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LEGEND

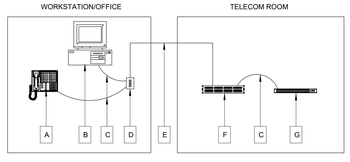
SYMBOL	DESCRIPTION
XX" AFF	WALL MOUNTED HORIZONTAL COMMUNICATIONS CABLE(S) OUTLET, INCLUDES WALL COVER PLATE, MOUNTED AT XX" or XXmm ABOVE FINISHED FLOOR (AFF).
	WALL MOUNTED HORIZONTAL COMMUNICATIONS CABLE(S) OUTLET
	FLOOR MOUNTED HORIZONTAL COMMUNICATIONS CABLE(S) OUTLET
	FURNITURE MOUNTED HORIZONTAL COMMUNICATIONS CABLE(S) OUTLET
	RACEWAY MOUNTED HORIZONTAL COMMUNICATIONS CABLE(S) OUTLET
	HORIZONTAL COMMUNICATIONS DUPLEX FIBRE OUTLET
XXXX-XXX X	CEILING MOUNTED HORIZONTAL COMMUNICATIONS CABLE(S) OUTLET (XXXX-XXX = CCTV-###, WAP-###, SN-###, TC-###)
	PAC POLE MOUNTED HORIZONTAL COMMUNICATIONS CABLE(S) OUTLET
	WALL MOUNTED COAXIAL CATV OUTLET
	FURNITURE MOUNTED COAXIAL CATV OUTLET
	CEILING MOUNTED COAXIAL CATV OUTLET
	WALL MOUNTED HDMI CATV OUTLET
1D-XXX 1V-XXX	TRAFFIC COUNTER
"W"	FEED POINT FOR COMMUNICATIONS CABLING. LETTER DENOTES FEED LOCATION. W = WALL, F = FLOOR, P = PAC POLE, SR = SURFACE RACEWAY
	CONDUIT FOR COMMUNICATIONS CABLING, SIZE AND QUANTITY AS NOTED BY DIV. 26 UNLESS OTHERWISE NOTED
	CABLE TRAY FOR COMMUNICATIONS CABLING, SIZE AS NOTED BY DIV. 26 UNLESS OTHERWISE NOTED
	MAIN CABLE SUPPORT ROUTE FOR COMMUNICATIONS CABLING (CAT425 SUPPORTS)
	NOT IN CONTRACT
XXY-ZZ	4-PORT OPTICAL NETWORK TERMINAL (XX=LEVEL, Y= PASSIVE SPLITTER ID, ZZ= ONT #)
PS-XXY	4-PORT OPTICAL NETWORK TERMINAL (XX=LEVEL, Y= PASSIVE SPLITTER ID)
JB	JUNCTION BOX
CP	CONSOLIDATION POINT

SYMBOL MODIFIER TEXT

TEXT	DEFINITION
AFF	ABOVE FINISHED FLOOR
BFF	BELOW FINISHED FLOOR
AFC	ABOVE FINISHED CEILING
BFC	BELOW FINISHED CEILING
BP	BLANK PLATE
CCTV	SECURITY CLOSED CIRCUIT SURVEILLANCE
E	EXISTING TO REMAIN
D	DEMOLITION
FLR	FLOOR
F	FUTURE
P	PAC POLE
PP	PAY PHONE
R	EXISTING TO BE RELOCATED
SN	SECURITY NODE (ACCESS CONTROL)
SR	SURFACE RACEWAY
TR	TELECOMMUNICATIONS ROOM
W	WALL
WAP	WIRELESS ACCESS POINT

NOTE:

NOT ALL SYMBOLS APPLY. COMMUNICATIONS CONTRACTOR TO REFER TO FLOOR PLANS AND DETAILS.



LEGEND:

(A) TELEPHONE (BY OTHERS)
(B) COMPUTER (BY OTHERS)
(C) 4-PAIR UTP COPPER PATCH CORD
(D) MULTI-PORT COMMUNICATIONS OUTLET
(E) 4-PAIR UTP CAT6 COPPER CABLE
(F) UTP MODULAR PATCH PANEL
(G) NETWORK SWITCH (BY OTHERS)

NOTES:

N-1 ALL PRODUCTS SHOWN SHALL BE SUPPLIED AND INSTALLED BY THE COMMUNICATIONS CONTRACTOR UNLESS OTHERWISE NOTED.

N-2 COMMUNICATIONS DETAILS ARE FOR SCHEMATIC PURPOSE ONLY. THE COMMUNICATIONS CONTRACTOR IS RESPONSIBLE TO VERIFY DRAWINGS AND SPECIFICATIONS FOR QUANTITIES AND ACTUAL PRODUCT REQUIREMENTS.

1 / T-001 TYPICAL DATA & VOICE CONNECTIVITY SCHEMATIC
SCALE: N.T.S.

COMMUNICATIONS SHEET LIST

SHEET NUMBER	SHEET NAME	ISSUED DATE
T-001	COMMUNICATIONS SCHEMATICS AND LEGEND	2026-10-29
T-002	COMMUNICATIONS SPECIFICATIONS	2026-10-29
T-107	LEVEL 07 COMMUNICATIONS FLOOR PLAN	2026-10-29
T-207	LEVEL 07 COMMUNICATIONS REFLECTED CEILING PLAN	2026-10-29
T-401	COMMUNICATIONS ROOM DETAILS	2026-10-29
T-501	COMMUNICATIONS TYPICAL DETAILS	2026-10-29

Number	Date	Description	Issued by
6	2026-10-29	ISSUED FOR TENDER R.1	JA
5	2026-10-29	ISSUED FOR TENDER	JA
4	2026-10-22	ISSUED FOR 90% R.1	JA
3	2026-10-08	ISSUED FOR 90% CD	JA
2	2026-09-17	ISSUED FOR 60% CD	JA
1	2026-08-20	ISSUED FOR 100% DD	JA

ISSUED

THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS. DO NOT SCALE THE DRAWINGS.

