

D60–COMMUNICATIONS – UniFormat to MasterFormat Conversion Chart

D60 Communications	MasterFormat No.	Title
D60	27 00 00	Communications Equipment Room

D60 Communications

27 00 00 EQUIPMENT ROOM STANDARDS

A. Purpose:

1. The general purpose of each Facilities Standard is to provide minimal criteria for construction materials at University facilities regarding code compliance, warranty, approved products, execution and uniformity.
2. To protect the health and safety of patients, visitors, students, faculty and staff, in addition to protecting non-project UAB property, all construction must be in accordance with: NFPA 241 safeguarding construction, alteration and demolition operations; Standard Building Code, Chapter 33, regarding site work, demolition and construction; NFPA 101 Life Safety Code.
3. Construction safety is the responsibility of the contractor in accordance with the regulations and codes of the agency having jurisdiction, and according to the guidelines adapted by OSHA.
4. For Station Cabling/ Wiring refer to “Communication Raceway/Cabling System” Standard # 16750 or 26750.
5. The **Communications Equipment room Facilities Standard** establishes a series of guidelines for specifying this particular item on any construction project at the University. *This Facilities Standard is not to be regarded as a specification.*

B. General:

1. The awarded general contractor shall provide complete IT-Telecom/Data CER’s (Telecommunications Equipment Rooms) for all Levels, Data Riser Conduits, Communication Grounding System, Cable Tray System and Station Outlet & Conduit Systems, as well as Data Station Cabling System as directed in these comments in the construction project bid.
All CER’s and facilities shall/ must be finished, ninety (90) days prior to the completion date for the building (construction project bid). Please include this requirement within the contract document.
Due to the growing requirements for Electronic Data Equipment, the rooms provided will be solely for the UAB IT-Telecommunications Department use only. Note: Alarm Terminal Backboards, Cabinets, Fire Alarm, Intercom Systems, CATV, Security Panels etc., shall not be located in these rooms unless coordinated through the IT-Telecommunications Department and specific space has been allocated.
2. The Engineer shall furnish a section for Communications under the Electrical Specifications or under Division 16000 or 26000. Contractor shall provide a IT-Data Communication Equipment Room (CER/ER/TR) for each building level complete with equipment and finishes. The lowest level CER shall be used for Communication Service Entrance (CSER). Stack CER’s where possible. Communication work shall be complete a number of days to be determined for each project, prior to the completion date of the project.
3. In general multiple CER’s are required per floor if:
 - Usable floor space exceeds 10,000 sq. ft.

- Cable length between CER and outlet, including slack, exceeds 90 Meters/ 295 ft., or conduit distance exceeds 240 ft. (for the data signal only).
- If a CER has more than 176 station drops, refer to IT-UAB Communications Dept., Mr. Chris Waddell, RCDD @ 205-975-5379.
If a CER serves multiple tenants or an office density of less than one work area per 100-sq. ft., larger areas may be served by a CER provided the cable length is met.

4. The following minimum size of CER is based on one outlet per 100-sq. ft. work area:

<u>Service Area is based on BICSI Standard</u>	<u>CER/ER/TR's at Least</u>
Up to 5,000 sq. ft.	8' X 10' Minimum TR's
>5,000 to 8,000 sq. ft.	10' X 12' Typical UAB Riser CER/IDF/TR's
>8,000 to 10,000 sq. ft.	12' X 14' Typical UAB Entrance CER/MDF/ER's

Special Requirements for larger rooms-

Large Multi-Floor Level Buildings (>10,000 and Above sq. ft.)	
UAB Non-Hospital CSER/ Entrance	14' X16'
UAB Hospital CSER/ Entrance	20' X 30'
Contact IT-UAB Engineering for additional information.	

CER/ER/TR'S shall be positioned in the center of the building if possible and shall/must be stacked vertical within the building as well.

See CER'S - Typical ER - MDF and CER'S - Typical TR - IDF (Dated 06/06/2019.)

C. Finishes:

1. Backboards- Equipment Backboards shall cover all walls 10' in height x ¾", door frame to door frame completely in the CER's/EF, ER, TR (mounted vertically) shall be constructed of high-density, commercial plywood (Pine or Birch) AC-Grade, with the A-side facing outward/ C-side securely fastened to the wall, they shall be painted with two coats of fire retardant (dark-gray) paint, front, back and all sides.
Sheet rock walls painted (light-gray).
2. Tile Floor- Tile floor should be static free using asphalt/ linoleum tile, with rubber base cove (gray).
3. Ceilings- No false or drop lay-in ceilings shall be installed in ER's and TR's.
Paint above ceiling areas/ concrete and metal beams in the CER/ER/TR Rooms to seal structure in white color
4. Lighting- Lighting in the CER must run parallel with long walls of the CER's and the ceiling height shall be 10'-0" to leave space above the Communication Equipment Racks. Light intensity shall be at least 500 Lux (50 Foot Candles), 1 m (3.3 ft.) above the floor. The Light Fixtures shall be flush mounted/ Pendant type in the ceiling space.
NOTE: Emergency lighting shall be provided in each CER/ER/TR.

