

**RFI FORM****Contractor Name: D2 Construction LLC****Address: 107 W. Sahuaro Street****Phone/Fax: (520) 748-9371 / (888) 543-8500****Send to: cecil.nichols@va.gov**

<b>RFI (REQUEST FOR INFORMATION)</b>			
<b>PROJECT NO.:</b>	600-CSI-101	<b>RFI NO.:</b>	004
<b>PROJECT NAME:</b>	MRI Renovation & Expansion	<b>DATE REQUESTED:</b>	03/30/2017
<b>SOLICITATION NO.:</b>	VA262-17-B-0095	<b>REFERENCE:</b>	Demo
<b>DRAWING:</b>	LV101	<b>SPECIFICATION SECTION:</b>	Note 8
<b>DESCRIPTION OF PROBLEM OR INFORMATION BEING REQUESTED</b>			
<p>Please be specific as possible: Drawings indicate "Contractor is responsible to extend all telephone lines". How many lines are there and what type (coax, voice, data, fiber, etc.)? Please specify.</p>			
<b>PROJECT MANAGER'S RESPONSE</b>			
<p>TTG Response (4/3/17): Telephone lines are existing in the telephone terminal cabinet (TEL) located on the north wall of the existing room (see sheet LVD101 key note #3). It is the contractor's responsibility to extend any existing feeds near the existing rack to the new IDF location and run new Fiber per VA I.T. department requirements.</p> <p>See attached VAIT documents:</p> <ul style="list-style-type: none"><li>(1) FY2015 IT Closet Requirements (IDF)</li><li>(2) IT-SOP 07-013 Cable Installation Labeling.</li></ul> <p>VA Specification # 270511.</p> <p>The contractor shall install 24 strand Single Mode Air Blown fiber and connect the IDF to the main MDF in the Basement of Building 126.</p>			
<b>TRACKING NO.:</b>		<b>AMENDMENT NO.:</b>	
VA PROJECT ENGINEER/MANAGER: <i>Syed Hasan, VALB</i>		DATE: <i>4/3/17</i>	

## IDF - IT Closet Requirements

IT Communications Closet provides two functions: they provide a connection point for backbone cables (Telco, T-1 lines, Fiber, Etc.) and the distribution point (CAT6) for user connectivity.

All phone and data cabling shall be installed by the contractor and shall be accordance with EIA/TIA 568B, 569 and EIA/TIA 606 Communication System specifications, and Building Industry Consulting Service International (BICSI) Standards design manuals. The complete cable distribution system shall be labeled in accordance with the latest edition/revision level of ANSI/TIA/EIA 606, Administration Standard for the Telecommunications Infrastructure of Commercial Buildings.

### Minimum requirements:

Must be a secure room with access to authorized IT personnel only. Secure access to communication closet will be controlled and monitored at all times. All new closets will be added to VALBHS Card Access System used at VALBHS for access to IT Sensitive Areas. This space is designated only for IT infrastructure and equipment. This space cannot be shared with any other service such as Fire Alarm, Nurse Call System, etc.

IT Communications closets must be a minimum of **10' X 10'**.

IT Communications closets must have a minimum of 3 dedicated 20 amp emergency power outlets and 1 dedicated normal power outlet. Each outlet will be labeled with circuit breaker panel and circuit number.

IT Communications Closets must have at minimum 3Kva Uninterruptible Power Supply (UPS) for protection of electronic equipment from power outages, power surges and/or power dips. The size of the UPS must be large enough to: maintain power to equipment during transitions in power from normal utility power to emergency (generator) power and back to normal utility power and to maintain power to network equipment for 20 minutes when no emergency power available.

IT Communications Closets must have adequate environmental controls to maintain temperate in room between 68 to 70 degrees and maintain humidity to acceptable levels to prevent damage to electronic equipment. Environmental controls should be monitored and provide notification when temperature or humidity go out of programmed specifications

IT Communications Closet must be equipped with four post racks for equipment such as UPS, network switches, router, telephone equipment, patch panels, etc. There will be a minimum of one four post rack for equipment, one four post rack for patch panels and one four post rack for additional patch panels and/or equipment as needed. The number will depend on the density of the devices/users supported by this closet and should be discussed with IT to determine the number of racks needed for equipment and patch panels. The minimum separation between racks should allow for cabling management systems. The cabling management system should be provided with the four post rack. There will be ladder trays from top of racks to cable/fiber entry into closet. This is provide a consistent neat path for cable/fiber management.

VALBHS utilizes a Sumitomo air blown fiber backbone. All Closets in Long Beach are connected via tube cell for the air blown fiber. A minimum of 12 pair single mode fiber for each closet. Closets in areas with high volume of users may require additional fiber; these locations should be discussed with IT Department for proper design of Closet. All fiber will transition through the TDU box on wall and be terminated on top of equipment 4 post rack in fiber distribution panel. Fiber will be terminated with LC connectors on both ends.

