

## **PART 1 - GENERAL**

### **1.1 RELATED REQUIREMENTS**

- .1 Section 26 05 34 - Conduits, Conduits fastenings and conduit fittings.

### **1.2 REFERENCES**

- .1 CSA C22.2 No. 45.1-07(R2012), Electrical Metal Conduit - Steel.
- .2 CSA C22.2 No. 211.2-06(R2011), Rigid PVC (Unplasticized) Conduit.

### **1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
  - .1 Submit manufacturer's printed product literature, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.

### **1.4 QUALITY ASSURANCE**

- .1 Quality assurance submittals: submit following in accordance with Section 01 45 00 – Testing and Quality Control.
  - .1 Certificates: signed by manufacturer certifying materials comply with specified performance characteristics and physical properties.
  - .2 Manufacturer's Instructions: for installation and special handling criteria, installation sequence and cleaning procedures.

### **1.5 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements:
  - .1 Deliver materials to site in original factory packaging, labelled with manufacturer's name, address.
- .3 Packaging Waste Management: remove for reuse and return of packaging materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

## **1.6 MEASUREMENT FOR PAYMENT**

- .1 No measurement for payment will be made for items under this section. Include all costs incidental to the Lump Sum for the associated work.

## **PART 2 - PRODUCTS**

### **2.1 PVC DUCTS AND FITTINGS**

- .1 Rigid PVC Conduit: with fabricated fittings, for direct burial and expanded flange ends, Trade size as indicated.
  - .1 Nominal length: 3 m plus or minus 12 mm.
- .2 Rigid PVC conduit bends, couplings, reducers, bell end fittings, plugs, caps, adaptors same product material as conduit, to make a complete installation.
- .3 Rigid PVC 90 degrees, 45 degrees bends and 5 degrees angle couplings as required.

### **2.2 SOLVENT WELD COMPOUND**

- .1 Solvent cement for PVC conduit joints.

### **2.3 CABLE PULLING EQUIPMENT**

- .1 6 mm stranded nylon pull rope tensile strength 5 kN.

### **2.4 MARKERS**

- .1 Concrete type cable markers: as indicated, with words: "Cable", " Joint" or "Conduit" impressed in top surface, with arrows to indicate change in direction of duct runs.

### **2.5 WARNING TAPE**

- .1 Standard 4-mil polyethylene 76 mm wide tape, yellow with black letters, imprinted with "CAUTION BURIED ELECTRIC CABLE BELOW ".

## **PART 3 - EXECUTION**

### **3.1 MANUFACTURER'S INSTRUCTIONS**

- .1 Compliance: comply with manufacturer's written recommendations or
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specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

### **3.2 INSTALLATION**

- .1 Install conduit in accordance with manufacturer's instructions and at elevations as indicated.
- .2 Clean inside of conduits before laying.
- .3 Install plastic duct spacers and ensure full, even support every 0.9 m and smooth transition throughout duct length.
- .4 Slope ducts with 1 to 400 minimum slope.
- .5 Install plugs and cap both ends of ducts to prevent entrance of foreign materials during and after construction.
- .6 Pull through each duct steel mandrel not less than 300 mm long and of diameter 6 mm less than internal diameter of duct, followed by stiff bristle brush to remove sand, earth and other foreign material.
  - .1 Pull stiff bristle brush through each duct immediately before pulling-in cables.
- .7 Install a pull rope continuous throughout each duct run with 3 m spare rope at each end.
- .8 Place continuous strip of warning tape above conduit (at a half of depth) before backfilling trenches.
- .9 Install markers as required.
- .10 Notify the Departmental Representative for field review upon completion of direct buried ducts and obtain acceptance prior to backfill.

### **3.3 CLEANING**

- .1 Clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Remove surplus materials, excess materials, rubbish, tools and equipment.
- .2 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.