1.1 **GENERAL**

1.2 **Communications Backbone Cabling General**

.1 Backbone wiring infrastructure consists of (but is not limited to): Fiber optic cable, multi-pair telephone tie cables, required terminations hardware and cross-connects.

.2 Unless specified otherwise, provide:
   - Voice backbone as per riser diagram.
   - Data backbone as per riser diagram.

.3 All backbone cabling shall be terminated and properly labeled on both ends.

2.1 **PRODUCTS AND EXECUTION**

2.2 **Communications Copper Backbone Cabling**

.1 Voice backbone cabling shall be 24 AWG solid, multi-pair UTP, Category 3. Number of pairs shall be as indicated on riser drawings.

.2 Indoor cables shall be FT-6 or FT-4 rated as required. Cables placed in underground ducts, outside of buildings shall be rated for outdoor use with water blocking members.

   Pre-approved manufacturer: Belden

2.3 **Communications Copper Cable Terminations and Cross-connects**

.1 Backbone cables shall terminate on BIX fields in each Communications room. Cross connect to an adjacent BIX field that is connected to rack-mounted Category 5e Voice backbone patch panels. Voice “backbone” Category 5e patch panels shall be cross-connected with GRAY colored (RJ-45-style) patch cords (refer to Section 27 16 00 Clause 1.3.3) to voice ports on “horizontal” Category 6A patch panels.

.2 Cross-connect all BIX fields as instructed by the Owner's representative.

   Pre-approved manufacturer: Belden

2.4 **Communications Optical Fiber Backbone Cabling**

.1 Fiber backbone shall be capable of supporting 10-Gigabit Ethernet and 10-Gigabit Fibre Channel.

.2 Data backbone cable shall be single-mode fiber. Number of fiber strands shall be as indicated on riser diagram drawings.

   96-strand single mode cables shall be Belden BYW1850.

   48-strand single mode cables shall be Belden BYW1564.
3. Cables shall be indoor-outdoor type with FT6 rated jacket. Cables placed in underground ducts, outside of buildings shall be loose tube rated for outdoor use with water blocking members. All fiber cable to be reinforced with Aramid yarn for strength and contain no metallic elements.

Pre-approved manufacturer: Belden

2.5 Communications Optical Fiber Splicing and Terminations

1. Fiber optic cables shall be terminated on rack-mounted patch panels (refer to Section 27 11 00 for details).

2. Fiber optic connectors shall be LC duplex type.

Pre-approved manufacturer: Belden

3. Provide a 3-meter service loop at both cable ends. Fiber service loops shall be placed on the wall and attached with proper loop mounting hardware (Ref: Polygon 8900-24 circular cable manager).

***END OF SECTION***