There will be a minimum of one communications closet per floor.

These closets can support both telephone and data access.

Approved data patch panels and telephone termination blocks that meet the standards of the **VA Office of Information & Technology Field Operations, Facility Infrastructure Standards & Improvement (FISI)** and local standards followed at VA Long Beach Healthcare System IT Staff. Data patch panels and telephone termination blocks will be separated as room size and design allows. The minimum separation should allow for cabling management systems.

Additional communications closets will be required when the distance between a closet and its furthest supported data end-point exceeds 270 feet or approximately 80 meters.

At least one wall will have fire rated plywood with rating stamp exposed and on that wall, all patch panels, fiber termination distribution units (TDU), 110-blocks and termination equipment shall be installed.

Closets must have an isolated ground to prevent damage to critical electronic equipment (VA Network and Telephony Systems) from stray electrical discharge. The isolated ground will be visible on the wall and have a buss bar to for racks and ground from equipment to be connected to isolated ground.

When a building has multiple floors, closets should be arranged such that the closets are directly above one another. This ensures direct access between closets and also provides for the shortest cable path.

Cabling will follow Long Beach Standard Operating Procedure, IT SOP# 07-15, Cabling Installation, Labeling and Testing.

All walls to the IT Communications Closet will go to the ceiling to prevent intrusion to the room from the hallways or adjacent rooms.

Locations of Closets will be approved by IT Department prior to construction of project.

Information Management Service Standard Operating Procedure (SOP)			
<b>SUBJECT:</b>	<b>Cable Installation Labeling and Testing</b>	<b>IT-SOP #</b>	<b>07-013</b>
update	Revision Supersedes: 1	IT SOP #	
<b>Prepared by</b>		<b>Signature</b>	<b>Date</b>
Kurt Moore			4/12/2010
<b>Approved by</b>		<b>Signature</b>	<b>Date</b>
Rodney Sagmit, FCIO		RODNEY A. SAGMIT 123726 <small>Digitally signed by RODNEY A. SAGMIT 123726            DN: dc=gov, dc=va, o=internal, ou=people,            0.9.2342.19200300.100.1.1=rodney.sagmit@va.gov,            cn=RODNEY A. SAGMIT 123726            Date: 2016.05.13 14:48:46 -07'00'</small>	5/13/2016

### *Cable Installation, Labeling and Testing*

1. **Purpose:** To define policy and procedures for the labeling and identification of station drops as it applies to the cabling, face plates and patch panels in the IDFs.
2. **Policy:** The intent of this SOP is to provide documentation of the overall system including access and control.
3. **Responsibility:** Primary responsibility for the system belongs to the Telecom Group, Office of Information and Technology, (OI&T) who reports to the Facility CIO. Cabling contractors employed to provide new voice and data drops must adhere to this document and will label and indentify each station drop accordingly.
4. **Procedures:**

#### **a. System Overview**

All phone and data cabling shall be installed by the contractor and shall be accordance with EIA/TIA 568B, 569 and EIA/TIA 606 Communication System specifications, and Building Industry Consulting Service International (BICSI) Standards design manuals. The complete cable distribution system shall be labeled in accordance with the latest edition/revision level of ANSI/TIA/EIA 606, Administration Standard for the Telecommunications Infrastructure of Commercial Buildings.

The cable interconnecting a network outlet to patch panel shall be one continuous length with not intermediate joins, splices or taps. No more than 24 cables shall be tied in a bunch. Un-terminated "future capacity" cables are not permitted. All installed cables shall be terminated at each end with documentation, labeling and test results provided electronically.

All outside cable shall be shielded, 24 AWG solid conductors, solid PIC insulation, and filled core (flexgel) (waterproof) REA LISTED PE 39 or PE 89 CODE. All voice and data telecommunications outlets (TO) shall be a

minimum Category 6-compliant eight position RJ-45 non-keyed (EIA/TIA 568B) for voice and Category 6 compliant eight position RJ-45 non-keyed (EIA/TIA 568B.2-1) for data. Cable installed (outside plant, inside riser, and station cabling) shall adhere to the requirements of ICEA Publications S-80-576-1988 (Ref. B1.6) as to size, color code, and insulation. Backbone cables shall be marked at each endpoint and at all intermediate pull/access points or junction boxes. Label shall indicate origination and destination, TR ID, sheath ID and strand or pair range. Horizontal cables shall be marked at each end, on the sheath indicating the TR, patch panel and panel port to which the cable is wired.