There needs to be four (4) 1'x4' fluorescent luminaries in each of the CED/EF/ER-MDF/TR-IDF IT-Telecommunications Rooms. They need to be oriented such that the 4' length is run parallel with the long walls. Do not use the 2'x4' configuration it does not allow for lamp replacement (due to interference from cable tray in room) and more even distribution is achieved with the 4 luminaires.

Coordinate the lighting fixture locations so that lights are not installed over the planned rack locations.

5. Doorways- Design CER's to have fully opening doors outward to the hallway. Doors shall be lockable and at least 91 cm (36 in.) wide and 2.0 m (6 ft. 8 in.) tall. Doors shall be set up and equipped with card reader access controls with Temperature Alarm capability to be included in the project.

6. Fire Protection- Provide fire protection for the CER, if required by applicable codes. If sprinkler heads are provided, install wire cages to prevent accidental operation. For wet pipe systems, drainage troughs are recommended to protect equipment from any leakage that may occur.
To prevent water damage, consider using "dry pipe" Sprinkler systems.

7. HVAC System- Each CER room must have a controlled environment with air conditioning (Wall Mounted Units) to maintain a dust free area. See information below. A temperature of 64 degrees F to 75 degrees F must be maintained.
Equipment load in CER/ ER-MDF Rooms is estimated at 18,675 Watts @ 3.413 Btu/hr. will be 63,731 BTU/HR in the room, this will require 6-Ton of air, we recommend (2) 3-Ton Units.
Equipment load in CER/ TR-IDR Rooms are estimated at 12,150 Watts @ 3.413 Btu/hr. will be 41,462 BTU/HR in the rooms, this will require 4-Ton of air, we recommend (2) 2-Ton Units each.
Do not place the HVAC/AC Units over the CER Doors.
The humidity range shall be 30% to 55% relative humidity.
Maintain positive air pressure with a minimum of one air change per hour.

8. Electrical/ Power Requirements- All CER/ER/TR's shall have Emergency Power, if available. Each CER/ER/TR shall have a separate Electrical Panel Box for the IT-Telecom Circuits.
 - Grounding- There shall be a Ground Riser conductor (#2/0 Insulated/Green or Black) placed through all ER and TR's CER's and then terminated on a Ground Bus Terminal (B-Line #SB-477-K or Approved Equivalent/ TMGB/TGB- 4"H x 1/4"W x 24"L in size) in the top right corner of the backboard or as indicated. The ground terminal shall be mounted on the backboard at 8'0" in height above the finished floor. The ground riser should be run to the Main Telecommunication Equipment Room and terminated. Connect to Main Building MGN #4/0 Insulated/Green or Black) (Main Ground/Neutral Bond) and Building Structural Grounding System.

 - Electrical- There shall be an electrical power strip (WireMold 3000) placed 6" above the finished floor on all backboards. The Electrical Strip shall have three (3) 120 Volt 20 Amp Circuits connected to NEMA 5-20R receptacles alternating on 18" centers and connected to Emergency Power, if available.

Electrical Sub-Contractor shall coordinate the routing and installations of receptacle boxes on the Racks/Cabinets installed by the IT/Datacom Contractor.

There shall be additional 120 Volt 20 Amp Circuits, one (1) for each rack, typically (4) four racks for ER-Entrance CERs and (3) three racks for TR-Riser CERs each connected to a dedicated NEMA 5-20R receptacle in CER's. Each circuit shall be connected to Emergency Power, if available. These additional receptacles shall be located at the top of each rack as directed by the IT-Telecommunications Engineering Department.

Hospital buildings shall include additional 120 Volt 30 Amp Circuits, one (1) every other rack, typically (4) four racks for ER-Entrance CERs and (3) three racks for TR-Riser CERs each connected to a dedicated NEMA L5-30R receptacle in CER's. Each circuit shall be connected to Emergency Power, if available. These additional receptacles shall be located at the top of each rack as directed by the IT-Telecommunications Engineering Department.

