

SECTION 260536 – CABLE TRAY**PART 1 – GENERAL****1.1 SUMMARY**

- A. Furnish and install all materials, labor, equipment, permits, etc., to provide facilities as described herein and illustrated on the Drawings for a complete functional system.
- B. All materials, unless otherwise specified, shall be new, free from any defects and of the best quality of their respective kinds. All like materials used shall be of the same manufacturer, model, and quality, unless otherwise specified.
- C. All manufactured articles, material, and equipment shall be applied, installed connected, erected, used, cleaned, adjusted, and conditioned as recommended by the manufacturers, or as indicated in their published literature, unless specifically herein specified to the contrary.
- D. All work shall be performed by competent workmen and executed in a neat and workmanlike manner providing a thorough and complete installation. Work shall be properly protected during construction, including the shielding of soft or fragile materials. At completion, the installation shall be thoroughly cleaned and all tools, equipment, obstructions, or debris present as a result of this portion of work shall be removed from the premises.
- E. The Contractor must demonstrate to the Owner and Engineer that the system is complete and complies with all operational requirements set forth in the plans and specifications. The Contractor shall provide all miscellaneous items and accessories required to make the system functional and comply with ANSI/EIA/TIA 569 whether or not such items are specifically mentioned in the plans and specifications. It is the Contractor's responsibility to review the architectural, structural, mechanical, and electrical drawings, as well as the specifications, for any details that may impact the installation or provisioning of the system. Any discrepancies discovered shall be brought to the attention of the Engineer.

1.2 SUBMITTALS

- A. Product Data: Submit manufacturers data sheets on all system components. Data sheets shall be neatly bound with title page, index/bill of materials, and tab dividers for each major section. If multiple products or configurations are shown on a page, the product and/or configuration to be supplied and installed in this project shall be highlighted.
- B. Specification sheets shall be submitted on ALL items.

1.3 SUBSTITUTIONS

- A. Proposed substitutions, to be considered, shall be manufactured of equivalent materials that meet or exceed specified requirements of this Section.
- B. Proposed substitutions shall be identified not less than 10 days-prior to bid date and submitted in writing to the Construction Manager.

1.4 QUALITY ASSURANCE

- A. The intent of this specification is to describe and provide for a complete system of professional quality in compliance with all ANSI/EIA/TIA 569 standards for telecommunications pathways.
- B. The supplier or sub-contractor for these systems must be a single firm whose primary business is the supply and installation of systems described herein.
- C. The supplier or sub-contractor must show a successful record of installations of similar size and complexity over the past five years that were installed and commissioned by their own forces.
- D. All work under this specification will be performed under the supervision of an individual who is experienced with the requirements for installation of a system as described herein, and documented successful experience testing, adjusting, balancing, equalizing, and operating said systems.
- E. This Contractor is responsible for coordinating all rough-in locations with actual equipment furnished, and verification of dimensions and conditions at the job site, which might affect the systems installation.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver all system components properly packaged in factory-fabricated type containers.
- B. Store components in original cartons and in a clean dry space; protect from weather and construction traffic.
- C. Handle equipment and components carefully to avoid breakage, impacts, denting and scoring finishes. Do not install any damaged equipment; replace and return damaged units to equipment manufacturer.

1.6 SEQUENCING AND SCHEDULING

- A. Coordinate with other work, including electrical wiring work, as necessary to interface installation with other work.
- B. Sequence installation work with other work to minimize possibility of damage and soiling system during remainder of the construction period.

1.7 SCOPE

- A. Furnish and install a wall mounted flexible basket type cable tray system complete with all fittings in accordance with requirements outlined in this specification.

- B. Non-basket type cable tray systems will **not** be accepted.
- C. All equipment shall comply with the applicable sections of the following:
- D. NFPA 70 (NEC)
 - 1. UL Listed
 - 2. NEMA VE-1.
 - 3. ANSI/EIA/TIA 569

PART 2 – PRODUCTS

2.1 STANDARDS

- A. Basket cable tray shall have minimum depth of 4" and 2"x4" grid spacing. The inside depth shall be 3-5/8" and 18" wide (unless noted otherwise on plans).
- B. Cable tray shall be either mill galvanized or electroplated zinc after manufacturing.
- C. Basket cable tray must be UL approved, labeled for use as an equipment ground conductor and comply with all NEMA standards concerning radius, load capacity, depth, and supporting means.
- D. If the cable tray is not labeled for use as an equipment ground conductor, each joint shall be connected with bonding conductors for an absolute ground.
- E. **Design Basis 18" Cable Tray** – Chatsworth Products #13343-018 or equal by Cope #CAT 4 WSL 120 and Chalfant #WMST 418 G.

2.2 ACCESSORIES

- A. All items such as barrier strips (if required), special splices, wall and ceiling hangers, hold down clips, box connectors, end plates, etc. and shall be furnished as necessary for a complete installation.
- B. Provide radius fittings, dropouts and all other required accessories to transition from the cable tray to the racks, cabinets and backboards in the Technology Closets.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Provide basket cable tray above corridor ceiling along entire corridor span. Cable tray shall be installed utilizing wall-mount brackets, where field conditions allow, along the edge of the corridor as shown on the detailed plans.
- B. Provide cable tray in the Technology Control Room (ER) and Technology Rooms (TR)

as shown on the detailed plans.

- C. Maintain 12" clear space from fluorescent light fixtures, 6" clear space from the top of the cable tray to any obstruction, 6" clear space from bottom of cable tray to above the ceiling height, and 36" clear space from any transformer.
- D. The contractor shall be responsible for the coordination of the cable tray placement to ensure the proper clearances and mounting locations can be obtained.
- E. If 6" clear space from the top of the cable tray can not be maintained, the contractor shall provide (3) 4" sleeves through the obstructed area.

3.2 FIRESTOPPING

- A. Firestop all wall and floor penetrations with an approved, reusable UL listed firestop system utilizing an intumescent material and pre-fabricated as a through the wall device for cable passage.
- B. System shall be STI EZpath systems or equal by CSD or Hilti.
- C. Provide shop drawings detailing the firestop system to be used for each rated wall penetration, and provide 1/8" = 1' floor plan drawings showing all penetrations with unique label for each rated wall penetration. Firestop system shop drawings shall list all rated wall penetration ID's that the submitted firestop system drawings will be used for.
- D. Document with pictures each completed and approved firestop system installation and include as part of the as-built documentation and owners manuals. Identify each firestop with the unique label as assigned in the shop drawing process.

3.3 GROUNDING AND BONDING

- A. All equipment shall be bonded in accordance to the latest ratified edition of ANSI/EIA/TIA-607.
- B. Provide a continuous #4 AWG bare ground conductor in the cable tray bonded to each section and routed continuous into and between all technology rooms and all lengths of cable tray.

3.4 PERMITTED USE

- A. Only data and voice cables may occupy cable tray.
- B. Fire alarm, PA systems, video, and other low voltage systems shall be in separate j-hook support system.
- C. Bundle all like cable types together and place in same area of cable tray.

END OF SECTION 260536