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### 270743 - Communications Standards for New Housing Projects

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## SECTION 27 0743 – COMMUNICATIONS STANDARDS FOR NEW HOUSING PROJECTS

### 1.1 SUMMARY

- A. This document provides General Specifications for the design and installation of the following Communications Systems that the University Department of Housing oversees and operates.
1. Broadband Cable TV.
  2. Card Access.
  3. Laundry Debit.

### 1.2 BROADBAND CABLE TV

A. General Scope of Work:

1. The Contractor is responsible for providing and installing all drop cables and for installing all drop and non-drop Broadband Cable TV system pathways. The contractor is also responsible for preparing Broadband Cable TV Electronics locations as detailed further in this document.
2. Generally, a drop is defined as flexible PVC jacketed coax cable having 2 ends. One end of the cable, the initiation end (drop initiation) is located at the Node or IDP closet. The other end of the cable, the termination end (drop termination) is located where the TV is expected to be; these areas include: Living Rooms, Bedrooms, Lounges, and offices. More detail on drop type and drop location further in this document.
3. UNH Housing uses a Passive Optical Network Design to provide Broadband Cable TV to existing and new Residence halls. A Fiber Optic Node is needed for every 352 drops. Each Fiber Optic node has 4 ports and each port can feed a maximum of 88 drops. Preferably all drop initiations shall be located at the node but when this is not possible the drop initiations shall be located at an Intermediate Distribution Point (IDP) location, details of which follow in this document.
4. UNH Housing is responsible for the installation and purchase of all Electronics and non-drop cabling required for providing an active Broadband Cable TV Point of Presence in the project. UNH Housing may be able to define more cost effective exceptions to these documents specifications when an actual project design exists and can be reviewed by UNH Housing.

B. Electronics Locations:

1. Node Locations:

- a. Contractor shall designate and design for a Node location that is within 300' of the Broadband Cable TV drop termination.
- b. Node location must be in a closet area this closet.
- c. Node locations require that contractor provide and install:

- 1) An accessible 4' across x 8' high x 3/4" thick smooth marine plywood board painted white and mounted to the wall. This is for UNH Housing personnel to mount electronics onto.
  - 2) A minimum 20 amp, 120V dedicated 4-outlet electrical service on the upper right or left hand corner of the Node board.
- d. When it is not possible to locate the Node board within 300' of the end user terminations, it is acceptable to use Intermediate Distribution Points (for 88 drops or less) if the distance between the Node room and the IDP does not exceed 750'; that is, IDP locations shall be centrally located to the drop terminations they interface with.
  - e. The number of IDP locations shall not exceed the total number of drops divided by 88 and rounded up.
  - f. All Node, all IDP, and all pathway plans and locations shall be approved by UNH Housing before construction.
2. Intermediate Distribution Point (IDP):
- a. Without prior approval Contractor shall not design for, or install in excess of, 88 drops to a single IDP.
  - b. Drop cable lengths shall not exceed 300' between the IDP and the drop termination.
  - c. Contractor shall design for, provide, and install a minimum 2-1/2" diameter pathway between the Node location and a single IDP location. This is to provide UNH Housing with a pathway for UNH Housing personnel to install a hardline Coaxial Cable and/or Fiber from the Node to the IDP/
  - d. If the Node serves up to 3 IDP's in a continues circuit i.e. Vertical stacked closets, than the Contractor shall design for, provide and install a pathway between the 2 IDP's nearest the Node such that they are a minimum of 4" in diameter.
  - e. IDP locations must be in an area that is not accessible to the general public.
  - f. The Contactor shall install an accessible 4' across x 4' high x 3/4" thick smooth marine plywood board painted white on the wall of all IDP locations for UNH Broadband Cable TV electronics.
  - g. All Node, all IDP, and all pathway plans and locations shall be approved by UNH Housing before construction.
- C. Outside Plant:
1. Cabling Pathways:
    - a. From the outside cable entrance (breakout room) of the building the contractor shall install a 4" conduit to the Node location. This will be UNH's Fiber and Coax Pathway from the outside to the Node room.
    - b. UNH Telecommunications and UNH Housing shall coordinate outside pathway needs. These needs will be proposed to the contractor by UNH Telecommunications specifications unless indicated otherwise.
- D. General Broadband Cable TV Drop Installation:

