

## SECTION 270600 – SCHEDULES FOR COMMUNICATION SYSTEMS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division - 1 Specification sections, apply to the work of this section.

### PART 2 - PRODUCTS

#### 2.1 GENERAL REQUIREMENTS

- A. Infrastructure components. The infrastructure installed in campus buildings for support of communications services are comprised of a sizeable array of components. In order to provide the necessary consistent support for these services, it is imperative that some of these components be manufacturer and part number specific. These are specified due to matched compatibility with existing installed systems or were selected via public bid processes. No substitutions will be accepted for these identified items for installation on campus projects. All other components are not manufacturer and part number specific, and approved equals will be accepted.
- B. Materials. Following are matrices denoting materials acceptable for use with NC State University projects. All materials shall be manufacturer and part number specific unless specified as accepting “or equal.”

### PART 3 - EXECUTION

#### 3.1 MATERIALS AND STANDARDS

- A. Conduits/outlet boxes. Refer to Section 27 05 33 Conduits and Outlet Boxes for Communication Systems.
- Typical outlet conduit components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Outlet conduit	1” EMT conduit	Allied	1-EMT	yes
Outlet flex conduit	1” flexible conduit, steel	Eastern Wire & Conduit	GFSU	yes
Conduit coupling	1” EMT compression coupling, steel	RACO	2924	yes

Conduit connector	1" EMT compression connector, steel	RACO	2904	yes
Locknut	1" locknut, steel	RACO	1004	yes
Flex/EMT transition coupling	1" rigid conduit coupling (2" long)	Teddico	9002	yes
Flex/EMT transition connector	1" straight squeeze connector, malleable	Madison	ML-42-3	yes
Small junction box	4 11/16" square outlet box with 1" KO's, steel	RACO	258	yes
Small junction box cover	4 11/16" square box device cover, flat blank, steel	RACO	832	yes
Flush mounted outlet box - new work	4" square outlet box, 2 1/8" deep, with 1" KOs, steel	RACO	233	yes
Plaster ring for new flush outlet box	Square cornered tile wall cover for 4" square box, double device capacity, raised 3/4", steel	RACO	779	yes
Flush mounted outlet box – old work	3 1/2" deep gangable switch box with 3/4" KOs, steel	Steel City	CY-3/4	yes
Surface mounted outlet box	Two gang extra deep device box, surface mounted outlet box, steel, ivory color	The Wiremold Co.	V-2444-2	yes
Conduit strap	1" EMT conduit strap, one hole, steel	RACO	2084	yes
Surface outlet raceway	V2400, two piece steel surface raceway, 7/8" x 1 29/32", ivory color	The Wiremold Co.	V2400	yes

- Typical floorbox and poke thru components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Floor outlet box (one power and one telecom)	8"x9"x5.25" floor box w/ one single-gang and one double-gang opening	FSR, Inc.	FL-710	yes
Floor outlet box cover (brass)	8"x9" watertight cover with brass flange	FSR, Inc.	FL-710-BLP	yes
Poke-thru	Evolution 8AT Series Poke-Thru Device – Recessed Prewired Assembly	The Wiremold Co.	8ATCPxx or 8ATPxx	yes
Poke-thru adapter kit	Evolution 8AT Special 3-gang to 2-gang communications plate kit	The Wiremold Co.	E62236-NCSUP1	no

B. Raceways. Refer to Section 27 05 36 Raceways for Communication Systems.

- Typical wireway components.

Item	Description	Manufacturer	Part Number	Equals Accepted
8x8 wireway	NEMA 1, 8"x8" wireway, screw cover, gray powder coating, 10' section	The Austin Co.	AB-88120SW	yes
8x8 wireway hardware	45 degree elbows, tees, reducers, universal connectors, and end caps in above product line	The Austin Co.	Various	yes
6x6 wireway	NEMA 1, 6"x6" wireway, screw cover, gray powder coating, 10' section	The Austin Co.	AB-66120SW	yes
6x6 wireway hardware	45 degree elbows, tees, reducers, universal connectors, and end caps in above product line	The Austin Co.	Various	yes
Threaded rod	3/8" hanger rod, continuous thread, 10' section, steel	Kindorf	H-193-3/8-10	yes
Horizontal trapeze	1 1/2" x 1 1/2", 12 gauge channel, 10' section, steel	Kindorf	B-905-10	yes
Wall mount bracket	9" "L" bracket, steel	Custom	9LBRACKET	yes
Plastic edge channel	Durostrip, plastic edge channel, gray, 4' section	Richco, Inc.	DSC-1	yes

- Typical surface perimeter raceway components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Multi-outlet wireway	V6000, two piece steel surface raceway, 3 9/16" x 4 3/4", ivory color	The Wiremold Co.	V6000	yes
Multi-outlet wireway hardware	Elbows, tees, end caps, and couplings in above product line	The Wiremold Co.	Various	yes
Multi-outlet wireway outlet plate – horizontal	V6000, two gang device plate	The Wiremold Co	V6007C-2	yes
Multi-outlet wireway outlet brackets – vertical	Two gang device plate mounting brackets (associated with device plate G4007C-2)	The Wiremold Co.	E40667	yes

