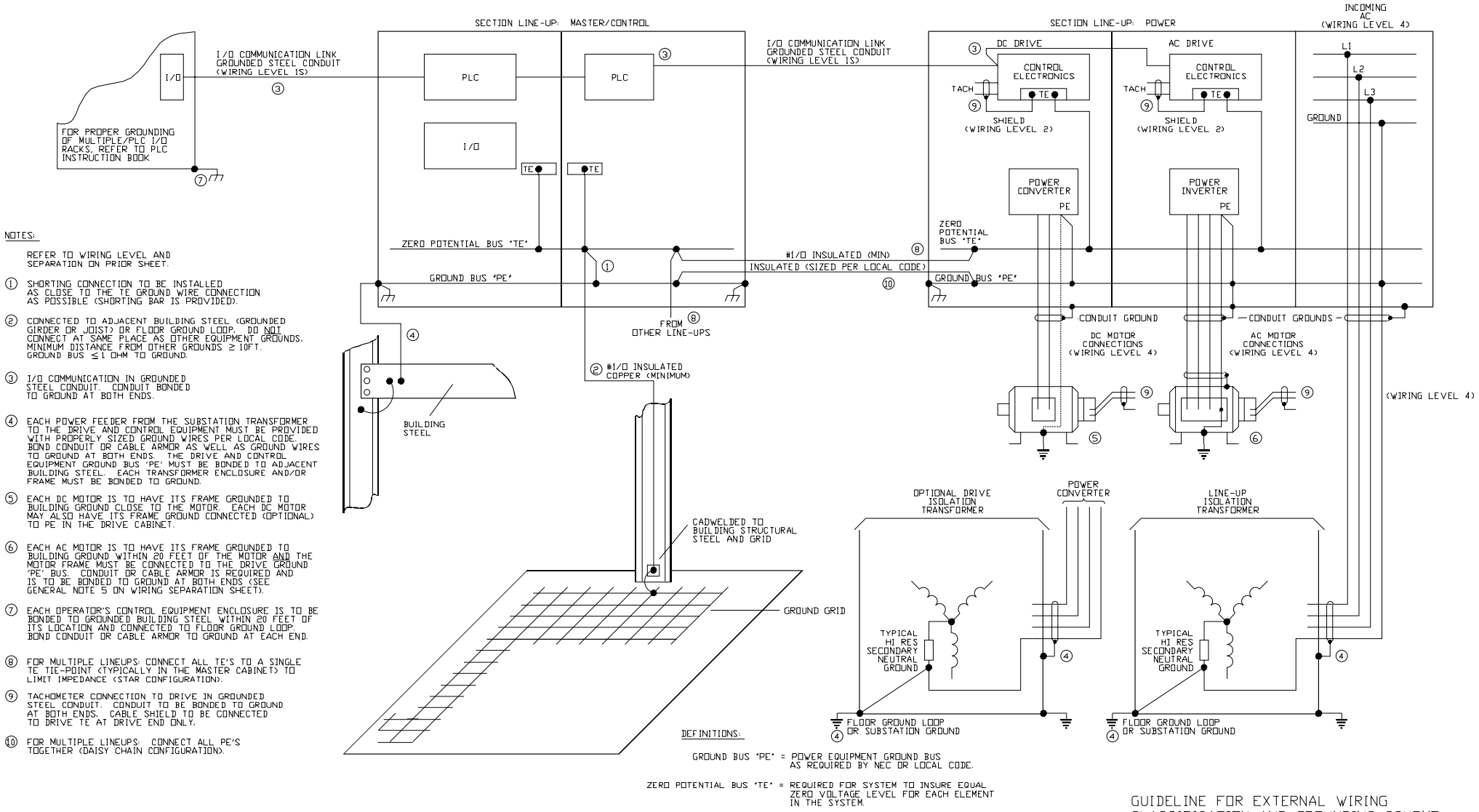


RECOMMENDED TYPICAL DRIVE SYSTEM GROUNDING SCHEME

CAUTION: LOCAL CODES MAY OVERRIDE THESE RECOMMENDATIONS



- NOTES:**
- REFER TO WIRING LEVEL AND SEPARATION ON PRIOR SHEET.
 - ① SHORTING CONNECTION TO BE INSTALLED AS CLOSE TO THE TE GROUND WIRE CONNECTION AS POSSIBLE (SHORTING BAR IS PROVIDED).
 - ② CONNECTED TO ADJACENT BUILDING STEEL (GROUNDED GIRDER OR JOIST) OR FLOOR GROUND LOOP. DO NOT CONNECT AT SAME PLACE AS OTHER EQUIPMENT GROUNDS. MINIMUM DISTANCE FROM OTHER GROUNDS ≥ 10FT. GROUND BUS ≤ 1 CM TO GROUND.
 - ③ I/O COMMUNICATION IN GROUNDED STEEL CONDUIT. CONDUIT BONDED TO GROUND AT BOTH ENDS.
 - ④ EACH POWER FEEDER FROM THE SUBSTATION TRANSFORMER TO THE DRIVE AND CONTROL EQUIPMENT MUST BE PROVIDED WITH PROPERLY SIZED GROUND WIRES PER LOCAL CODE. BOND CONDUIT OR CABLE ARMOR AS WELL AS GROUND WIRES TO GROUND AT BOTH ENDS. THE DRIVE AND CONTROL EQUIPMENT GROUND BUS 'PE' MUST BE BONDED TO ADJACENT BUILDING STEEL. EACH TRANSFORMER ENCLOSURE AND/OR FRAME MUST BE BONDED TO GROUND.
 - ⑤ EACH DC MOTOR IS TO HAVE ITS FRAME GROUNDED TO BUILDING GROUND CLOSE TO THE MOTOR. EACH DC MOTOR MAY ALSO HAVE ITS FRAME GROUND CONNECTED (OPTIONAL) TO PE IN THE DRIVE CABINET.