There shall be additional 208 Volt 30 Amp Circuits, one (1) every other rack, typically (4) four racks for ER-Entrance CERs and (3) three racks for TR-Riser CERs each connected to a dedicated NEMA L6-30R receptacle in the CER's. Each circuit shall be connected to Emergency Power, if available. These additional receptacles shall be located at the top of each rack as directed by the IT-Telecommunications Engineering Department.

These Electrical Receptacles shall be mounted 6'-10" AFF on the back side of the 19" Equipment Racks, within a Blank Panel. The contractor shall coordinate their installation after UAB IT-Telecom (Master Contractor) has installed their racks and trays.

Note: All 19" Equipment Racks, Ladder Equipment. Cable Trays in the IT-Telecommunications rooms shall be provided and installed by UAB IT-Telecom. (Master Contractor).

D. Products:

1. Not Applicable

E. Execution:

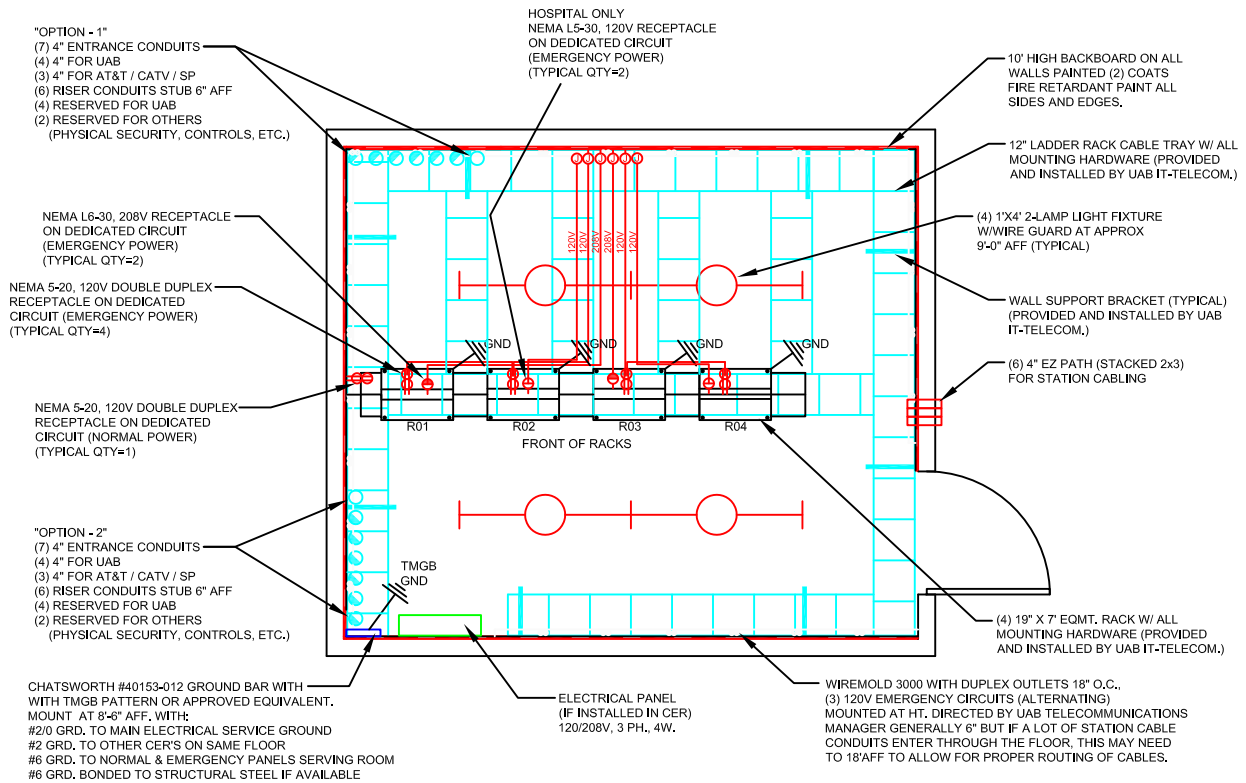
1. Engineer shall consult **UAB Mr. Chris Waddell, RCDD (e-mail address: cwaddell2@uab.edu)** early in the design to verify the capacity and specific requirements for each project, and submit construction documents for review and approval.
NOTE: The Architect/Engineer Firm shall supply the **UAB IT/ Information Technology-Telecommunications Services Engineering Operations Department** with a data file showing all station outlets and locations so that unique Station Number can be assigned for records use by our department. The file format shall be AutoCAD Latest Release with no conversion required.