THIS DRAWING SHALL NOT BE USED FOR CONSTRUCTION PURPOSES UNTIL ISSUED FOR CONSTRUCTION BY THE DESIGN PROFESSIONAL WHOSE SIGNATURE IS BELOW.

DATE
ISSUED FOR CONSTRUCTION

PROJECT NAME:
WLU - FACULTY EDUCATION MOVE

DRAWING TITLE:
COMMUNICATIONS SCHEMATICS AND LEGEND

SCALE: 1 : 24
DATE: 2026-08-17
DRAWING BY: RA
CHECK BY: JA

PROJECT NUMBER: 25027

DRAWING NUMBER: T-001

Section 27 00 03 General Specifications and Requirements For Communications

GENERAL

1.1 Conform to the requirements of Divisions 0 and 1 and additional general information as prepared by the Architect or Prime Consultant, which apply to and form part of all sections of the work.

1.2 All drawings and details have been prepared to illustrate the existing and new conditions of the project and shall be considered diagrammatic. The Communications Contractor shall ensure all components required to complete the fully operational system are installed with no additional cost to the Owner or the Technology Systems Consultant.

1.3 Provide all labour, materials, tools and equipment required for the complete installation of work called for in all Sections of the Contract Documents.

1.4 The Communications Contractor shall verify exact locations of all items shown and shall verify with the Technology Systems Consultant all new locations prior to installation. It shall be the responsibility of the Communications Contractor to provide the Technology Systems Consultant detailed layouts of all rooms and locations of installation prior to installation for approval. All costs, including other trades as applicable, associated with changes resulting from non-approved installation will be the responsibility of the Communications Contractor.

1.5 The Communications Contractor shall be responsible to meet the project schedule as provided by the Project Manager and the Owner.

1.6 Work is generally to be performed during regular work hours unless noted otherwise in this document. The Communications Contractor shall include for all necessary overtime labour in order to complete the project. The Communications Contractor shall be responsible for providing labour in order to complete the work within the schedule with no additional cost to the Owner.

1.7 The Communications Contractor shall provide only skilled, trained tradesmen experienced in the installation of a certified installation. Each installer shall be certified with the manufacturer providing the warranty for this project. All installers shall have successfully completed the approved manufacturer's installation training program. The Technology Systems Consultant reserves the right to receive written proof of such training at any time during the project. If such proof is not provided the Communications Contractor will remove the installer from the site immediately and replace the installer within 24 hours.

1.8 Sub-Contractors shall not be allowed to perform all or any portion of the project unless approved in writing by the Technology Systems Consultant and the Owner. Subcontractors shall be identified at time of tender to be considered for approval.

1.9 At the time of tendering the Communications Contractor shall notify the Technology Systems Consultant in writing of any equipment, wiring feature, software or device necessary for full operation of any of the systems which is not included in the specification documents or drawings. Failure to supply notification shall not relieve the Communications Contractor of the responsibility for providing a fully functioning system at the bid price.

1.10 Specifications and drawings are schematic and represent the intent of the project.

1.11 The Communications Contractor shall provide an installation and make all changes associated with coordination with other trades and to accommodate unforeseen site conditions at no additional cost to the Owner.

1.12 The Communications Contractor shall be responsible for attending coordination meetings and weekly site meetings as requested by the General Contractor or Project Manager for the coordination of locations and services. The Communications Contractor's project manager selected shall be assigned for the duration of the project and may only be changed with the written consent of the Technology Systems Consultant.

1.13 Cutting and patching of all surfaces as applicable to the communications installation shall be the responsibility of and be performed by the Communications Contractor. All work shall be performed to the standards set by codes and standards, Building Management, General Contractor and the Owner.

1.14 The Communications Contractor shall provide all required materials, labour, tools and equipment to meet the temporary requirements of the project in coordination with other trades and the General Communications Contractor at no additional cost to the Owner.

1.15 All hoisting, mechanical lifts and special scaffolds shall be the responsibility of the Communications Contractor and at no additional cost to the Owner.

PRODUCTS

2.1 Substitution of any product shall be prior approved in writing by only the Technology Systems Consultant.

2.2 Provide and be responsible for lockable storage for all tools and material required to complete the installation through the duration of the project. Once the project is complete remove all tools and excess materials within 2 business days.

2.3 The Owner and its representatives shall in no way be held liable for any missing material, equipment or tools required to complete the installation.

EXECUTION

3.1 The Communications Contractor shall supply all materials, labour, tools and equipment to provide a complete warranted installation as outlined in the contract documents and suitable to the approval of the Owner, the Technology Systems Consultant and inspection bodies having jurisdiction.

3.2 Provide continuity of all existing services while completing the specified installation. Losses due to interruption of services will be the responsibility of the Communications Contractor.

