PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

.1 Section 26 05 32 - Outlet Boxes, Conduit Boxes and Fittings.

1.2 REFERENCES

.1 Canadian Standards Association (CSA International)
- .1 CAN/CSA C22.2 No. 18.1-13, Metallic Outlet Boxes.
- .2 CSA C22.2 No. 45.1-07(R2012), Rigid Metal Conduit.
- .3 CSA C22.2 No. 56-13, Flexible Metal Conduit and Liquid-Tight Flexible Metal Conduit.
- .4 CSA C22.2 No. 83-M1985(R2013), Electrical Metallic Tubing.
- .5 CSA C22.2 No. 211.2-06(R2011), Rigid PVC (Unplasticized) Conduit.
- .6 CAN/CSA No. 18.3-12, Conduit, Tubing and Cable Fittings.
- .7 CSA C22.2 No. 211.1-06(R2011), Rigid Types EB1 and DB2/ES2 PVC Conduit.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Product data: submit manufacturer's printed product literature, specifications and datasheets.
- .1 Submit cable manufacturing data.

.3 Quality assurance submittals:
- .1 Test reports: submit certified test reports.
- .2 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
- .3 Instructions: submit manufacturer's installation instructions.

1.4 WASTE MANAGEMENT AND DISPOSAL

.1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

.2 Place materials defined as hazardous or toxic waste in designated containers.

.3 Ensure emptied containers are sealed and stored safely for disposal away from children.

1.5 MEASUREMENT FOR PAYMENT

.1 No separate measurement for payment shall be made for items under this section. Include costs incidental in the Lump Sum Amount of work on the Combined Price Form.

PART 2 - PRODUCTS

2.1 CABLES AND REELS

.1 Provide cables on reels or coils.

.1 Mark or tag each cable and outside of each reel or coil, to indicate cable length, voltage rating, conductor size, and manufacturer's lot number and reel number.

.2 Each coil or reel of cable to contain only one continuous cable without splices.

.3 Identify cables for exclusively dc applications.

2.2 CONDUITS

.1 Rigid metal conduit: to CSA C22.2 No. 45, hot dipped galvanized steel threaded.

.2 Electrical metallic tubing (EMT): to CSA C22.2 No. 83, with couplings.

.3 Rigid pvc conduit: to CSA C22.2 No. 211.2. PVC conduits that are not concrete encased shall be Schedule 40.

.4 Flexible metal conduit: to CSA C22.2 No. 56, liquid-tight flexible metal.

2.3 CONDUIT FASTENINGS

.1 One hole steel straps to secure surface conduits 53 mm and smaller.

.1 Two hole steel straps for conduits larger than 53 mm.

2.4 CONDUIT FITTINGS

.1 Fittings: to CAN/CSA C22.2 No. 18, manufactured for use with conduit specified. Coating: same as conduit.

.2 Ensure factory "ells" (condulets) where 90 degrees bends for 27 mm and larger conduits, except for communications systems.

2.5 EXPANSION FITTINGS FOR RIGID CONDUIT

.1 Watertight expansion fittings with integral bonding jumper suitable for linear expansion and 19 mm deflection.

2.6 FISH CORD

.1 Polypropylene.

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

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

3.2 INSTALLATION

.1 Conceal conduits.

.2 Use rigid hot dipped galvanized steel threaded conduit where specified or subject to mechanical injury.

.3 Use rigid pvc conduit underground.

.4 Minimum conduit size for lighting and power circuits: 21 mm.

.5 Bend conduit cold:

.1 Replace conduit if kinked or flattened more than 1/10th of its original diameter.

.6 Mechanically bend steel conduit over 21 mm diameter.

.7 Field threads on rigid conduit must be of sufficient length to draw conduits up tight.

.8 Install fish cord in empty conduits.

.9 Remove and replace blocked conduit sections.

.1 Do not use liquids to clean out conduits.

.10 Dry conduits out before installing wire.

3.3 CONCEALED CONDUITS

.1 Run parallel or perpendicular to building lines.

3.4 CONDUITS IN CAST-IN-PLACE CONCRETE

.1 Locate to suit reinforcing steel.
  .1 Install in centre one third of slab.

.2 Protect conduits from damage where they stub out of concrete.

.3 Install sleeves where conduits pass through slab.

.4 Provide oversized sleeve for conduits passing through waterproof membrane, before membrane is installed.
  .1 Use cold mastic between sleeve and conduit.

.5 Conduits in slabs: minimum slab thickness four (4) times conduit diameter.

.6 Encase conduits completely in concrete with minimum 25 mm concrete cover. unless noted otherwise.

.7 Organize conduits in slab to minimize cross-overs.

3.5 CONDUITS UNDERGROUND

.1 Slope conduits to provide drainage.

.2 Waterproof joints (pvc excepted) with heavy coat of bituminous paint.

END