- Typical riser raceway components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Riser conduit	4" EMT conduit	Allied	4-EMT	yes
Conduit coupling	4" EMT compression coupling, steel	RACO	2956	yes
Conduit connector	4" EMT compression connector, steel	RACO	2946	yes
Locknut	4" locknut, steel	RACO	1016	yes
Conduit bushing	4" plastic insulating bushing	RACO	1416	yes
Grounding bushing	4" threaded insulated grounding bushing, steel	RACO	1296	yes
Conduit strap	4" EMT conduit strap, two hole, steel	RACO	2242	yes
Trapeze strap	4" channel conduit strap, steel	Kindorf	C-105-4	yes
Riser clamp	4" conduit support	Kindorf	C-210-4	yes
Cabinet riser conduit system	2" EMT conduit with hardware similar to above	Allied, RACO, Kindorf	various	yes
Threaded rod	3/8" hanger rod, continuous thread, 10' section, steel	Kindorf	H-193-3/8-10	yes
Horizontal trapeze	1 1/2" x 1 1/2", 12 gauge channel, 10' section, steel	Kindorf	B-905-10	yes

C. Inter-building. Refer to Section 27 05 43 Inter-Building Ductbanks/Cabling for Communication Systems.

- Typical manhole/handhole components. Sizes may vary.

Item	Description	Manufacturer	Part Number	Equals Accepted
Large manholes	10'-0" X 10'-0" X 8'-0" (interior dimensions) square precast concrete manhole, 4000 PSI concrete, H-20 bridge loading, E/W standard waffle type knockout panels, 30" min. top opening, floor mounted pulling irons, ground rod hole, and bottom sump depression	various		yes
Small manholes	8'-6" X 6'-0" X 8'-0" (interior dimensions) rectangular precast concrete manhole, 4000 PSI concrete, H-20 bridge loading, E/W standard waffle type knockout panels, 30" min. top opening, floor mounted pulling irons, ground rod hole, and bottom sump depression	various		yes
Handholes	4'-0" X 4'-0" X 4'-0" (interior dimensions) precast concrete	various		yes

	handhole, 4000 PSI concrete, H-20 bridge loading, E/W standard waffle type knockout panels, 24" min. top opening, floor mounted pulling irons, ground rod hole, and bottom sump			
Manhole and handhole racks	Hot dipped galvanized steel cable rack 1 1/2" wide with t-slots spaced at 1 1/2" intervals (58" long for manholes and 27" long for handholes)	Inwesco, Inc.	10A17 and 10G11	yes
Manhole cable hooks	5" diameter curved steel manhole hook with vinyl coating	Inwesco, Inc.	10A61	yes
Manhole ground rod	5/8" X 8" copper clad ground rod	Inwesco, Inc.	12A60	yes
Manhole rings and covers	49" diameter (base) cast iron ring with 31 15/16" heavy duty cast iron cover, type A2 style cover, labeled "Communication"	various		yes
Handhole rings and covers	46" diameter (base) cast iron ring with 28 15/16" heavy duty cast iron cover, type A2 style cover, labeled "Communication"	various		yes
Manhole ladder	8'- 6" tall manhole ladder, 12" wide, with 5/8" rungs, steel rails, hot dip galvanized with brackets	Inwesco, Inc.	I-3600	yes
Small enclosure	17"x 30" polymer concrete enclosure with standard cover (no bolts), labeled "Communications"	Quazite, Inc.	PG-1730-WA-00-12	yes

- Typical ductbank components.

Item	Description	Manufacturer	Part Number	Equals Accepted
PVC conduits	1 1/2" and 4" diameter, rigid PVC conduit, schedule 40 and fittings	Carlson Electrical Products, Inc.	Plus 40 product line	yes
PVC conduit end bell	1 1/2" and 4" diameter, rigid PVC conduit end bells, schedule 40, long	Carlson Electrical Products, Inc.	Plus 40 product line	yes
Conduit spacers	Plastic, underground encasement supports	Carlson Electrical Products, Inc.	Snap-Loc product line	yes
Rebar	#4 steel rebar	various		yes
Warning tape	Plastic encased, magnetic foil underground warning tape, 6" wide X 5 mil (0.005") thick, orange color, labeled "Communications Line Below" or similar,	Empire Level Mfg. Corp.	MagnaTec product line	yes
Mule tape	1/4" conduit measuring tape, nondeteriorating material, with	Greenlee-Textron, Inc.	39243	yes

	footage markings, 1,250 lbs. average breaking strength			
Entrance end conduit	1 ½” and 4” rigid metal conduit and associated fittings	various		yes

