VA's Special Requirements

PROJECT: **NEW GRANTS PASS VET CENTER OFFICE LEASE**
PROJECT LOCATION: **GRANTS PASS, OR**
PROJECT NO:
DATE: **October 23, 2017**
Executive Summary:

During 1969-1979, Congressional hearings were held, which demonstrated that significant readjustment difficulties existed in Veterans during the Vietnam era. In 1979, President Carter signed Public Law 96-22, which added 1712A, Title 38 U.S.C., creating the Vet Center program. Since that time eligibility has been extended to all combat theater Veterans and their family members. In addition, services are provided to all Veterans who suffered Sexual Harassment/Assault while in the military.

Under Readjustment Counseling Services (RCS), Vet Centers are a community-based extension of the Department of Veterans Affairs. They provide a broad range of counseling, outreach and referral services to eligible Veterans. There are approximately 300 Vet Centers nationwide, including sites in the Virgin Islands, Guam, and Puerto Rico.

The Grants Pass Vet Center has earned a good reputation for providing readjustment counseling services within the community. The Vet Center employees are dedicated staff members whom enhance their skill levels by attending regular seminars, workshops and in-service trainings.

Vet Centers services Veterans and their families by providing a continuum of quality care that adds value for Veterans, families, and communities. Care includes professional readjustment counseling, community education, outreach to special populations, and the brokering of services with community agencies. Vet Centers provide a key access link between the Veteran and other services in the U.S. Department of Veterans Affairs. We welcome home the combat war Veteran with honor by providing quality readjustment services in a caring manner, in or near their respective communities, assisting them and their family members toward a successful post-war adjustment.

Scope of Work – Index:

1. **PROJECT PROGRAM OF REQUIREMENTS:** This document contains information and minimal submission requirements for the design and build out of leasable office space. The Lease provider shall include in their offer, evaluation, design, and construction services as outlined in this Program of Requirements (POR) and lease documents.

    a. **Project Description:** This Project design and analysis will include the following components: The Lease provider shall develop and confirm the Grants Pass Vet Center requirements, which comprise the following groups – Team leader, Office manager, Contracting Officer, IT coordinator, and VA project manager. From the confirmed program, develop a design for the required functions to meet the Project requirements. The Lease provider shall perform a detailed

investigation to determine the feasibility of completing the project within the required schedule for Vet Center occupancy.

i. **Site and building design analysis**: Identify and/or establish Project property lines if necessary, set-back requirements, site access and circulation, parking plan, parking lot condition, fencing, security, landscaping, utility access and connections, ingress-egress requirements, ADA/accessibility, other site improvements, and any other site/building issues. Also, include design solutions for impact from other buildings/ infrastructure/ circulation that are currently connected to the proposed site and the existing buildings, as well as consider all impact to adjacent properties. There shall be 15 reserved Vet Center parking spaces and 3 ADA parking spaces.

ii. **Building program: The Grants Pass Vet Center lease space requirements shall comprise of** the following: private offices, conference rooms, office manager, supply room, building lobby, file room, break room, IT closets, electrical closets, storage room.

iii. **Utility Infrastructure**: Provide adequate utility infrastructure based on user's MEP requirements, current code, life safety- fire protection, and VA requirements. Determine and establish new utility easements, if so required. Lessor shall ensure the proposed utility systems for this Project will not jeopardize the availability of utilities to the adjoining lease hold space within the building or on the entire building site if applicable. Utilities will be paid for as a part of the operating costs to lessor and are not required to be metered separately.

2. **VET CENTER DESIGN DELIVERABLE REQUIREMENTS**: If selected, Lease provider and or his A/E team of representatives shall provide the following:

a. Design

i. **Lease Provider's AE Project Team:** The lessor shall provide AE services that comprise a qualified principal design firm managing a group of licensed professions to competently design this Project to meet or exceed the Project's objectives and requirements. AE team shall comprise, but is not limited to, the following professional disciplines: Architectural, structural, HVAC, Plumbing, Electrical, Interior Design, Fire-Life Safety, Security, IT/data (telecommunications), construction cost estimating, and signage/way-finding.

ii. **General Requirements:**

(1) Demolition: The AE shall note and specify the demolition if any, involved in this Project and develop appropriate demolition documents and specifications.

