



MEMPHIS PRIMARY CARE
LEASE REQUEST PROPOSAL
VA249-15-R-0421
DEPARTMENT OF VETERANS AFFAIRS
VA MEDICAL CENTER, MEMPHIS, TN
Agency Specific Requirements

The Agency Specific Requirements (ASRs) do not reduce the minimum requirements contained within the Lease. These ASRs provides specific agency requirements, which may be complementary, more specific, or more stringent than those of the Lease minimum requirements.

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SECTION 1 ROOM SCHEDULE AND DETAILS

1.01 ROOM SCHEDULE

AGENCY SPECIAL REQUIREMENTS

1. FUNCTION, SPACE AND FINISH SCHEDULE:

The offered building and/or location must have the following features:

Functional Area	Dept. Unit Area	Dept. Net Area	Floor Covering	Wall Finish
Memphis Primary Care, Memphis VAMC				
Workstation, Patient Education	30	120	Carpet/LVT	GWB, Paint
Kiosk, Patient Check-In	30	240	Carpet/LVT	GWB, Paint
Waiting, Patient Aligned Care Team (PACT) Module	360	1440	Carpet/LVT	GWB, Paint
Waiting, Family	60	240	Carpet/LVT	GWB, Paint
Toilet, General Large	225	450	PT/QT, Wains 4'0" PT/QT	GWB, Paint
Exam Room, Patient Aligned Care Team (PACT)	120	3840	LVT	GWB 2, Paint
Consult Room	120	1680	LVT	GWB 4, Paint
Toilet, General Procedure Room	75	300	PT/QT, Wains 4'0" PT/QT	GWB, Paint
Toilet, Patient	75	300	PT/QT, Wains 4'0" PT/QT	GWB, Paint
Procedure Room, General	180	720	WSF	GWB, SC
Height/Weight Station	40	120	LVT	GWB, Paint
Exam Room, Womens Health	120	240	LVT	GWB 2, Paint
Toilet, Womens Health Exam Room	60	120	PT/QT, Wains 4'0" PT/QT	GWB, Paint
Shared Medical Appointment Room	400	800	Carpet/LVT	GWB, Paint
Storage, Shared Medical Appointment	80	160	Carpet/LVT	GWB, Paint
Alcove, Medication	20	80	LVT	GWB, Paint
Storage, Medical Equipment	120	480	LVT	GWB, Paint
Utility, Soiled	90	180	WSF	GWB, SC
Utility Room, Clean	60	120	WSF	GWB, SC
Office, Chief Primary Care	120	120	Carpet	GWB 2, Paint
Office, Business Office Supervisor & Nurse Manager	100	200	Carpet	GWB 2, Paint
Shared Documentation Area	300	1200	Carpet/LVT	GWB, Paint
Tele-Health Room	120	360	LVT	GWB 2, Paint
Lounge, Staff	240	240	LVT	GWB, Paint
Locker Area, Staff Personal Property	120	120	LVT	GWB, Paint
Toilet, Clinical Staff	60	360	PT/QT, Wains 4'0" PT/QT	GWB, Paint
Team Room	360	1080	Carpet	GWB 2,4, Paint
Data Closet	100	100	LVT	GWB, Paint
Open	9239	9239	Carpet/LVT	GWB, Paint
TOTAL		24649 NUSF		

- LVT – Luxury vinyl tile/Solid vinyl tile – No Wax
- PT – Porcelain tile
- QT – Quarry Tile
- WSF – Welded seem sheet flooring
- RSF – Resilient sheet flooring (chemically welded seams)

- GWB – Gypsum wall board
- SC – High build glazed coating (special coating)
- 2 Provide noise transmission control
- 4 Provide acoustical/tackable wall covering on 1 wall
- 6 Provide wall guards and bumper guards in this room

