1 References
1.1 NFPA 70 National Electric Code
1.2 IEEE C2 National Electric Safety Code
1.3 ANSI C57.12.28 American National Standard for Switchgear and Transformers – Pad-Mounted Equipment – Enclosure Integrity
1.4 ANSI C57.12.70 American National Standard Terminal Markings and Connections for Distribution and Power Transformers
1.5 IEEE C57.12.00 General Requirements for Liquid-Immersed Distribution, Power, and Regulating Transformers
1.6 IEEE C57.12.26 Pad-Mounted, Compartmental-Type, Self-Cooled, Three-Phase Distribution Transformers for Use with Separable Insulated High-Voltage Connectors

2 Load Interrupter Switchgear
2.1 The quality of components is to be that represented by S & C Electric Co.

3 General Requirements
3.1 Voltage
   • 12.47 KV Primary system voltage
   • 2400 V Primary system voltage
3.2 Building transformers are typically unit substation type in a vault flange connected to the primary switchgear and throat / busway connected to the secondary switchgear. There may also be a Specialty Unit Substation Class type for some applications in smaller vaults or where space is limited.
3.3 Pad-mounted transformers are typically for small services (<501 KVA) and at locations at campus perimeter. Pad-mount transformers may also be used in other applications with owner approval.
3.4 Sample Specifications can be provided for Liquid Filled Unit Sub-Station Transformers and Pad Mount Liquid Filled Transformers

4 Grounding
4.1 The transformer shall have a 4/0 copper 600 v insulated green colored grounding conductor installed between the Xo bushing and a grounding pad.

4.2 The transformer shall have the two diagonally opposing ground pads connected by separate 4/0 bare copper conductors through PVC conduit sleeves inserted through the foundation pads to the grounding grid.
4.3 All grounding connections shall be copper, 2-hole, compression lugs.
4.4 The neutral (X0) terminal shall have a neutral termination spade capable of accepting an additional number of ANSI two-hole lugs than the phase terminals spades. This additional termination space is for accepting the grounding electrode conductor, a supplemental system bonding jumper and multiple equipment grounding conductors. Additional cable supports shall be provided when applicable to relieve pressure from the transformer phase and neutral bushings. The engineer of record shall determine the additional number of ANSI two-hole lugs required and increase the size of the neutral termination spade accordingly.

5 Testing
5.1 Immediately prior to energization, a competent testing firm that is well versed in electrical equipment testing shall test the transformer.
5.2 The transformer shall have the following tests performed:
   • Megger
   • Hi-Pot
   • TTR