR BELOW FLOOR, SLAB, OR GRADE
⊖	3/4"Ø, UNLESS OTHERWISE NOTED, LONG HATCH, NEUTRAL, SHORT HATCH, PHASE; "Z" HATCH, INSULATED GROUND. NO HATCHES INDICATES 2 CONDUCTORS. ARROW INDICATES HOWEVER.
⊖	PARTIAL ELECTRICAL HOME RUN
⊖	SUBSCRIPTS AND ABBREVIATIONS
•	NEXT TO ANY SYMBOL INDICATES FINAL, ROUGH-IN FIELD COORDINATION BY CONTRACTOR WITH ARCHITECTURAL MILLWORK DRAWINGS AND OTHER TRADES
•	GENERAL NOTE: ALL EXTERIOR BUILDING ELECTRICAL EQUIPMENT TO BE WEATHERPROOF NEMA-3R MINIMUM UNLESS NOTED OTHERWISE.

NOTE:
WHITE PLASTIC NAMEPLATE WITH ENGRAVED BLACK LETTERING FOR ELECTRICAL EQUIPMENT. SECURELY ATTACH NAMEPLATE TO EQUIPMENT USING SCREWS. THE USE OF "STICK-ON" NAMEPLATES SHALL NOT BE PERMITTED.

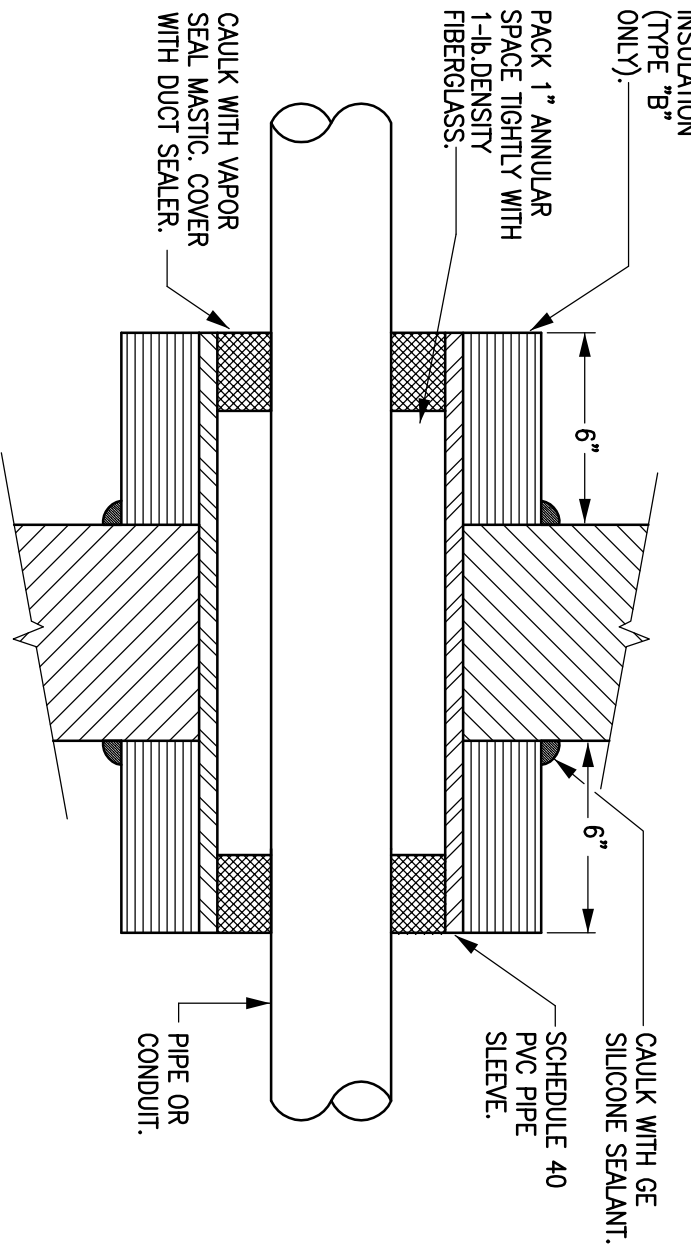
3 TYPICAL EXIT SIGN LOCATION

SCALE: NOT TO SCALE



5 CONDUIT SEALANT THRU EXTERIOR WALLS DETAIL