**b. Access Control**

The Telephone Switch Room/Main Distribution Frame (MDF), the computer room and all Voice and Data Closets (IDFs) are considered major arteries in the Medical Center's network/communication system and therefore access to this system should be treated as such. Access to these areas is controlled and all requests for access must be coordinated with IMS.

Contractors preparing to work and the VA Long Beach Healthcare System must first complete all the necessary background security requirements as outlined in VA Directive 6500 and the Veterans Affairs Acquisition Regulation (VAAR) Clause 852.273-75-*Security Requirements for Unclassified Information Technology Resources* (Interim October 2008), and all contractors must first complete the Contractors Risk Level Designation Form, VA Form 2280A.

To ensure that appropriate security controls are in place, contractors must follow the procedures set forth in the "VA Information and Information System Security/Privacy Requirements for IT Contracts" located at [http://www.iprm.oit.va.gov/Security\\_and\\_Privacy\\_Requirements\\_for\\_Contractors.asp](http://www.iprm.oit.va.gov/Security_and_Privacy_Requirements_for_Contractors.asp).

**c. Labeling**

Labels shall meet the legibility, defacement, exposure and adhesion requirements of UL 969 and shall be preprinted or laser printed type.

Where used for cable marking, provide vinyl substrate with a white printing area and a clear "tail" that self laminates the printed area when wrapped around the cable. If cable jacket is white, provide cable label with printing area that is any other color than white, so that labels are easily distinguishable.

Where insert type labels are used, a clear, plastic cover label shall be provided.

- i. Faceplates:** All phone and data cables shall be installed color coded; gray, blue, white and yellow, except for wall phones which are addressed separately below. The faceplates and the ports on the patch panels shall be of the same corresponding color: gray-

gray, blue-blue, white-white and yellow-yellow. Phone cables shall be gray to match the corresponding port on the faceplates. The gray jack will be on the top-left hand corner of the faceplate, followed by yellow at the top, right-hand corner, blue at the bottom left-hand corner, below the gray and white to be at the bottom, right-hand corner, beneath the yellow blue jack. Each faceplate shall incorporate modular, universal RJ45 jack sockets meeting or exceeding the Category 6 specification.

The label on the faceplate shall be readily visible on the top of the faceplate and must contain the building number, the floor, TC for Telecom Closet, (the building floor and TC designates the IDF of origin), the faceplate number be it A, B, C, D with the patch panel id CA, CB and the port number on the patch panel 01, 02, 03 etc.

The first position is the building number, the second position is the floor, the third position is TC for Telecom Closet (if more than one closets are on a floor then the closets must be labeled as TN for North closet, TS for South closet, TE for East closet and TW for West closet). The fourth position is the panel number (CA, CB, CC...) and the fifth and sixth positions are the jack numbers (01 thru 48).

Example: 162-01-TC-CB-34

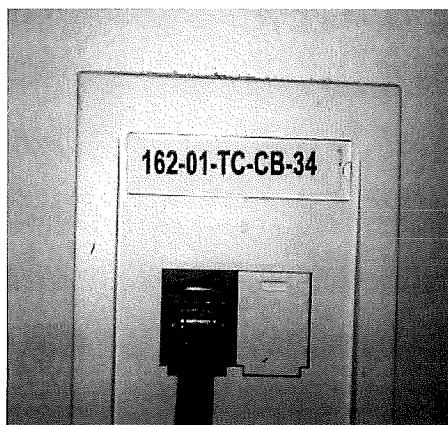
162 = building number

-01 = floor

-TC = Telecom Closet (in this case only one this floor)