D. Termination hardware. Refer to Section 27 11 19 BDF/IDF Termination Hardware.

- 192-outlet, 144-outlet, 96-outlet, 48-outlet, and 24-outlet rack components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Data patch panel	2RU 72-port QuickPort flat panel, empty, with no number labels, with four label holders	Leviton	49255-NCS <b>(custom NCSU part number)</b>	no
Data jack, crimson	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), crimson	Leviton	6AUJK-SC6	no
Data jack, white	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), white	Leviton	6AUJK-SW6	no
Data jack, black	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), black	Leviton	6AUJK-SE6	no
Video connectors	Feedthrough QuickPort F-connector, nickel plated, grey housing (optional)	Leviton	41084-FGF	no
Fiber housing	2RU Pretium connector panel	Corning	PCH-02U	no
Fiber panel	Closet connector housing panel, 50 micron MMF (OM3), 12 fiber count	Corning	CCH-CP12-E4	no
Fiber panel	Closet connector housing panel, single mode (OS2), 12 fiber count	Corning	CCH-CP12-A9	no
Fiber connector	UniCam fiber connector, LC, 50 micron MMF (OM3)	Corning	95-050-99X	no
Fiber connector	UniCam fiber connector, LC, UPC, single mode (OS2)	Corning	95-200-99	no

- BDF rack components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Voice riser panels	8P4C voice grade patch panel, 110 termination	Leviton	49013-P24	no
Fiber housing	4RU Pretium connector panel	Corning	PCH-04U	no
Fiber panel	Closet connector housing panel, 50 micron MMF (OM3), 12 fiber	Corning	CCH-CP12-E4	no

	count			
Fiber panel	Closet connector housing panel, single mode (OS2), 12 fiber count	Corning	CCH-CP12-A9	no
Fiber connector	UniCam fiber connector, LC, 50 micron MMF (OM3)	Corning	95-050-99X	no
Fiber connector	UniCam fiber connector, LC, UPC, single mode (OS2)	Corning	95-200-99	no

- IDF rack components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Voice riser panels	8P4C voice grade patch panel, 110 termination	Leviton	49013-P24	no
Fiber housing	2RU Pretium connector panel	Corning	PCH-02U	no
Fiber panel	Closet connector housing panel, 50 micron MMF (OM3), 12 fiber count	Corning	CCH-CP12-E4	no
Fiber panel	Closet connector housing panel, single mode (OS2), 12 fiber count	Corning	CCH-CP12-A9	no
Fiber connector	UniCam fiber connector, LC, 50 micron MMF (OM3)	Corning	95-050-99X	no
Fiber connector	UniCam fiber connector, LC, UPC, single mode (OS2)	Corning	95-200-99	no

- Single rack BDF rack components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Data patch panel	2RU 72-port QuickPort flat panel, empty, with no number labels, with four label holders	Leviton	49255-NCS <b>(custom NCSU part number)</b>	no
Data jack, crimson	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), crimson	Leviton	6AUJK-SC6	no
Data jack, white	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), white	Leviton	6AUJK-SW6	no
Data jack, black	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), black	Leviton	6AUJK-SE6	no
Fiber housing	2RU Pretium connector panel	Corning	PCH-02U	no

- Single rack IDF rack components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Voice riser panels	8P4C voice grade patch panel, 110 termination	Leviton	49013-P24	no

Data patch panel	2RU 72-port QuickPort flat panel, empty, with no number labels, with four label holders	Leviton	49255-NCS <b>(custom NCSU part number)</b>	no
Data jack, crimson	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), crimson	Leviton	6AUJK-SC6	no
Data jack, white	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), white	Leviton	6AUJK-SW6	no
Data jack, black	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), black	Leviton	6AUJK-SE6	no
Fiber housing	2RU Pretium connector panel	Corning	PCH-02U	no
Fiber panel	Closet connector housing panel, 50 micron MMF (OM3), 12 fiber count	Corning	CCH-CP12-E4	no
Fiber panel	Closet connector housing panel, single mode (OS2), 12 fiber count	Corning	CCH-CP12-A9	no
Fiber connector	UniCam fiber connector, LC, 50 micron MMF (OM3)	Corning	95-050-99X	no
Fiber connector	UniCam fiber connector, LC, UPC, single mode (OS2)	Corning	95-200-99	no

- Surface mounted BDF cabinet components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Data patch panel	2RU 72-port QuickPort flat panel, empty, with no number labels, with four label holders	Leviton	49255-NCS <b>(custom NCSU part number)</b>	no
Data jack, crimson	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), crimson	Leviton	6AUJK-SC6	no
Data jack, white	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), white	Leviton	6AUJK-SW6	no
Data jack, black	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), black	Leviton	6AUJK-SE6	no
Fiber housing	1RU Pretium connector panel	Corning	PCH-01U	no

- Surface mounted IDF cabinet components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Voice riser panels	8P4C voice grade patch panel, 110 termination	Leviton	49013-P24	no