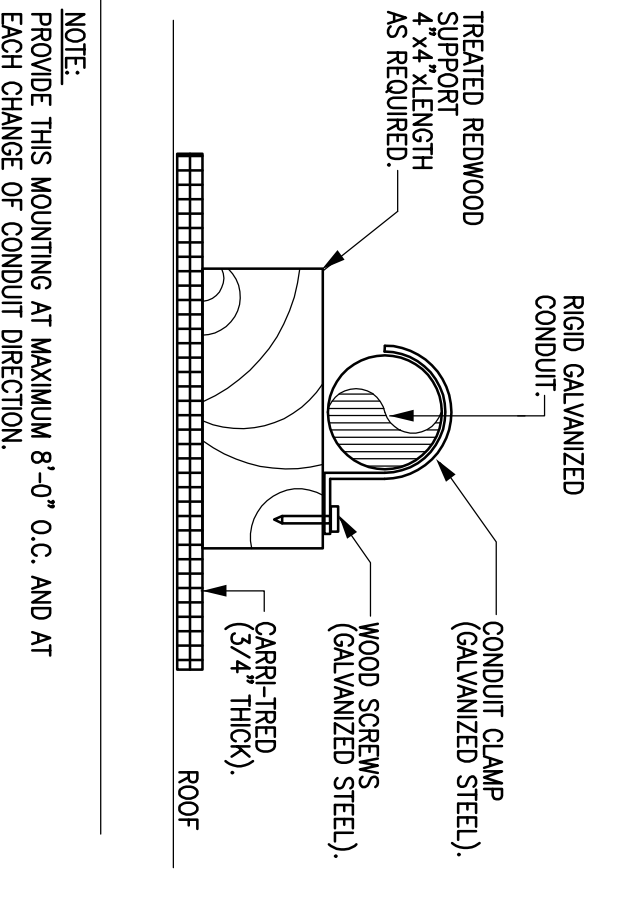
SCALE: NOT TO SCALE



- NOTES:
1. TYPICAL TREATMENT FOR PLUMBING
2. SIZE SLEEVE TO ACCEPT CONDUIT

6 CONDUIT SUPPORT ON ROOF DETAIL

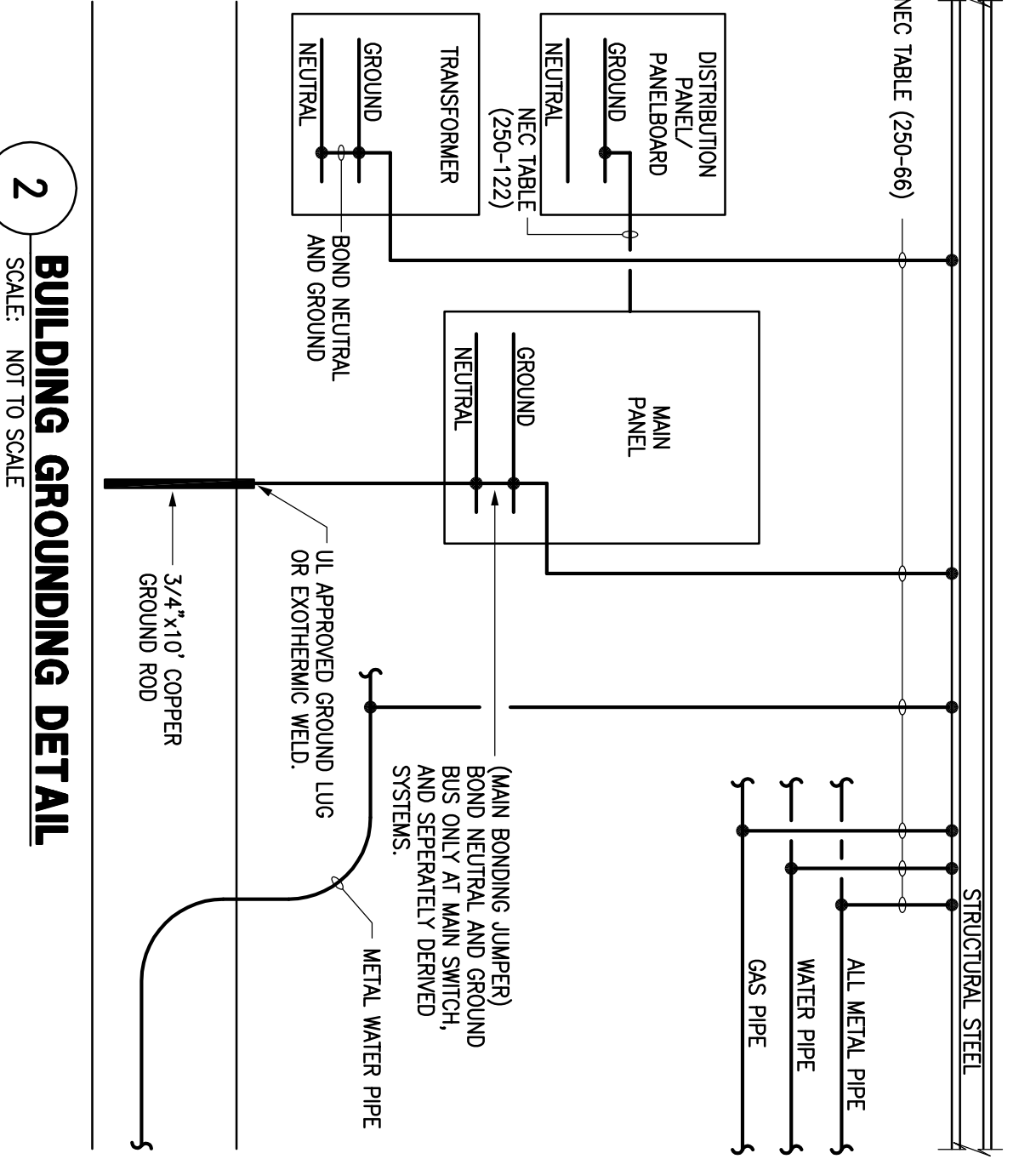
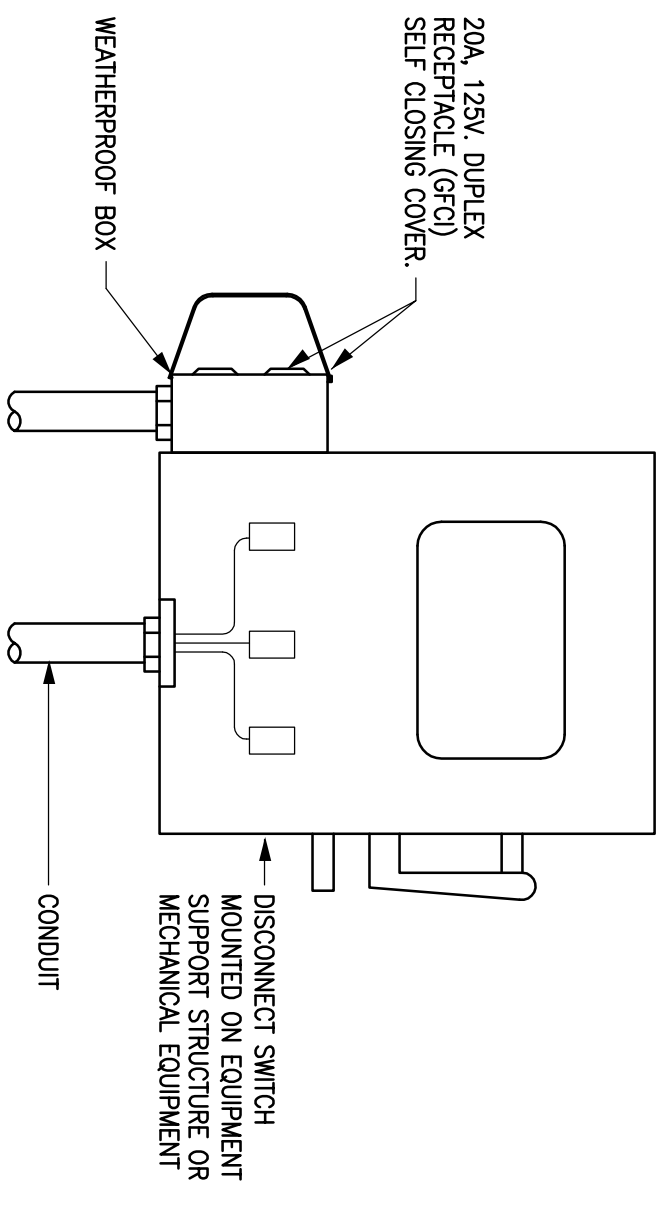
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NOTE:
PROVIDE THIS MOUNTING AT MAXIMUM 8'-0" O.C. AND AT EACH CHANGE OF CONDUIT DIRECTION.