2. ROOM DESCRIPTIONS:

Room Name	Room Description
Workstation, Patient Education	Work area containing desk
Kiosk, Patient Check-In	Area to contain electronic Kiosks for check-in
Waiting, Patient Aligned Care Team (PACT) Module	Waiting area, handicap accessible, includes chairs and TV.
Waiting, Family	Waiting area, handicap accessible, includes chairs and TV.
Toilet, General Large	Handicap accessible with 4' tile wainscoting
Exam Room, Patient Aligned Care Team (PACT)	Exam room to house table, cabinets, and general medical supplies.
Consult Room	Handicap accessible similar to exam room
Toilet, General Procedure Room	Handicap accessible with 4' tile wainscoting
Toilet, Patient	Handicap accessible with 4' tile wainscoting
Procedure Room, General	Exam room to house table, cabinets, and general medical supplies.
Height/Weight Station	Small station to house scale
Exam Room, Womens Health	Exam room to house table, cabinets, and general medical supplies.
Toilet, Womens Health Exam Room	Handicap accessible with 4' tile wainscoting
Shared Medical Appointment Room	Systems furniture, office space
Storage, Shared Medical Appointment	To house filing cabinets and other storage
Alcove, Medication	Alcove for storage of medications
Storage, Medical Equipment	Storage room
Utility, Soiled	Area to house soiled linens and supplies.
Utility Room, Clean	Area to house clean linens and supplies.
Office, Chief Primary Care	Office space
Office, Business Office Supervisor & Nurse Manager	Office space
Shared Documentation Area	Systems furniture
Tele-Health Room	Exam room, table, and computer/video capability for tele-health capabilities.
Lounge, Staff	Area to hold table, chairs, cabinets, sink, microwave, and refrigerator for staff.
Locker Area, Staff Personal Property	Area to hold lockers for staff to store belongings
Toilet, Clinical Staff	Handicap accessible with 4' tile wainscoting
Team Room	Systems furniture, office space
Data Closet	Dedicated IT Communications Room. The room will have a steel frame and door, minimum 36" width. The door will have a primary lock, and a deadbolt (this can be one combined unit). If separate the locks will be keyed the same. The door will have a 1' X 1' vent installed in the door. There will be no signage for the room other than a room number if required. There will be a contractor supplied 10 LB Dry Chemical ABC fire extinguisher mounted on the inside wall of the IT Room. The door will have the hinges on the inside of the Communications Room, or if on the outside the pins will be spot welded for security. The inside walls will be sheet rocked, the sheetrock must extend from the floor to the ceiling of the structure. The ceiling can be sheet rocked or a dropped ceiling. The walls will be painted flat white. The only access to the room will be through the main door. All data communication lines will be terminated in this room on the back wall. This wall will be plywood and have ability to support up to 150 lb. cabinet. Power, two circuits, 1 20 amp circuit for the network hardware and 1 20 amp circuit for the 2 Servers, total of 2 circuits. Room must have 2 standard 19" data racks installed, one to support network equipment and one to support PC/Servers. The racks must be secured to the floor, a minimum of 3 feet behind the rack for access. Both racks will have 2 shelves on the bottom installed to hold IT computers. All equipment will be mounted or stored off the floor. 2 Shelves on the side wall to hold 2 spare PC's 2 Monitors, spar, mice and keyboards. The floor will be tiled or painted concrete. The room will have adequate lighting to work in. Room must have an independent air conditioner and be able to maintain the room at 70 degrees.

*Room Description is provided for design intent purposes. Any furniture/equipment that is to be provided as part of shell or tenant improvements is clearly defined in the lease documents.

1.02 SPACE DETAILS

Please refer to the Lease document for the constructions standards applicable to the interior tenant area build-out. These standards provide a general outline of the interior build-out requirements. For a complete list of requirements refer to the Lease document.

Open Office Area

- Flooring – Carpet, ceramic tile, or VCT per Lease paragraph FLOOR COVERINGS AND PERIMETERS
- Walls – Per Lease paragraph PARTITIONS: SUBDIVIDING with finishes according to Lease paragraph PAINTING
- Doors – Per Lease paragraph DOORS: INTERIOR with hardware per Lease paragraph DOORS: HARDWARE
- Ceiling – Per Lease paragraph CEILINGS
- Lighting – Per Lease paragraph LIGHTING: INTERIOR AND PARKING – SHELL and LIGHTING: INTERIOR AND PARKING
- Electrical, Data, Voice – One duplex electrical receptacles and one combination data/voice jack per 80 ABOA SF on walls per Lease paragraph ELECTRICAL: DISTRIBUTION and TELECOMMUNICATIONS: DISTRIBUTION AND EQUIPMENT
- Window Coverings – Mini-blinds per Lease paragraph WINDOW COVERINGS for all windows

