Part 1 General

1.1 RELATED SECTIONS

.1 Not Used.

1.2 REFERENCES

.1 Canadian Standards Association (CSA International)

.1 CSA-C22.2 No. 214-02, Communications Cables (Bi-National standard with UL 444).

.2 Telecommunications Industry Association (TIA)/Electronic Industries Alliance (EIA)

.1 TIA/EIA-568-B.1-(2001), Commercial Building Telecommunications Cabling Standard, Part 1: General Requirements.

.2 TIA/EIA-568-B.2-(2001), Commercial Building Telecommunications Cabling Standard, Part 2: Balanced Twisted-Pair Cabling Components.

.3 TIA/EIA-606-A-(2002), Administration Standard for the Commercial Telecommunications Infrastructure.

1.3 SYSTEM DESCRIPTION

.1 Structured telecommunications wiring system consist of unshielded-twisted-pair, terminations, connectors, cross-connection hardware and related equipment installed inside building for occupant's telecommunications systems, including voice (telephone), data, and image.

.2 Installed in physical star configuration with separate horizontal and backbone sub-systems.

.1 All structured cabling for the new addition shall be extended from the Shaw / MTS demarcation in the main electrical room.

1.4 SUBMITTALS

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

.2 As-built Records and Drawings:

.1 Provide database reflecting cable installation and cross-connections.

.2 Provide electronic drawings in AutoCAD 2000 format depicting all construction.

.3 Provide two (2) bound complete hard-copy sets of as-built records to the Contract Administrator.

.1 Provide and place one hard copy of as-built records for each telecommunications room in plan holder in each telecommunications room.

Part 2 Products

2.1 FOUR-PAIR 100 Ω BALANCED TWISTED PAIR CABLE

.1 Four-pair, 100 ohm balanced unshielded-twisted-pair (UTP) cable, flame test classification FT4 to: CSA-C22.2 No. 214, Category 5E to: TIA/EIA-568-B.2.

2.2 MULTI-PAIR 100 Ω BALANCED TWISTED PAIR CABLE

.1 100 ohm, 50 pairs, sheath consists of thermoplastic jacket without underlying metallic shield, Category 3 to: TIA/EIA-568-B.2, flame test classification FT4 to: CSA-C22.2 No. 214.

2.3 WORK AREA UTP 4-PAIR MODULAR JACK

.1 Eight-position modular jack ("RJ-45"), type Category 5E to: TIA/EIA-568-B.2:

.1 Mounted in compatible single gang faceplate, flush entry, four jack positions per faceplate. Each port equipped with field installed "RJ-45" jacks, type Category 5E to: TIA/EIA-568-B.2.

2.4 TERMINATION AND CROSS-CONNECTION HARDWARE FOR UTP

.1 IDC Terminal strips, 25 pair, for terminating multi pair 100 Ω balanced twisted pair cables and supporting cross-connections using jumper wires or compatible plug-ended patch cords: Category 6 to: TIA/EIA-568-B.2.

.2 Mount or block for housing 12 IDC terminal strips, mounted on wall.

.1 Distribution rings or channels capable of externally mating with the above mount for managing cross-connection wires.

.3 Each Patch panel, 2 rack units high, 24 ports:

.1 Each port equipped with field installed "RJ-45" jacks, type Category 5E to: TIA/EIA-568-B.2.

.2 Horizontal cable-management unit for every 24 ports.

2.5 UTP PATCH CORDS

.1 3 meters long, with factory-installed male plug at one end to mate with "RJ-45" jack and with factory-installed male plug at other end to mate with "RJ-45" jack Category 5, 4 pairs to: TIA/EIA-568-B.2.

2.6 UTP WORK AREA CORDS

.1 3 meters long, each end equipped with "RJ-45" plug Category 5 to: TIA/EIA-568-B.2.

2.7 FIBRE OPTIC CABLE

.1 Multimode Cable

.1 Rugged, durable and easy to strip medium-density PE jacket that is orange in color

.2 Corrugated steel tape armour to provide rodent resistance for direct-buried applications

.3 Gel-free design that is fully waterblocked using craft-friendly water-swellable yarns and tapes, making cable access simple and requiring no clean up

.4 Dielectric strength members have no preferential bend and require no bonding or grounding

.5 Standard buffer tube size that reduces the number of access tools required by craft personnel

.6 S-Z stranded, loose tube design to isolate fibres from installation and environmental rigors and facilitates mid-span access

.7 Fiber Type to be multimode 62.5/125 µm (850/1300 nm)

.8 For use with Gigabit Ethernet and 10 Gigabit Ethernet performance

.9 Meets industry standards and specifications including ICEA-640 and Telcordia GR-20

.10 Testing to industry standards.

Part 3 Execution

3.1 INSTALLATION OF TERMINATION AND CROSS-CONNECT HARDWARE

.1 Install termination and cross-connect hardware in rack as indicated and according to manufacturers' instructions. Identify and label as indicated to: TIA/EIA-606-A.

.2 Install consolidation points, as indicated according to manufacturer's instructions. Identify and label as indicated to: TIA/EIA-606-A.

3.2 INSTALLATION OF HORIZONTAL DISTRIBUTION CABLES

.1 Install horizontal cables as indicated in conduits and cable trays from telecommunication rooms to individual work-area jacks. Identify and label as indicated to: TIA/EIA-606-A.

.2 Support horizontal cables at intervals not exceeding 2 meters.

.3 Install horizontal cables from consolidation point to individual work-area jacks.

.1 Identify and label as indicated to: TIA/EIA-606-A.

.4 Coil spare cables and store in ceiling space in zone.

3.3 INSTALLATION OF BACKBONE CABLES

.1 Install backbone cables from each telecommunications room to main terminal/equipment room (MT/ER) as indicated and according to manufacturers' instructions.

.1 Identify and label as indicated to: TIA/EIA-606-A.

.2 Install backbone cables from MT/ER to carrier demarcation point in Entrance Room as indicated and according to manufacturer's instructions.

.1 Identify and label as indicated to: TIA/EIA-606-A.

3.4 INSTALLATION OF EQUIPMENT CABLES

.1 Install equipment cables from equipment patch panel as indicated.

.1 Identify and label as indicated to: TIA/EIA-606-A.

3.5 TELECOMMUNICATIONS BONDING

.1 To standards:

.1 ANSI J-STD-607-A-2002, Joint Standard - Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications.

.2 TIA/EIA-606-2002, Administration Standard for the Commercial Telecommunications Infrastructure.

3.6 FIELD QUALITY CONTROL

.1 Test horizontal UTP cables as specified below and correct deficiencies provide record of results as electronic record on CD.

.1 Perform tests for Permanent Link on installed cables, including spares:
Category 5 using certified level III tester to: TIA/EIA-568-B.2.

.2 Perform tests for Channel on 100% of cross-connected data horizontal cabling installed from each telecommunications room, including shortest and longest drops from each telecommunications room.

.2 Test backbone UTP cables as specified below and correct deficiencies: provide record of results as electronic record on CD.

.1 Perform tests for Permanent Link on 4-pair cables:
Category 5 using certified level III tester to: TIA/EIA-568-B.2.

.2 Perform Wire Map tests on multi-pair UTP cables to: TIA/EIA-568-B.1.

END OF SECTION