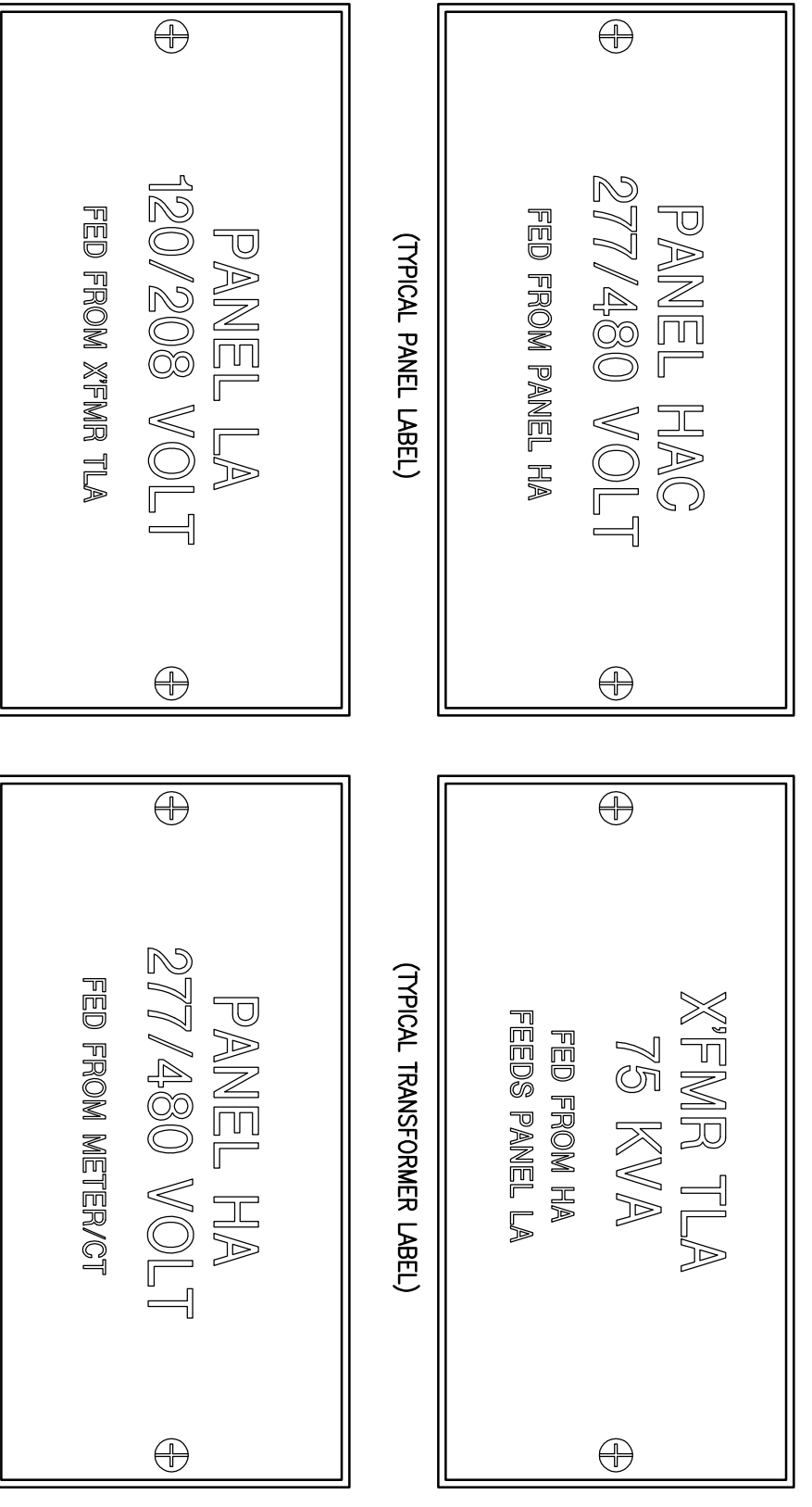
4 ROOF MOUNTED RECEPTACLE DETAIL

SCALE: NOT TO SCALE



2 BUILDING GROUNDING DETAIL

SCALE: NOT TO SCALE



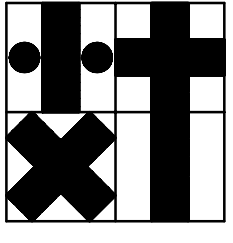
1 EQUIPMENT LABELING DETAIL

SCALE: NOT TO SCALE

PROJECT NUMBER
11078
SHEET NAME
ELECTRICAL
DETAILS & SPECS
SHEET NUMBER

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