(2) Local reviews and approvals: AE shall meet with the Grants Pass Building Officials and other local agencies as needed to complete, coordinate, and/or seek approval as needed for the project design.

(3) Building Site Requirements: Space must be contiguous, located on the first floor of any multi-story structures. Building must be within 0.2 walkable miles of Mass Transit. The space shall convey a welcoming, pleasing and safe environment for the Veterans and their families as determined by RCS officials. The space shall be located in an area where RCS staff can provide professional counseling, community education, outreach to special populations and

the brokering of services within community agencies. At least one exterior sign must be sufficiently large and readable to be visible from a moving vehicle. Additional way finding signage, as needed, depending on the location and topography.

(4) Structural: Any new structural work or modification to existing structures shall be designed by a qualified Oregon State registered structural engineer. The structural engineer shall perform and provide all calculations to validate the structural design. Provide design assumptions, loading conditions (vertical and lateral), member analysis and foundation analysis and any other justification of design for new structures and modification to existing members. All loads (lateral and vertical) associated with any habitable expansion, including roof and wall systems shall be incorporated into design.

(5) Architectural: Architect shall provide a complete building interior finish design fully coordinated with all trades. The Architectural design shall implement as needed appropriate design style, colors, finishes, building materials and construction practices according to the Project requirements.

(6) Interior Design: AE shall also provide the interior finish design and submit colors, materials, finish boards, which shall be approved by the VA. AE will work closely with VA Interior Designer to establish interior design scheme and will consult with interior designer to account for all furniture (i.e., size and infrastructure requirements) in its design of the Project, even though VA will purchase and install such furniture. The Interior Design scheme shall be initially submitted to the VA during the CD phase and fully developed prior to completion of the CD phase.

(7) Plumbing: Evaluation of the existing plumbing system, to include domestic hot and cold water, sewage systems, and drain systems may be required. Design shall include any required and proposed modifications, additions and/or possible relocations of the existing plumbing systems to complete design of the new plumbing system for the building.

(8) HVAC (Heating, Ventilating & Air Conditioning): Design shall include all necessary equipment, materials and other components for a new HVAC system for the building where required. When applicable, the AE shall evaluate the existing system design to determine if there is enough capacity to serve the new Vet Center facility. Environmental controls shall be evaluated and maintained to ensure adequate temperature/humidity levels. There will be sufficient number of thermostats and zoning to provide adequate, balanced climate control throughout.

(9) Electrical: Evaluation of any electrical systems is required. Design modifications, additions and possible relocation of any existing electrical infrastructure, equipment, or components may be required. The AE firm shall perform and provide all photo metrics, lighting calculations, computations and sizing calculations for new electrical loads anticipated and altered existing loads. Battery backup emergency egress and emergency restroom lighting will be required and comply with the most recent version of NFPA 101. All design shall comply with the most recent version of the National Electric Code (NEC). The local utility company (e.g., Pacific Power) shall also be informed by AE as required of additional loads to the existing electrical system that could alter the present equipment feeding this facility. Each office shall include 2 electrical outlets. Electrical outlets installed 7 ft. above the floor in 2 locations for flat screen TV's (location determined by Vet Center Director)

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(10) Fire – Life Safety Systems: Design shall include evaluation, modifications, additions and/or possible relocations of the existing systems including fire alarm, fire sprinkler, smoke detector, fire extinguisher and all other fire and life safety items required per NFPA 101 to produce a fire and life safety system. Battery backup emergency egress and emergency restroom lighting will be required and comply with the most recent version of NFPA 101.

(11) Data, Phone, Security Systems, & Cabling Infrastructure: AE will complete evaluation and the design will include modifications, additions and/or possible relocations of the existing infrastructure required for this Project. Each office shall include 2 voice/data ports.

(12) Equipment: All permanent equipment and/or fixtures supporting the building operations and the specific functions shall be designed and specified. Appliances supporting the kitchen shall be included.

