

PART 1 – GENERAL

1.1. GENERAL REQUIREMENTS

- .1 Conform to General Conditions and Supplementary General Conditions as applicable.
- .2 Conform to General Electrical Provisions, Section 16010 as applicable.

1.2. SYSTEM DESCRIPTION

- .1 Provide systems wiring as shown on Drawings and as defined in these specifications. Systems include but are not limited to the following:
- .2 IT Systems (Point of Sale, back office computers, wireless access points and phone system)
- .3 Security/ Camera Surveillance System
- .4 All wiring and cables are supplied by TJX CANADA, installation and final connection by TJX CANADA assigned Vendor.
- .5 All conduits required for wiring and cables shall be supplied, installed complete with nylon fish cord by the electrical contractor.
- .6 The electrical contractor shall make contact with TJX CANADA assigned Vendor. The G.C. shall issue a P.O. to the vendor for the installation of work.
- .7 Ensure that equipment manufacturers provide all information regarding wiring requirements before tendering. Be responsible for added cost of wiring and changes due to additional manufacturer's requirements.

1.3. SUBMITTALS

- .1 Provide as built wiring diagrams of each system to show wiring routes used and number of conductors and sizes at each junction point in the system.

PART 2 – PRODUCTS

2.1. MATERIALS AND EQUIPMENT

- .1 Cables:
 - a. Cables and wiring with combustible jackets installed in non-combustible construction shall conform to O.B.C. Section 3.1.4.3 or governing code. Use FT4-ST1 rated cable.
 - b. Cables and wiring installed in air plenums and ducts shall be FT6 rated.

2.1. MATERIALS AND EQUIPMENT (cont'd)

.2 IT Systems:

- a. Provide the wiring as detailed on the drawings for IT Systems equipment. Wiring types include but not limited to: CAT 5e, UTP, 24 AWG, solid, FT6 (plenum rated), with blue jacket. Sample Manufacturer – Canada Wire (24-4/p, level 5, solid, BC, FEP/PVC, N/S, blue rip cord, CSA FT6 + UL CMP).
- b. Cable runs should be terminated as per requirement on AP2 POWER AND CABLE PLAN drawings supplied by TJX Canada construction team.
- c. Allow 25' of slack at each end, unless otherwise specified. Label cable at both ends. Identify cable length in feet at each termination point. Cable runs must pass industry standard testing.

.3 Security System:

- a. Provide cabling in ceiling space from above cash desks and other points indicated on the drawings. Cable to have FT6 rating for the exterior insulation. Label cables at both ends.
- b. In open ceiling areas, install 1/2" conduit from u/s structure to 11'6" above finished floor. (Plan for six to twelve locations).

.4 Loading Area and Entrance Annunciation (Bells):

- a. Stores are to have door ringer system as provided and installed by TJX CANADA assigned vendor. General Contractor to provide 4" flush junction box at each location with conduit to Tenant's ceiling space, or as noted on drawings. TJX CANADA assigned Vendor to install unit and tie into phone system.

NOTE: Verify all wiring types prior to purchase.

.5 Main Telephone Cable Termination:

- a. The 50 pair tie cable should be pulled between TJX Canada data room to the Telco (Bell/Telus) demark (fuse protection). In the data room the cable should be mounted and terminated on the plywood backboard with the electrical outlets.
- b. Terminate each end on Bix 1A termination blocks, punched down with the proper tool. Use Bix 1A-4's termination blocks for station cable (4 pair).

PART 3 – EXECUTION

3.1 INSTALLATION

- .1 Absolutely NO splices of signal or communication conductors are permitted in any circumstance.**
- .2 Provide fire stop material around all raceways, which penetrate, fire walls or fire separations.
- .3 All conductors in one raceway shall be rated for the maximum voltage in conductors in that raceway.
- .4 Use cable ties or dividers to group conductors whenever possible.
- .5 Any discrepancies between drawings and site conditions are to be brought to the Consultant's attention for clarification.
- .6 Only White cables will be used for Data and Voice cable runs. Where wires pass through a junction box provide tags on all conductors, and all ends.
- .7 Provide permanent tags on the ends of all cables to identify the system and cables. Provide to the Tenant upon completion of the project, a drawing for each system showing the location and the tag number of the outlet point for each system.
- .8 Make all connections to jacks; outlets, plugs and equipment using approved connectors, terminations and terminating tools as prescribed by the manufacturer.
- .9 Upon completion leave continuous fish-wire in all underfloor ducts and conduit systems.

3.2 FIELD QUALITY CONTROL

- .1 Perform spot checks on concealed wiring as directed by the consultant to show colour coding of system conductors at junction boxes.
- .2 **Test all cables and connectors to insure conductivity from the connector to the cable end.**
- .3 Test all outlets and confirm continuity through the outlet.

END OF SECTION 16701

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