Enclosed Rooms

- Flooring – Carpet, ceramic tile, or VCT per Lease paragraph FLOOR COVERINGS AND PERIMETERS
 - Walls – Per Lease paragraph PARTITIONS: SUBDIVIDING with finishes according to Lease paragraph PAINTING
 - Doors – Per Lease paragraph DOORS: INTERIOR with hardware per Lease paragraph DOORS: HARDWARE
 - Ceilings – Per Lease paragraph CEILINGS
 - Lighting – Per Lease paragraph LIGHTING: INTERIOR AND PARKING
 - Electrical, Data, Voice – Four duplex electrical receptacles and two combination data/voice jack on walls per Lease paragraph ELECTRICAL: DISTRIBUTION and TELECOMMUNICATIONS: DISTRIBUTION AND EQUIPMENT
 - Window Coverings – Mini-blinds per Lease paragraph WINDOW COVERINGS for all windows
- Millwork - Provide 10 LF of post formed plastic laminate counter with integral back splash with single basin stainless steel sink and all associated plumbing. Provide 10 LF of plastic laminate commercially available base cabinets with concealed hinges and staple pulls. Provide 50 LF of plastic laminate commercially available wall cabinets with concealed hinges and staple pulls

Break Room and Kitchenette Areas

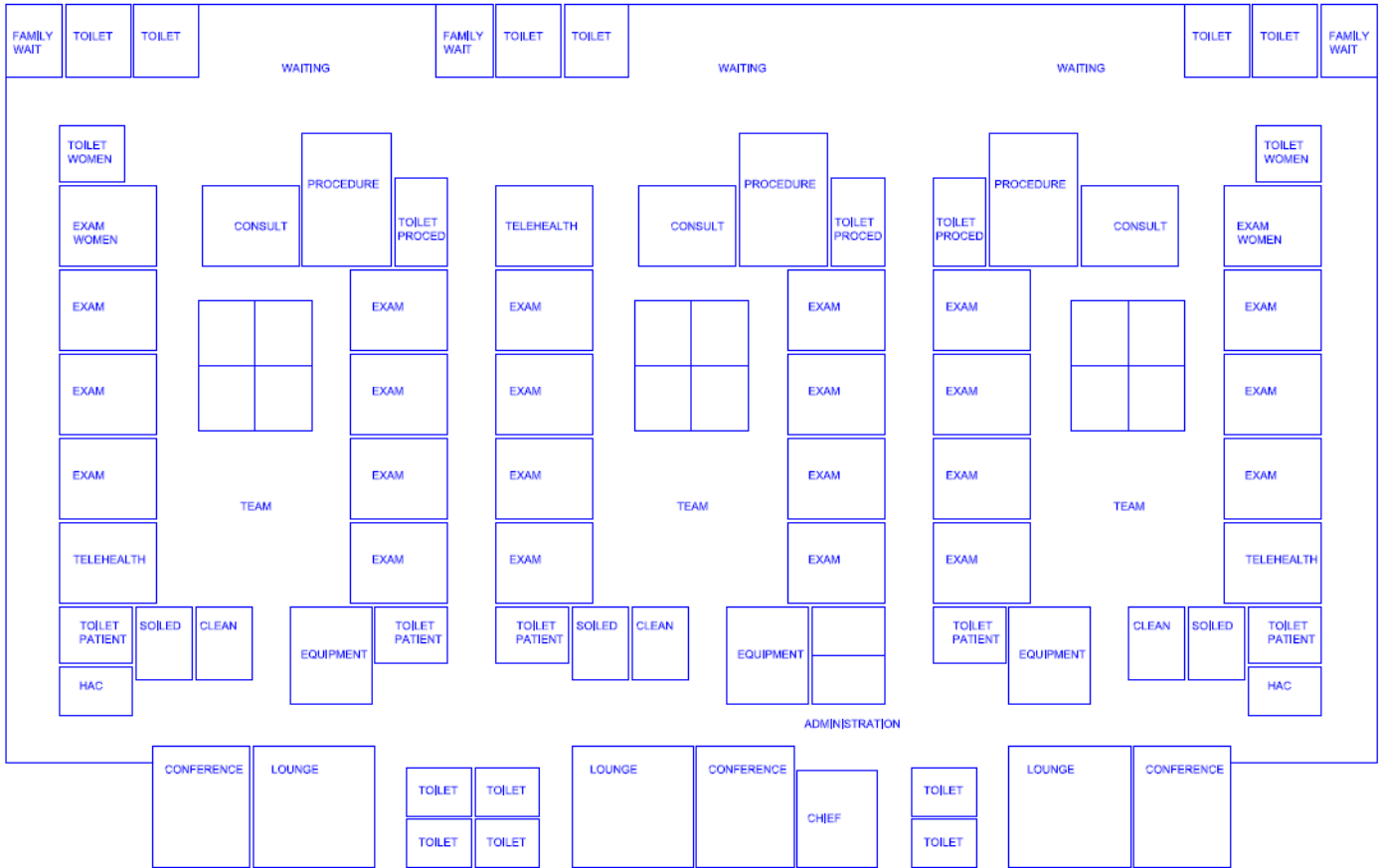
- Flooring – Commercial grade linoleum flooring (such as Marmoleum or equivalent)
 - Walls – Per Lease paragraph PARTITIONS: SUBDIVIDING with finishes according to Lease paragraph PAINTING I
 - Door – Per Lease paragraph DOORS: INTERIOR with hardware per Lease paragraph DOORS: HARDWARE
 - Ceiling – Per Lease paragraph CEILINGS
 - Lighting – Per Lease paragraph LIGHTING: INTERIOR AND PARKING
 - Electrical, Data, Voice - Provide three duplex electrical receptacles and one wall combination data/voice jack. Provide two dedicated duplex electrical receptacles for refrigerators and two dedicated duplex electrical receptacles for vending machines. Provide two dedicated electrical receptacles for microwave ovens above the counter. Provide two additional duplex electrical receptacles above the counter (GFI as required by code).
 - HVAC (Only if enclosed room) - Independent HVAC zone on thermostat in this room and provide means to ensure negative pressure for this room to avoid odors from escaping this room. Provide filters to remove odors from any air being mixed back into the supply air for the remainder of the building or exhaust directly to the outside.
 - Window Coverings – Mini-blinds per Lease paragraph WINDOW COVERINGS for all windows
 - Provide floor drains in break room/kitchens for icemaker drain
- Millwork - Provide 50 LF of post formed plastic laminate counter with integral back splash with double basin stainless steel sink and all associated plumbing. Provide 50 LF of plastic laminate commercially available base cabinets with concealed hinges and staple pulls. Provide 50 LF of plastic laminate commercially available wall cabinets with concealed hinges and staple pulls.