(13) Additional Documentation: The AE shall provide other documentation (i.e., calculations, reports, recommendations, etc.) as appropriate to support the design effort and to keep the Government fully informed of all issues or potential problems. Provide computations and sizing calculations for new loads anticipated, altered loads and existing loads for electrical, plumbing, sanitary, and structural designs. For computerized calculations, submit complete and clear documentation of computer programs, interpretation of input/output, and description of program procedures. Provide an investigation and explanation of code requirements incorporated into the design.

(14) Design Requirements: The AE firm shall review all pertinent VA design and construction criteria (PG-18 series, H-18-8) (VA Design Guide Section 4-34 – Exhibit 4), standard details and is responsible for incorporating all such standards in the design of this project. The AE firm may obtain design criteria and copies of the complete VA Design Guides, Design Manuals, & other resources from the VA Facilities Management Technical Information Library at web site/page: http://www.cfm.va.gov/TIL/. The VA is mandated to follow the most stringent and current rules, codes, standards, & etc. when economically feasible; therefore, the AE firm shall also review all applicable VA, Federal, State, County, City, Industry design guides, codes, standards, regulations and policies.

(15) Drawings: The AE shall provide electronic copies of drawings for review, generated in the latest version of AutoCAD or its companion products submitted in PDF. The format to be used in creating the CAD drawings (i.e. layer/level structure, fonts, font sizing, file naming conventions, etc) is the latest edition of the National CAD Standard.

(16) Specifications: The AE will provide specifications that will fully and accurately describe the work to be performed. The AE shall provide the final typed specifications on CD-ROM in a PDF format. The CSI division/Product subcategory name and Product subcategory number shall be located for each page. The final copy shall be dated, bounded, and paginated sequentially with a cover so the project title is readily visible. The AE shall thoroughly proofread, edit, and write the specifications specifically for this offer and shall remove sections of the specifications that do not apply, as well as fill in all blanks appropriately.

iii. Design Phases:

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(1) Schematic Development: A/E shall include a schematic design for conformation and verification of Vet Center program requirements. Overall leasable area shall be shown in plan drawn to minimum ¼" scale with rooms identified by name and size.

(2) Construction Documents: Upon written acceptance of the schematic plan and lease terms, the successful lease provider shall provide comprehensive design services to provide complete construction documents for this project. The lease provider or his AE representative shall provide all necessary plans, specifications, structural calculations, permits and detailed cost estimates so that, upon Construction Document completion, project can be provided to VA within the required time frame for occupancy and within the agreed upon cost.

iv. Design Factors:

(1)Program Review: Lease provider shall review and confirm the following:

(a) Review the proposed Vet Center program and confirm the facility package offered meets or exceeds VA program requirements.

(b) Review of VA design criteria, applicable codes, and other relevant requirements and standards, and notify VA in writing if there are any associated conflicts for the Project in the early stages of the Project.

(c) Integrate the Project design with any long-term occupancy goals and develop phasing, if needed.

(d) Review architectural compatibility of site plan, floor plan, and elevations with adjoining buildings.

(e) Lease provider or his AE representative will assess existing as built conditions if necessary to determine if additional investigation is required in order to confirm current site or building conditions required for this project, and shall provide such additional services if so required by the Vet Center.

(2) Codes and Design Standards: AE shall be responsible for ensuring that the Project meets all current IBC, state, local, federal, and VA codes, standards, regulations, and ADA requirements as pertaining to this Project. These may include, but are not limited to, architectural, structural, mechanical, electrical, fire, and life safety codes. The AE is required to follow the most stringent and current rules, codes, standards, and regulations; therefore, the AE shall also review all such applicable codes, industry design guides, standards, regulations and policies.

(a) Space layout shall meet current VA Space Planning Criteria's (PG-18-9) and be in compliance with the Uniform Federal Accessibility Standards (UFAS) and VA Barrier Free Design Guide (PG-18-13).

(b) Mechanical, plumbing, structural, electrical, fire and safety systems shall meet current applicable codes and standards, including VA Standards. Current federal mandates must be followed, such as the 30% improvement in energy cost from a baseline

as established by ASHRAE 90.1 for new buildings, and a 20% reduction in potable water use per the EPAact-1992.

v. Design Deliverables shall include the following minimum submission:

(1) Schematic Development (SD)

(a) 4 complete sets – 1 full size, 3 half size

(b) 3 complete electronic sets – 3 DVD/CD ROM's with all project documents
(c) SD Narrative of the design concepts, including MEP, IT, Security, and other engineering disciplines

(2) Construction Documents (CD)

(a) 4 complete sets – 1 full size, 3 half size

(b) 3 complete electronic sets – 3 DVD/CD ROM's with all project documents

(c) Native software file formats of PDF

(d) Specifications – 4 sets

(e) Calculations – MEP, structural, fire protection; etc.

