

## **TELECOMMUNICATIONS**

### **PART 1 - GENERAL**

#### **1.01 SUMMARY**

- A. The scope of this project is to provide (furnish and install) the hardware, infrastructure, cabling and terminations and associated components, trim, sealant, firestopping and accessories for complete and operational telecommunications system at the Sterling Town Hall, and as defined in the following project components:
- Voice and Data Center Cabling
  - Voice and Data Center Cable Removal

#### **1.02 SUBMITTALS**

- A. Shop Drawings: Dimensioned plans and elevations showing minimum clearances and installed features and devices for system components. Include a diagram showing interconnection of major system components and indicating grounding connections. Provide Wiring Diagrams for power, signal, and control wiring.
- B. Qualification Data: For qualified Installer.
- C. Operation and Maintenance Data: For equipment and components to include in emergency, operation, and maintenance manuals.

#### **1.03 QUALITY ASSURANCE**

- A. Installer Qualifications: An experienced installer trained and certified on the Belden System 2400.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. Comply with NFPA 70.

#### **1.04 COORDINATION**

- A. Coordinate installation of materials and equipment with town Construction Manager for the project.

#### **1.05 PRICING**

- A. Pricing should be itemized by Part and Sub-Part. Each Part and Sub-Part can be awarded separately or in total.

## **PART 2 - CABLING**

### **2.01 VOICE AND DATA CENTER CABLING - INSTALATION**

#### A. Summary:

The facility will include a Category 6 cabling plant. This cabling will support numerous systems including telephones, computers, audio video, and security.

All cabling will be direct home run from the station location to the appropriate panel. Cabling shall be color coded to correspond with the intended use. All station jacks shall be category 6 rated RJ-45 and also be color coded. These colors as well as the labeling scheme will help to make this a user-friendly network.

#### B. Design:

All cabling will be run as per the attached document "Memorial Building CAT5 Line Drops"

#### C. Specifics:

*Cable Type* – Cable shall be plenum rated category 6 - 550 MHz 4-pair. Cable shall be manufactured by Belden.

*Cable Support System* – Cabling shall be properly supported using a Caddy J- Hook System. This support system shall consist of appropriately sized and placed J-Hooks to comply with all codes and manufacturer suggested installation practices. Provide an 18" wide cable tray above ceiling.

*Jacks* – Cable shall be terminated on Category 6 RJ-45 Insert Type Jacks. Jack shall be manufactured by Leviton, Ortronics, Panduit, or similar major manufacturer. This contractor shall be responsible for all plates associated with this system.

*Patch Panels* - Cable shall be terminated on Category 6 – 48 Port Rack Mount Patch Panels. Patch Panels shall be manufactured by Leviton, Ortronics, Panduit, or similar major manufacturer.

*Labeling* – all cabling, patch panels and jacks shall be properly labeled to comply with TIA standards. All labeling shall be machine printed on both ends respectively.

*Testing/Certification* – all cabling shall be tested and certified using a level 3 tester such as a Fluke DTX-1800. Test results shall be provided to Owner in .pdf format.

#### D. Warranty:

*Cabling plant includes 25 Year Manufacturer's Warranty*

## **2.02 VOICE AND DATA CENTER CABLING - REMOVAL**

### **A. Summary:**

The facility has existing cabling that the town would like to have removed.

### **B. Removal:**

All cabling, jacks, panels will be removed as per the attached document "Memorial Building CAT5 Line Removal"

## **PART 3 - EXECUTION**

### **3.01 WIRING METHODS**

- A. Wiring Method: Install cables in raceways and cable trays except within consoles, cabinets, desks, and counters, and except in accessible ceiling spaces and in gypsum board partitions where unenclosed wiring method may be used. Conceal raceway and cables except in unfinished spaces.
- B. Wiring within Enclosures: Bundle, lace, and train cables to terminal points with no excess and without exceeding manufacturer's limitations on bending radii. Provide and use lacing bars and distribution spools.

### **3.02 INSTALLATION OF CABLES**

#### **A. General Requirements:**

- 1. Do not install bruised, kinked, scored, deformed, or abraded cable. Do not splice cable between termination, tap, or junction points. Remove and discard cable if damaged during installation and replace it with new cable.

#### **B. Open-Cable Installation:**

- 1. Install cabling with horizontal and vertical cable guides in telecommunication spaces with terminating hardware and interconnection equipment.
- 2. Cable shall not be run through structural members or be in contact with pipes, ducts, or other potentially damaging items.