SECTION 2 DESIGN SCHEMATIC LAYOUT

2.01 DESIGN SCHEMATIC

The schematic below is representative of the layout required for this Space. The Lessor is responsible for using the room schedule in section 1.01 and this layout to adapt the Government's requirements to the Space. Specific questions regarding the layout should be directed to the Lease Contracting Officer for resolution. The Government shall not be responsible for errors, omissions, or assumptions made by the Lessor in the adaption of the Government's requirements to the Lessor's Space.

2.02 ADJACENCY DIAGRAMS



SECTION 3 ADDITIONAL SPECIAL REQUIREMENTS AND DETAILS

3.01 ROOM LAYOUTS

These room layouts indicate the required layout for the room listed. For all rooms not listed, the final layout will be determined during the creation of the Design Intent Drawings.

3.02 ADDITIONAL CONSTRUCTION DETAILS

These construction details indicate required construction standards for the items listed. These standards may be more stringent than those listed in the Lease document. Where specified, these standards shall take precedence.

SECTION 4 GENERAL REQUIREMENTS

4.01 SECURITY

The following security standards are listed in addition to those listed in the Lease document and the building specific security attachment.

Data Closet. All windows must contain security mesh. Walls must be of brick or masonry construction. Doors must contain two lock set to include day lock and dead bolt. There must be no up and over access leading into the room. This area must be special key controlled. A PACS level of high is required.

Utilities – If there are utilities on the outside of the facility, there must be barriers surrounding it. Per 0730/4 – barriers are defined as concrete bollards; concrete filled steel bollards; or concrete planters. Appropriate fencing may also be a perimeter barrier, depending on the application. Barriers must be of sufficient strength/weight to stop a passenger-car sized vehicle from breaching the protected space. If a fence is used, a minimum 7 foot height vinyl coated 6 gauge core steel fence is required.

If there will be oxygen storage, the following are required: Windows require security mesh, walls must be of brick or masonry construction, doors must contain two lock set, there must be no up and over access, area must be special key control, and if the area is outside, it must contain barriers as defined under utilities.

Within the space itself, there must be CCTV, motion detectors, and panic alarms for the staff. These panic alarms must ring into an outside agency, not here. It is recommended that it ring into the Shelby County 911.

4.02 INFORMATION TECHNOLOGY

The following IT standards are listed in addition to those listed in the Lease document.