3.3 The Communications Contractor shall be responsible for the removal and reinstallation of all floor or ceiling tiles, hatch ways or access panels. All items shall be removed and replaced on a daily basis and left in the original condition. Special caution shall be taken to not break, chip or discolour with dirt or finger prints any such items. The Communications Contractor will be fully responsible for repair or replacement of all damaged pieces at the discretion of the Project Manager or Owner.

3.4 It is the responsibility of the Communications Contractor to perform all cutting, patching and repair related to their work including any penetrations through walls or floors.

3.5 The Communications Contractor shall adhere to all safety laws, rules and regulations issued by the authorities having jurisdiction, General Contractor, Project Manager and the Owner.

3.6 Locations or all equipment, outlets or devices prior to installation may be revised to within (3) meters without any additional cost or change request.

Section 27 00 07 Codes and Standards for Communications

GENERAL

1.1 The Communications Contractor shall adhere to all applicable codes, standards and regulations.

1.2 All equipment, products and installation methods shall adhere to all codes, standards and authorities having jurisdiction.

1.3 Supply and Installation shall adhere to all codes and standards by the following:

ANSI/TIA/EIA	CSA	IEEE	CAN/ULC	OHSA
BICSI	OESC	NEMA	UL	NCTA

EXECUTION

3.1 The Communications Contractor shall install all equipment and material in accordance with the codes and standards aforementioned in this section.

3.1 Quality and workmanship shall be at the highest of professional tradesman levels to be accepted for completion. The Technology Systems Consultant shall have the sole right to reject any work not in accordance with industry standards.

Section 27 00 09.10 Scope of Work for Structured Cabling Communications

GENERAL

1.1 All equipment and products supplied shall be new and free of all manufacturer defects and delivery or installation damage.

1.2 The only acceptable Manufacturers of an end-to-end solution for this project and as further specified in this document will be the following: Belden, CommScope & Panduit.

1.3 The Owner requires a complete "Permanent Link" tested and certified installation. Certification shall be provided by the specified and selected product manufacturer directly to the Owner for a period no less than 20 years.

1.4 The Communications Contractor shall currently be an authorized installer of the manufacturer providing the warranty. Manufacturer authorized sub contractors shall not be acceptable.

1.5 The Communications Contractor shall provide a written 1 year warranty inclusive of all parts and labour for the end to end solution. The Communications Contractor shall also state and agree in writing to providing response for any warranty request within 24 hours during this warranty period.

EXECUTION

3.1 The specific structured cabling system scope of this project as per these specifications and drawings includes but is not limited to:

.1 Supply of shop drawings for all products prior to placing material order to acquire written approval.
.2 Removal and disposal of all existing redundant communications cabling when applicable.
.3 Supply and installation of 4-pair UTP cabling and coordinate with Owner for all Category 6 cabling requirements by Division 27.
.4 Coordinate with Security Integrator and Owner for all Category 6A cabling requirements to CCTV locations.
.5 Cable Tray and conduit outside of the Telecommunications Room shall be supplied and installed by Division 26.
.6 Cable Tray within the Telecommunications Room shall be supplied and installed by Division 27.
.9 Coordinate with Owner to patch all Owner equipment as per Owner's Patching Schedule
.10 Install Owner supplied Wireless Access Points, label test and commission in coordination with the Owner.
.11 Supply and installation of all fire stopping for all penetrations used for communications cabling.
.12 Complete testing of each cable in a timely fashion prior to activation by the Owner.
.13 Supply temporary and final record drawings and documentation as specified.

Section 27 00 11 Administrative Requirements for Communications

GENERAL

1.1 Shop drawings shall be stamped and signed "For Review" complete with date submitted.

1.2 Manufacturers shop drawings showing various model or styles shall be labelled with identification arrows showing which items are being proposed. Arrows shall be reproducible through standard photocopying.

1.3 The Communications Contractor shall provide marked record drawings showing all cable numbers on floor plans, rack elevations, backboard layouts and cable routing at the completion of the project. Drawings shall include all architectural and project changes. Provide within five (5) days of completion of the project (1) PDF copy for use by the Technology Systems Consultant.

1.4 The Communications Contractor shall prepare record drawing(s) using AutoCAD, compatible with the current DWG file type. The Communications Contractor shall issue one (1) CAD DWG and one (1) PDF copy of record drawings within ten (10) days of project completion. The DWG file shall include all external references converted to blocks so there are no external dependences. If the Communications Contractor cannot comply with this requirement, Technology Systems Consultant will update all hand drawn record drawings to AutoCAD. The cost for this service shall be based on per diem rates at the time of completion. The Communications Contractor shall be responsible for the costs associated with this work.

1.5 Prepare a complete test report for each cable identifying a successful test on each cable, complete with the technician's signature and date. Test reports shall be full test reports in the testing software format and with one page per cable. Provide 1 soft copy on USB of test results with appropriate viewing software to the Technology Systems Consultant within five (5) days of project completion for approval.

1.6 At the completion of the project be prepared to submit 1 copy of a project manual in a digital PDF copy to the Technology Systems Consultants for review and approval. This project manual shall include:

.1 Contractor's Name, contact information and lead installer/foreman's contact info
.2 Final bill of materials
.3 Approved shop drawings
.4 WIMS data sheets on all applicable materials including fire stopping
.5 Maintenance and/or operation manuals for all equipment
.6 Test results
.7 Record drawings
.8 Letter of 1 year installation warranty
.9 Manufacturer's Certification and warranty documentation

1.7 The Communications Contractor shall be responsible for maintaining a complete set of record marked up drawings on site for the Technology Systems Consultants review at all times. Drawings shall be up to date with all architectural and project changes.