Data patch panel	2RU 72-port QuickPort flat panel, empty, with no number labels, with four label holders	Leviton	49255-NCS (custom NCSU part number)	no
Data jack, crimson	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), crimson	Leviton	6AUJK-SC6	no
Data jack, white	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), white	Leviton	6AUJK-SW6	no
Data jack, black	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), black	Leviton	6AUJK-SE6	no
Fiber housing	1RU Pretium connector panel	Corning	PCH-01U	no
Fiber panel	Closet connector housing panel, 50 micron MMF (OM3), 12 fiber count	Corning	CCH-CP12-E4	no
Fiber panel	Closet connector housing panel, single mode (OS2), 12 fiber count	Corning	CCH-CP12-A9	no
Fiber connector	UniCam fiber connector, LC, 50 micron MMF (OM3)	Corning	95-050-99X	no
Fiber connector	UniCam fiber connector, LC, UPC, single mode (OS2)	Corning	95-200-99	no

- Flush mounted IDF cabinet components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Patch panels	QuickPort 12-port bracket for Structured Media Center	Leviton	47600-QPB	no
Data jack, crimson	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), crimson	Leviton	6AUJK-SC6	no
Data jack, white	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), white	Leviton	6AUJK-SW6	no
Data jack, black	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), black	Leviton	6AUJK-SE6	no
SM fiber adapter	Duplex LC QuickPort fiber optic adapter, blue, SM, zirconia ceramic sleeve, white color	Leviton	41085-SLW	no
MM fiber adapter	Duplex LC QuickPort fiber optic adapter, aqua, OM3, zirconia ceramic sleeve, white color	Leviton	41085-LLW	no
Voice riser jack	QuickPort CAT 3 connector, white	Leviton	41108-RW3	no

E. Cable management. Refer to Section 27 11 19 BDF/IDF Termination Hardware.

- 192-outlet and 144-outlet rack components.

	Description	Manufacturer	Part Number	Equals Accepted
Equipment rack	Two-post network equipment rack, 3" uprights, 19"W x 84"H, flat black	Cooper B-Line	SB556084XU FB	no
Vertical manager	RCM+ rack mounted vertical cable manager, double sided, w/ extended depth (front side) fingers style and standard depth (rear side) gate style, 12"W x 20 5/16"D x 84"H, flat black, w/o cover	Cooper B-Line	CCSB006002 <b>(custom NCSU part number)</b>	no
Vertical manager extra gate (rear)	RCM+ cable management plastic gate section, 12"W	Cooper B-Line	SB86212KFB	no
Vertical manager extra gate (front)	RCM+ cable management plastic cable retaining gate, 12"W	Cooper B-Line	SB86212GTF B	no
Vertical manager divider	RCM+ cable management cable retaining bars, 12" wide, metal	Cooper B-Line	CCSB006667	no
Fiber jumper transition tray	Rack mounted top transition tray, 1 1/2"H x 19"W x 6 "D, flat black	Cooper B-Line	SB81319TT6F B	no
Large horizontal manager (for data patch panels)	RCM+ rack mounted horizontal cable manager, plastic finger style, 3RU x 19"W x 5 1/2"D, flat black	Cooper B-Line	SB87019S3FB	no
Voice patch cord transition tray	Rack mounted lower transition tray - double - 3 1/2"H x 19"W x 6"D, flat black	Cooper B-Line	SB81319LTD 6FB	no
Rear cable support bar	High-Density cable management bar, 1 RU	Leviton	49005-DMB	no

- 96-outlet and 48-outlet rack components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Equipment rack	Two-post network equipment rack, 3" uprights, 19"W x 84"H, flat black	Cooper B-Line	SB556084XU FB	no
Vertical manager	RCM+ rack mounted vertical cable manager, double sided, w/ extended depth (front side) fingers style and standard depth (rear side) gate style, 10"W x 20 5/16"D x 84"H, flat black, w/o cover	Cooper B-Line	CCSB006003 <b>(custom NCSU part number)</b>	no
Vertical manager	RCM+ cable management plastic gate section, 10"W	Cooper B-Line	SB86210KFB	no

extra gate (rear)				
Vertical manager extra gate (front)	RCM+ cable management plastic cable retaining gate, 10"W	Cooper B-Line	SB86210GTFB	no
Vertical manager divider	RCM+ cable management cable retaining bars, 10" wide, metal	Cooper B-Line	CCSB006666	no
Fiber jumper transition tray	Rack mounted top transition tray, 1 1/2"H x 19"W x 6 "D, flat black	Cooper B-Line	SB81319TT6FB	no
Large horizontal manager (for data patch panels)	RCM+ rack mounted horizontal cable manager, plastic finger style, 3RU x 19"W x 5 1/2"D, flat black	Cooper B-Line	SB87019S3FB	no
Voice patch cord transition tray	Rack mounted lower transition tray - double - 3 1/2"H x 19"W x 6"D, flat black	Cooper B-Line	SB81319LTD6FB	no
Rear cable support bar	High-Density cable management bar, 1 RU	Leviton	49005-DMB	no

- 24-outlet rack components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Equipment rack	Two-post network equipment rack, 3" uprights, 19"W x 84"H, flat black	Cooper B-Line	SB556084XUFB	no
Vertical manager	RCM+ rack mounted vertical cable manager, double sided, w/ extended depth (front side) fingers style and standard depth (rear side) gate style, 6"W x 20 5/16"D x 84"H, flat black, w/o cover	Cooper B-Line	CCSB006004 <b>(custom NCSU part number)</b>	no
Vertical manager extra gate (rear)	RCM+ cable management plastic gate section, 6"W	Cooper B-Line	SB8626KFB	no
Vertical manager extra gate (front)	RCM+ cable management plastic cable retaining gate, 6"W	Cooper B-Line	SB8626GTFB	no
Vertical manager divider	RCM+ cable management cable retaining bars, 6" wide, metal	Cooper B-Line	CCSB006679	no

Fiber jumper transition tray	Rack mounted top transition tray, 1 1/2"H x 19"W x 6 "D, flat black	Cooper B-Line	SB81319TT6FB	no
Large horizontal manager (for data patch panels)	RCM+ rack mounted horizontal cable manager, plastic finger style, 3RU x 19"W x 5 1/2"D, flat black	Cooper B-Line	SB87019S3FB	no
Voice patch cord transition tray	Rack mounted lower transition tray - double - 3 1/2"H x 19"W x 6"D, flat black	Cooper B-Line	SB81319LTD 6FB	no
Rear cable support bar	High-Density cable management bar, 1 RU	Leviton	49005-DMB	no

- BDF rack components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Equipment rack	Two-post network equipment rack, 3" uprights, 19"W x 84"H, flat black	Cooper B-Line	SB556084XU FB	no
Vertical managers	Cable ring, 2.3"W x 3.8"D	Great Lakes Case & Cabinet	CM-425	yes
Fiber jumper transition tray	Rack mounted top transition tray, 1 1/2"H x 19"W x 6 "D, flat black	Cooper B-Line	SB81319TT6FB	no
Small horizontal manager (for voice riser)	RCM+ rack mounted horizontal cable manager, plastic finger style, 1RU x 19"W x 5 1/2"D, flat black	Cooper B-Line	SB87019S1FB	no
Voice patch cord transition tray	Rack mounted lower transition tray - double - 3 1/2"H x 19"W x 6"D, flat black	Cooper B-Line	SB81319LTD 6FB	no

- IDF rack components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Equipment rack	Two-post network equipment rack, 3" uprights, 19"W x 84"H, flat black	Cooper B-Line	SB556084XU FB	no
Vertical managers	Cable ring, 2.3"W x 3.8"D	Great Lakes Case & Cabinet	CM-425	yes
Fiber jumper transition tray	Rack mounted top transition tray, 1 1/2"H x 19"W x 6 "D, flat black	Cooper B-Line	SB81319TT6FB	no

Small horizontal manager (for voice riser)	RCM+ rack mounted horizontal cable manager, plastic finger style, 1RU x 19"W x 5 1/2"D, flat black	Cooper B-Line	SB87019S1FB	no
Voice patch cord transition tray	Rack mounted lower transition tray - double - 3 1/2"H x 19"W x 6"D, flat black	Cooper B-Line	SB81319LTD 6FB	no

- Electronics rack components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Equipment rack	Two-post network equipment rack, 3" uprights, 19"W x 84"H, flat black	Cooper B-Line	SB556084XU FB	no
Vertical managers	Cable ring, 2.3"W x 3.8"D	Great Lakes Case & Cabinet	CM-425	yes
Voice patch cord transition tray	Rack mounted lower transition tray - double - 3 1/2"H x 19"W x 6"D, flat black	Cooper B-Line	SB81319LTD 6FB	no

- Single rack BDF rack components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Equipment rack	Two-post network equipment rack, 3" uprights, 19"W x 84"H, flat black	Cooper B-Line	SB556084XU FB	no
Vertical manager	RCM+ rack mounted vertical cable manager, double sided, w/ extended depth (front side) fingers style and standard depth (rear side) gate style, 6"W x 20 5/16"D x 84"H, flat black, w/o cover	Cooper B-Line	CCSB006004 ( <b>custom NCSU part number</b> )	no
Vertical manager extra gate (rear)	RCM+ cable management plastic gate section, 6"W	Cooper B-Line	SB8626KFB	no
Vertical manager extra gate (front)	RCM+ cable management plastic cable retaining gate, 6"W	Cooper B-Line	SB8626GTFB	no
Vertical manager divider	RCM+ cable management cable retaining bars, 6" wide, metal	Cooper B-Line	CCSB006679	no

Fiber jumper transition tray	Rack mounted top transition tray, 1 1/2"H x 19"W x 6 "D, flat black	Cooper B-Line	SB81319TT6FB	no
Large horizontal manager (for data patch panels)	RCM+ rack mounted horizontal cable manager, plastic finger style, 3RU x 19"W x 5 1/2"D, flat black	Cooper B-Line	SB87019S3FB	no
Small horizontal manager (for voice riser)	RCM+ rack mounted horizontal cable manager, plastic finger style, 1RU x 19"W x 5 1/2"D, flat black	Cooper B-Line	SB87019S1FB	no
Rear cable support bar	High-Density cable management bar, 1 RU	Leviton	49005-DMB	no

- Single rack IDF rack components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Equipment rack	Two-post network equipment rack, 3" uprights, 19"W x 84"H, flat black	Cooper B-Line	SB556084XUFB	no
Vertical manager	RCM+ rack mounted vertical cable manager, double sided, w/ extended depth (front side) fingers style and standard depth (rear side) gate style, 6"W x 20 5/16"D x 84"H, flat black, w/o cover	Cooper B-Line	CCSB006004 <b>(custom NCSU part number)</b>	no
Vertical manager extra gate (rear)	RCM+ cable management plastic gate section, 6"W	Cooper B-Line	SB8626KFB	no
Vertical manager extra gate (front)	RCM+ cable management plastic cable retaining gate, 6"W	Cooper B-Line	SB8626GTFB	no
Vertical manager divider	RCM+ cable management cable retaining bars, 6" wide, metal	Cooper B-Line	CCSB006679	no
Fiber jumper transition tray	Rack mounted top transition tray, 1 1/2"H x 19"W x 6 "D, flat black	Cooper B-Line	SB81319TT6FB	no
Large horizontal manager (for data patch panels)	RCM+ rack mounted horizontal cable manager, plastic finger style, 3RU x 19"W x 5 1/2"D, flat black	Cooper B-Line	SB87019S3FB	no
Small horizontal manager (for voice riser)	RCM+ rack mounted horizontal cable manager, plastic finger style, 1RU x 19"W x 5 1/2"D, flat black	Cooper B-Line	SB87019S1FB	no
Voice patch cord transition tray	Rack mounted lower transition tray - double - 3 1/2"H x 19"W x 3 1/2"D, flat black	Cooper B-Line	SB81319LTD3FB	no

Rear cable support bar	High-Density cable management bar, 1 RU	Leviton	49005-DMB	no
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- Surface mounted cabinet components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Cabinet	V-LINE dual hinge wall mount cabinet, 36"H x 25"D, solid door, black	Cooper B-Line	VLWM3625S B	no
Lock Hasp	Rotating hasp, 7/8"H x 3 1/2"L, with max shackle diameter 3/8", black	Stanley	4FWE5	yes
Horizontal manager (for data patch panel)	Horizontal manager, 2RU with cover	Leviton	4925C-BCM	no
Horizontal manager (for voice patch panel)	Horizontal manager, 1RU with cover	Leviton	4925C-LPM	no
Cabinet support bracket	Welded steel universal shelf bracket	Cooper B-Line	B888W	yes
Support post base	Steel post base	Cooper B-Line	B279FL	yes
Channel fitting	Three hole corner angle	Cooper B-Line	B232	yes
Support channel	1 5/8" 12 gauge channel, 10' section, steel, TH type	Cooper B-Line	B22TH	yes

- Flush mounted cabinet components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Upper cabinet	Structured Media Enclosure, 21" enclosure only	Leviton	47605-21E	no
Upper cabinet door	Structured Media Enclosure, 21" premium vented hinged door	Leviton	47605-21S	no
Lower cabinet	Structured Media Enclosure, 42" enclosure only	Leviton	47605-42N	no
Lower cabinet door	Structured Media Enclosure, 42" premium vented hinged door	Leviton	47605-42S	no
Receptacle	Non-surge J-box kit, one duplex receptacle, wall plate	Leviton	47605-ACN	no
Lock set	Structured Media Center lock and key for hinged doors	Leviton	5L000-LOK	

- Ladder rack system components.

Item	Description	Manufacturer	Part Number	Equals
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				Accepted
Overhead ladder rack	Flextray, 4"D x 12"W	Cooper B-Line	FT4X12X10	no
Overhead ladder rack	Flextray, 4"D x 18"W	Cooper B-Line	FT4X18X10	no
Top of rack support	Flextray standoff angle	Cooper B-Line	CCSB006182 ( <b>custom NCSU part number</b> )	no
Ladder rack mounting washer	Hold down plates, zinc	Cooper B-Line	SUPT WASHERZN	no
Ladder rack connector	Washer splice kit, zinc	Cooper B-Line	WASTER SPL KITEG	no
Wall mount bracket (side)	L Bracket, 12", zinc	Cooper B-Line	12 L BRKTEG	no
Wall mount bracket (end)	Wall termination kit, zinc	Cooper B-Line	FTA9WTKZN	no
Vertical wall mount bracket	Wall mount kit, 12", zinc	Cooper B-Line	WB1224WM KZN	no
Cable drop out	Drop out fitting, zinc	Cooper B-Line	DROP OUTEG	no
Wire end cap	Rubber cap	Cooper B-Line	B719EB	no
Additional Flextray hardware	various	Cooper B-Line	various	no

F. Riser cables. Refer to Section 27 13 00 Communications Riser Cabling.

- Riser system components.

Item	Description	Manufacturer	Part Number	Equals Accepted
Voice riser cable	25 pair, Category 3, CMR UTP cable, gray jacket	Superior Essex	18-475-33	yes
MM fiber riser cable	MIC fiber optic cable, riser rated, 50 micron MMF (OM3), 12 strand, aqua jacket	Corning	012T81-33180-24	no
MM fiber riser cable	MIC fiber optic cable, riser rated, 50 micron MMF (OM3), 6 strand, aqua jacket	Corning	006T81-31180-24	no
SM fiber riser cable	MIC fiber optic cable, riser rated, single mode (OS2), 12 strand, yellow jacket	Corning	012E81-33131-24	no
SM fiber riser cable	MIC fiber optic cable, riser rated, single mode (OS2), 6 strand, yellow jacket	Corning	006E81-31131-24	no



Innerduct	1" flexible plastic innerduct, orange with pull line	Endot Industries	1050	yes
Fiber panel	Closet connector housing panel, 50 micron MMF (OM3), 12 fiber count	Corning	CCH-CP12-E4	no
Fiber panel	Closet connector housing panel, single mode (OS2), 12 fiber count	Corning	CCH-CP12-A9	no
Fiber connector	UniCam fiber connector, LC, 50 micron MMF (OM3)	Corning	95-050-99X	no
Fiber connector	UniCam fiber connector, LC, UPC, single mode (OS2)	Corning	95-200-99	no

G. Horizontal cables. Refer to Section 27 15 00 Communications Horizontal Cabling.

- UWS outlets.

Item	Description	Manufacturer	Part Number	Equals Accepted
Faceplate	QuickPort angled dual-gang, stainless steel, 4-port wallplate with ID windows	Leviton	43081-2L4	no
Blank, gray	Blank QuickPort module, gray, (bag of 10)	Leviton	41084-0BG	no
Data jack, crimson	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), crimson	Leviton	6AUJK-SC6	no
Data jack, white	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), white	Leviton	6AUJK-SW6	no
Data jack, black	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), black	Leviton	6AUJK-SE6	no
UTP cable	10Gain XP Category 6A UTP cable, CMR, 0.295" OD, white jacket	Superior Essex	6H-272-4A	no

- UWS outlets with video.

Item	Description	Manufacturer	Part Number	Equals Accepted
Faceplate	QuickPort angled dual-gang, stainless steel, 4-port wallplate with ID windows	Leviton	43081-2L4	no
Video connector	Feedthrough QuickPort F-connector, nickel plated, grey housing (optional)	Leviton	41084-FGF	no
Data jack, crimson	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), crimson	Leviton	6AUJK-SC6	no
Data jack, white	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson	Leviton	6AUJK-SW6	no

	(jack), white			
Data jack, black	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), black	Leviton	6AUJK-SE6	no
UTP cable	10Gain XP Category 6A UTP cable, CMR, 0.295" OD, white jacket	Superior Essex	6H-272-4A	no
Video cable	RG6 (F6SSV) quad shield, 75 Ohm, coaxial cable, black jacket, non-plenum	Commscope	5740	no
RG6 connector	Male F type connectors, hex crimp for RG6 cable	Corning-Gilbert	GF 6 AHS/USA	no

- Fiber outlets (multi-mode).

Item	Description	Manufacturer	Part Number	Equals Accepted
Faceplate	QuickPort angled dual-gang, stainless steel, 4-port wallplate with ID windows	Leviton	43081-2L4	no
Fiber adapter	Duplex LC QuickPort fiber optic adapter, aqua, OM3, zirconia ceramic sleeve, white color	Leviton	41085-LLW	no
Blank, gray	Blank QuickPort Module, gray (bag of 10)	Leviton	41084-0BG	no
Fiber cable	MIC fiber optic cable, riser rated, 50 micron MMF (OM3), 4 strand, aqua jacket	Corning	004T81-31180-24	no
Fiber connector	UniCam fiber connector, LC, 50 micron MMF (OM3)	Corning	95-050-99X	no

- Fiber outlets (single-mode).

Item	Description	Manufacturer	Part Number	Equals Accepted
Faceplate	QuickPort angled dual-gang, stainless steel, 4-port wallplate with ID windows	Leviton	43081-2L4	no
Fiber adapter	Duplex LC QuickPort fiber optic adapter, blue, SM, zirconia ceramic sleeve, white color	Leviton	41085-SLW	no
Blank, gray	Blank QuickPort module, gray (bag of 10)	Leviton	41084-BGB	no
Fiber cable	MIC fiber optic cable, riser rated, single mode (OS2), 4 strand, yellow jacket	Corning	004E81-31131-24	no
Fiber connector	UniCam fiber connector, LC, UPC, single mode (OS2)	Corning	95-200-99	no

- Modular furniture outlets components (varies by furniture manufacturer).