Dedicated IT Communications Room. The room shall not be located directly below laboratories, kitchens, laundries, toilets, showers, or other areas where water service is provided. There will be no signage for the room other than a room number if required. The only access to the room will be through the main door. The room will have a steel frame and door, minimum 36" width. The door will have the hinges on the inside of the Communications Room, or if on the outside the pins will be spot welded for security. The door requires multifactor security (Deadbolt and another form of electronic security), to permit two form identification and data collection 24 hour per day 7 days per week, of entrance, exit, and duration within room (Example forms of identification are; badge, key card, electronic cipher pin, and biometrics). Doors shall have recorded motion-activated CCTV camera coverage on the egress side of the door. Doors and frames shall be 2-hour fire resistive construction. Provided intrusion detection will provide door and lock status sensors and motion detectors. The door will have a 1' X 1' vent installed in the door. There will be a contractor supplied 10 LB Dry Chemical ABC fire extinguisher mounted on the inside wall of the IT Room. The room shall employ automatic fire detection and suppression devices/systems that activate and notify the organization and emergency responders in the event of a fire. Surrounding walls and partitions shall be 1-hour fire resistive construction and extend from slab to slab. All vents, ducts, and similar openings in excess of 96 square inches (620 cm²) that enter or pass through the perimeter of a computer room must be protected with either bars or grills. If one dimension of the duct measures less than six inches (150 mm) or duct is less than 96 square inches (620 cm²) bars are not required; however, all ducts must be treated to provide sufficient sound attenuation. If bars are used, they must be 1/2 inch (12.7 mm) diameter steel welded vertically and horizontally six inches (150 mm) on center; if grills are used, they must be of 9-gauge expanded steel. Openings in construction above ceilings or below raised access floors shall be protected as above. The inside walls will be sheet rocked or concrete, the sheetrock must extend from the floor to the ceiling of the structure. The ceiling can be sheet rocked, concrete or a dropped ceiling. The walls will be painted flat white. All data communication lines will be terminated in this room on the back wall. This wall will be plywood and have ability to support a cabinet up to 150 lb. Power, two circuits, 1ea 20 amp circuit for the network hardware and 1ea 20 amp circuits for the 2 Servers, total of 2 circuits. Parallel power cabling paths with automatic voltage control. Secure Emergency power shutoff capabilities. Uninterruptable Power Systems (UPS). Provide necessary UPS units with minimum of 20 minutes runtime at full rated capacity and floor space necessary for units. Room must have 2 standard 19" data racks installed, one to support network equipment and one to support PC/Servers. The racks must be secured to the floor, a minimum of 3 feet behind the rack for access. Both racks will have 2 shelves on the bottom installed to hold IT computers. All equipment will be mounted or stored off the floor. 2 Shelves on the side wall to hold 2 spare PC's 2 Monitors, spare mice and keyboards, etc. The floor will be tiled or painted concrete. Adequate insulated conduit as required for cabling to and from the room. The room will have adequate lighting/emergency lighting to work in controlled by switch/motion sensor. The room must be provided with a generator-backed air conditioner to allow independent and automatic capabilities to maintain the room at 70 degrees and provides an alarm or notification to abnormal/undesirable temperature/humidity conditions. The room must also have a telephone for emergencies.

4.03 TELECOMMUNICATION SYSTEMS

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Work is to be performed for the U.S. Department of Veterans Affairs Medical Center, Memphis, TN
- B. The Contractor shall provide and obtain approval from the Contracting Officer or his appointed technical representative for all submittals as defined in paragraph 1.3 (A) of this statement of work prior to installation.
- C. The Contractor will provide all submittals as defined in paragraph 1.3 (B) of this statement of work prior to acceptance.
- D. Provide labor and all materials required for the installation of a complete in-building data cable infrastructure to include:
 1. Install a quad outlet consisting of two green category 5e voice and two orange category 5e data cables in an outlet at locations indicated on Drawings. Terminate all category 5e voice cables on 110 blocks in the telecommunications closet. Terminate all category 5e UTP cable on category 5e EIA/TIA 568B and high density patch panels mounted in a telecommunication rack in the telecommunications closet