1.8 Should the Owner or General Contractor require hardcopies of any documents referenced in this section, the Communications Contractor shall provide as requested at no additional cost.

Section 27 00 13 Fire Stopping for Communications

GENERAL

1.1 Products manufactured only by Hilti or Specified Technologies Inc. (STI) are acceptable.

1.3 Obtain fire stop systems for each type of penetration and construction condition indicated from a single manufacturer.

1.4 Fire Stop Systems acceptable for this project are those that have been tested to the CAN/ULC S115 Standard and CSA approved.

1.5 Fire stopping shall maintain a minimum one-hour rating, meet applicable Federal, Provincial, Local building codes, and be tested by a SCC and accredited Third Party Testing Agency in accordance with the Standards.

PRODUCTS

2.1 Newly installed pathway through-penetrations of Telecommunications Space shall use pathway devices that are comprised of intumescent pads or strips allowing 0 to 100 percent cable fill.

2.2 When existing sleeves require firestop, remove all existing product and replace with:

.1 Fire Stop Putty - Intumescent, non-hardening, water resistant putties containing no solvents, inorganic fibres or silicone compounds c/w approved backing materials.

.2 Fire Stop Sealants - Single component latex formulations that upon cure do not re-emulsify during exposure to moisture c/w approved backing materials.

EXECUTION

3.1 Before beginning installation, verify that substrate conditions previously installed under other sections are acceptable for installation of fire stopping in accordance with manufacturer's installation instructions and technical information.

3.2 Install through-penetration fire stop systems in accordance with Performance Criteria and in accordance with the conditions of testing and classification as specified in the published design and including any applicable Engineering Judgments (EJs).

3.3 Comply with manufacturer's instructions for installation of fire stopping products.

Section 27 05 26 Grounding and Bonding for Communications

GENERAL

1.1 All cables and related terminations, support and grounding hardware shall be furnished, installed, wired, tested, labelled, and documented by the Communications Contractor.

1.2 The grounding system shall be as per ANSI/TIA/EIA 607 standards and meet local electrical and building codes.

1.3 Harger and Panduit shall be only acceptable manufactures of the complete grounding system.

PRODUCTS

2.1 Lugs - All lugs shall be two-hole lugs, tin plated, irreversible compression, have NEMA hole sizes and spacing and shall meet NEBS Level 3. Lugs with inspection windows shall be used in all non-corrosive environments so that connections may be inspected for full conductor insertion (battery rooms are an exception where windowless lugs may be used).

2.2 Cable Assemblies - Cable assemblies shall be UL Listed and CSA Certified. Cables shall be a distinctive green or green/yellow in color, and all jackets shall be UL, VW-1 flame rated.

2.3 Antioxidant - Antioxidant shall be used by the Communications Contractor when making bonding connections.

2.4 Common Bonding Network Jumper - The Common Bonding Network Jumper shall be made of #6 AWG green or green/yellow jacketed copper conductor no less than 96" long with one end factory terminated to lug. One Common Bonding Network Jumper shall be supplied and installed for every rack or cabinet. Items bonded serially are not acceptable.

EXECUTION

3.1 All components shall be bonded to the rails with paint piercing hardware.

3.2 Electrostatic discharge (ESD) ports shall be mounted to the front and back of the rack(s) and/or cabinet(s).

3.3 The Communications Contractor shall ensure a complete grounding system is installed and tested for the project.

Section 27 05 28 Pathways for Communications

GENERAL

1.1 The Communications Contractor shall be responsible for measuring and confirming cable pathways prior to installation of any cabling to ensure no cabling will exceed the specified distance limitations. Where the distance limitations are exceeded, the Communications Contractor shall inform the Technology Systems Consultant prior to installation of cabling. No compensation for removal of cabling will be accepted if not adhered to.

1.2 The Communications Contractor shall be responsible for installing and providing pulling strings, ropes and fishing walls wherever conduit is not installed, or conduit is installed without these provisions.

1.3 Ensure ANSI/EIA/TIA-568-B installation practices are followed for all indoor cable distribution.

1.4 The Communications Contractor shall install and distribute cabling using riser sleeves, conduit, communications cable tray, floor ducts systems and/or surface raceways as indicated on drawings.

1.5 All cabling extending beyond conduit and /or cable tray pathways shall be supported using J-hooks and/or Cable Slings up to the point of termination complete with "Velcro" Ty-raps supplied and installed by the Communications Contractor.

1.6 Innerduct shall be supplied and installed by the Communications Contractor for all fibre optic cabling not installed in conduit and at all locations fibre optic cabling leaves a conduit.

PRODUCTS

2.1 J-Hooks - shall be made of metal and/or plastic, Plenum rated, manufactured by Erico or Panduit and sized to suit.

2.2 Cable Slings - shall be manufactured by Erico and sized to suit or as indicated on drawings and as required to support larger bundles of cabling.

2.3 Vertical Backbone Support - shall be Erico CAT600 product and sized to suit.

2.4 Split Wrap - shall be supplied to dress cabling from wall feed to furniture feed locations, sized to suit each location and coloured to match the power whip supplied with the furniture.

2.6 Wire Basket Tray - shall be manufactured by WBT, constructed with shaped wire to provide flat surface for cable support, avoiding pressure points or cable strain. Wire basket shall be made of high strength steel wires and formed into a standard 2 inch by 4 inch wire mesh pattern with intersecting wires welded together. Wire diameter shall be 5 mm minimum on all mesh sections up to 16 inches wide. Wire diameter shall be 6mm minimum on all mesh sections in excess of 16 inches.