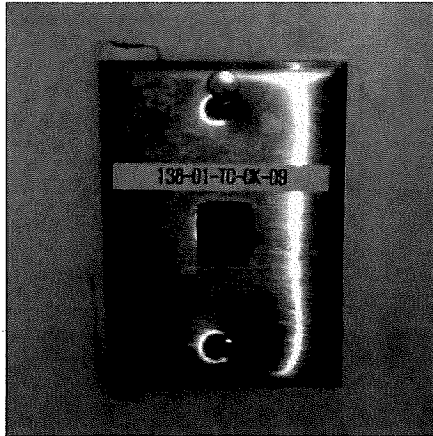
-CB = Patch Panel ID

-34 = Port on the patch panel



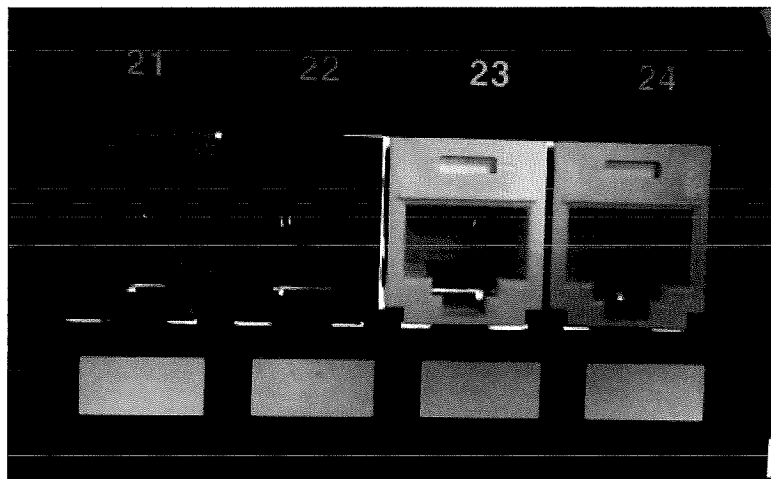
*Figure 1: Faceplate showing labeling scheme.*

- ii. **Faceplates wall phones:** The wall phones faceplates will consist of a single Category 6 drop, color coded green with the corresponding green RJ45 jack socket.



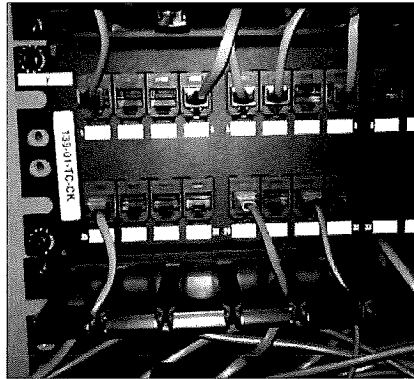
*Figure 2: Faceplate wall phone*

- iii. **IDF Patch Panel:** The patch panels in the IDFs shall be marked using adhesive labeling indicating the range of lines installed to it. Each port shall be labeled with the origination and destination with the original strand ID. The patch panels should be labeled as follows:
  - The first patch panel in the first rack will always start with **CA**; C being used simply to designate Copper and the A being the first panel on the first rack. The panels will then be alphabetized accordingly; CA, CB, CC, etc with the CB panel immediately below the CA panel. The first port will be gray, and labeled as 01 followed by blue, white and yellow.



*Figure 3: Patch Panel Example*

- iv. **Wall phones patch panel:** Cabling for wall phones will be terminated in a dedicated 48-port patch panel. Patch panel location to be determined with design of the IDF closet. The corresponding ports shall be green.



*Figure 4: Wall Phone patch panel*

## 5. Testing

- a. **Cable performance:** Cable performance must meet the minimum acceptable values as indicated in TIA/EIA 568B.2-1 Category 6 requirements.
- b. **Horizontal Copper Cabling:** The contractor shall test all cables and submit all horizontal cable test results data in an electronic format, with the resulting file formatted with one test result per 8.5" x 11" page. Minimal acceptable electronic formats include Microsoft Excel spreadsheet or Microsoft Word document.
- c. **High pair copper cables:** The contractor shall test all high count copper cables and submit test result information in an electronic format. Minimal acceptable electronic formats include Microsoft Excel spreadsheet or Microsoft Word document.
- d. **Cut sheet:** The contractor shall provide a cut sheet to include all drops terminated in each IDF to include the cable ID as outlined above, IDF of origin, room of origin, faceplate #, patch panel id and date installed. This cut sheet shall remain in each IDF on 8.5" x 11" page(s) and shall be provided electronically.
- e. **Quality Assurance:** All testing procedures shall comply with the applicable requirements of:
- ANSI/TIA/EIA 568-B.1 Commercial Building Telecommunications Cabling Standard, Part 1: General Requirements
  - ANSI/TIA/EIA 606-A administration Standards



- ANSI/TIA/EIA 569-A Pathway and Spaces
- ANSI/TIA/EIA 568-B Telecommunications Cabling Standard
- ANSI/TIA/EIA 758-A Customer Owned Outside Plant Telecommunications Cabling Standard
- BICSI Telecommunications Cabling Instruction Manual
- BICSI Telecommunications Distribution Methods Manual

**6. References:**

- ANSI/TIA/EIA 568-B.1 Commercial Building Telecommunications Cabling Standard, Part 1: General Requirements
- ANSI/TIA/EIA 606-A administration Standards
- ANSI/TIA/EIA 569-A Pathway and Spaces
- ANSI/TIA/EIA 568-B Telecommunications Cabling Standard
- ANSI/TIA/EIA 758-A Customer Owned Outside Plant Telecommunications Cabling Standard
- BICSI Telecommunications Cabling Instruction Manual
- BICSI Telecommunications Distribution Methods Manual

**6. Review:**

This document is scheduled for review annually when there is a change. Notify IT Policy/Planner and IT Project Manager for reissue.