1 General

1.1 Scope of work

1.1.1 Work covered by this Section shall consist of furnishing labor, equipment, supplies, materials, and testing unless otherwise specified, and in performing the following operations recognized as necessary for the installation, termination, and labeling of faceplates and connectors as described on the Drawings and/or required by these specifications.

2 Products

Note: It is Purdue’s expectation that the A/E of Record will work jointly with Purdue’s Telecommunication representatives to address specific technical issues and Owner requirements. All questions, deviations, comments concerning guideline(s) interpretation, content, and/or use must be submitted in writing to the Project Manager for approval. No deviations from these guidelines shall be incorporated into the project without written approval from the Project Manager and Purdue Telecommunications representative.

2.1 Telecommunications Installation

2.1.1 General: The materials and products specified herein reflect the minimum acceptable standards of fabrication and manufacture. All materials and products supplied by the Contractor and specified herein are to be new, unused, of first quality and in original packaging or shipping containers or as shown on drawings and described herein.

2.1.2 New buildings and major renovations require Category 6a cabling. In some cases this will result in sections of the building being cabled differently than existing infrastructure due to advances in cable transport technologies. Contact the Purdue IT Infrastructure Services Representative for approval of cabling systems before installation.

2.1.3 Standard PIC Room Outlet Devices in Flush Mounted Devices:

2.1.3.1 Special Circuits requiring dedicated copper cable shall consist of (1) Panduit #CJ6X88TGVL, Violet, Category 6a, T568B wiring standard, 8 conductor jacks.

2.1.3.2 Data device shall consist of (2) Panduit #CJ6X88TGVL, Violet, Category 6a, T568B wiring standard, 8 conductor jacks.

2.1.4 Standard PIC Room Outlet Devices in Surface Mounted Raceway:

2.1.4.1 Special Circuits requiring dedicated copper cable shall consist of (1) Panduit #CJ6X88TGVL, Violet, Category 6a, T568B wiring standard, 8 conductor jacks.

2.1.4.2 Data device shall consist of (2) Panduit #CJ6X88TGVL, Violet, Category 6a, T568B wiring standard, 8 conductor jacks.

2.1.4.3 Cover plate shall be (1) Panduit #CBEIW-2GY, Office White, 2-gang, double opening wall plate with (1) Panduit #CHS2IW-X, sloped, Office White snap-in modules located in the top faceplate openings, and (3) Panduit #CHB2IW-X blank modules in the bottom faceplate openings. See Attachment #3.5 for jack configuration.

2.1.5 Fiber Only Outlet Device:

2.1.5.2 Single-mode fiber device shall consist of (1) Panduit #CMD5LCZBU, Office White, LC single-mode fiber optic adapter module.

2.1.5.3 Cover plate shall be (1) Panduit #CBEIWY, Office White, single gang, single opening wall plate with (1) Panduit #CHS2IW-X, Office White, sloped snap-in module in bottom opening, and (1) Panduit #CHB2IW-X, Office White, blank fittings in top opening. See Attachment #3.9 for jack configuration.

2.1.6 Fiber Terminations

2.1.6.1 Fiber PICs consist of two strands but at labeled with one PIC designator. Contact Purdue IT
Infrastructure Services Representative for labeling specifics.

2.1.6.2 Each single-mode fiber shall be terminated with (1) LC Ultra PC Polish fiber optic connector

- Corning Cable Systems #95-200-99 Unicam
- Corning #SOC-LCU-900-SM FuseLite® Connector
- Panduit #FLCS2/9SOCU9BU LC Simplex Connector
- Belden #AX101983 Optimax Field Installable Connector
- Owner-approved equivalent

2.1.6.3 Where fiber jacks are being installed in a Standard PIC, see attachment #3.10 for jack configuration.

2.1.7 PIC Locations in Divided Raceways

2.1.7.1 Where jacks are being installed in a divided 4000 Wiremold raceway for telecommunications and power, utilize Wiremold #V4047C-1 one-gang device plates for the mounting of the Panduit #CBEIWY, Office White, single gang, single opening wall plate. Electrical devices shall utilize a separate Wiremold #V4048B duplex receptacle device. See Attachment #3.8 for jack configuration.

2.1.8 CATV Terminations

2.1.8.1 Type 6 (RG-6) Cable Installations

2.1.8.1.1 Terminate all RG-6 cable with Belden #FSNS6U compression connectors.

2.1.8.2 Type 11 (RG-11) Cable Installations

2.1.8.2.1 Terminate all RG-11 non-plenum cable with Belden #SNS1P11 compression type connectors.

2.1.8.3 CATV outlet within a PIC shall utilize (1) Panduit #CMFIW F-type module. See Attachment #3.6 for jack configuration.

2.1.9 Wall Phone PIC Room Outlet Devices in Flush Mounted Devices:

2.1.9.1 Wall Phone Outlets requiring dedicated copper cable shall consist of (1) Panduit #CJ6X8TGVL, Violet, Category 6a, T568B wiring standard, 8 conductor jacks.