2.7 Cable trays shall be installed complete with splice bars, "uni-strut" trapeze supports, threaded rod, ceiling anchors and all manufacturer recommended installation components following manufacturer's installation instructions and recommendations.

EXECUTION

3.1 All pathways shall be installed to run parallel to building lines and grounded as per specifications at all times.

3.2 All cable supports shall be installed to the permanent structure of the building and be limited to areas that will not damage the structural stability such as tensioned beams and slabs.

3.3 All pathways and cabling installation shall maintain clearances from all electrical and heat sources as outlined below.

Fluorescent Fixtures	15 cm
Electrical distribution cabling and conduits less than 1KVA	1.0 m
Electrical distribution cabling and conduits greater than 1KVA	3.0 m
Transformers and Motors	1.2 m
HVAC system including ducts	30 cm
Mechanical piping	15 cm

3.4 Suspended ceiling and T-Bar hangers shall not be acceptable in any situation.

3.5 J-Hooks shall be installed every 3' to 4' to support cabling and to have no more than 3" sag between J-hooks. All cabling shall be fastened using Velcro Ty-Wraps only and not exceed 80% of the manufacturer's capacity rating.

3.6 Velcro Wraps shall be installed to neatly bundle cabling at every J-hook, between every pair of J-hooks, every 3' for cabling installed in cable tray and every 6" to for cabling at all locations on racks, cabinets, patch panels and IDC mounts.

3.7 The Communications Contractor shall supply and install cabling waterfalls for all locations cabling drops from the cable tray into racks, cabinets and backboards.

Section 27 05 53 Identification for Communications

GENERAL

1.1 All cabling runs shall be labelled in four (4) locations including at each end of the cable, on the corresponding faceplate and patch panel or IDC mount.

1.2 Each patch cord shall be labelled with one label at each end.

1.3 Each rack and cabinet shall be labelled with one label on the front (top) and one label on the back (top).

1.4 The Communications Contractor will be responsible to confirm labelling schemes indicated on drawings with the Technology Systems Consultant prior to preparation and installation of any labelling.

PRODUCTS

2.1 All products shall meet UL 969 standards and be rated for indoor or outdoor use as applicable to the installation.

2.2 Cable labels shall be self-laminating, vinyl with white printing area and sized to allow label to wrap around 2.5 times minimum. Labels also shall be sized to suit the labelling requirement maintaining a minimum 10pt. font size.

2.3.Racks and Cabinets shall be labelled using lamacoid plates with black background, 1" high white letters on plate no more than 2" high.

EXECUTION

3.1 All labels shall be printed on a laser printer and installed within 100mm of each end of each cable.. No handwritten labels shall be accepted.

3.2 Lamacoid plates shall be mounted to each rack and cabinet with screws. Adhesive shall not be accepted as a method of securing lamacoid plates to racks and cabinets.

Section 27 08 00.10 Commissioning of Structured Cabling System

GENERAL

1.1 The Communications Contractor shall be responsible for completing a "Permanent Link" test for 100% of all horizontal and backbone cabling installed for use as part of this project.

1.2 Test parameters and method shall meet the latest requirements published in ANSI/TIA/EIA-568-B and ANSI/TIA/EIA-526.

PRODUCTS

2.1 Testers shall be calibrated prior to use on the project and proof of such calibration shall be available to the Technology Systems Consultant if requested.

2.2 Acceptable testers shall be; Fluke DSX Series (Copper) and Fluke OptiFiber Pro OTDR (Fiber)

EXECUTION

3.1 The Technology Systems Consultant reserves the right to witness test any or all of the cabling as required. The Communications Contractor will provide (3) days notice prior to starting testing in any particular phase of the project.

3.2 The Communications Contractor shall provide (2) technicians for cut over support for each phase of the project. This work may be required after hours or on a weekend and shall be included in the tender amount.

Section 27 11 16 Communications Cabinets, Racks, Frames, and Enclosures

GENERAL

1.1 All racks, cabinets, and/or brackets shown on drawings shall be provided by the Communications Contractor unless otherwise noted.

1.2 The Communications Contractor shall supply and install cabling waterfalls for all locations cabling drops from the cable tray into racks, cabinets and backboards.

PRODUCTS

2.1 Use existing rack.

2.2 Cable Drop Control ("waterfalls") – Cable drop control fittings shall be manufactured by the cable tray manufacturer. For further information, refer to Section 27 05 28 – Pathways for Communications.

EXECUTION

3.1 The Communications Contractor shall provide a complete installation and be responsible for coordination within all telecommunications rooms. Installations and locations of all equipment shall be as noted on drawings. The Communications Contractor shall confirm final layout before proceeding and be responsible to install equipment and fittings.

3.2 Where applicable, the Communications Contractor shall anchor all racks or cabinets to the floor, raised floor or wall in the locations indicated, two in each TR, rooms 2326 and 2432.

Section 27 11 19 Communications Termination Blocks and Patch Panels

PRODUCTS

2.1 Modular Fully loaded 48 Port Copper Patch Panels

.1 All horizontal UTP cabling shall be terminated on 2U, 48 port modular patch panels.
.2 All copper patch panel shall be black.
.3 All modular patch panels shall be populated with UTP module as required as per the Section 27 15 43.
.4 Patch panel shall be Panduit, Belden, Commscope or Hubbell.