Item	Description	Manufacturer	Part Number	Equals Accepted
Faceplate	QuickPort modular furniture faceplate, 4-port extended depth w/ 1 QuickPort blank, white	Leviton	49910-EW4	no
Faceplate	QuickPort modular furniture faceplate, 4-port Herman Miller w/ 1 QuickPort blank, white	Leviton	49910-HW4	no
Adapter	Modular furniture bracket (Steelcase 9000, Haworth, Knoll, Allsteel, Westinghouse, and Teknion)	Leviton	49222-BLK	no
Adapter	Modular furniture bracket (Herman Miller Action Office)	Leviton	49222-ESP	no
Adapter	Modular furniture bracket (Herman Miller Ethospace and Steelcase Avenir)	Leviton	49222-HAO	no
Faceplate, white	QuickPort angled dual-gang, white plastic, 4-port wallplate with ID windows	Leviton	42081-4WS	no
Blank, white	Blank QuickPort module, white (bag of 10)	Leviton	41084-0BW	no
Data jack, crimson	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), crimson	Leviton	6AUJK-SC6	no
Data jack, white	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), white	Leviton	6AUJK-SW6	no
Data jack, black	Atlas-X1 CAT 6A UTP QuickPort connector with shutters, crimson (jack), black	Leviton	6AUJK-SE6	no
UTP cable	10Gain XP Category 6A UTP cable, CMR, 0.295" OD, white jacket	Superior Essex	6H-272-4A	no

H. Elevator telephones. Refer to Section 27 32 23 Elevator Telephones.

Item	Description	Manufacturer	Part Number	Equals Accepted
UTP cable	4 pair Category 3 UTP cable, 24 AWG solid bare copper, tan jacket, non-plenum	Superior Essex, Inc.	18-241-13	yes
Telephone	Emergency telephone, single button, flush-mount, stainless steel, voice annunciation option	Gai-Tronics, Corp.	397-002	no

I. Emergency telephones. Refer to Section 27 32 26 Communications Horizontal Cabling.

- Area of rescue telephones.

Item	Description	Manufacturer	Part Number	Equals
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				Accepted
Telephone	Emergency telephone, single button, surface-mount, aluminum housing, safety yellow, voice annunciation option	Gai-Tronics, Corp.	393AL-002	no
UTP cable	4 pair Category 3 UTP cable, 24 AWG solid bare copper, tan jacket, non-plenum	Superior Essex, Inc.	18-241-13	yes

- Blue light telephones.

Item	Description	Manufacturer	Part Number	Equals Accepted
Stanchion	Model 234 emergency telephone stanchion, with video hole, white paint with red letters	Gai-Tronics, Corp.	84501-031	no
Strobe light	Strobe with dual constant-on lamps, blue	Gai-Tronics, Corp.	530-001	no
Telephone	Emergency telephone, single button, flush-mount, stainless steel, voice annunciation option	Gai-Tronics, Corp.	397-002	no
Cable	Telephone buried distribution wire, with aluminum tape, 2 pair 22AWG copper, water-tight	Superior Essex, Inc.	04-052-84	yes
Wall stanchion	Model 234WM emergency telephone wall mount, white paint with red letters	Gai-Tronics, Corp.	84505-031	no

- J. Grounding and Bonding System. Refer to Section 27 05 26 BDF/IDF Grounding and Bonding for Communication Systems.

Item	Description	Manufacturer	Part Number	Equals Accepted
Bonding Conductor for Telecommunications (BCT)	Stranded grounding wire, 6 AWG to 3/0 AWG, with green insulation	Southwire	SIMpull THHN	yes
Telecommunications Main Grounding Busbar (TMGB)	Bar assembly and hardware kit, 12” long	Cooper B-Line	SBTMGB12K	yes
Telecommunications Grounding Busbar (TGB)	Bar and hardware kit, 12” long	Cooper B-Line	SBTGBK	yes

Telecommunications Bonding Backbone (TBB)	Stranded grounding wire, 6 AWG to 3/0 AWG, with green insulation	Southwire	SIMpull THHN	yes
Grounding Equalizer (GE)	Stranded grounding wire, 6 AWG to 3/0 AWG, with green insulation	Southwire	SIMpull THHN	yes
Mechanical lug	Two-hole mechanical lug	Cooper B-Line	SB4780x	yes
Compression lugs	Long barrel compression lug	Cooper B-Line	SBCL x	yes
Lay-in lug	Lay-in lug	Cooper B-Line	SBLL 1	yes
Ladder rack ground bolt	Flextray ground bolt	Cooper B-Line	GROUND BOLT	yes
Tap connectors	H-tap, type WR-wide range aluminum tap connectors	Blackburn	WR379 or WR159	yes
Conduit grounding bushing	Insulated metallic grounding bushing with lay-in lug	Halex	95220B or 95240B	yes
Grounding pipe clamp	Ground rod/pipe clamp	Cooper B-Line	SBPC150200 or SBPC350400	yes
TMGB/TGB anti-oxidant	Copper-based anti-oxidant compound	Cooper B-Line	SBJCC	yes
Other surfaces anti-oxidant	Zinc-based anti-oxidant compound	Cooper B-Line	SBJCA	yes

K. Owner provided equipment. For reference only.

Item	Description	Manufacturer	Part Number	Equals Accepted
	Patch cords	Leviton		
	Uninterruptible Power Systems (UPS)	Tripp-Lite		
	Power strips	Geist		
	Thermometer	Timex		

END OF SECTION 270600

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