2. Strike 'and remove'. If any cable in a faceplate fails pre-demolition certification, then all cables in that faceplate must not be re-used. Any cables that are disconnected must be labeled on their end with a permanent mark of the designation currently affixed to that cables faceplate. Any infrastructure faceplates that do not bear a designation must be brought to the attention of the VA prior to demolition. Any cables that cannot be reused must be pulled back to a point immediately outside of the telecommunication closet and neatly and individually coiled, labeled, and secured above the ceiling.
- E. Installation and testing to be completed with contractor owned or leased equipment, tools, and test sets at no additional cost to the VA.
- F. Provide all products and perform all installation work in accordance with applicable requirements and/or recommendations of:
 1. National Electrical Code (NEC)
 2. TIA/EIA –Telecommunications Industry Association/Electronic Industries Association, latest editions including referenced documents, updates, and addendums.
 - a. 568B.1 – Commercial Building Telecommunications Wiring Standard (2001)
 - b. 569A – Commercial Building Standard for Telecommunications Pathways and Spaces.
 - c. 606 – Administration Standards for the Telecommunications Infrastructure of Commercial Buildings.
- G. The VA will provide telephone and networking services to the building as well as all cross connects, patch cords, and equipment to bring service into the racks. Close coordination will be required.
- H. The Contractor shall be responsible for delivery, storage, protection and placement of all equipment and materials. At all times during the construction, the Contractor shall protect the equipment from damage and theft.
- I. The Contractor shall install all cabling in accordance with the most recent edition of BICSI publications:
 1. BICSI -- Telecommunications Distribution Methods Manual
 2. BICSI – Installation Transport Systems Information Manual
 3. BICSI – Network Design Reference Design Manual
 4. BICSI –Outside Plant Design Reference Manual
 5. BICSI – Wireless Design Reference Manual
 6. BICSI - Electronic Safety and Security Design Reference Manual
 7. Infocomm/BICSI – AV Design Reference Manual

1.2 QUALITY ASSURANCE

- A. All work to be performed in accordance with the guidelines published in EIA/TIA standards 568 and 569. Standards can be obtained from one of the following sources:

Global Engineering Documents
15 Inverness Way East
Englewood, CO 80112
Tel: (800) 854-7179 (CDN/USA)
Fax: (303) 397-2740
[HTTP://GLOBAL.IHS.COM](http://GLOBAL.IHS.COM)
[HTTP://WWW.HIS.COM](http://WWW.HIS.COM)

EIA Standards Sales Office
2001 Pennsylvania Ave., N.W.
Washington, DC 20006
Tel: (202) 457-4966

Telecommunications Industries Association (TIA)
2500 Wilson Boulevard, Suite 300,
Arlington, VA 22201
Tel: (703) 907-7700
Fax: (703) 907-7727
- B. All manufacturers installation instructions must be followed. Contractor shall notify the government in writing where discrepancies exist between this statement of work and the aforementioned industry standards, code or manufacturer instructions. Where conflicts exist, the contractor shall notify the VA Contracting Officer in writing and provide a recommended solution. The contractor shall await direction from the VA before proceeding with the installation in question.
- C. All laborers involved in the installation and termination of cable must be certified in installation of the materials being installed and have at least one year experience. No less than 33% of on-site installers must have attended a vendor sponsored training program covering installation and termination of the materials being installed. Contractor shall provide documentation supporting experience and certification.

1.3 SUBMITTALS

- A. Pre-Installation
 1. The contractor shall provide drawings that depict proposed faceplate location, proposed cable path and cable length estimates from point of origin to point of termination, and designations.
 2. For each laborer provide proof of certification and experience.
 3. Proposed relay rack and 110 block layout, including panels and wire management for all racks in telecommunication closet.
 4. Cable manufacturer's data.
- B. Post-Installation
 1. Submittals will be required for the following items:
 - a. Contractor shall provide drawings indicating actual faceplate location, cable path and length from point of origin to point of termination, and designations.
 - b. Relay rack layout, including panels and wire management for all racks in telecommunication closet.
 - c. A list of any cables removed that are not reused

2. Submittals of test results may be electronic and acceptable mediums are on CD or E-Mail attachment in PDF format. Each test shall clearly indicate jack and/or cable designation.

1.4 GUARANTEE

- A. Guarantee all work against faulty and improper material and workmanship for a minimum period of one (1) year from the date of final written acceptance by the VA, or last documented problem with the installation; except where product guarantee or warranties for longer terms are specified.