 - ⑥ EACH AC MOTOR IS TO HAVE ITS FRAME GROUNDED TO BUILDING GROUND WITHIN 20 FEET OF THE MOTOR AND THE MOTOR FRAME MUST BE CONNECTED TO THE DRIVE GROUND 'PE' BUS. CONDUIT OR CABLE ARMOR IS REQUIRED AND IS TO BE BONDED TO GROUND AT BOTH ENDS (SEE GENERAL NOTE 5 ON WIRING SEPARATION SHEET).
 - ⑦ EACH OPERATOR'S CONTROL EQUIPMENT ENCLOSURE IS TO BE BONDED TO GROUNDED BUILDING STEEL WITHIN 20 FEET OF ITS LOCATION AND CONNECTED TO FLOOR GROUND LOOP. BOND CONDUIT OR CABLE ARMOR TO GROUND AT EACH END.
 - ⑧ FOR MULTIPLE LINEUPS, CONNECT ALL TE'S TO A SINGLE TE TIE-POINT (TYPICALLY IN THE MASTER CABINET) TO LIMIT IMPEDANCE (STAR CONFIGURATION).
 - ⑨ TACHOMETER CONNECTION TO DRIVE IN GROUNDED STEEL CONDUIT. CONDUIT TO BE BONDED TO GROUND AT BOTH ENDS. CABLE SHIELD TO BE CONNECTED TO DRIVE TE AT DRIVE END ONLY.
 - ⑩ FOR MULTIPLE LINEUPS, CONNECT ALL PE'S TOGETHER (DAISY CHAIN CONFIGURATION).

DEFINITIONS:

GROUND BUS 'PE' = POWER EQUIPMENT GROUND BUS AS REQUIRED BY NEC OR LOCAL CODE.

ZERO POTENTIAL BUS 'TE' = REQUIRED FOR SYSTEM TO INSURE EQUAL ZERO VOLTAGE LEVEL FOR EACH ELEMENT IN THE SYSTEM.

GUIDELINE FOR EXTERNAL WIRING CLASSIFICATION AND GROUNDING SCHEME FOR DRIVE SYSTEMS