

## **1. PART 1 – GENERAL**

### **1.1 References**

- .1 Quebec Construction Code – Chapter V - Electricity.

## **2. PART 2 – PRODUCTS**

### **2.1 Equipment**

- .1 Clamps for grounding of conductor: size as indicated to electrically conductive underground water pipe.
- .2 Grounding conductors: bare stranded copper, tinned, soft annealed, size as indicated.
- .3 Insulated grounding conductors: green, type RW.
- .4 Ground bus: copper, size as indicated, complete with insulated supports, fastenings, connectors.
- .5 Non corroding accessories necessary for grounding system, type, size, material as indicated, including but not necessarily limited to:
  - .1 Grounding and bonding bushings.
  - .2 Protective type clamps.
  - .3 Bolted type conductor connectors.
  - .4 Thermit welded type conductor connectors.
  - .5 Bonding jumpers, straps.
  - .6 Pressure wire connectors.

## **3. PART 3 – EXECUTION**

### **3.1 Installation – General**

- .1 Install complete permanent, continuous grounding system including electrodes, conductors, connectors, accessories. Where EMT is used, run ground wire in conduit.
- .2 Install connectors in accordance with manufacturer's instructions.
- .3 Protect exposed grounding conductors from mechanical injury.
- .4 Use mechanical connectors for grounding connections to equipment provided with lugs.
- .5 Soldered joints not permitted.
- .6 Install bonding wire for flexible conduit, connected at both ends to grounding bushing, solderless lug, clamp or cup washer and screw with Belleville ring.
- .7 Install flexible ground straps for bus duct enclosure joints, where such bonding is not inherently provided with equipment.
- .8 Make grounding connections in radial configuration only, with connections terminating at one point only at street side of water pipe. Avoid loop connections.
- .9 Ground secondary service pedestals.

### **3.2 System and circuit grounding**

- .1 Install system and circuit grounding connections to neutral of primary 347/600 V system, secondary 120/208 V system.

### 3.3 Equipment grounding

- .1 Install grounding connections to typical equipment included in, but not necessarily limited to following list. Service equipment, transformers, duct systems, frames of motors, motor control centres, starters, control panels, distribution panels, outdoor lighting.

### 3.4 Grounding bus

- .1 Install copper grounding bus mounted on insulated supports on wall of electrical room.
- .2 Ground items of electrical equipment in electrical room to ground bus with individual bare stranded copper connections size to drawings.

### 3.5 Field Quality Control

- .1 Perform tests in accordance with Section 260500E – Common Work Results for Electrical.
- .2 Perform ground continuity and resistance tests using method appropriate to site conditions and to approval of local authority having jurisdiction over installation.
- .3 Perform tests before energizing electrical system.
- .4 Disconnect ground fault indicator during tests.