PART 2 - PRODUCTS

2.1 HORIZONTAL DISTRIBUTION

- A. All Unshielded Twisted Pair (UTP) cable shall be communications plenum cable (CMP) rated 4-pair cable, of 24 AWG solid copper conductors under a common sheath. Cable must meet the requirements of EIA/TIA-TSB-36.
- B. All category 5e voice cabling shall be terminated in the telecommunication closet on a wall mounted 110 block. All station jacks must be category 5e jacks mounted in appropriate faceplates and/or mounting frames.
The voice jacks at the station outlet shall be installed in the top positions of a quad faceplate. The top left position will be a yellow RJ45 jack, top right position will be a green RJ45 jack. The data jacks at the station outlet shall be installed in the bottom positions of a quad faceplate, bottom left position will be a blue RJ45 jack, and the bottom right position will be a black RJ45 jack.
- C. All category 5e cabling shall be terminated in the telecommunication closets on rack mounted UTP Category 5e modular RJ45 patch panels (maximum of 96 jacks per panel). All station jacks must be category 5e jacks mounted in appropriate faceplates and/or mounting frames. All category 5e termination hardware must meet requirements for Category 5e of EIA/TIA TSB-40. All jacks in single faceplate must be sequential in order and all jacks in the panels must be sequential in order.
- D. The category 5e cabling in the racks shall be installed with sufficient and appropriate mounting clips, brackets, and rear cable management to provide a secure and maintainable system. The contractor shall supply and use at least one horizontal patch panel wire management bar and two stand-off tie brackets per category 5e patch panel.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. The contractor shall furnish and install all cabling in accordance with these specifications defined in this statement of work, and as indicated on the approved pre-installation drawings.
- B. Cable installation shall meet or exceed manufacturer recommendations and guidelines for installation.
- C. Installation of Unshielded Twisted Pair Copper
1. Install two category 5e Green Unshielded Twisted Pair voice cable in an outlet box adjacent to new electrical outlets.
 2. Voice cable shall be terminated on an RJ-45 Category 5e outlet and properly installed in the top positions of a quad faceplate.
 3. Install two category 5e Orange Unshielded Twisted Pair data cables in an outlet box adjacent to new electrical outlets.
 4. Cables shall be terminated on RJ-45 Category 5e outlets and properly installed in the bottom two positions of a quad faceplate.
 5. The faceplate shall then be affixed to the outlet box.
 6. Cable and faceplate are to be labeled as indicated in section 3.2 (Identification).
- D. Install each cable as an uninterrupted conductor section between the designated termination points, unless otherwise directed by the cable installation specifications. There shall be no splices or mechanical coupler installed between the cable points of origin and termination except as indicated on drawings and/or specifications defined in this statement of work.
- E. All cable shall be routed through a cable tray/conduit system from point of origin to point of termination. Where a single conduit system is used to route both electrical and voice/data cables the conduit shall be rated for use in category 5 installations. The Contracting Officer's Technical Representative (COTR) must approve all exceptions prior to installation. Installation above suspended ceilings shall not interfere with lift out feature of suspended ceilings.
- F. Contractor is responsible for insuring that cable jacket is suitable for the environment in which it is placed, i.e. CM, CMR, CMP rated. Unless otherwise noted on the drawings, all cable is to be rated CM.
- G. At the time the cable is pulled into a pathway, a pull string of appropriate size and strength must also be pulled to facilitate future cable pulls along those pathways.
- H. The contractor is responsible for the installation of all cable trays for horizontal cable support where none exist. Where the location doesn't accommodate the installation of a cable tray the contractor will install a "J-hook" for cable support. Approval from the COTR must be obtained prior to installation of a "J-hook" as an alternative to a cable tray.
- I. At no point will any station cable be tie wrapped or fastened to the cable tray. After cables have exited the cable tray they will be tie wrapped to the "J-hooks". The tie wraps will be cinched tight enough around the cable bundle to keep them uniform and in the hooks, while not damaging the construction of the cables or their jackets.
- J. Provide fire stopping at all locations where cables penetrate fire rated surfaces. Materials and methods used shall be acceptable to the code authority having jurisdiction and shall maintain the fire integrity of the wall, floor, or ceiling.
- K. Property (ceiling tiles, cables, network equipment, etc.) inadvertently or purposely demolished or damaged by the Contractor during the course of installation shall be replaced and/or repaired by the Contractor at no additional cost to the VA

3.2 IDENTIFICATION

- A. Cable tags containing a unique cable ID designator shall be placed on both ends of all cables, 6 inches from the connector and/or termination blocks. Each label shall be printed with the appropriate cable number as indicated, hand written labels are not acceptable.
- B. Individual station outlets and the corresponding 110-block and data patch panel positions shall be labeled with the cable designator of the cable terminated at that particular outlet. The plates and 110-block and panels shall be permanently and legibly labeled in typewritten or professional engraving as follows: xxxx <A, where xxxx is a unique number provided by the VA at the time of installation, and where 'A' to be used for the left voice position (top), and where B to be used for the right voice position (top), C to be used for the left data position (bottom), and where 'D' to be used for the second data position (bottom).
- C. Individual voice wall mount station outlets and the corresponding 110 block shall be labeled with the cable designator of the cable terminated at that particular outlet. The plates and 110-block shall be permanently and legibly labeled in typewritten or professional engraving as follows: VOxxx, where xxx is a number provided by the VA at the time of installation, and where 'VO' to be used for Voice Only.