If there are any questions regarding these requirements, please contact:

- **Chris Waddell- RCDD IT-Engineering Manager**
Ph. (205) 975-5379 . Cell (205) 807-6362
e-mail address: cwaddell2@uab.edu

- **Jason Teichmiller- Engineer/Designer at: UAB IT/ Information Technology-
Telecommunications Services Engineering Operations:**
Ph. (205) 934-9934 . Cell (205) 612-4812
e-mail address: jasont325@uab.edu

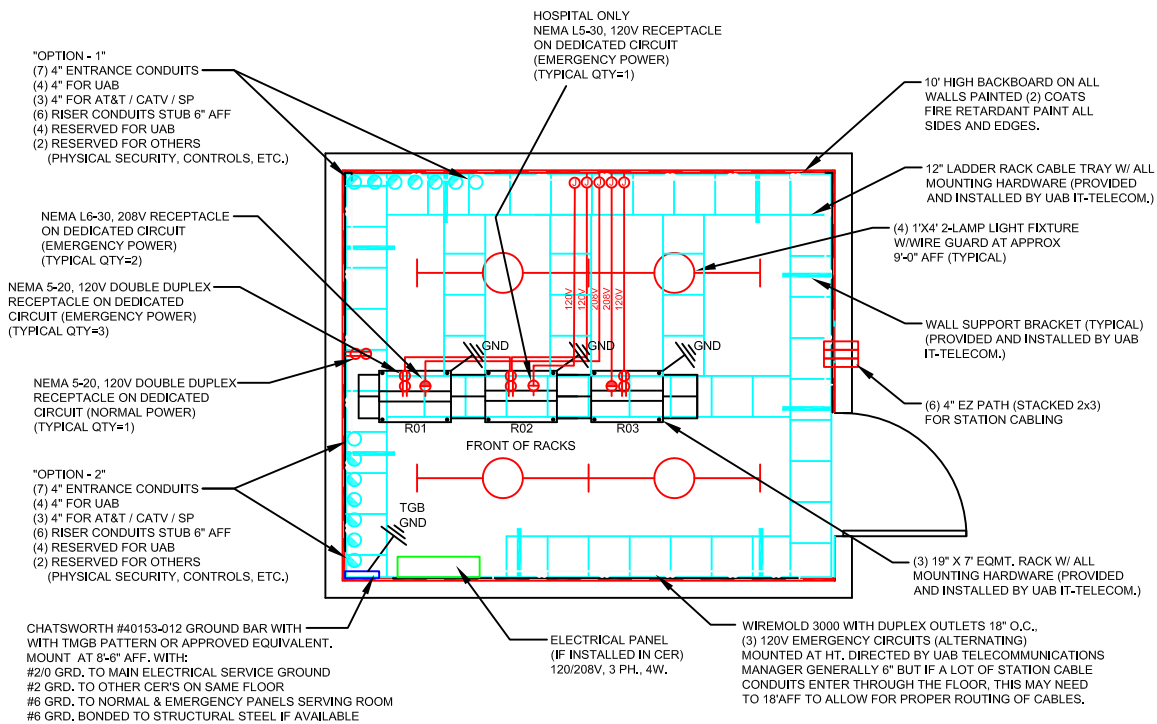
THIS IS WHAT OUR STANDARDS REQUEST AND WHAT SHOULD BE PROVIDED UNDER NORMAL CIRCUMSTANCES



**TYPICAL ER / MDF
(12' x 14' IN SIZE)**

DATED: 10/31/2019

THIS IS WHAT OUR STANDARDS REQUEST AND WHAT SHOULD BE PROVIDED UNDER NORMAL CIRCUMSTANCES



**TYPICAL TR / IDF
(10' x 12' IN SIZE)**

DATED: 10/31/2019

Revision Request Form – Communications Equipment Room

Date: _____

Requestor: _____ Department/Consultant: _____

Project Number & Name:

EXISTING COMMUNICATIONS EQUIPMENT ROOM STANDARD

Section Number & Name:

Section Revision Number: _____ Section Paragraph: _____

(ENTER CURENT SECTION LANGUAGE BELOW)

REQUESTED REVISION REQUEST

(ENTER REVISION SECTION LANGUAGE BELOW)- Identify if request will be permanent to standards or for the referenced project.

JUSTIFICATION FOR REVISION

FOR UNIVERSITY OF ALABAMA AT BIRMINGHAM USE ONLY

UAB Staff Requestor: _____
Authorized UAB Approval Personnel: _____ Date: _____
Status: _____ Rejected _____ Accepted
_____ Revise and Resubmit (see attachment)