1. Broadband Cable TV Drop Locations:
  - a. The contractor shall install Broadband Cable TV Drops in the specific room types as follows:
    - 1) All 2 Student and RA rooms shall have 1 Broadband Cable TV outlet installed.
    - 2) All 3 and 4 student rooms shall have 2 Broadband Cable TV outlets (2 dedicated cables from Telecommunications Closet to room) installed-both outlets may be in the same Jack box.
    - 3) All apartments shall have 1 Broadband Cable TV outlet installed in each of the bedrooms and 1 Broadband Cable TV outlet installed in the living room.
    - 4) All lounges shall have a minimum of 1 Broadband Cable TV Outlet installed
    - 5) All Offices shall have 1-Broadband Cable TV outlet installed.
2. Outlet Placement:
  - a. Broadband Cable TV Outlets shall be placed 6” to the right of UNH Telecommunications Information Jacks. In rooms where more than 1 information Jack exists, but this specification only calls for one Broadband Cable TV outlet, then placement of the outlet is at the discretion of the designer but the outlet must still be placed 6” to the right of one of the information Jacks.
3. Broadband Cable TV Wiring Details:
  - a. All outlets shall be served by a single continuous (“home-run”) Broadband Cable TV drop cable that will terminate in a Node or IDP location.
  - b. All Broadband Cable TV drop cables shall be Belden™ RG6 Quad-Shield, color black, with Belden Part Number - 1189A.
  - c. Drop Cable routing shall be through the floors common wireway and then if necessary through a Horizontal or Vertical sleeve and/or conduit that is dedicated to the Broadband Cable TV Network drop Cabling.
  - d. Broadband Cable TV drop cable that serves only 1 Outlet shall be installed in reenterable, minimum 1/2” EMT that begins at the outlet box and ends at the Wireway Common Pathway. Any exposed pathways will be wiremold, or equivalent. Hidden pathways can be EMT.
  - e. Broadband Cable TV drop cables that serve 2 individual outlets in 2 different rooms with a common wall shall share a re-enterable, minimum 3/4” ID, EMT that begins at the outlet box and ends at the Wireway Common Pathway.
  - f. Broadband Cable TV drop cables shall be terminated at a later date by an entity appointed by UNH-Housing.
  - g. Broadband Cable TV drop cables shall be installed per manufacturer’s specifications.
  - h. Broadband Cable TV drop cables must extend beyond the plane of the Junction box by a minimum of 6”. This cable must be coiled into the junction box. The box shall then be covered by a contractor supplied metal F-Fitting wall plate with an Ivory White finish.

- i. Broadband Cable TV drop cables that terminate in the IDF or Node locations shall be of such length that the drop can reach the farthest closet corner.
- j. At each IDF and Node location all drops shall be legibly labeled corresponding to the room that the cable serves. If more than one cable serves a room then the cable will be further detailed in labeling by including the orientation of the jack in the room. i.e. E, W, N or S.
- k. Contractor must provide a minimum 2-1/2 inch pathway between the Node location and the IDP. This Pathway, if continues from the node room to the IDF shall have no 90 degree bends and no more than 4-45 degree bends.

### 1.3 CARD ACCESS

- A. Contractor shall design for, provide all material for, and install all card access as defined below and as defined in the attached: Card Access Standard Version 6.1.
- B. Contactor must purchase and install Card Access system using Sensormatic certified distributors and installers.
- C. All building exterior doors shall have “wired” card access equipment installed.
- D. All suite and/or apartment doors shall have “wireless” card access equipment installed.
- E. There are 3 different exterior door system designs;
  1. Card reader with lock/unlock capabilities.
  2. Non card reader with lock/unlock capabilities.
  3. Card reader with special needs access.
- F. UNH Department of Housing will determine what building exterior doors shall receive what system design at the time when a building design is presented, reviewed and approved by UNH Department of Housing. Department of Housing, Communications Office will then present a more detailed design as based on the Card Access System Standard Version 6.1.
- G. Wireless transceivers locations shall be designed such that they share a common closet at Broadband Cable TV Nodes and IDP's and that the transceiver location is 200' from the wireless Integrated Lock Device it serves however this is also contingent upon building construction and materials. These locations must be approved by UNH Housing.

### 1.4 LAUNDRY DEBIT

- A. Contractor shall design for, provide all materials for, and install, all Laundry Debit equipment as defined below and as defined in the attached: Laundry Debit Standard Version 2.0

- B. When an actual building design is presented, reviewed and approved by UNH Department of Housing, the Department of Housing shall provide a final and more specific laundry debit design as based on the Laundry Debit Standard Version 2.0.

END OF SECTION 27 0743