



- GENERAL NOTES**
- CONDUIT RISERS IN UTILITY TRANSFORMER SHALL NOT HAVE BONDING BUSHINGS AND SHALL NOT BE BONDED TO TRANSFORMER ENCLOSURE.
 - SIZE ALL CONDUCTORS AS APPROPRIATE FOR THE DESIGN. EQUIPMENT IDENTIFICATION PROVIDED AS EXAMPLES ONLY. EDIT IDENTIFICATION TO MATCH THE DESIGN.

- KEYED NOTES**
- INSTALL MAIN BONDING JUMPER PER NEC 250.24
 - INSTALL SYSTEM BONDING JUMPER PER NEC 250.30
 - INSTALL SUPPLY SIDE BONDING JUMPER PER NEC 250.102
 - INSTALL EQUIPMENT GROUNDING CONDUCTOR
 - INSTALL GROUNDING ELECTRODE CONDUCTOR PER NEC 250.66
 - BOND TO METAL PIPING SYSTEMS AND/OR STRUCTURAL METAL NEC PER 250.104
 - INSTALL JUMPER ONLY IF UNLISTED GROUND BAR IS FIELD INSTALLED.
 - INSTALL CONCRETE ENCASED ELECTRODE WHERE AVAILABLE.
 - INSTALL COPPER GROUND BAR. LOCATE IN AN ACCESSIBLE AND VISIBLE POINT NEAR THE SERVICE. MAKE CONNECTIONS USING TWO-HOLE COMPRESSION LUGS. LABEL EACH CONNECTION.
 - UTILITY TRANSFORMER BY LANL UTILITIES. SERVICE POINT IS AT SECONDARY LUGS OF TRANSFORMER UNLESS SPECIFIED OTHERWISE BY LANL-UI.
 - INSTALL COPPER BAR IF SPECIFIED ON PLAN DRAWING.
 - TYPICAL FOR EACH SEPARATELY DERIVED SYSTEM IN THE DESIGN.
 - SERVICE NEUTRAL, THIS CONDUCTOR IS PART OF THE EFFECTIVE GROUND-FAULT CURRENT PATH TO THE UTILITY TRANSFORMER. AS SUCH, IT MUST BE NO SMALLER THAN THE SIZE INDICATED IN TABLE 250.102(C)(1).
 - THE ONLY CONDUCTORS BETWEEN THE UTILITY TRANSFORMER AND THE SERVICE EQUIPMENT ARE THE PHASE AND NEUTRAL CONDUCTORS. SUPPLY SIDE BONDING JUMPERS SHALL NOT BE RUN WITH THESE CONDUCTORS.

DESIGNER:
 EDIT THIS DRAWING AND ASSOCIATED KEYED NOTES FOR THE PROJECT. THE DESIGNER SHALL SIZE ALL GROUNDING ELECTRODE CONDUCTORS, MAIN BONDING JUMPERS, SYSTEM BONDING JUMPERS, SUPPLY SIDE BONDING JUMPERS, AND EQUIPMENT GROUNDING CONDUCTORS.

GROUNDING AND BONDING SYSTEM DIAGRAM
 SCALE: NONE

DRAWING DEVELOPED FOR ML-3/ML-4 PROJECTS. FOR ML-1/ML-2, ADDITIONAL REQUIREMENTS AND QA REVIEWS ARE REQUIRED. (REMOVE THIS NOTE WHEN INSERTED INTO A DRAWING PACKAGE).

CONCEPTUAL
 NOT FOR CONSTRUCTION

LBO-DESIGN PACKAGE REVIEWER	N/A	Posted 9/20/2023	
APPROVED FOR RELEASE	FOR	3	NEW TITLE BLOCK, UPDATED INSTRUCTIONS, UPDATED NEC REFS, EXPANDED EXAMPLE, CHGD DRWG # (FORMERLY ST-D5010-1)
SUBMITTED	E. STROMBERG	2	NEW TITLE BLOCK, UPDATED INSTRUCTIONS, UPDATED NEC REFERENCES, CLARIFIED BONDING
DESIGNED	V. MIODRAG	1	NEW DRAWING NO., CORRECTED LAYERS, UPDATED NEC REF. REPLACES ST-7003
DRAWN	L. VALDEZ	0	INITIAL ISSUE FOR [DCF/DRN #]
CLASSIFICATION	D. SMITH	NO	REVISION DESCRIPTION DATE

ENGINEERING STANDARDS

ELECTRICAL

GROUNDING AND BONDING SYSTEM DIAGRAM

TA-XX BLDG-XXXX

SHEET **E-1**

1 OF **1**

PROJECT ID **CHAPTER 7** DRAWING NO **EX-D5010-1** REV **3**