The voice and data jacks shall be permanently and legibly labeled in typewritten or professional engraving as follows: B-FW-TCFW-xxx (example 1-2C-TC1C-014, Building 1, 2nd floor C wing, Closet location 1st floor C wing, jack #14)

1. B= building #
2. FW= floor and wing location
3. TCFW = Telecommunication Closet location (floor and wing)
4. XXX = jack number

The wall mounted voice only jacks shall be permanently and legibly labeled in typewritten or professional engraving as follows: B-FW-TCFW-VOxxx (example 1-2C-TC1C-VO014, Building 1, 2nd floor C wing, Closet location 1st floor C wing, Voice Only jack #14)

- D. If at any time during the installation the cable tag becomes illegible or removed for whatever reason, the Contractor shall immediately replace it with a duplicate printed cable tag at the Contractor's expense.
- E. Patch panels and 110 blocks in the telecommunication closets shall be legibly labeled sequentially by row top to bottom. The ports on each row will number left to right starting with number one (1). Each patch panel position will be clearly labeled with the aforementioned schema (B) and shall not flow into the adjacent port label.
- F. Deviation from this numbering scheme is not acceptable.

3.3 TERMINATION HARDWARE

- A. The contractor is responsible for providing the correct quantities of termination hardware required to terminate, patch, cross connect, etc. the volume of cable described herein and shown on the drawings.
- B. Contractor shall provide 25% overbuild for termination hardware.

3.4 CABLE TERMINATION

- A. Unshielded Twisted Pair cables: After dressing the cable to the final location, the sheath shall be removed to a point that allows the conductors to be splayed and terminated in a neat and uniform fashion. Every effort must be made to maintain sheath integrity by removing only as much as is practical to accomplish termination. Cable pair twist shall be maintained up to the point of termination and should not exceed ½ of an inch. Under no circumstances shall cable pairs be untwisted or otherwise altered prior to termination.

3.5 CROSS-CONNECT

- A. The VA will perform all cross-connects and patching.

3.6 GROUNDING

- A. All metallic cable tray, ladder rack, raceways, cable sheath/armor, enclosures, and equipment racks and other conductive surfaces shall be properly bonded to the grounding system. All paint and other coatings shall be removed at all contact surfaces to ensure proper ground.
- B. All grounding shall be in compliance with NEC code Article 800, Article 250, as well as EIA/TIA standard 607.

3.7 CABLE TESTING

- A. Copper
 1. Pre-Installation Testing
 - a. Visually inspect all cables, cable reels, and shipping cartons to detect cable damage incurred during shipping and transport. Any damaged materials must not be used and will be returned to the manufacturer or distributor.
 2. Post-Installation Testing
 - a. Conduct cable testing as described below upon completion of installation. Test fully completed systems only. Piecemeal testing is not acceptable.
 - b. All category 5e cables shall be tested in accordance with EIA/TIA 568, TSB 67 with a test device meeting or exceeding level II accuracy. All installed category 5e cables must pass these tests.
- B. The source of any non-compliant test results shall be determined and identified to the VA, replaced or corrected, and the cable or termination device re-tested within fourteen (14) working days of identification at no addition expense to the VA.
- C. The VA reserves the right to have a representative present during all testing.
- D. The VA reserves the right to conduct, using Contractor equipment and labor, a random re-test of up to five percent (5%) of the cable plant to confirm documented test results.
- E. The VA reserves the right to have an independent analyst verify the tests performed. If a discrepancy exists, the independent analysts' results shall be considered the correct results and the contractor shall replace or correct the cable/fiber and/or termination device and re-test the cable/fiber at no additional expense to the VA
- F. All defective cables will be removed from pathway systems. The VA reserves the right the reject the installation if there are abandoned cables.
- G. The VA reserves the right to reject all or a portion of the work performed if any cable/fiber, or any conductor or fiber strand therein, including terminations, does not meet or exceed the Cable Transmission Performance Specifications as defined by the TIA/EIA 568B.1 standard and the cable/fiber manufacturer.
- H. All test results and corrective procedures are to be documented and submitted to the VA within fourteen (14) working days of test completion.

3.8 ACCEPTANCE

- A. Upon demonstration of all work completed as to specification of this document.
- B. Upon completion to the satisfaction of the government the testing as defined in section 3.7 (Cable Testing)
- C. Upon receipt of the Contractor's documentation identified in section 1.3 (Submittals), the VA will review the documentation and installation and may request a test, in the presence of a representative of the VA, of up to 1% of the cables installed.