PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 Cable trays and fittings.

1.2 RELATED SECTIONS

.1 Section 26 05 00 - Common Work Results - for Electrical.

.2 Section 26 05 29 - Hangers and Supports for Electrical Systems.

1.3 REFERENCES

.1 Canadian Standards Association (CSA International)
.1 CSA-C22.2 No. 126.1-09, Metal Cable Tray Systems (Bi-National standard with NEMA VE 1-2009).

1.4 SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00.

.2 Product Data: submit manufacturer's product data sheets for cable tray indicating dimensions, materials, and finishes, including classifications and certifications.

.3 Shop Drawings: submit shop drawings showing materials, finish, dimensions, accessories, layout, and installation details.

.4 Identify types of cable trays used.

.5 Show actual cable tray installation details and suspension system.

1.5 WASTE MANAGEMENT AND DISPOSAL

.1 Separate and recycle waste materials in accordance with Section 01 74 20.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS

.1 Ladder type, Class C1 to CAN/CSA C22.2 No.126.1.

.2 Trays: galvanized steel 450 mm wide with depth of 100 mm.

.3 Complete with factory-produced straight lengths, fittings, connectors, elbows, tees, dead ends, crosses, reducers, supports, covers and drop-outs.

.4 Cable tray elbows, tees, and crosses shall have smooth and continuous curved edges. Elbows and tees to have maximum available radii where installation permits.

.5 Sections of cable tray and fittings shall be connected using connection plates fitted on the outside faces of the tray in order to maintain a smooth interior joint.

.6 Conduit bushings for wiring to and from cable trays.

.7 Solid covers for complete cabletrough system including fittings.

.8 Barriers where different voltage systems are in same cabletrough.

.9 Ground cable trays with #2 AWG bare copper conductor attached to each tray section in accordance with CEC requirements.

.10 Provide fire stop material at firewall penetrations.

PART 3 - EXECUTION

3.1 CABLE TRAYS

.1 Cable tray layouts and routing shown on the drawings are for general reference and estimating purposes only and do not show the exact final layout or all the required fittings, offsets, bends, and changes in elevations required to avoid obstacles such as ducts, beams, pipes, structural members, ceiling system supports, etc. Final layout of cable trays shall be coordinated with other trades and the Departmental Representative.

.2 Remove sharp burrs or projections to prevent damage to cables or injury to personnel.

.3 Conduits extending services to or from cable tray shall have insulated throat grounding bushings on connectors and shall be properly supported and terminated on the side wall of the cable tray. Provide #6 AWG (or larger if required by Code) stranded bare copper bonding jumper from cable tray to each conduit grounding bushing serving the tray.

.4 Provide a continuous #2/0 AWG bare copper ground conductor along the entire length of the cable tray and provide additional grounding as required in accordance with the Canadian Electrical Code. Connect ground wire to each cable tray section using approved CSA mechanical lug/connector. Cable tray for telecommunications cabling shall be connected to ground bus in telecommunications rooms.

.5 Horizontal runs through walls which are fire, smoke, or sound barriers shall be sealed and be of a solid (no slots) type complete with solid top cover for 450 mm on both sides of the wall.

.6 Vertical runs shall be totally enclosed up to 2000 mm above floor level.

.7 Cable trays shall be supported using the manufacturer's standard supports. Otherwise utilize suspended trapeze racks, with cable trays securely bolted to the support assemblies. Provide additional supports under all fittings of 600 mm radius or larger. All supports shall permit a minimum of 150 mm vertical adjustment.

3.1 CABLE TRAYS (Cont'd)

.8 Coordinate closely with other trades to ensure a convenient space-conserving and accessible installation.

.9 Maintain minimum 450 mm separation between communication cable trays and any power feeders in conduits and cables to minimize electromagnetic interference. Do not attach conduits and cables containing power conductors to communication cable tray supports.

.10 Conduits containing communication cables only may be clamped to the communication cable tray support system.

.11 Complete a typical portion of the cable tray installation and obtain the approval of the Consultant prior to proceeding with the remainder of the tray installation.

3.2 CABLES IN CABLE TRAYS

.1 Use manufacturer-approved cable installation techniques in order to protect cables during installation. Do not install cables until the tray installation has been completed and the cables are safe from damage from construction operations. Damaged cables shall be replaced at no additional cost.

.2 Lay cables into cable tray. Use rollers when necessary to pull cables.

.3 Secure cables in cable tray at 6 m centres, with nylon ties.

.4 Identify cables every 30 m in accordance with Section 26 05 00 - Common Work Results - for Electrical.

.5 Cables of different systems and of different voltage shall be separated from one another by specified manufacturer's barrier strips. The final position of barriers shall be as directed in the field. Barriers shall be continuous along the entire length of the cable tray.

.6 Communication cables shall be fastened together on a system-by-system basis by use of nylon cable ties on maximum 1200 mm centres.

END