EXECUTION

3.1 All cabling shall be terminated using EIA/TIA 568A configuration.

3.2 Install patch panels on racks and cabinets with a minimum of four (4) bonding screws.

3.3 There shall be (3) new copper patch panels installed for Category 6 and 1 for Category 6A.

Section 27 11 26 Communications Rack Mounted Power Protection and Power Strips

GENERAL

1.1 Each active equipment rack/cabinet shall come complete with two vertical power bars unless otherwise noted which shall be UL/ULC listed and shall meet UL/ULC 1363 and 1449 requirements.

PRODUCT

2.1 N/A UPS is already existing within existing rack in the Telecommunications Room.

EXECUTION

3.1 Install all products as per manufactures instructions and provide grounding as specified.

Section 27 15 13 Communications Copper Horizontal Cabling

PRODUCTS

2.1 All horizontal cabling shall be UTP, 4 pair, minimum 23 AWG, solid copper conductor, compliant with EIA/TIA cable category as indicated on drawings and shall be CSA certified and stamped with CMP rating accordingly.

2.2 All horizontal cabling shall be Cat 6, CMP/FT6 rated and Blue in color.

2.3 All cabling to CCTV cameras and WIFI Access Points shall be Category 6A.

2.4 All horizontal cabling shall be Belden, CommScope & Panduit.

EXECUTION

3.1 Cables shall not be scrapped, dented or otherwise damaged before, during or after installation and not exceed allowable bend radius of (4) times the cable diameter. All damaged cabling shall be replaced at no extra cost to the Owner.

3.2 All pairs of all copper cables shall be terminated.

3.2 UTP cabling shall be terminated as per manufacturer's guidelines and remove only enough cable jacket to perform termination. Untwist pairs a maximum of 13 mm (1/2") for all categories of cables.

3.3 Provide a minimum of 3.0 m (10'-0") of slack at both ends of each cable. Neatly coil slack and attach to ladder tray or provide independent support in ceiling.

3.4 UTP cabling shall be neatly bundled using only Velcro wraps. Bundle cables separately for identification purposes when applicable.

3.5 Ensure that all cables are of sufficient length to allow for slack, vertical runs, wastage, connectorization, and future moves.

3.6 Do not kink or exceed the cable minimum bend radius for all cabling. For all copper cabling maintain a minimum of (4) times cable diameter as bend radii if the manufacturer specifies no bend radius.

3.7 All pathways shall be parallel to building lines. If it is necessary to route cables otherwise to accommodate cable length written permission shall be obtained from the Technology Systems Consultant prior to installation.

Section 27 15 43 Communications Faceplate and Connectors

PRODUCTS

2.1 Keystone UTP Termination Modules shall be of the same color and category as the UTP cabling to ensure that manufacturer end to end warranties can be attained. The contact material of the jack in a modular jack connector shall be phosphor bronze with 50 micro-inches of gold over nickel.

2.2 Faceplate and Adapters shall be supplied and installed by the Communications Contractor from the same manufacturer as the cabling for all terminated horizontal cabling in a color to match other plates on the project and shall be one of the following: Modular Furniture Plate, Decora Adapter, Wall Plate, Surface Mount Box. Surface mount boxes are only acceptable in concealed locations.

EXECUTION

3.1 Install all workstation outlets level and flush to wall surface and provide a final installation that is clean of all fingerprints and dirt complete with identification labeling as per these specifications.

3.2 The Communications contractor shall coordinate with Architect and Owner for the color of the faceplate and adapters.

Section 27 16 19 Communications Patch Cords, Station Cords, and Cross-Connect Wire

GENERAL

1.1 The Communications Contractor shall supply and install all patch cords at both ends unless otherwise noted and shall be of the same manufacturer, quality and category to provide a complete end to end solution which shall be warranted by the selected manufacturer.

1.2 Supply and install (2) duplex fiber optic patch cords for every two fiber optic strands installed. Ensure the patch cords match the connector type of the Fibre Patch Panels and the Small Form Factor (SFP) modules installing within the IT equipment and the type of fibre.

1.3 Supply and install (2) patch cords, Category 6A, one at each end, for every cable installed.

PRODUCTS

2.1 UTP Thin Style Patch Cords shall be supplied and installed by Communications Contractor.

2.2 All Fiber optic patch cords shall be CMR (FT4) rated and stamped accordingly and the following lengths: 1m or 3m.

2.3 All copper patch cords shall be CMR (FT4) rated except for those connecting Wireless Access Points which will be CMP (FT6).

2.4 All workstation patch cords shall be 10ft in length.

2.5 All Wireless Access Points shall be 2ft in length, coordinating with the architect and owner, and CCTV Cameras shall be 1ft in length.

2.6 All cabinet patch cords lengths shall be confirmed with the owner prior to procurement.

EXECUTION

3.1 Install patch cords for each termination using cable management and Velcro wraps in a neat and workmanship fashion acceptable to the owner and the Technology Systems Consultant.

3.2 The Communications Contractor shall document and turn over to Owner all unused cords.

SPECTECH
Technology Consulting and Project Management

17360 YONGE STREET UNIT 201, NEWMARKET, ON L3Y 7R6
TEL: (416) 360-8800 WWW.SPECTECH.CA

Number	Date	Description	Issued by
6	2026-10-29	ISSUED FOR TENDER R.1	JA
5	2026-10-29	ISSUED FOR TENDER	JA
4	2026-10-22	ISSUED FOR 90% R.1	JA
3	2026-10-08	ISSUED FOR 90% CD	JA
2	2026-09-17	ISSUED FOR 60% CD	JA
1	2026-08-20	ISSUED FOR 100% DD	JA

ISSUED

THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS. DO NOT SCALE THE DRAWINGS.