2.1.9.2 Cover plate shall be (1) Panduit #CBEIHWY, Office White, single-gang, double opening wall plate with (1) Panduit #CHS2IW-X, Flat, Office White snap-in modules located in the top faceplate openings, and (1) Panduit #CHB2IW-X blank module in the bottom faceplate opening. See Attachment #3.7 for jack configuration.

2.1.10 Single-Gang Wall Phone PIC Room Outlet Devices in Surface Mounted Raceway:

2.1.4.2 Wall Phone device shall consist of (1) Panduit #CJ6X8TGVL, Violet, Category 6a, T568B wiring standard, 8 conductor jacks

2.1.4.3 Cover plate shall be (1) Panduit #CBEIWH-2GY, Office White, 2-gang, double opening wall plate with (1) Panduit #CHS2IW-X, Flat, Office White snap-in modules located in the top faceplate openings, and (3) Panduit #CHB2IW-X blank modules in the bottom faceplate openings. See Attachment #3.7 for jack configuration.

3 Execution

3.1 Telecommunications Installation

3.1.1 General:

3.1.1.1 This Section describes the installation locations for the products and materials, as well as methods and Owner’s Standards associated with the Telecommunications Installation portions of the Project. These Specifications, along with the drawings and other Owner supplied specifications shall be followed during the course of the installation.

3.1.1.2 The Contractor is instructed to coordinate his efforts with the other tradesmen who may be working within the same vicinity to avoid conflict and lost time.
3.1.1.3 The Contractor is required to supply all necessary tools, equipment, accessories, safety equipment, protective clothing, etc., as customary for the craft and necessary for the installation.

3.1.1.4 The Contractor shall verify space requirements and locations with the Purdue IT Infrastructure Services Department before starting cable installations and terminations.

3.1.1.5 The Contractor shall verify the category of the data jacks required with the Purdue IT Infrastructure Services Department before starting termination.

3.2 CATV Termination

3.2.1 CATV Cable Termination:

3.2.1.1 All RG-6 CATV cable shall be terminated as follows:

3.2.1.1.1 Strip off 7/16” of outer jacket without disturbing braided shield underneath.

3.2.1.1.2 Bend braided shield back over the outer jacket.

3.2.1.1.3 Cut dielectric without scoring center conductor to obtain 3/16” of dielectric left.

3.2.1.1.4 Slide the RG-6 connector down cable until dielectric is flush with inner surface and bottoms out.

3.2.1.1.5 Compress fitting using appropriate compression tool.

3.2.1.2 All RG-11 CATV cable shall be terminated as follows:

3.2.1.2.1 Strip off 1/2” of outer jacket without disturbing braided shield underneath.

3.2.1.2.2 Bend braided shield back over the outer jacket.

3.2.1.2.3 Cut dielectric without scoring center conductor to obtain 3/16” of dielectric left.

3.2.1.2.4 Slide the RG-11 connector down cable until dielectric is flush with inner surface and bottoms out.

3.2.1.2.5 Compress fitting using appropriate compression tool.

3.3 Equipment Installation and Cable Terminations

3.3.1 All equipment shall be installed in a neat and workmanlike manner, arranged for convenient operation, testing and future maintenance.

3.3.2 All telecommunications cables, faceplates, and connectors shall be installed and terminated by technicians experienced in the installation and termination of telecommunications items listed herein.

3.3.3 The Contractor shall employ certified system installation technicians and have at least 5 years of experience in the installation of similar and equivalent systems.

3.3.4 The Contractor shall supply verification of experience, for this type of work, to the Architect for approval before performing any work.

3.4 As Built Information

3.4.1 Contractor shall provide as-built information and all test result information to the Purdue IT Infrastructure Services Department.

3.4.2 As-built information shall be in red-lined format on a copy of construction drawings. Indicate location of all PICs, skeletal and riser conduit routes, distribution cable trays, junction boxes, and all additions and deletions pertaining to telecommunications. Include correct PIC labeling next to all telecom symbols.

3.4.3 If construction drawings are not utilized, Contractor shall provide all telecommunications location information on an accurate scaled floor plan.

3.4.4 Contractor shall perform all labeling requirements and provide testing documentation for verification as described herein.

3.4.5 Contractor shall submit cable records to reflect all moves, adds, and changes.

3.4.6 Contractor shall provide floor plans showing locations of all telecommunication outlets and spaces. Electronic versions of as-builts are preferred.
3.5 Standard PIC Faceplate Configuration:

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Room # - A/B
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3.6 Standard PIC Faceplate Configuration with CATV:

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Room # - A/B
TV Room # - 1
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3.7 Telephone Only Faceplate Configuration in a Single-Gang Faceplate:

3.8 Data Only Faceplate Configuration in a Single-Gang Faceplate:
3.9 Single Mode Fiber PIC Faceplate Configuration in a Single-Gang Faceplate:

3.10 Standard PIC with Fiber Faceplate Configuration: