ADDENDUM NO. 1

The Architect/ Engineer issues this addendum, applicable to the above named project, to all known Contractors before receipt of proposal.

This addendum includes Item Number 1-1 thru 1-20. This addendum item shall be fully incorporated into the Bidding/Contract Documents and have the same force and effect as though originally included.

The Bidder shall acknowledge receipt of this Addendum No. 1 on the Bid Proposal Form in the place provided.

SPECIFICATIONS

Item 1-1: Section 08 14 16 – Flush Wood Doors

Refer to sub paragraph 2.1.A.6. Add Oshkosh Door Company, Oshkosh, WI as an approved equal.

Item 1-2: Section 09 30 00 – Tile

Refer to sub paragraph 2.6.A.1. Add the following sub paragraph:
g. Grout spacing shall be 3/16".

Item 1-3: Section 10 28 00 – Toilet, Bath, and Laundry Accessories

Refer to sub paragraph 2.3.A.2. Add American Specialties, Inc., Yonkers, NY as an approved equal.

Item 1-4: Section 10 50 00 – Phenolic Lockers

Refer to sub paragraph 2.1.A.2. Add ASI Storage Solutions, Eastanollee, GA as an approved equal.

Item 1-5: Section 12 35 54 – Wood Laboratory Casework

Refer to sub paragraph 2.14.A. Add Kewaunee Scientific Alpha Overhead Service Carrier as an approved equal.

Item 1-6: Section 13 21 00 – Prefabricated Environmental Rooms

Refer to sub paragraph 2.1.A. Add the following sub paragraph:
4. BioCold Environmental Rooms

Item 1-7: Section 27 00 00 – Telecommunications Cable Plant

Add the attached section in its entirety to the Project Manual.

DRAWINGS

GENERAL

Item 1-8: Sheet G0.00C - Title Sheet & Drawing Index

Add the title 'TELECOMMUNICATIONS' to the title sheet after the Electrical sheets. Add the following sheets to the TELECOMMUNICATIONS section:
T1.1.1 First Floor Telecommunications Plan – Area 'A'
T1.1.2 First Floor Telecommunications Plan – Area 'B'
T1.1.3 First Floor Telecommunications Plan – Area 'C'
T1.1.4 First Floor Telecommunications Plan – Area 'D'
T1.2.1 Second Floor Telecommunications Plan – Area 'A'
T1.2.2 Second Floor Telecommunications Plan – Area 'B'
T1.2.3 Second Floor Telecommunications Plan – Area 'C'
T1.2.4 Second Floor Telecommunications Plan – Area 'D'
T1.3.1 Third Floor Telecommunications Plan – Area 'A'
T2.01 Telecom Riser & Details

ARCHITECTURE

Item 1-9: Sheet A1.14 – First Floor Reflected Ceiling Plan – Area B

Refer to rooms B114B & B115B. Add ceiling access panels at water hammer locations, (1) per room, see plumbing riser diagrams for locations.

Item 1-10: Sheet A1.24 – Second Floor Reflected Ceiling Plan – Area B

Refer to room B240. Add (1) ceiling access panel at the water hammer location, see plumbing riser diagrams for location. Refer to room B219. Add (2) wall access panels above the ceiling on the East wall adjacent to rooms B216 & B217, see plumbing riser diagrams for locations.

Item 1-11: Sheet A1.25 – Second Floor Plan – Area C & D

Delete room number D201 Leasable Space in its entirety. Delete doors D201 &D202.1 and their associated walls including the door alcove of D201 and the East wall of D201. South wall of D201 shall remain and connect to adjacent wall of D202. Floor elevation heights, in room C212, shall be changed from +6 to +6¾" and +12 to +12¾".

Item 1-12: Sheet A1.26 – Second Floor Reflected Ceiling Plan – Area C & D

Delete 8'-6" high gypsum ceiling at door alcove, adjacent to door D201.

Item 1-13: Sheet A6.40 – Door Schedule, Door Types, Frame Types

Delete doors D201 & D202.1 and all associated door hardware in its entirety.

FINISH

Item 1-14: Sheet F1.11 – First Floor Area B - Finishes

Refer to Room B114B & B115B. The shower area shall have floor tile – PCT-3. The floor tile will be 6”x6”, cut as req’d for drain.

Item 1-15: Sheet F1.20 – Room Finishes Schedule & Details

Refer to Finish Materials Legend. Add PCT-3: Manufacturer: American Olean, Type: Method 24”x24” (cut tile to 6”x6”), Finish: Per Architects sample, MT04UNP, Application: Shower floor, cut as req’d for drain, Colorway: Taupe Technique.

Refer to Room Finish Schedule:
Delete Room D201 Leasable Space in its entirety.
Delete all finishes associated with Room D202, Leasable Space.

MECHANICAL

Item 1-16: M1.24 – Second Floor HVAC Plan – Area C4

Remove 6/6 SA branch, register, and transfer grille serving old room D202. Move 18/8 transfer duct in room D201 to the south wall. VBR-D201 and associated registers shall remain in new shell space. Rebalance VBR-D202 to 125 CFM to serve single diffuser in corridor.

Item 1-17: M6.02 – Mechanical Schedules

CaptiveAire shall be listed as an equivalent manufacturer under the Kitchen Hood, Make-Up Air Unit, and Exhaust Fan Schedules.

ELECTRICAL

Item 1-18: E1.2.3 – Second Floor Lighting Plan – Area C

To coordinate with architectural changes in Second Floor - Area C: Remove digital timer switch on south wall of Leasable Space D201. Relocate the digital timer switch on the north wall in Leasable Space D201 to the east wall adjacent to the latch side of the door, all fixtures in Leasable Space D201 shall be controlled by the digital timer switch on east wall adjacent to door.

Item 1-19: E4.02 – Electrical Schedules

Reference EXISTING PANELBOARD ‘1LN1’ SCHEDULE. Circuit breaker 1LN1-2 shall be existing load MECH: SHADES, NE 500VA. Circuit breaker 1LN1-4 shall be existing load MECH: SHADES, NE 500VA. Circuit breaker 1LN1-3 shall be existing load MECH: SHADES, NW 500VA. Circuit breaker 1LN1-5 shall be existing load MECH: SHADES, NW 500VA. Circuit breaker 1LN1-11 shall be existing load MECH: SHADES, SW 500VA. Circuit breaker 1LN1-13 shall be existing load MECH: SHADES, SW 500VA. Circuit breaker 1LN1-12 shall be existing load MECH: SHADES, SE 500VA. Circuit breaker 1LN1-14 shall be existing load MECH: SHADES, SE 500VA. Circuit breaker 1LN1-18 shall be existing load MECH: SHADES, SW 500VA.

TELECOMMUNICATIONS

Item 1-20: Telecommunications Drawings

Add attached Sheets T1.1.1 through T2.01 in their entirety to the Contract Documents.

Attachments: 27 00 00, A1.25, T1.1.1, T1.1.2, T1.1.3, T1.1.4, T1.2.1, T1.2.2, T1.2.3, T1.2.4, T1.3.1, T2.01

END OF ADDENDUM NO. 1

SECTION 27 00 00 – TELECOMMUNICATIONS CABLE PLANT

1. GENERAL

1.1 RELATED DOCUMENTS

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

B. Division 260501 “Basic Materials and Methods” sections apply to work specified in this Section.

1.2 DESCRIPTION OF WORK

A. This document describes the products and execution requirements of the installation, labeling, and testing of a structured cabling system.

B. Quantities, types of cabling, telecommunications outlets, outlet locations and routing of cabling are provided within the construction documents of the telecommunications drawings package.

C. Route horizontal cabling through furnished pathways by others and contractor provided cable supports.

D. Furnish cabling, faceplates, mounting brackets, telecommunications outlet/connectors as indicated on system layout drawings and this specification.

1.3 QUALITY ASSURANCE

A. All cable and equipment shall be installed in a neat and workmanlike manner.

B. All methods of construction that are not specifically described or indicated in the contract documents shall be subject to the control and approval of the Owner and Owner’s representative’s.

C. Equipment and materials shall be of the quality and manufacture indicated. The equipment specified is based upon the acceptable manufacturers listed.

D. Strictly adhere to all Category 5E, Category 6, and Optical Fiber (BICSI and TIA) installation practices when installing all cabling.

E. Installer shall conform in every way to the rules and requirements of the National Fire Protection Association, the local Electrical Code and with detailed manufacturer’s instruction sheets, applicable codes and standards.

F. This document does not replace any code, either partially or wholly. The contractor must be aware of all codes that impact this project.

G. Material and work specified herein shall comply with the applicable requirements of:

1. NFPA 70: National Electrical Code
2. NEC 250: Grounding and Bonding
3. NEC 300: Wiring Methods
4. NEC 725: Remote-Control, Signaling and Power Limited Circuits
5. NEC 770: Optical Fiber Cables and Raceways
6. NEC 800: Communications Circuits
7. ANSI-J-STD-607A, Commercial Building Grounding and Bonding Requirements for Telecommunications
8. ANSI/TIA/EIA – 569-B Commercial Building Standard for Telecommunications Pathway and Spaces
9. ANSI/TIA/EIA – 568-B.1, Commercial Building Telecommunications Cabling Standard, Part 1: General Requirements, 2001
10. ANSI/TIA/EIA – 568-B.2, Commercial Building Telecommunications Cabling Standard (and all published addenda), Part 2: Balanced Twisted Pair Cabling Components, 2001
11. ANSI/TIA/EIA – 568-B.21, Commercial Building Telecommunications Cabling Standard, Part 2: Balanced Twisted Pair Cabling Components, Addendum 1: Transmission Performance Specifications for 4-pair 100 Ohm Category 6 Cabling, 2002
12. ANSI/TIA/EIA – 568-B.3, Optical Fiber Cabling Components Standard, 2000
13. ANSI/TIA/EIA – 606-A, Administration Standard of Commercial Telecommunications Infrastructure, 2002
14. Federal Communications Commission (FCC), Code of Federal Regulations, Part 68: Connection of Terminal Equipment to the Telephone Network, 1998
15. U.S. Public Law 336, 101st Congress, ADA: Americans with Disabilities Act of 1992
16. BICSI Telecommunications Distribution Methods Manual
17. BICSI Information Transport Systems Installation Manual

1.4 INSTALLERS

A. Installer Qualifications: Minimum of 2 years experience installing products specified within this section.

B. All work shall be performed and supervised by managers and technicians qualified and certified to install and test the specified system.

1.5 MANUFACTURERS

A. This specification is based on COMMSCOPE equipment and horizontal work area cabling. PANDUIT and HUBBELL are prior approved manufacturers for equipment and horizontal work area cabling. COMMSCOPE, PANDUIT and HUBBELL cable partners are allowed to be utilized as horizontal work area cabling with their system, if warrantied and the cable is equivalent in performance to the specified. BELDEN AND GENERAL CABLE are prior approved manufacturers for the fiber backbone cable. All other manufacturers are required to submit prior approvals. Verify that all data cabling equipment is compatible with floor boxes, wiremold and all other devices provided by others prior to bid to ensure a proper installation.

B. Where other acceptable manufacturers are allowed, equipment shall be equivalent in every way to that of the equipment specified and subject to approval. This is the contractor's responsibility and will be verified upon shop drawing review. If the submitted documents of the shop drawings do not meet or exceed the performance levels of the specified equipment, the contractor will be required to provide a system that is.

1.6 WARRANTY

A. The systems products shall be warranted free of defects in material and workmanship.

B. The systems products shall be warranted to perform the intended function within the design limits.

C. This system shall be in compliance with the manufacturer's performance warranty status at completion of the project and receive verification of the warranty in writing from the manufacturer. This shall be included in the O&M manuals for the Owners records.

1.7 SUBMITTALS

A. Contractor shall submit copies of the certification of the company and staff members that will be performing the installation, terminations and testing of the system to provide compliance of this specification.

B. Contractor shall submit manufacturers cut sheets for all products, hardware and cabling specified within this document.

2. PRODUCTS

2.1 CONNECTING BLOCKS

A. Physical and Performance Characteristics:

1. Category 5e – 110 termination blocks shall meet or exceed Category 5e transmission requirements for connection hardware, as specified in ANSI/TIA/EIA-568-B.2.
2. Category 5e – 110 termination shall be UL LISTED 1863.
3. Category 5e – 110 termination shall exceed IEEE 802.3af DTE Power specification to 4 times the rated current limits with no degradation of performance or materials.
4. Category 5e – 110 termination shall be error free Gigabit Ethernet performance to IEEE 802.3ab.
5. Category 5e – 110 termination shall meet or exceed the 4-connector channel performance requirements of Category 5e, per the ANSI/TIA/EIA-568-B.2.
6. FCC Part 15, Electro-magnetic compatibility, Code of Federal Regulations: Title 47 – Telecommunications.
7. FCC Part 68, Connection of Terminal Equipment to the Telephone Network, Code of Federal Regulations: Title 47 – Telecommunications
8. Blocks shall be available in 100 or 300 pair sizes, with or without stand-off legs.
9. Blocks shall be constructed of two basic components, the Wiring Blocks and the Connecting Blocks.

10. Connecting Blocks shall be available in 3, 4 or 5 pair configurations.
11. Blocks shall be available as kits that include the wiring blocks, the proper number of connecting blocks and label strips.
12. Blocks shall be constructed of a UL94 V0 rated polycarbonate blend.
13. Connecting block IDC contacts shall be a spring temper phosphor bronze (alloy CA510), 0.032 in (0.813 mm), w/100 μin minimum solder plate (60% tin/40% lead) at contact point
14. Connecting block shall connect to the wiring block with a locking force of 35 lbs. (16 kg) minimum.
15. Connecting Blocks shall accept 22-26 (0.4-0.65mm) solid copper conductors and 22-26 (0.4-0.65mm) seven-stranded copper conductors.
16. Connecting blocks shall accept conductors with insulation O.D. of .050 in (1.27 mm) maximum (top side) and .070 in (1.78 mm) maximum (bottom side).
17. Connecting blocks shall accept a minimum of 200 re-terminations (top side) without degradation to the electrical or mechanical performance.
18. Blocks shall operate properly in an environment maintained between 14° F and 140 ° F and a humidity of 95% non-condensing.
19. Blocks shall be provided in wall or rack mount kits: (coordinate terminations with Owner)

B. COMMSCOPE Catalog Number:

1. 110AW2-100 (110 wall mount block)

2.2 EQUIPMENT RACKS

A. Freestanding Equipment Racks

1. Racks shall be UL listed and of aluminum construction with a black polyurethane or mil finish.
2. Rack base shall be pre-drilled and securely mounted to the floor.
3. Racks shall have 12/24 mounting screws included in the package.
4. Rack rails shall be spaced for 19” mounting rail-to-rail and shall be of a U shaped construction with 12/24 pre-tapped holes in the EIA-310-D universal hole pattern on both the front and rear.
5. Racks shall be completely bonded and grounded.

B. COMMSCOPE Catalog Number:

1. RK3-45A (84” two post floor mounted relay rack)
2. HTK-19-DS-2U (horizontal cable management, one between each patch panel)
3. VCM-DS-84-10B (vertical cable management)

2.3 CATEGORY 6 PATCH PANELS

A. Physical Characteristics

1. Panels shall be made of black anodized aluminum in 24-, 48 and 96-port configurations as indicated on the drawings.
2. Panels shall accommodate 48 ports for each rack mount space (1rms = 44.5 mm [1.75 in.]).
3. Panels shall be manufactured with a rolled-edge at the top and bottom for stiffness.

4. Panels shall be made of 8-port adapters modules removable by detaching two screws.
5. Panels shall have modular jacks employing staggered array contacts with a flat “hairpin” design made of Beryllium copper with a minimum 50-micro-inch gold plating on contact surfaces over 50-100 micro-inch of nickel compliant with FCC part 68.
6. Panels shall be available in a T568A wiring scheme. (coordinate with Owner)
7. Panels shall be equipped with 110-style termination made of fire retardant UL 94V0 rated thermoplastic and tin lead solder plated IDC contacts.
8. Panel circuit boards shall be fully enclosed front and rear for physical protection.
9. Panels shall have port identification numbers on both the front and rear of the panel.
10. Panels shall have optional rear cable support bar for strain relief.
11. Panels shall have self adhesive, clear label holders and white designation labels provided with the panel for each row of 24 ports.
12. Panels shall provide wiring identification & color code and maintain a paired punch down sequence that does not require the overlapping of cable pairs.
13. Panels shall terminate 22-26AWG solid conductors, maximum insulated conductor outside diameter 0.05”.

B. Performance Characteristics

1. Panels shall be ANSI/TIA/EIA-568-B.2-1 and ISO/IEC 11801 minimum category 6 compliant.
2. All transmission performance parameters shall be independently verified by a UL or ETL third party testing organization.
3. Panels shall be third party verified, error free Gigabit Ethernet performance to IEEE 802.3ab.
4. Panels shall be UL Listed 1863 and CSA certified.
5. Panels shall be made by an ISO 9002 Certified Manufacturer.

C. COMMSCOPE Catalog Number:

1. M4800A-1U-GS (unloaded panel)
2. M2000 (rear cable management bar, provide one for each patch panel)

2.4 PATCH PANELS – OPTICAL FIBER

A. Rack Mount Panels

1. Panels shall be constructed of cold rolled 16 ga. steel with a black powder paint finish and provide for fully enclosed fiber patching and termination.
2. Panels shall have a removable smoked Plexiglas front cover with optional lock kit. The panel shall have a removable rear cover. Panels shall come with rack mounting brackets that allow it to be mounted with the front cover flush with the front of the rack, or with the front of the panel extended 5.0” in front of the rack.
3. Panels shall be available in a 2 rack space, 36 port version accepting 6 six-pack standard adapter plates or a 2 rack-space 72 port version accepting 6 twelve-pack high density adapter plates.
4. Six and twelve pack adapter plates shall be available with SC multimode adapters. SC adapters shall have a phosphor bronze alignment sleeve. Provide adapters as indicated on the drawings.

5. Panel shall have a splice tray mounting stud incorporated into the base for mounting of mechanical or fusion splice trays. Adapter tray shall have cable management anchor points and come with cable anchors allowing for the maintenance of the incoming cable with the proper minimum bend radius.
6. Panels shall have 2 cable entrance ports on the top and 2 on the bottom with plastic dust covers. Panels shall have two jumper ports in the bottom at the front of the panel with plastic dust covers for routing of jumpers.

B. COMMSCOPE Catalog Number:

1. RFE-SLC-IS-EMT-BK/2U-PNL
2. RFE-MOD-024-8W-MPO-LC02-KAQ (adapter module)

2.5 CATEGORY 6 CHANNEL COMPLIANT JACKS – UTP

A. Physical Characteristics

1. Jacks shall be 8 position un-keyed
2. Each jack shall be an individually constructed unit and shall snap mount in an industry standard keystone opening (.760" x 580")
3. Jack housings shall be high impact 94 V0 rated thermoplastic.
4. Jacks shall have a temperature rating of -10 °C (14°F) to 60°C (140 °F) in conformance with ANSI/TIA/EIA-568-A
5. Jacks shall utilize a 6 layer printed circuit board to control NEXT
6. Jack housings shall fully encase and protect printed circuit boards and IDC fields.
7. Contacts will maintain a minimum vertical deflection force of 100 grams.
8. Modular jack contacts shall be formed flat for increased surface contact with mated plugs. These contacts shall be arranged on the PC board to provide a tri-plane contact array to maximize contact spacing and minimize crosstalk.
9. Modular jack contacts shall be constructed of Beryllium copper for maximum spring force and resilience.
10. Contact Plating shall be a minimum of 50 micro inches of gold in the contact area over 50 micro-inch of nickel, compliant with FCC part 68.5.
11. Jack termination shall be industry standard 110 insulation displacement contact, integral to the jack housing, laid out in 2 parallel arrays of 4 contacts.
12. Jacks shall utilize a paired punch down sequence. Cable pairs shall be maintained up to the IDC, terminating all conductors adjacent to its pair mate to better maintain pair characteristics designed by the cable manufacturer.
13. Jacks shall utilize tin lead plated (60% tin/40% lead) phosphor bronze 110 insulation displacement contacts.
14. Jacks shall terminate 22-26 AWG stranded or solid conductors.
15. Jacks shall terminate insulated conductors with outside diameters up to 0.05".
16. Jacks shall be compatible with single conductor 110 impact termination tools.
17. Jacks shall be compatible with EIA/TIA 606 color code labeling and accept snap on icons for identification or designation of applications.
18. Jacks shall be available in 10 colors for identification or designation of applications at the workstation or closet.
19. Jacks shall be marked as T568A wiring (coordinate with Owner)
20. Jacks shall have an attached color coded wiring instruction label.
21. Jacks shall be supplied with installed dust covers to protect the jack opening and internal elements during installation until the jack is in use.

B. Performance Characteristics

1. Jacks shall be designed for 100 Ohm UTP cable termination
2. Jacks shall be UL LISTED 1863 and CSA certified.
3. Jacks shall exceed IEEE 802.3af DTE Power specification to 4 times the rated current limits with no degradation of performance or materials.
4. Jacks shall meet or exceed Category 6 transmission requirements for connection hardware, as specified in ANSI/TIA/EIA-568-B.2-1, Transmission Performance Specifications for 4-Pair 100 ohm Category 6 cabling.
5. Jacks shall be made by an ISO 9002 Certified Manufacturer.

C. COMMSCOPE Catalog Number:

1. UNJ600-BL (blue cat. 6 jack)

2.6 CABLE

A. UTP 25 Pair Cable: Cable shall be Category 5E cable.

1. COMMSCOPE Catalog Number:

a. 5EN25 (gray non-plenum category 5E)

B. UTP Cable: Cable shall be Category 6 cable.

1. COMMSCOPE Catalog Number:

a. 6504+ (blue category 6 cable)

C. Fiber Optic Cable: Cable shall be Singlemode.

1. COMMSCOPE Catalog Number:

a. P-024-DS-8W-FSUYL

2.7 FACEPLATES

A. COMMSCOPE Catalog Number:

1. M11SP-L (1 port faceplate, stainless steel with label)
2. M12SP-L (2 port faceplate, stainless steel with label)
3. M106FR4-003 (4 port 106 frame insert for floorbox)

3. EXECUTION

3.1 INSTALLATION

A. 110 Connecting Blocks

1. Blocks shall be installed to provide minimal signal impairment by preserving wire pair twists as closely as possible to the point of mechanical termination. The amount of untwisting in a pair as a result of termination to the 110 block shall be no greater than 0.5 inches (13 mm). The cable jacket of each cable shall be maintained as close to the point of termination as possible and only stripped back as far as is required for proper termination.
2. Blocks shall be installed according to manufacturer's instructions and properly mounted on the wall or within the relay rack.
3. Blocks shall be installed such that cables terminated to the blocks maintain a minimum bend radius of at least 4 times the cable diameter. Cables shall be terminated on the blocks such that there is no tension on the conductors in the termination contacts.
4. Blocks shall be properly labeled with the cable number for each termination position.

B. Racks

1. Racks shall be assembled such that mounting rails are exactly perpendicular to the base.
2. Racks shall be secured to the floor using appropriate anchors.
3. Racks shall be grounded to the TMGB or TGB or appropriate building ground using a minimum #6 stranded, insulated grounding wire.
4. Racks shall be installed per the requirements specified by the manufacturer's installation guidelines.

C. Patch Panels – UTP

1. Panels shall be installed to provide minimal signal impairment by preserving wire pair twists as closely as possible to the point of mechanical termination. The amount of untwisting in a pair as a result of termination to the patch panel shall be no greater than 0.5 inches (13 mm)
2. Panels shall be installed according to manufacturer's instructions and properly mounted to a rack, cabinet, bracket or other appropriate mounting device.
3. Panels shall be installed such that cables terminated to the panel can maintain minimum bend radius of at least 4 times the cable diameter into the IDC contacts. Cables shall be terminated on the panels such that there is no tension on the conductors in the termination contacts.
4. Panels shall be properly labeled on front and back with the cable number and port connections for each port.

D. Patch Panels – Optical Fiber

1. Panel shall be installed according to manufacturer's instructions.
2. Adhesive or snap-in routing clips shall be secured to the inside of the adapter tray in such a fashion as to allow the maintenance of the minimum bend radius if the cable and the proper storage of at least 2 m of fiber cable inside the tray.
3. Incoming cable shall be properly anchored as it enters the rear or bottom of the tray. Anchor shall be attached to the cable jacket without excessive force and without crushing the cable jacket.

E. Category 6 channel compliant Jacks – UTP

1. Jacks shall be installed to provide minimal signal impairment by preserving wire pair twists as closely as possible to the point of mechanical termination. The amount of untwisting in a pair as a result of termination to the jack shall be no greater than 0.5 inches (13 mm)
2. Jacks shall be installed according to manufacturer's instructions and properly mounted in plates, frames, housings or other appropriate mounting device.
3. Jacks shall be installed such that cables terminated to the jacks maintain minimum bend radius of at least 4 times the cable diameter into the IDC contacts. Cables shall be terminated on jacks such that there is no tension on the conductors in the termination contacts.

F. Cable

1. All cables are to be supported by means secured to the building structure, either by conduit, cable tray or J-hooks. In some instances cables can be secured directly to the building structure by approved means. Cables are to be routed and run as high as possible; no cables are to be run on top of lay in ceilings. All cables routed below accessible floor system shall be neatly trained using appropriate supports.
2. Do not exceed the manufacturer's recommended pulling tension or minimum bend radius.
3. Avoid walking, stepping on or compressing cables in any way. Installed cable jacks shall have no abrasions with exposed conductor insulation or bare copper. The installer is responsible to replace damaged cables at no cost to the owner.
4. Do not over-tighten cable ties. Do not use staples, clamps or zip ties to anchor cables.
5. Use D-Rings, J-hooks, Velcro straps, Conduit, or Cable Tray for cable management. With the use of D-rings, J-hooks or Velcro, cable runs shall be supported every 4 to 5 feet. The manufacturer's specifications for cable loading shall be followed. For Velcro, ensure the minimum overlap on the strap meets the manufacturer requirement, 2" minimum unless manufacturer is greater. If Velcro straps are utilized in a plenum air space, the Velcro strap shall be rated as such. The preferred Velcro strap is of hook & loop type.
6. Do not route cables near heat sources and maintain a minimum spacing between cables and sources of EMI: power cables shall be a minimum of 6", florescent lights shall maintain a minimum of 12" and transformers or electrical enclosures shall be a minimum of 36".
7. Installed cable bend radius shall be greater than 4 times the cable diameter. Avoid kinking or twisting the cable during installation.

G. Labeling

1. The contractor will only use adhesive computer generated labels for labeling cables, station panels, wallplates, 110 blocks, and fiber optic enclosures.
2. Wallplate labeling will identify the TC or MC wiring closet and the type of cable (voice or data) and a unique three digit identifier. All cables that are voice will be labeled with the letter (V1) and all cables that are data will be labeled with a (D1) if there are more than one voice or data cables the second cable will be label with (D2) or (V2) or (D3) for the third data cable. The wallplate will look like V1-02-001 for the 1st voice cable in the wallplate wired from closet number 02 with a unique identifier or 001.
3. This labeling scheme shall be discussed with the owner to ensure acceptability prior to any work being completed.
4. This label will appear on the wallplate, patch panel, 110 block, the cable on both ends 5 to 10 inches from it's termination point, test result, and on the CAD drawing.

5. All labels will be easy to read so you can easily locate cables, cross connect equipment and move wallplate locations in the future.
6. All fiber and backbone cable will be labeled in the same manner, so you can locate each wiring closet from the label on the panel or block.
7. When job is complete, all test results will be checked back to the CAD drawings to make sure all labels are correct.

H. Grounding and Bonding

1. The facility shall be equipped with a Telecommunications Bonding Backbone (TBB). This backbone shall be used to ground all telecommunications cable shields, equipment, racks, cabinets, raceways and other associated hardware that has potential to act as a current carrying conductor. The TBB shall be installed in accordance with the recommendations contained in the ANSI/TIA/EIA-607 Telecommunications Bonding and Grounding Standard. Coordinate all work with the electrical contractor to ensure the grounding and bonding is installed in accordance.
2. The main entrance facility/equipment room in the building shall be equipped with a Telecommunications Main Grounding Bus Bar (TMGB). Each telecommunications room shall be provided with a telecommunications ground bus bar (TGB). The TMGB shall be connected to the building electrical entrance grounding facility. The intent of this system is to provide a grounding system that is equal in potential to the building electrical ground system. Therefore, ground loop current potential is minimized between telecommunications equipment and the electrical system to which it is attached. Coordinate all work with the electrical contractor to ensure the grounding and bonding is installed in accordance.
3. All racks, metallic backboards, cable sheaths, splice cases, cable trays, etc. entering or residing in the TR or ER shall be grounded to the respective TGB or TMGB using a minimum #6 AWG stranded copper bonding conductor and compression connectors. Coordinate all work with the electrical contractor to ensure the grounding and bonding is installed in accordance.
4. Coordinate locations of all grounding bus bars with all other trades and the owner.

I. Firestop

1. A firestop system is comprised of the item or items penetrating the fire rated structure, the opening in the structure and the materials and assembly of the materials used to seal the penetrated structure. Firestop systems comprise an effective block for fire, smoke, heat, vapor and pressurized water stream.
2. All penetrations trough fire-rated building structures (walls and floors) shall be sealed with an appropriate firestop system. This requirement applies to through penetrations (complete penetration) and membrane penetrations (through one side of a hollow fire rated structure). Any penetration item i.e., riser slots and sleeves, cables, conduit, cable tray, and raceways, etc. shall be properly firestopped.
3. Firestop systems shall be UL classified to ASTM E814 (UL 1479) and shall be approved by the AHJ in the state where the work is to be preformed.

3.2 TESTING

A. 110 Connecting Blocks

1. Blocks shall be tested after horizontal or backbone cabling has been installed and terminated at both ends.
2. Blocks shall be tested as part of the link or channel. Link or Channels shall be tested for Length, DC continuity, NEXT, PSNEXT, Attenuation, Return Loss, ELFEXT, and PSELFEXT using a level IIe or level III tester for category 5e channel compliance.
3. Testers shall be correctly set to test the type and manufacturer of the horizontal cable used in the link or channel being tested, including the correct NVP.
4. A “PASS” indication shall be obtained for all link or channel tests.

B. Patch Panels – UTP

1. Patch Panels shall be tested after horizontal cabling has been installed and terminated to both the panel and the work area outlet.
2. Panels shall be tested as part of the link or channel for Length, DC continuity, NEXT, PSNEXT, Attenuation, Return Loss, ELFEXT, and PSELFEXT using a level IIe tester for enhanced category 5e, and a level III tester for category 6 channels.
3. Testers shall be correctly set to test the type and manufacturer of the horizontal cable used in the link or channel being tested, including the correct NVP.
4. A “PASS” indication shall be obtained for all link or channel tests when tested using the appropriate level tester for the appropriate category.

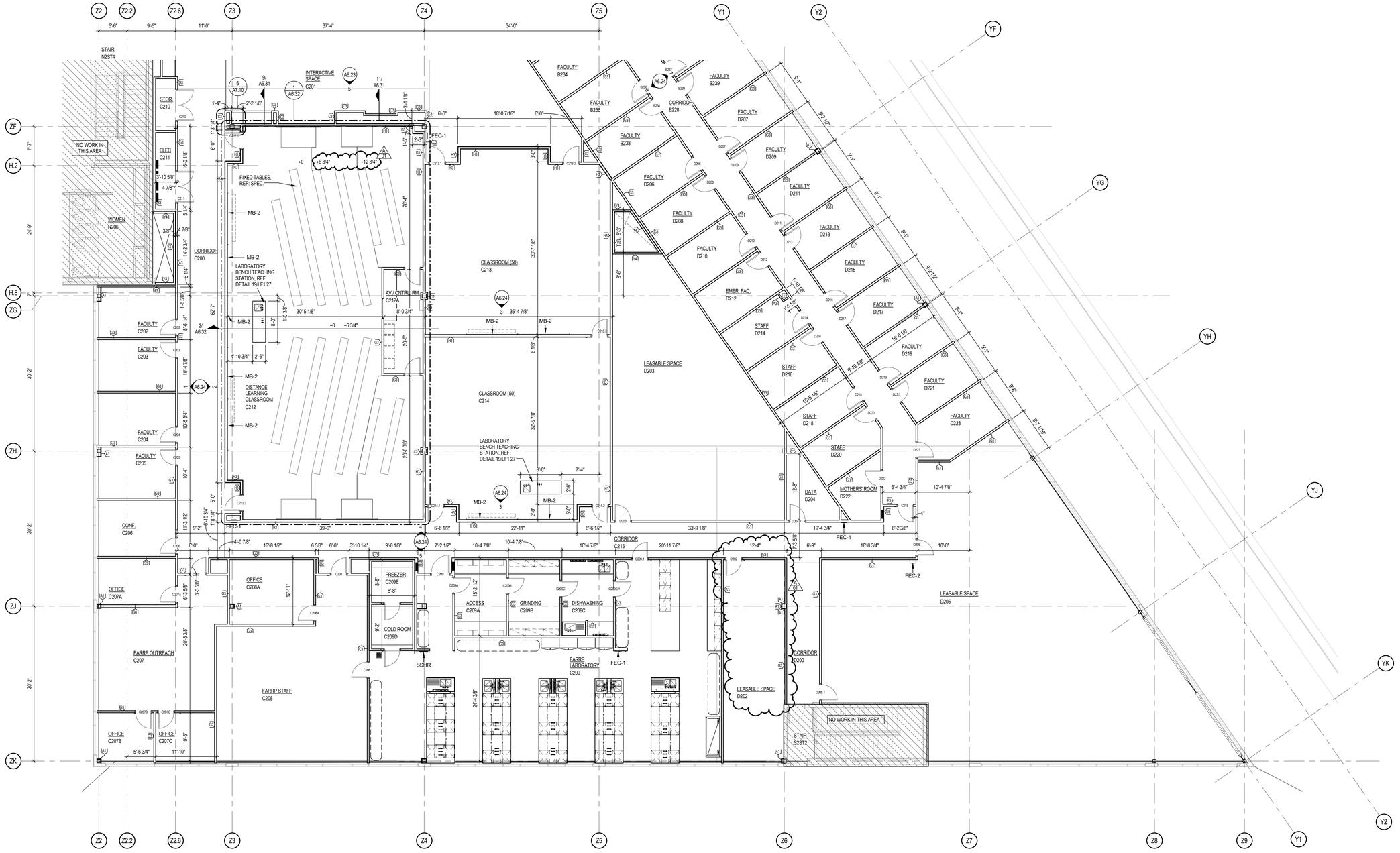
C. Category 6 channel compliant Jacks – UTP

1. Jacks shall be tested as part of horizontal cabling system.
2. Jacks shall be tested as part of the channel for Length, DC continuity, NEXT, PSNEXT, Attenuation, Return Loss, ELFEXT, and PSELFEXT using the specified hardware manufacturer's test heads and an industry standard level III tester.
3. Testers shall be correctly set to test the type and manufacturer of the horizontal cable used in the channel being tested, including the correct NVP.
4. A “PASS” indication shall be obtained for all channel tests when tested using the appropriate level tester for the appropriate category.

D. Backbone Fiber Testing

1. Fiber horizontal cables shall be 100% tested for insertion loss and length.
2. Insertion loss shall be tested at 850nm and 1300nm for 50/125um and 62.5/125um multimode cabling in at least one direction using the method B (1-jumper) test procedure as specified in ANSI/TIA/EIT-526-14A.
3. Insertion loss shall be tested at 1300 and 1550 for singlemode cabling in at least one direction using the method A.1 (1-jumper) test procedure as specified in ANSI/TIA/EIT-526-7.
4. Length shall be tested using an OTDR, optical length test measurement device or sequential cable measurement markings.

END OF SECTION 27 00 00



1 SECOND FLOOR PLAN - AREA C & D

SCALE: 1/8" = 1'-0"

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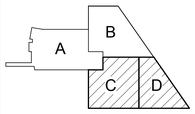
A - 01	07/24/2014	ADDENDUM #1



Key Plan

Life Science Collaboration
UNL Food Science and Technology

1910 N Antelope Valley Parkway
Lincoln, Nebraska

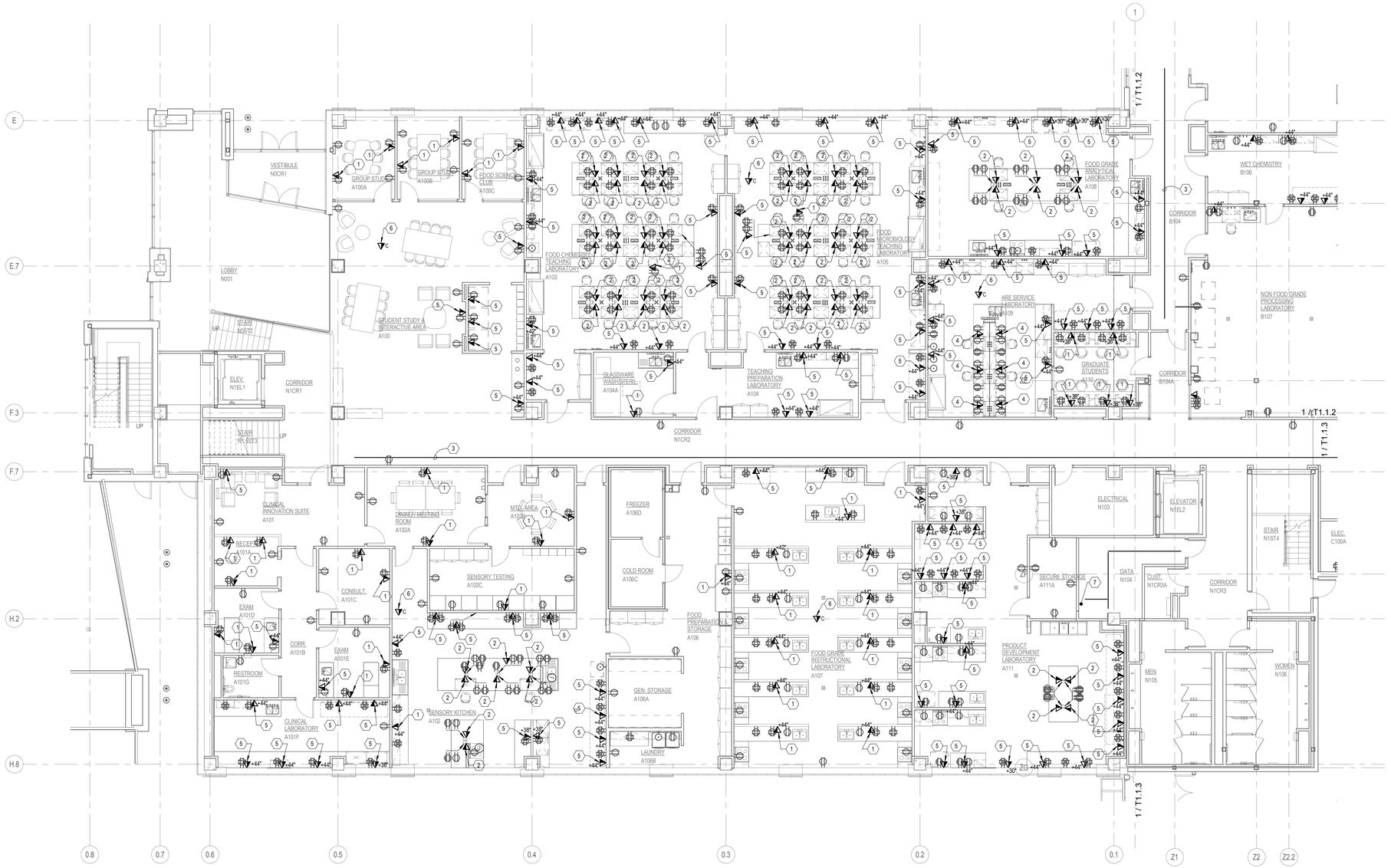
TCEP No.: 716-006-13

July 15, 2014

REGISTERED PROFESSIONAL ARCHITECT
GREGORY S. LATTIG
A-1845
STATE OF NEBRASKA

Second Floor Plan - Area C & D

A1.25



FIRST FLOOR TELECOMMUNICATIONS PLAN - AREA 'A'

SCALE: 1/8" = 1'-0"

FIRST FLOOR TELECOMMUNICATIONS PLAN - AREA 'A' NOTES	
KEY NOTE	DESCRIPTION
1	ROUTE TWO BLUE CATEGORY 6 CABLES TO AN OFFICE FACEPLATE. SEE THE OFFICE FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
2	ROUTE ONE BLUE CATEGORY 6 CABLE TO A PEDESTAL FACEPLATE. SEE THE PEDESTAL FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
3	CABLE TRAY INSTALLED BY THE ELECTRICAL CONTRACTOR, FOR USE BY THE TELECOMMUNICATIONS CONTRACTOR.
4	ROUTE ONE BLUE CATEGORY 6 CABLE TO A WIREMOLD FACEPLATE. SEE THE WIREMOLD FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
5	ROUTE ONE BLUE CATEGORY 6 CABLE TO A LAB FACEPLATE. SEE THE LAB FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
6	ROUTE TWO BLUE CATEGORY 6 CABLES TO A WIRELESS ACCESS POINT. CONTRACTOR SHALL TERMINATE CABLES ON JACKS AND COIL AN ADDITIONAL 15 FEET OF CABLE AT THE LOCATION INDICATED.
7	LOCATION OF PATHWAYS INSTALLED BETWEEN THIS FLOOR AND THE SECOND FLOOR DATA ROOM DIRECTLY ABOVE. INSTALLED BY THE ELECTRICAL CONTRACTOR, FOR USE BY THE TELECOM CONTRACTOR.

ROUTE ALL CABLING TO DATA ROOM N2I4 LOCATED ON THE SECOND FLOOR - AREA 'A'

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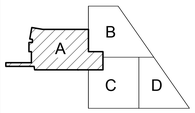

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First Floor Telecommunications Plan - Area 'A'

T1.1.1

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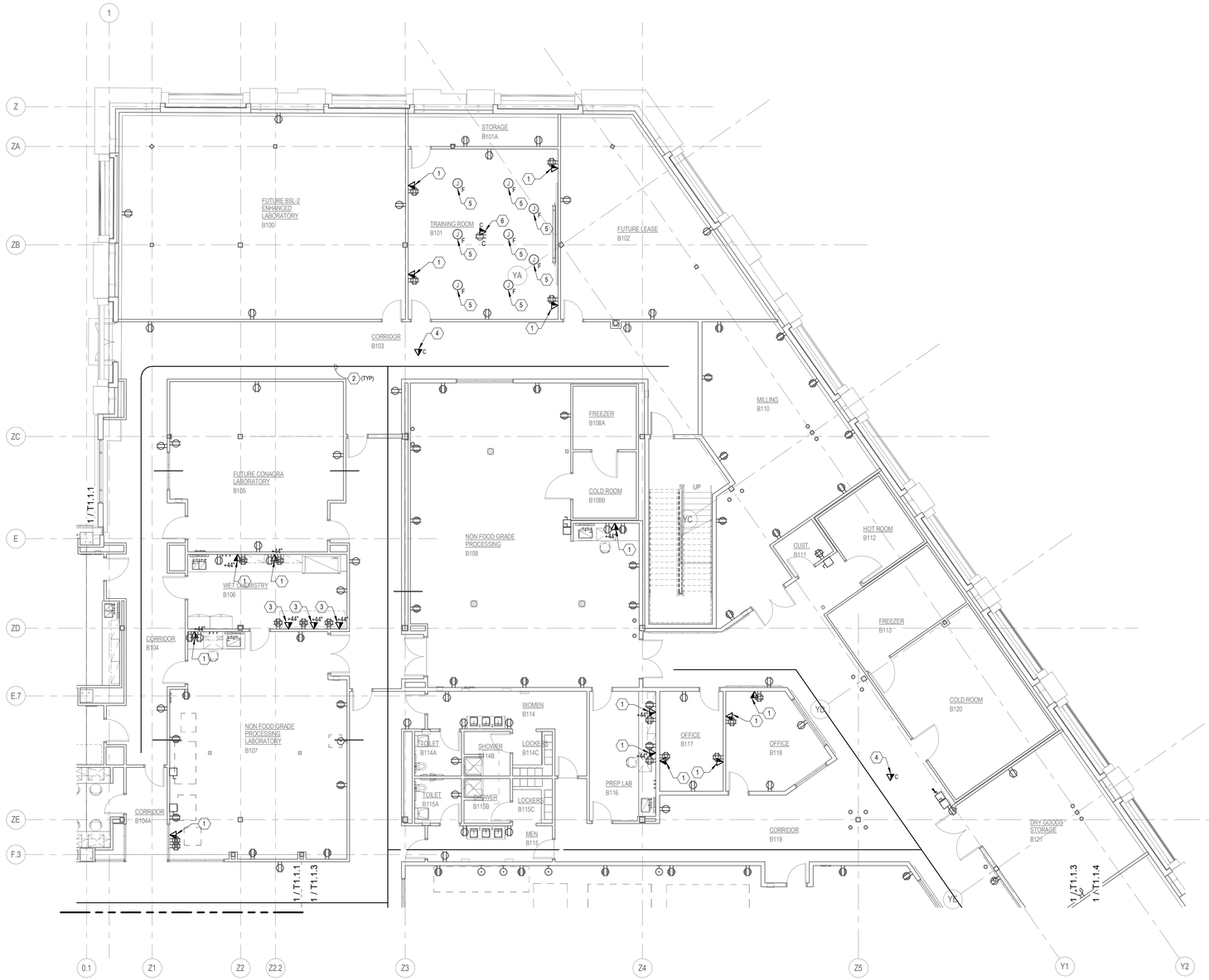

FIRST FLOOR TELECOMMUNICATIONS PLAN - AREA 'B'

SCALE: 1/8" = 1'-0"

FIRST FLOOR TELECOMMUNICATIONS PLAN - AREA 'B' NOTES	
KEY NOTE	DESCRIPTION
1	ROUTE TWO BLUE CATEGORY 6 CABLES TO AN OFFICE FACEPLATE. SEE THE OFFICE FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
2	CABLE TRAY INSTALLED BY THE ELECTRICAL CONTRACTOR, FOR USE BY THE TELECOMMUNICATIONS CONTRACTOR.
3	ROUTE ONE BLUE CATEGORY 6 CABLE TO A LAB FACEPLATE. SEE THE LAB FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
4	ROUTE TWO BLUE CATEGORY 6 CABLES TO A WIRELESS ACCESS POINT. CONTRACTOR SHALL TERMINATE CABLES ON JACKS AND COIL AN ADDITIONAL 15 FEET OF CABLE AT THE LOCATION INDICATED.
5	ROUTE TWO BLUE CATEGORY 6 CABLES TO A FLOORBOX FACEPLATE. SEE THE FLOORBOX FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
6	ROUTE ONE BLUE CATEGORY 6 CABLE TO A PROJECTOR FACEPLATE. SEE THE PROJECTOR FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.

ROUTE ALL CABLING TO DATA ROOM N204 LOCATED ON THE SECOND FLOOR - AREA 'A'.

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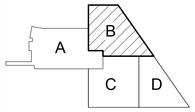

Key Plan

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1901 N. Antelope Valley Parkway
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First Floor Telecommunications Plan - Area 'B'

T1.1.2

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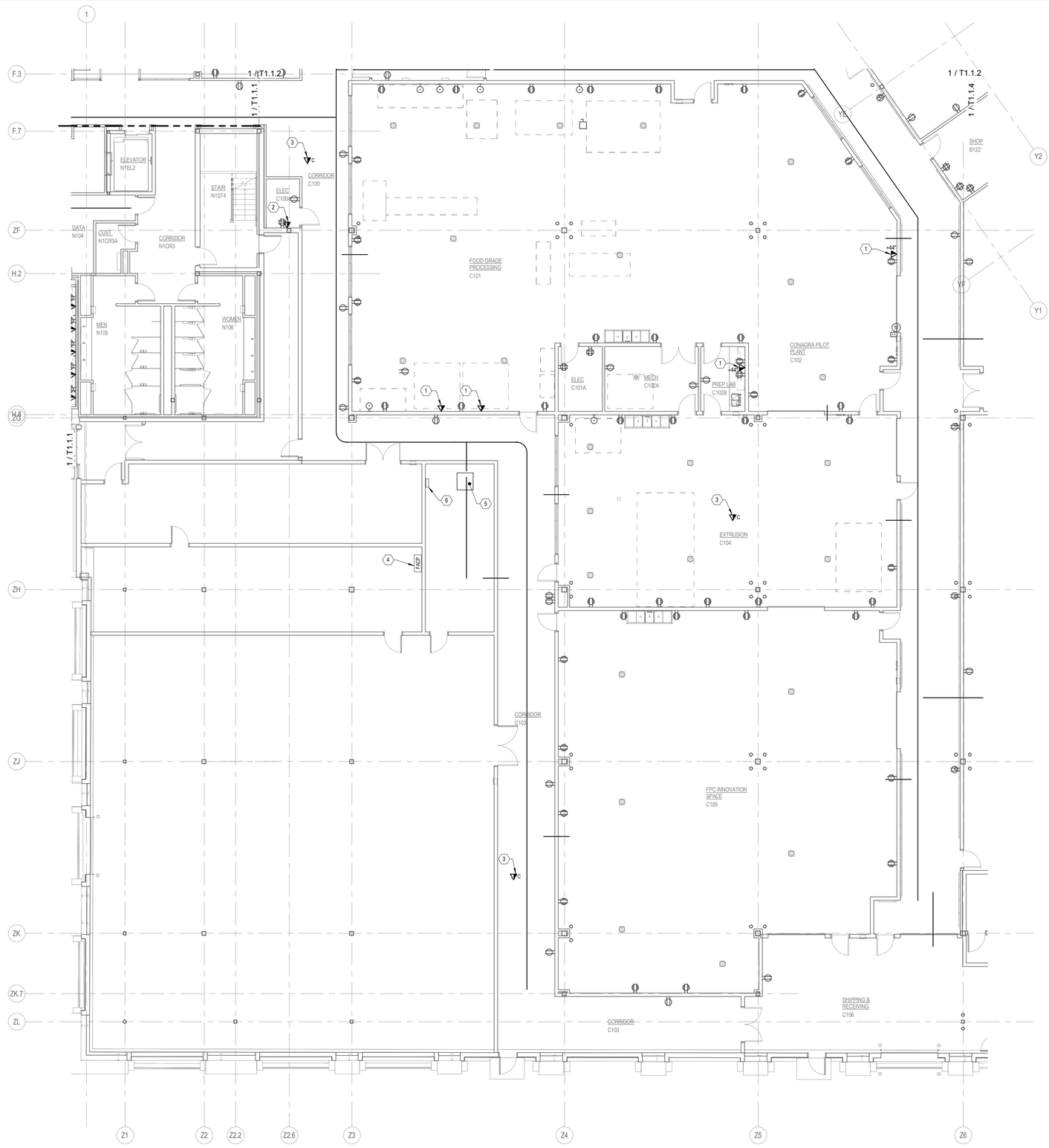

ROUTE ALL CABLING TO DATA ROOM N104 LOCATED ON THE SECOND FLOOR - AREA 'A'

FIRST FLOOR TELECOMMUNICATIONS PLAN - AREA 'C'

SCALE: 1/8" = 1'-0"

FIRST FLOOR TELECOMMUNICATIONS PLAN - AREA 'C' NOTES	
KEY NOTE	DESCRIPTION
1	ROUTE TWO BLUE CATEGORY 6 CABLES TO AN OFFICE FACEPLATE. SEE THE OFFICE FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
2	ROUTE ONE BLUE CATEGORY 6 CABLE TO A LAB FACEPLATE. SEE THE LAB FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
3	ROUTE TWO BLUE CATEGORY 6 CABLES TO A WIRELESS ACCESS POINT. CONTRACTOR SHALL TERMINATE CABLES ON JACKS AND COIL AN ADDITIONAL 15 FEET OF CABLE AT THE LOCATION INDICATED.
4	ROUTE TWO BLUE CATEGORY 6 CABLES TO THE FIRE ALARM CONTROL PANEL. COORDINATE EXACT LOCATION AND CONNECTION WITH THE FIRE ALARM CONTROL PANEL INSTALLER FOR A COMPLETE AND CODE COMPLIANT INSTALLATION.
5	EXISTING FLOOR MOUNTED RACK FOR THE SERVICE ENTRANCE FIBER CABLING. SEE THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
6	LOCATION OF THE WALL MOUNTED 110 BLOCKS. SEE THE TELECOM RISERS FOR ADDITIONAL INFORMATION.

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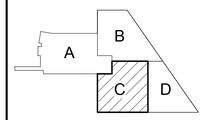

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First Floor Telecommunications Plan - Area 'C'

T1.1.3

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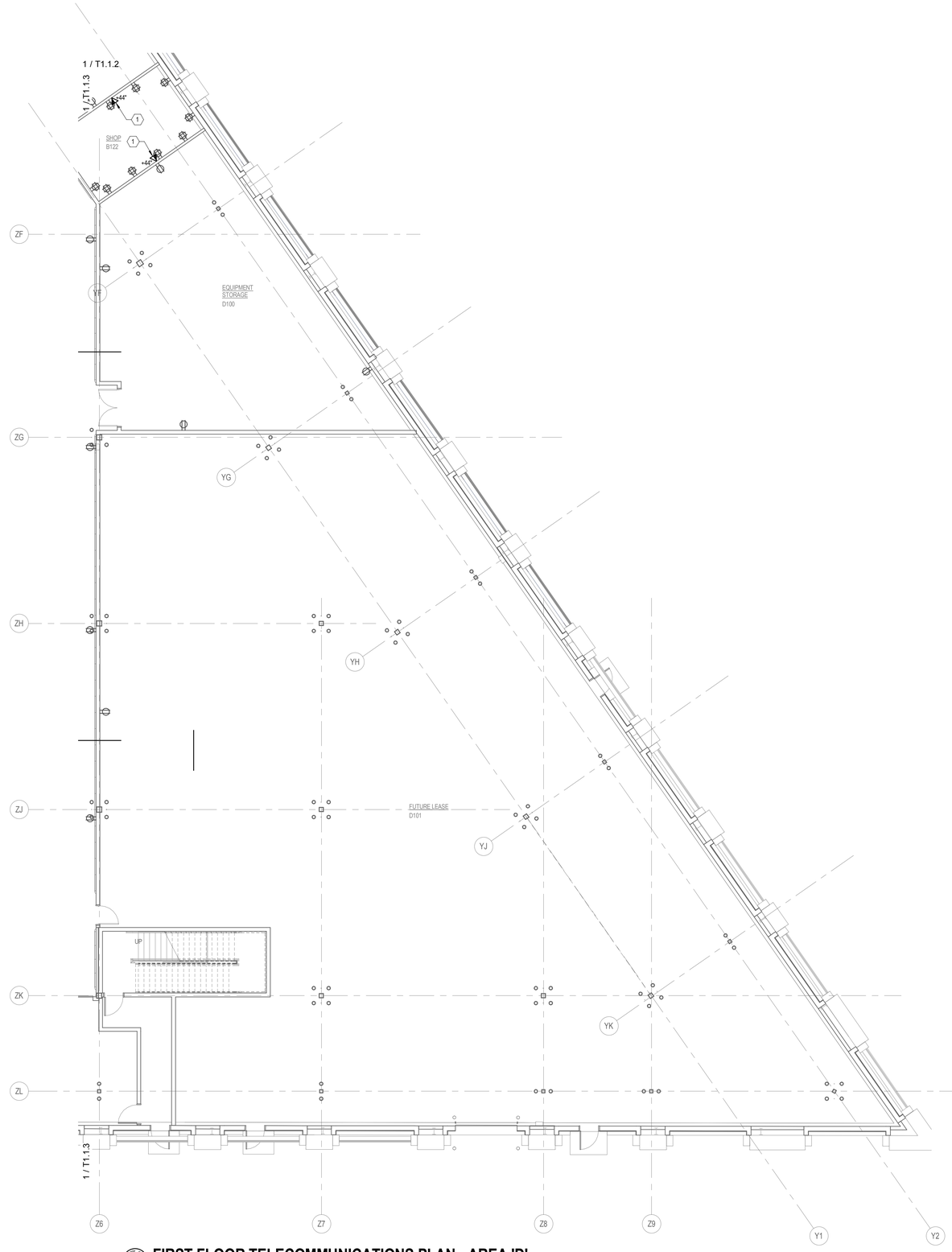

ROUTE ALL CABLING TO DATA ROOM N204 LOCATED ON THE SECOND FLOOR - AREA 'A'

FIRST FLOOR TELECOMMUNICATIONS PLAN - AREA 'D'

SCALE: 1/8" = 1'-0"

FIRST FLOOR TELECOMMUNICATIONS PLAN - AREA 'D' NOTES	
KEY NOTE	DESCRIPTION
1	ROUTE TWO BLUE CATEGORY 6 CABLES FOR DATA TO AN OFFICE FACEPLATE. SEE THE OFFICE FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.

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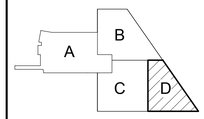

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PROFESSIONAL ELECTRICAL ENGINEER
TED L. SCHIRMER
E-8623
7-23-14
STATE OF NEBRASKA

First Floor
Telecommunications Plan
- Area 'D'

T1.1.4

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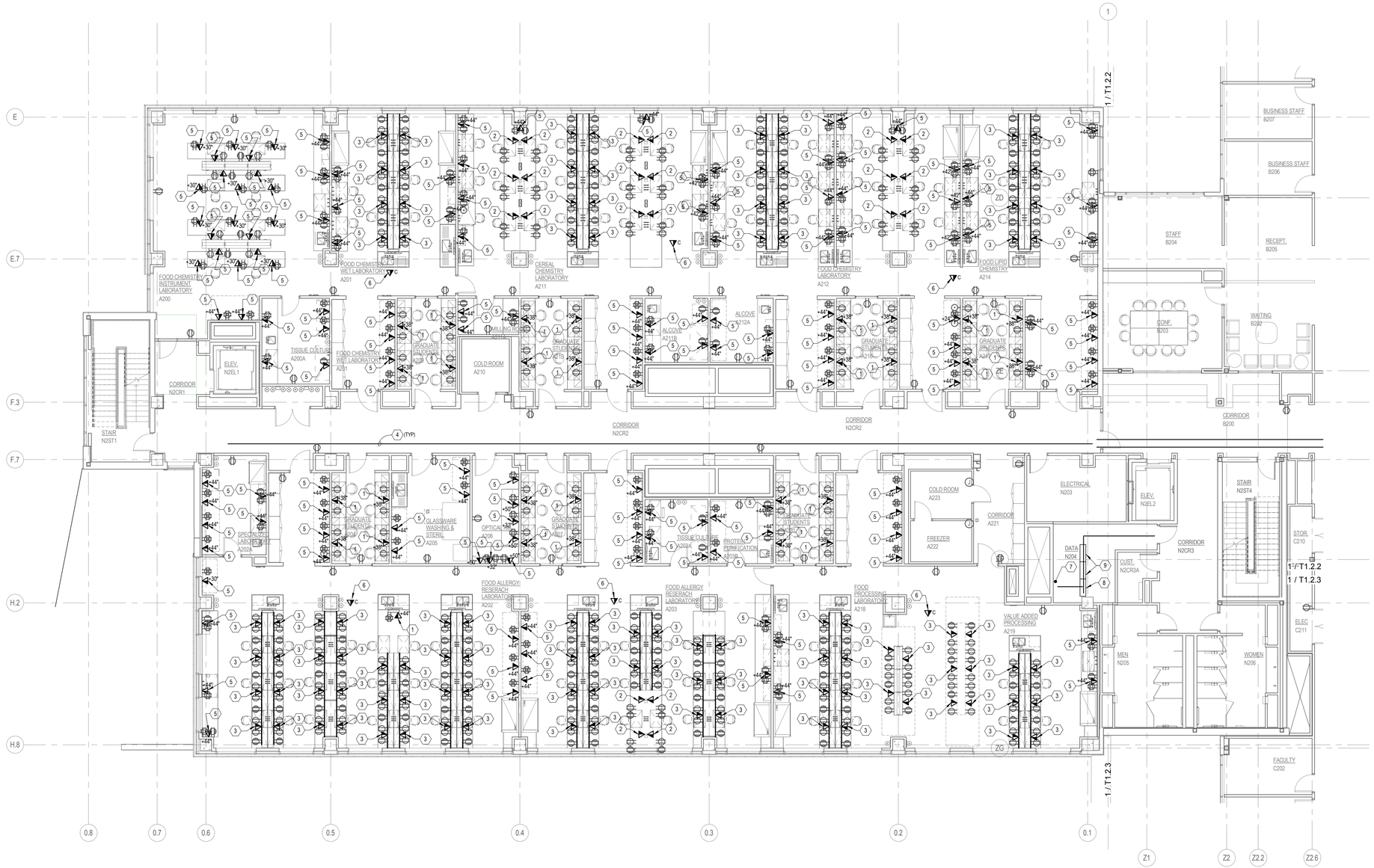

SECOND FLOOR TELECOMMUNICATIONS PLAN - AREA 'A'

SCALE: 1/8" = 1'-0"

SECOND FLOOR TELECOMMUNICATIONS PLAN - AREA 'A' NOTES	
KEY NOTE	DESCRIPTION
1	
2	ROUTE ONE BLUE CATEGORY 6 CABLE TO A PEDESTAL FACEPLATE. SEE THE PEDESTAL FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
3	ROUTE ONE BLUE CATEGORY 6 CABLE TO A WIREMOLD FACEPLATE. SEE THE WIREMOLD FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
4	CABLE TRAY INSTALLED BY THE ELECTRICAL CONTRACTOR, FOR USE BY THE TELECOMMUNICATIONS CONTRACTOR.
5	
6	ROUTE TWO BLUE CATEGORY 6 CABLES TO A WIRELESS ACCESS POINT. CONTRACTOR SHALL TERMINATE CABLES ON JACKS AND COIL AN ADDITIONAL 15 FEET OF CABLE AT THE LOCATION INDICATED.
7	LOCATION OF PATHWAYS INSTALLED BETWEEN THIS FLOOR AND THE FIRST FLOOR DATA ROOM BELOW AND THE THIRD FLOOR DATA ROOM DIRECTLY ABOVE. INSTALLED BY THE ELECTRICAL CONTRACTOR, FOR USE BY THE TELECOM CONTRACTOR.
8	EXISTING FLOOR MOUNTED RELAY RACK. SEE THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
9	FLOOR MOUNTED RELAY RACKS TO BE INSTALLED IN THIS LOCATION. SEE THE TELECOM RISERS FOR ADDITIONAL INFORMATION.

ROUTE ALL CABLING TO DATA ROOM N204 LOCATED ON THE SECOND FLOOR - AREA 'A'

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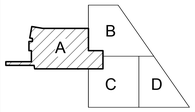

Key Plan

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Second Floor Telecommunications Plan - Area 'A'

T1.2.1

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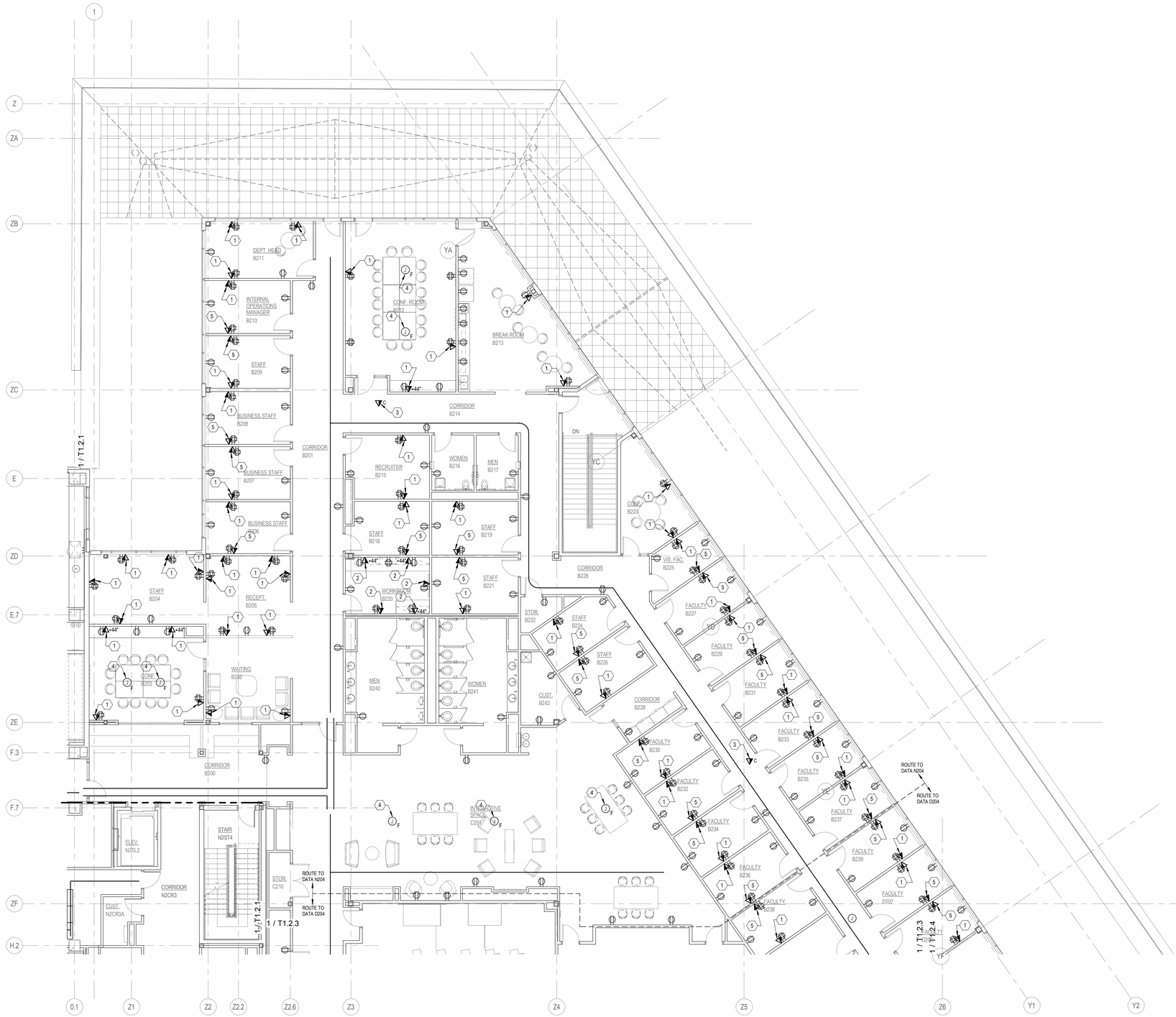

SECOND FLOOR TELECOMMUNICATIONS PLAN - AREA 'B'

SCALE: 1/8" = 1'-0"

SECOND FLOOR TELECOMMUNICATIONS PLAN - AREA 'B' NOTES	
KEY NOTE	DESCRIPTION
1	ROUTE TWO BLUE CATEGORY 6 CABLES FOR DATA TO AN OFFICE FACEPLATE. SEE THE OFFICE FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
2	ROUTE ONE BLUE CATEGORY 6 CABLE TO A LAB FACEPLATE. SEE THE LAB FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
3	ROUTE TWO BLUE CATEGORY 6 CABLES TO A WIRELESS ACCESS POINT. CONTRACTOR SHALL TERMINATE CABLES ON JACKS AND COIL AN ADDITIONAL 15 FEET OF CABLE AT THE LOCATION INDICATED.
4	ROUTE TWO BLUE CATEGORY 6 CABLES TO A FLOORBOX FACEPLATE. SEE THE FLOORBOX FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
5	NO CABLING SHALL BE INSTALLED TO THIS LOCATION.

ROUTE ALL CABLING TO DATA ROOM N204 LOCATED ON THE SECOND FLOOR - AREA 'A' OR TO DATA ROOM D204 LOCATED ON THE SECOND FLOOR - AREA 'D', AS INDICATED.

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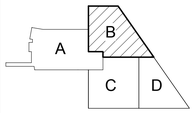

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Second Floor Telecommunications Plan - Area 'B'

T1.2.2

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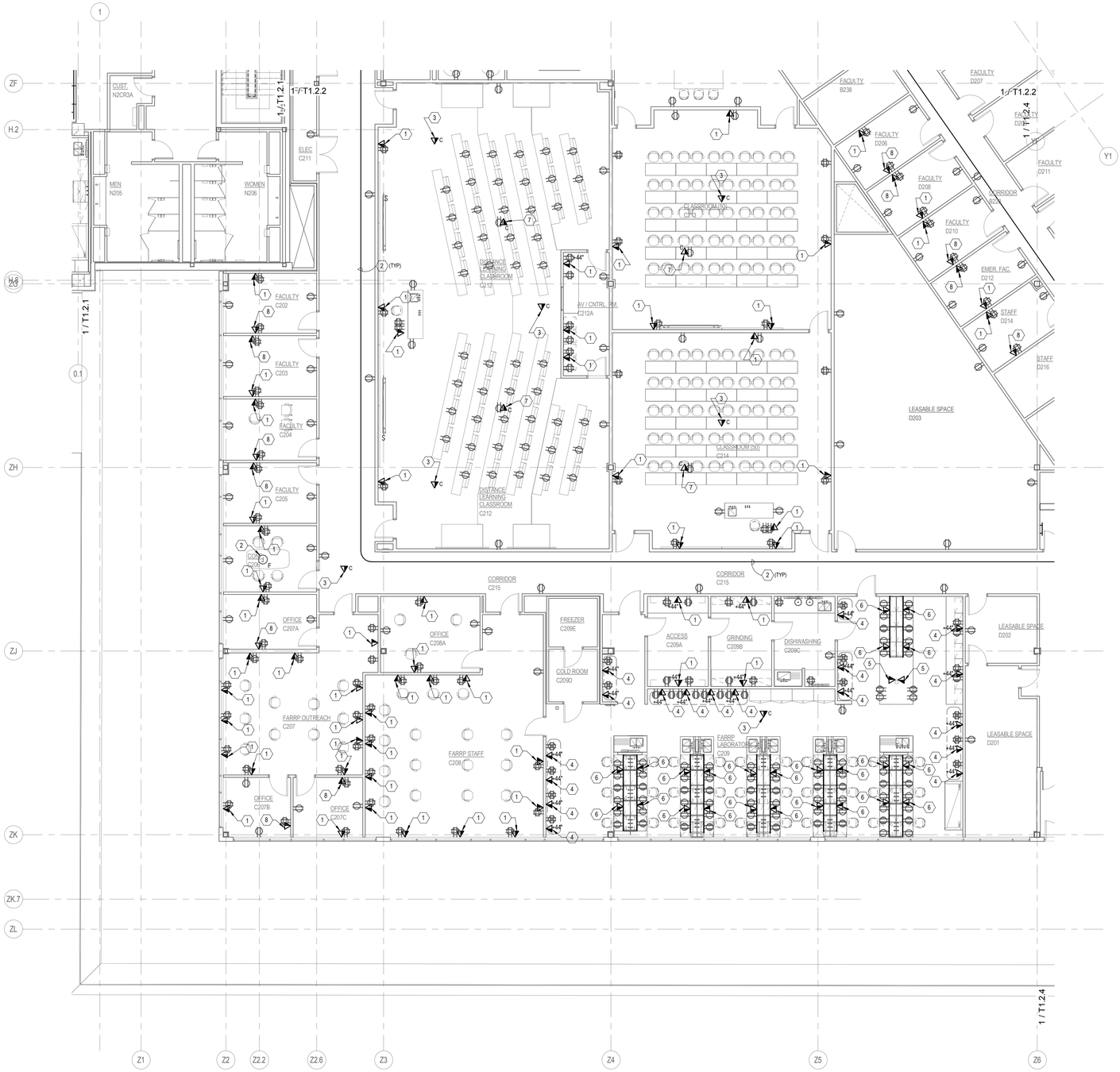

ROUTE ALL CABLING TO DATA ROOM D204 LOCATED ON THE SECOND FLOOR - AREA 'D'

SECOND FLOOR TELECOMMUNICATIONS PLAN - AREA 'C'

SCALE: 1/8" = 1'-0"

SECOND FLOOR TELECOMMUNICATIONS PLAN - AREA 'C' NOTES	
KEY NOTE	DESCRIPTION
1	ROUTE TWO BLUE CATEGORY 6 CABLES TO AN OFFICE FACEPLATE. SEE THE OFFICE FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
2	ROUTE TWO BLUE CATEGORY 6 CABLES TO A FLOORBOX FACEPLATE. SEE THE FLOORBOX FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
3	ROUTE TWO BLUE CATEGORY 6 CABLES TO A WIRELESS ACCESS POINT. CONTRACTOR SHALL TERMINATE CABLES ON JACKS AND COIL AN ADDITIONAL 15 FEET OF CABLE AT THE LOCATION INDICATED.
4	ROUTE ONE BLUE CATEGORY 6 CABLE TO A LAB FACEPLATE. SEE THE LAB FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
5	ROUTE ONE BLUE CATEGORY 6 CABLE TO A PEDESTAL FACEPLATE. SEE THE PEDESTAL FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
6	ROUTE ONE BLUE CATEGORY 6 CABLE TO A WIREMOLD FACEPLATE. SEE THE WIREMOLD FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
7	ROUTE ONE BLUE CATEGORY 6 CABLE TO A PROJECTOR FACEPLATE. SEE THE PROJECTOR FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
8	NO CABLING SHALL BE INSTALLED TO THIS LOCATION.

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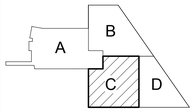

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Second Floor Telecommunications Plan - Area 'C'

T1.2.3

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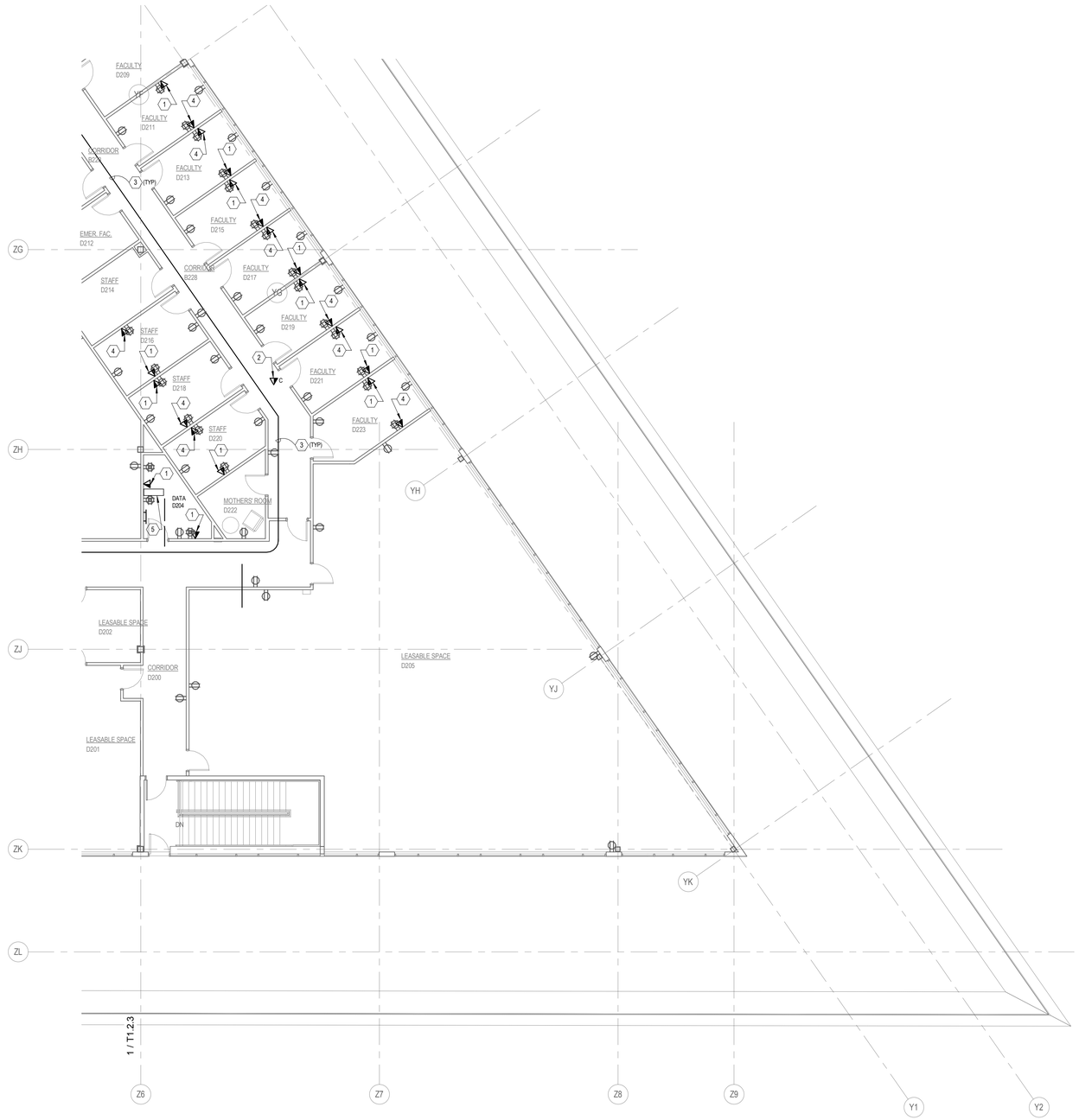

ROUTE ALL CABLING TO DATA ROOM D204 LOCATED ON THE SECOND FLOOR - AREA 'D'

SECOND FLOOR TELECOMMUNICATIONS PLAN - AREA 'D'

SCALE: 1/8" = 1'-0"

SECOND FLOOR TELECOMMUNICATIONS PLAN - AREA 'D' NOTES	
KEY NOTE	DESCRIPTION
1	ROUTE TWO BLUE CATEGORY 6 CABLES TO AN OFFICE FACEPLATE. SEE THE OFFICE FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
2	ROUTE TWO BLUE CATEGORY 6 CABLES TO A WIRELESS ACCESS POINT. CONTRACTOR SHALL TERMINATE CABLES ON JACKS AND COIL AN ADDITIONAL 15 FEET OF CABLE AT THE LOCATION INDICATED.
3	CABLE TRAY INSTALLED BY THE ELECTRICAL CONTRACTOR, FOR USE BY THE TELECOMMUNICATIONS CONTRACTOR.
4	NO CABLING SHALL BE INSTALLED TO THIS LOCATION.
5	FLOOR MOUNTED RELAY RACK IN 'IDF-B2' TO BE INSTALLED IN THIS LOCATION. SEE THE TELECOM RISERS FOR ADDITIONAL INFORMATION.

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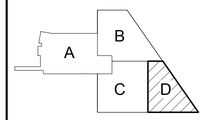

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Second Floor Telecommunications Plan - Area 'D'

T1.2.4

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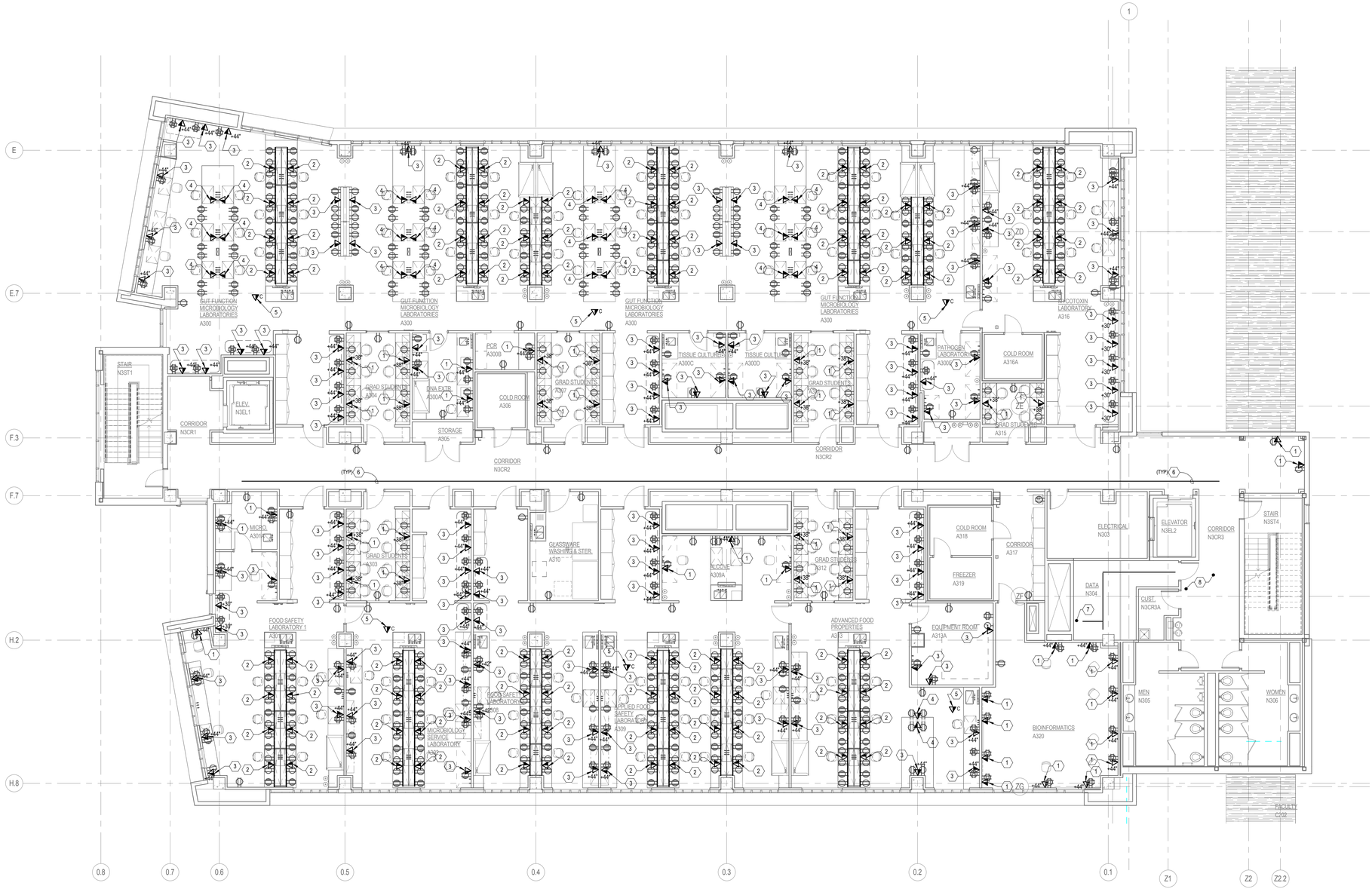


THIRD FLOOR TELECOMMUNICATIONS PLAN - AREA 'A'

SCALE: 1/8" = 1'-0"

THIRD FLOOR TELECOMMUNICATIONS PLAN - AREA 'A' NOTES	
KEY NOTE	DESCRIPTION
1	ROUTE TWO BLUE CATEGORY 6 CABLES TO AN OFFICE FACEPLATE. SEE THE OFFICE FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
2	ROUTE ONE BLUE CATEGORY 6 CABLE TO A WIREMOLD FACEPLATE. SEE THE WIREMOLD FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
3	ROUTE ONE BLUE CATEGORY 6 CABLE TO A LAB FACEPLATE. SEE THE LAB FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
4	ROUTE ONE BLUE CATEGORY 6 CABLE TO A PEDESTAL FACEPLATE. SEE THE PEDESTAL FACEPLATE DETAIL AND THE TELECOM RISERS FOR ADDITIONAL INFORMATION.
5	ROUTE TWO BLUE CATEGORY 6 CABLES TO A WIRELESS ACCESS POINT. CONTRACTOR SHALL TERMINATE CABLES ON JACKS AND COIL AN ADDITIONAL 15 FEET OF CABLE AT THE LOCATION INDICATED.
6	CABLE TRAY INSTALLED BY THE ELECTRICAL CONTRACTOR, FOR USE BY THE TELECOMMUNICATIONS CONTRACTOR.
7	LOCATION OF PATHWAYS INSTALLED BETWEEN THIS FLOOR AND THE SECOND FLOOR DATA ROOM DIRECTLY BELOW. INSTALLED BY THE ELECTRICAL CONTRACTOR, FOR USE BY THE TELECOM CONTRACTOR.
8	APPOXIMATE LOCATION OF THE ELEVATOR CONTROL ROOM, TWO FLOORS DIRECTLY ABOVE. CONTRACTOR SHALL ROUTE TWO BLUE CATEGORY 6 CABLES FROM THE ELEVATOR CONTROLLER DOWN TO THE WALL MOUNTED BLOCKS LOCATED IN 'MDF-A' (DATA ROOM S103). SEE THE TELECOM RISERS FOR ADDITIONAL INFORMATION.

ROUTE ALL CABLING TO DATA ROOM N304 LOCATED ON THE SECOND FLOOR - AREA 'A'

The Clark Enersen Partners

Architecture
Landscape Architecture
Engineering
Interiors

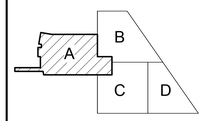
www.clarkenersen.com

Lincoln, Nebraska
1010 Lincoln Mall, Suite 200
Lincoln, NE 68508-2883
402.477.9291 Fax 402.477.6542

Kansas City, Missouri
Fairway, Kansas

SHEET HISTORY:

ISSUED	07/24/2014	AS PER ADDENDUM 001



Key Plan

Life Science Collaboration
UNL Food Science and Technology

1901 N. Antelope Valley Parkway
Lincoln, Nebraska

TCEP No.: 716-006-13

Third Floor Telecommunications Plan - Area 'A'

T1.3.1

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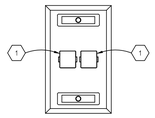
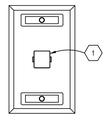


OFFICE FACPEPLATE DETAIL

NO SCALE

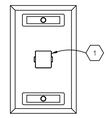
OFFICE FACEPLATE DETAIL	
KEY NOTE	
1	INSTALL A BLUE MODULAR JACK TO A BLUE CATEGORY 6 CABLE. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



LAB FACPEPLATE DETAIL

NO SCALE

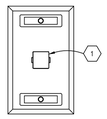
LAB FACEPLATE DETAIL	
KEY NOTE	
1	INSTALL A BLUE MODULAR JACK TO A BLUE CATEGORY 6 CABLE. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



PEDESTAL FACPEPLATE DETAIL

NO SCALE

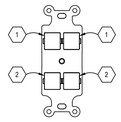
PEDESTAL FACEPLATE DETAIL	
KEY NOTE	
1	INSTALL A BLUE MODULAR JACK TO A BLUE CATEGORY 6 CABLE. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



PROJECTOR FACPEPLATE DETAIL

NO SCALE

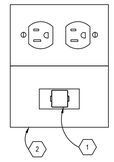
PROJECTOR FACEPLATE DETAIL	
KEY NOTE	
1	INSTALL A BLUE MODULAR JACK TO A BLUE CATEGORY 6 CABLE. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



FLOORBOX FACPEPLATE DETAIL

NO SCALE

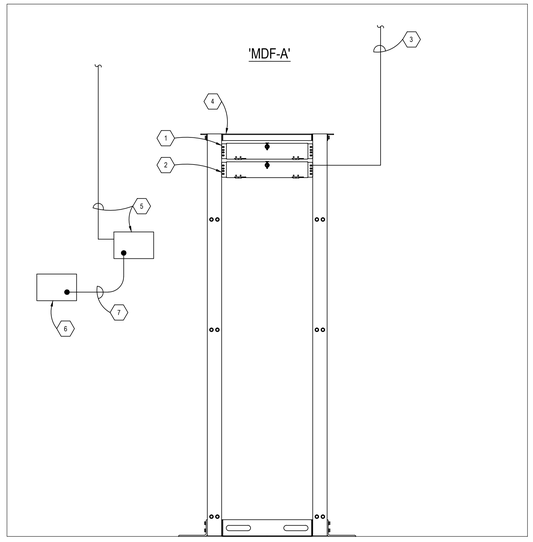
FLOORBOX FACEPLATE DETAIL	
KEY NOTE	
1	INSTALL A BLUE MODULAR JACK TO A BLUE CATEGORY 6 CABLE. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2	PROVIDE BLANKS FOR UNUSED PORTS.



WIREMOLD FACPEPLATE DETAIL

NO SCALE

WIREMOLD FACEPLATE DETAIL	
KEY NOTE	
1	INSTALL A BLUE MODULAR JACK TO A BLUE CATEGORY 6 CABLE. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2	COORDINATE INSERT REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR FOR A COMPLETE INSTALLATION.

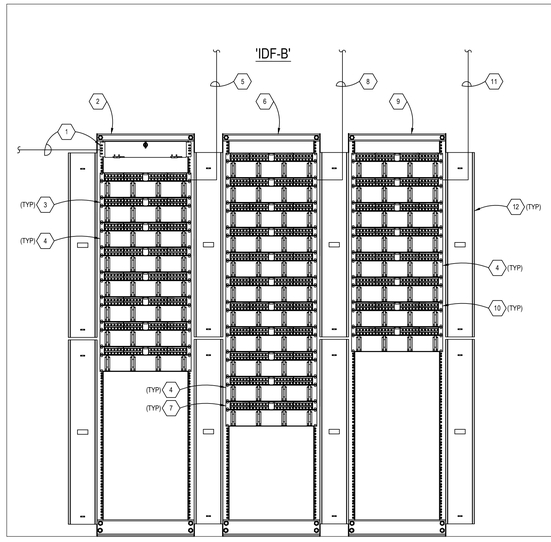


FRONT VIEW

TELECOM ROOM 'MDF-A' RISER (DATA ROOM S103)

NO SCALE

TELECOM ROOM 'MDF-A' RISER NOTES	
KEY NOTE	DESCRIPTION
1	EXISTING FIBER OPTIC SERVICE PROVIDERS PATCH PANEL.
2	EXISTING FIBER OPTIC PATCH PANEL FOR TERMINATION OF THE FIBER OPTIC CABLE BEING ROUTED TO 'MDF-A'.
3	ONE 24 STRAND SINGLE MODE FIBER OPTIC BACKBONE CABLE FROM 'MDF-A' TO THE SECOND FLOOR 'IDF-B2'. SEE THE TELECOMMUNICATION PLANS AND THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
4	EXISTING FLOOR MOUNTED FOUR POST RELAY RACK.
5	SERVICE PROVIDERS COPPER CABLE AND DEMARC LOCATION. COORDINATE EXACT LOCATION WITHIN THE ROOM WITH THE SERVICE PROVIDER.
6	WALL MOUNTED 110 BLOCKS FOR TERMINATION OF THE FIRE ALARM CONTROL PANEL AND THE ELEVATOR CONTROLLER CABLING. SEE THE TELECOM PLANS FOR LOCATIONS.
7	ONE 25TP CABLE ROUTED BETWEEN THE SERVICE PROVIDERS DEMARC LOCATION AND THE WALL MOUNTED 110 BLOCKS. COORDINATE WORK WITH THE SERVICE PROVIDER FOR A COMPLETE INSTALLATION.

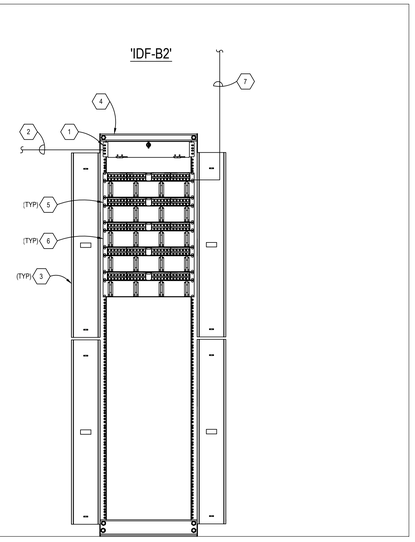


FRONT VIEW

TELECOM ROOM 'IDF-B' RISER (DATA ROOM N204)

NO SCALE

TELECOM ROOM 'IDF-B' RISER NOTES	
KEY NOTE	
1	EXISTING FIBER OPTIC PATCH PANEL AND SINGLE MODE CABLE ROUTED FROM 'MDF-A'.
2	EXISTING FLOOR MOUNTED RELAY RACK AND VERTICALLY MANAGEMENT (ON BOTH SIDES OF THE RACK). INSTALL THE 48 PORT PATCH PANELS AND THE HORIZONTAL WIRE MANAGEMENT IN THIS EXISTING RELAY RACK AS INDICATED.
3	48 PORT PATCH PANELS FOR ALL WORK AREA CABLING ON THE FIRST FLOOR. SEE THE TELECOM PLANS AND THE SPECIFICATIONS FOR ADDITIONAL INFORMATION. TYPICAL FOR EIGHT PATCH PANELS.
4	PROVIDE HORIZONTAL WIRE MANAGEMENT BETWEEN THE PATCH PANELS. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
5	ROUTE ALL CATEGORY 6 WORK AREA CABLING FROM THE FIRST FLOOR TO THESE PATCH PANELS.
6	INSTALL THE FLOOR MOUNTED RELAY RACK, NEXT TO THE EXISTING AS INDICATED. SEE THE TELECOM PLANS AND THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
7	48 PORT PATCH PANELS FOR ALL WORK AREA CABLING ON THE FIRST FLOOR. SEE THE TELECOM PLANS AND THE SPECIFICATIONS FOR ADDITIONAL INFORMATION. TYPICAL FOR ELEVEN PATCH PANELS.
8	ROUTE THE CATEGORY 6 WORK AREA CABLING FROM THE SECOND FLOOR, AS INDICATED ON THE PLANS, TO THESE PATCH PANELS.
9	FLOOR MOUNTED RELAY RACK. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
10	48 PORT PATCH PANELS FOR ALL WORK AREA CABLING ON THE FIRST FLOOR. SEE THE TELECOM PLANS AND THE SPECIFICATIONS FOR ADDITIONAL INFORMATION. TYPICAL FOR EIGHT PATCH PANELS.
11	ROUTE ALL CATEGORY 6 WORK AREA CABLING FROM THE THIRD FLOOR TO THESE PATCH PANELS.
12	INSTALL TWO NEW VERTICAL WIRE MANAGEMENTS, ONE ON EACH SIDE OF THE LAST RACK. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



FRONT VIEW

TELECOM ROOM 'IDF-B2' RISER (DATA ROOM D204)

NO SCALE

TELECOM ROOM 'IDF-B2' RISER NOTES	
KEY NOTE	
1	FIBER OPTIC PATCH PANEL FOR TERMINATION OF THE FIBER OPTIC CABLE ROUTED FROM 'MDF-A'. COORDINATE EXACT LOCATION IN THE RACK WITH THE OWNER. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2	24 STRAND SINGLE MODE FIBER OPTIC BACKBONE CABLE FROM TELECOM ROOM 'MDF-A'. SEE THE TELECOM PLANS FOR ROUTING AND THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3	VERTICAL WIRE MANAGEMENT. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
4	FLOOR MOUNTED RELAY RACK. SEE THE TELECOM PLANS AND THE SPECIFICATIONS FOR ADDITIONAL INFORMATION. COORDINATE LOCATION AND RACK LAYOUT WITH THE OWNER.
5	48 PORT PATCH PANELS FOR ALL WORK AREA CABLING BEING ROUTED TO THIS LOCATION. SEE THE TELECOM PLANS AND THE SPECIFICATIONS FOR ADDITIONAL INFORMATION. TYPICAL FOR FIVE PATCH PANELS.
6	PROVIDE WIRE MANAGEMENT BETWEEN THE PATCH PANELS. SEE THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
7	ROUTE ALL CATEGORY 6 WORK AREA CABLING FROM THE INDICATED LOCATIONS ON THE PLANS TO THESE PATCH PANELS.

The Clark Enersen Partners
Architecture
Landscape Architecture
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www.clarkenersen.com

Lincoln, Nebraska
1010 Lincoln Mall, Suite 200
Lincoln, NE 68508-2883
402 477.9291 Fax 402 477.6542

Kansas City, Missouri
Fairway, Kansas

2 7 - 8

SHEET HISTORY:

ISSUED 07/24/2014 AS PER ADDENDUM NUMBER 001

Life Science Collaboration UNL Food Science and Technology

1910 N Antelope Valley Parkway
Lincoln, Nebraska

TCEP No.: 716-006-13

July 15, 2014

PROFESSIONAL ELECTRICAL ENGINEER
TED E. SCHIMMER
E-8623
7/15/14
STATE OF NEBRASKA

Telecom Riser & Details

T2.01

Plot Time Stamp: 7 / 23 / 2014 9:30:05 AM
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