THIS DRAWING SHALL NOT BE USED FOR CONSTRUCTION PURPOSES UNTIL ISSUED FOR CONSTRUCTION BY THE DESIGN PROFESSIONAL WHOSE SIGNATURE IS BELOW.

DATE

ISSUED FOR CONSTRUCTION

PROJECT NAME:
WLU - FACULTY EDUCATION MOVE

DRAWING TITLE:
COMMUNICATIONS SPECIFICATIONS

SCALE:

DATE:
2026-08-17

PROJECT NUMBER:
25027

DRAWING BY:
RA

CHECK BY:
JA

DRAWING NUMBER:
T-002

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17360 YONGE STREET UNIT 201, NEWMARKET, ON L3Y 7R6
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1 / T-107 LEVEL 07 COMMUNICATIONS FLOOR PLAN
1 : 50

Number	Date	Description	Issued by
6	2026-10-29	ISSUED FOR TENDER R.1	JA
5	2026-10-29	ISSUED FOR TENDER	JA
4	2026-10-22	ISSUED FOR 90% R.1	JA
3	2026-10-08	ISSUED FOR 90% CD	JA
2	2026-09-17	ISSUED FOR 60% CD	JA
1	2026-08-20	ISSUED FOR 100% DD	JA

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DATE
ISSUED FOR CONSTRUCTION

PROJECT NAME:
WLU - FACULTY EDUCATION MOVE

DRAWING TITLE:
LEVEL 07 COMMUNICATIONS FLOOR PLAN

SCALE: 1 : 50
DATE: 2026-08-17
DRAWING BY: RA
CHECK BY: JA
PROJECT NUMBER: 25027
DRAWING NUMBER: T-107

NOTES:

N--1 ALL CCTV CAMERA LOCATIONS SHALL REQUIRE A 4x4x2" BOX.

N-2 IF THERE IS ANY CONFLICT WITH THE EXISTING CABLE TRAY AND NEW WALLS, THE EXISTING TRAY SHALL BE CUT BACK AS REQUIRED AND J-HOOKS USED IN PLACE.

N-3 THE CABLING TO THE CAMERAS IN THE ELEVATORS SHALL BE RUN TO THE ELEVATOR MECHANICAL ROOM, FOR THE ELEVATOR CONTRACTOR TO CONNECT.



1 / T-207 LEVEL 07 COMMUNICATIONS REFLECTED CEILING PLAN
1 : 50

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Number	Date	Description	Issued by
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3	2026-10-08	ISSUED FOR 90% CD	JA
2	2026-09-17	ISSUED FOR 80% CD	JA
1	2026-08-20	ISSUED FOR 100% DD	JA

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DATE
ISSUED FOR CONSTRUCTION

PROJECT NAME:
WLU - FACULTY EDUCATION MOVE

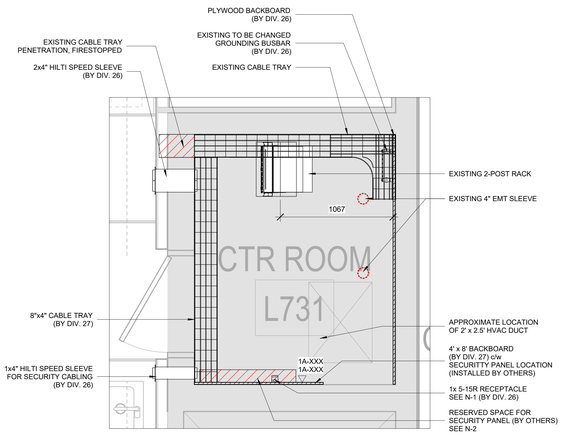
DRAWING TITLE:
LEVEL 07 COMMUNICATIONS REFLECTED CEILING PLAN

SCALE: 1 : 50
DATE: 2026-08-17
DRAWING BY: RA
CHECK BY: JA
PROJECT NUMBER: 25027
DRAWING NUMBER: T-207

NOTES:

N-1 POWER TO THE SECURITY PANEL SHALL BE A DEDICATED NON-SWITCHED 15A/120V CIRCUIT VIA A 5-15R DUPLEX RECEPTACLE WITHIN A 1110 BOX FED BY 3/4" EMT CONDUIT.

N-2 THE DATA AND POWER OOUTLETS SHALL BE MOUNTED ON THE BACKBOARD EITHER BELOW OR ABOVE THE SECURITY PANEL.