(3) Record Documents submission:

(a) Full size set of As Built drawings

(b) 3 DVD/CD ROM's with documents in PDF formats.

3. PROJECT DESIGN CRITERIA: Where standard design criteria differ from criteria listed in this section, the section 3 design criteria listed below shall be followed.

a. Acceptable Room Finishes:

i. Walls: Gypsum Board/Metal Stud Framing (STC -40 Sound attenuation blankets typical in offices partitions). Loud speech audible murmur.

(1) Finishes: Paint, wall coverings, ceramic tile, epoxy paint where required by code.

(2) Base: Vinyl coved, ceramic tile.

(3) The Office Manager's Office will share a wall with the Reception Area and include a window to view the Reception Area.

ii. Floors: Carpet with pad, ceramic tile, resilient sheet floor

(1) Finishes: Factory finish

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iii. Ceilings: Gypsum board, suspended gypsum board, suspended acoustical lay-in tile. Hard ceiling required in IT room and Storage/File Room

(1) Finishes: Factory finish, paint

(2) Height: 9'-0" in office, conference and lobby areas

iv. Doors Interior: Wood solid core set in metal frames, lockable hardware with door closer.

(1) Finishes: Natural stain with sealer, Factory finish HM frame

(2) Sizes: 3-0" w x 7'-0" h

(3) Identification: Doors must be identified at each room entry location. Style shall conform to VA standard signage standards.

(4) Mortise key-pad lock on file room door and IT closet.

v. Doors Exterior: Metal with insulated glazing panels set in metal frames, lockable hardware with door closer.

(1) Finishes: Factory finish door and metal frame

(2) Sizes: 3'-0" w x 7'- 0" h

(3) Automatic Door Opener on the main entry door

vi. Windows Interior: Metal frame with insulated safety glazing panels (Provide interior blinds for privacy when needed.)

(1) Finishes: Factory finish metal frame

vii. Windows Exterior: Metal frame with 1" insulated glass panels, tinted with a U-Factor of .50 or better, Solar Heat Gain Co-efficient (SHGC) of .5 or better, and Condensation Rating of 70 or better.

(1) Finishes: Factory finish metal frame

(2) Blinds will be required for all exterior windows

viii. Casework: Built-in casework (reception area, break-room, & general storage rooms) shall be laminate finish with European hardware at doors and drawers, adjustable shelving. Interior finishes as a minimum shall be melamine over a medium density particle board frame.

ix. Mechanical: Mechanical design work or modifications to existing HVAC systems shall be designed by a qualified registered mechanical engineer. The mechanical engineer shall perform and provide all calculations to design an energy efficient and fully operational HVAC system to meet or exceed the current applicable codes, regulations, standards, and guidelines.

The system shall also comply with the latest version of "Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings".

x. **Plumbing:** AE shall evaluate existing plumbing systems if applicable, including drainage systems. Design shall provide plumbing as indicated in the Break Room. Public bathrooms shall be provided within the building complex, but if provided in the Vet Center facility shall not be included as part of the rentable area total.

xi. **Electrical:** Any new electrical work or modification to exiting electrical systems shall be designed by a qualified registered electrical engineer. The electrical engineer shall perform and provide all calculations to meet the latest version of the National Fire Protection Association (NFPA 70) and the National Electrical Code. Primary electrical fixtures shall be recessed (in Suspended Acoustical Tile Ceilings) or surfaced mounted fluorescent fixtures in Gypsum Board Ceilings. Electrical outlets and lighting for general office use shall be in accordance with VA Design Guidance Plate – 4, Section 4-34 (Exhibit 4).

