

PART 1 GENERAL

1.1 Section Includes

- .1 Telephone service entrance raceway.
- .2 Equipment and terminal backboards.
- .3 Telephone cabinets.
- .4 Premises wiring and outlets.
- .5 Firestopping Requirements
- .6 Electrical General Requirements
- .7 Conduits, Conduit Fastenings, and Conduit Fittings
- .8 Outlet Boxes, Conduit Boxes and Fittings

1.2 Related Sections

- .1 Conduit Section 26 05 34
- .2 Wiring Devices: Telephone outlet jacks Section 26 27 26

1.3 References (Latest Edition)

- .1 EIA/TIA-568 - Commercial Building Telecommunication Cabling Standard.
- .2 EIA/TIA-569 - Commercial Building Standard for Telecommunication Pathways and Spaces.
- .3 EIA/TIA-607 – Commercial Building Grounding and Bonding Requirements for Telecommunications (Refer to CAN/CSA T527)
- .4 NBC National Building Code
- .5 CAN/CSA-22.1 Canadian Electrical Code, Part One
- .6 CAN/CSA-22.1 Canadian Electrical Code, Part One Section 60 “ Electrical Communication Systems”
- .7 CAN/CSA-22.2 No.0-M91 General Requirements - Canadian Electrical Code, Part Two
- .8 NRC-CNRC National Building & Fire Codes of Canada
- .9 IEEE STD 1100 – 1992 IEEE Recommended Practice for Powering & Grounding Sensitive Electronic Equipment “Emerald Book”

1.4 System Description

- .1 Telephone Service Entrance Pathway: Underground conduit to conform with Manitoba Telecom Services (MTS) requirements from point of telephone utility connection at manhole or property line or overhead pole to building service terminal backboard.
- .2 Telephone Premises Wiring: Installed by MTS under directions of City of Winnipeg Corporate Information Technology (CIT). Complete from telephone equipment to each outlet, except for outlet boxes and fish cords to be supplied and installed as per drawings.
- .3 The data horizontal cabling pathway shall consist of the conduit raceway, a cable tray system.
- .4 Backbone Pathway: Conform to EIA/TIA 569 using conduit as indicated.

- .5 Horizontal Pathway: Conform to EIA/TIA 569, using raceway, backboards, and cabinets as indicated.
- .6 All backboards, cable support hardware, clamps, bonding clamps, and grounding to provide a complete system as specified.
- 1.5 Project Record Documents
 - .1 Record actual locations and sizes of pathways and outlets for all telephone and data outlets.
 - .2 Submit five (5) sets of As-built drawings and Operation and Maintenance Manuals.
- 1.6 Quality Assurance
 - .1 Telephone Utility: MTS. City of Winnipeg Corporate Information Technology (CIT) acceptance.
 - .2 Data: See drawing, Category 6 Cabling Specifications
- 1.7 Qualifications
 - .1 Telephone Utility: MTS. City of Winnipeg Corporate Information Technology (CIT) acceptance.
 - .2 Data: See drawing, Category 6 Cabling Specifications
- 1.8 Regulatory Requirements
 - .1 Provide Products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and indicated.
- 1.9 Maintenance Service
 - .1 Provide service and maintenance of premises wiring for one year from Date of Substantial Completion.
- PART 2 PRODUCTS**
- 2.1 General
 - .1 All equipment and materials to be new CSA certified, where applicable. Equipment and materials not CSA approved shall be noted and formally submitted for approval.
 - .2 Equipment schedules are shown on the drawings.
 - .3 All telephone wiring and components from the interior building to wall jacks shall be supplied and installed by Manitoba Telecom Services (MTS) Incorporated, unless otherwise noted. City of Winnipeg, Corporate Information Technology, Communications Systems Branch shall administer and coordinate for the three types of phone systems (Local, Centrex and PBX).
- 2.2 Telephone Termination And Data Backboards
 - .1 Material: Softwood plywood.
 - .2 Size: 1.2m x 2.4 m x 19 mm thick.
 - .3 Qty: 1
 - .4 Location: Basement Network Room, as shown on drawing.
 - .5 All backboards shall be rigidly secured and painted with an ASA #61 industrial gray nonconductive fire-retardant overcoat.

PART 3 EXECUTION

3.1 Installation

- .1 Install data cable as per drawing, Category 6 Cabling Specifications.
- .2 Install polyethylene pulling string (fish cord) in each empty telephone conduit over ten feet in length or containing a bend.

3.2 Identification Of Equipment

- .1 Identify equipment, receptacles, switches with nameplates and labels as follows, unless otherwise noted on drawing.
- .2 Nameplates:
 - .1 Lamacoid plastic engraving sheet shall be 3mm thick x 10mm high x 50mm wide. Colour shall be white with 3mm high black letters and mechanically attached with aluminum rivets.

3.3 Conduit, Outlet Boxes And Cable Identification

- .1 Identify cable with permanent indelible identifying markings on both ends of cable.
- .2 Colour code conduits, boxes, and cables. Paint at points where conduit enters wall, ceiling, or floor and at 15m intervals.
- .3 Colours: 225mm wide x 100mm long
 - Up to 250V (UPS) yellow & red
 - Telephone green
 - Paging/Intercom green/blue
 - Data blue
 - Fibre Optic orange
- .4 Colour outlet box covers to colour designated and show circuit numbers in black felt markers on inside of covers.

3.4 Conduit

- .1 Rigid galvanized steel threaded conduit.
- .2 Electrical Metallic Tubing (EMT) with couplings and plastic end bushings. Minimum size shall be 19mm.

3.5 Conduit Fastenings

- .1 One hole steel straps to secure surface conduits 50mm and smaller. Two-hole steel straps for conduits larger than 50mm.
- .2 Beam clamps to secure conduits to exposed steel Work.
- .3 U-channel type supports for two or more conduits at 1500mm O/C. Surface mount or suspended as close as possible to surface.
- .4 Support to suspended channel shall be 6mm diameter galvanized threaded rod.

3.6 Conduit Fittings

- .1 Fittings: manufactured for use with conduit specified. Coating: same as conduit.
- .2 Factory “ells” where 90 degree bends are required for 25 mm and larger conduits.
- .3 Steel set screw connectors and couplings. Insulated throat liners on connectors.