1 / T-401 LEVEL 07 COMMUNICATIONS FLOOR PLAN - HUB ROOM 7306
1 : 20

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3	2026-10-08	ISSUED FOR 90% CD	JA
2	2026-09-17	ISSUED FOR 60% CD	JA
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DATE
ISSUED FOR CONSTRUCTION

PROJECT NAME:
WLU - FACULTY EDUCATION MOVE

DRAWING TITLE:
COMMUNICATIONS ROOM DETAILS

SCALE: 1 : 20
DATE: 2026-08-17
DRAWING BY: RA
CHECK BY: JA
PROJECT NUMBER: 25027
DRAWING NUMBER: T-401

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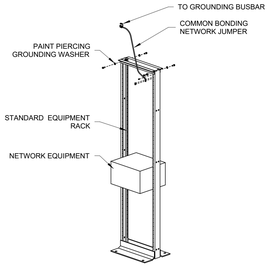
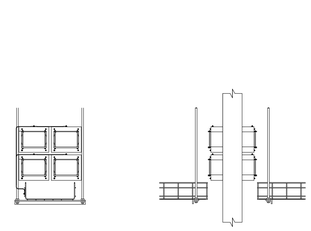


NOTES:

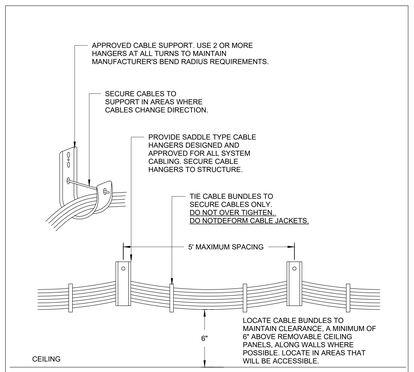
N-1 ALL PRODUCTS SHOWN SHALL BE SUPPLIED AND INSTALLED BY THE TECHNOLOGY CONTRACTOR UNLESS OTHERWISE NOTED.

N-2 COMMUNICATIONS DETAILS ARE FOR SCHEMATIC PURPOSE ONLY. THE TECHNOLOGY CONTRACTOR IS RESPONSIBLE TO VERIFY DIMENSIONS, QUANTITIES AND PRODUCT SPECIFICATIONS PRIOR TO INSTALLATION.

7 T-501 GROUNDING - RACK UPPER KIT (BACK VIEW)
SCALE: N.T.S.



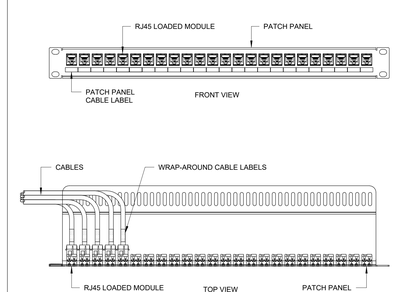
6 T-501 DEVICE - EZ PASS DETAIL (TYPICAL)
SCALE: N.T.S.



NOTES:

REFER TO SPECIFICATIONS FOR ADDITIONAL CABLE INSTALLATION REQUIREMENTS.

5 T-501 J-HOOK - INSTALLATION W/ CABLE HANGERS
SCALE: N.T.S.



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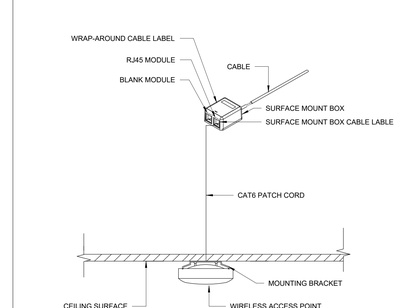
N-3 TECHNOLOGY CONTRACTOR SHALL VERIFY COLOUR OF ALL FACEPLATES AND INSERTS WITH ARCHITECT/INTERIOR DESIGNER PRIOR TO ORDERING.

4 T-501 DEVICE - PATCH PANEL DETAIL (TYPICAL)
SCALE: N.T.S.



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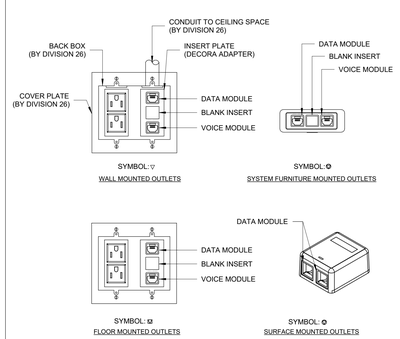
3 T-501 WIRELESS ACCESS POINT - INDOOR WALL AND CEILING DETAIL
SCALE: N.T.S.



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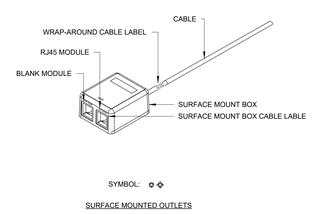
N-3 ALL CONDUIT AND BACKBOXES SHALL BE INSTALLED BY DIVISION 26.

N-4 TECHNOLOGY CONTRACTOR SHALL VERIFY COLOUR OF ALL FACEPLATES AND INSERTS WITH ARCHITECT/INTERIOR DESIGNER PRIOR TO ORDERING.

2 T-501 OUTLET - WALL/FURNITURE MOUNTED COMMUNICATIONS (1 GANG RECEPTACLE WITH DATA MODULE)
SCALE: N.T.S.



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N-3 TECHNOLOGY CONTRACTOR SHALL VERIFY COLOUR OF ALL FACEPLATES AND INSERTS WITH ARCHITECT/INTERIOR DESIGNER PRIOR TO ORDERING.

1 T-501 OUTLET - SURFACE MOUNTED COMMUNICATIONS (2 PORT) ON DRAWING SET
SCALE: N.T.S.

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DATE
ISSUED FOR CONSTRUCTION

PROJECT NAME:
WLU - FACULTY EDUCATION MOVE

DRAWING TITLE:
COMMUNICATIONS TYPICAL DETAILS

SCALE: As indicated
DATE: 2026-08-17
DRAWING BY: RA
CHECK BY: JA
PROJECT NUMBER: 25027
DRAWING NUMBER: T-501