4. AE Contract and Professional Licensure

a. **Professional Licensure:** The Lease provider shall employ a firm licensed to practice in the state of Oregon. A professional seal indicating such professional license shall appear on the final submission drawings and specifications with signature. This signature need not appear on the final electronic CD-ROM. The Architect or Engineer whose seal is shown will be known as the Architect of Record, or the Engineer of Record. The design AE shall be responsible for and certify compliance with the POR and all applicable codes and standards.

5. VA Team:

a. Lease provider and AE will work with the following VA personnel managing this Project:

i. **Contracting Officer (CO):** The CO shall be responsible for all contractual administration of this Project. All transactions of a legal nature, including contractual agreements, amendments, change orders, etc. shall be approved and processed through the CO.

ii. The COR shall be responsible for the AE design management on behalf of the VA and will manage the Project on a day-to-day basis to ensure that that the Project requirements are met from the design phase through construction according to this Scope of Work and the final construction documents.

b. **User Group(s):** AE will work closely with the User Group(s) (generally through the coordination of the COR) to ensure that the detailed Project requirements as conveyed from the User Group(s) are met for this Project. Project User Group(s) for this project will include the Vet Center Director, Contracting Officer's Representative (COR**),** and selected Center support staff.

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6. **Abbreviations and Acronyms:**
   - **a. AE** Architect & Engineering Firm
   - **b. CD** Construction Documents
   - **c. CO** Contracting Officer
   - **d. OIT** Office of Information Technology
   - **e. COR** Contracting Officer's Representative
   - **f. MEP** Mechanical, Electrical, Plumbing
   - **g. NTP** Notice to Proceed
   - **h. POR** Program of Requirements
   - **i. SD** Schematic Design
   - **j. VA** Veterans Affairs

Vet Center Specific Space Requirments

Vet Center Number: 645

Vet Center Name: Grants Pass

Staff Requirements	Sq. Footage Standard Net SF	FTE	Totals	Remarks/Comments
Vet Center Director	150	1	150	
Counselor	144	2	288	
Office Manager	120	1	120	
Outreach Worker	120	2	240	
Program Support Clerk/Secretary	120	1	120	
Ancillary Staff (Cubicle/Work Station)	*100*	*3*	300	
Other (fellows, interns, contractors)	*56*	*0*	0	
Staff Totals		**7**	**1218**	
Area/Room Requirements		**Number**		
Reception Area/Information Desk	300	1	300	
Copy Room, Storage, Supplies	300	1	300	
OIT Data Closet/OIT Storage	50	1	50	
Handicapped Accessible Rest Rooms	80	2	160	
Group Room Therapy Large	300	1	300	
Group Room Therapy Small	225	1	225	
Staff/Patient/**Family Multipurpose** Conference Room	150	0	0	
Veterans Resource Area/Media Room	120	0	0	
Kitchen/Breakroom	240	1	240	
Utility/Housekeeping Closet	120	1	120	
Totals			**1695**	
Net SF SubTotal			**2913**	
Estimated Circulation (hallways etc.)	15%		437	
Total Net Usable SF Area			**3350**	
Estimated Load Factor	15%		502	
Total Rentable SF			**3852**	

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IT/Telecom Requirements

CATEGORY 6 CABLING
INSTALLATION REQUIREMENTS

1.0 SCOPE

The purpose of this statement of work is to provide detailed requirements/standards for the installation of Category 6 Plenum Rated Cabling. The installation must be in accordance with the following referenced ANSI/EIA/TIA standards:

1.1 ANSI/TIA/EIA 568-B.1, Commercial Building Telecommunications Cabling Standard

1.2 ANSI/TIA/EIA-568-B.2, 100 OHM Twisted Pair Cabling Standards

- Backbone
- Connecting Hardware
- Cords and Jumpers
- Horizontal
- Stranded

1.3 ANSI/TIA/EIA-568-B.2-1 Category 6

1.4 ANSI/TIA/EIA-568-B.2-2: Revisions to TIA/EIA-56B-B.2

1.5 ANSI/TIA/EIA-568-B.2.3: Additional Considerations for Insertion Loss and Return Loss Pass/Fail Determination

1.6 ANSI/TIA/EIA -568-B.2-4: Solderless Connection-Reliability Requirements for Copper Connecting Hardware

1.7 ANSI/TIA/EIA -606-B: Generic Labeling Standard

2.0 MATERIALS AND EQUIPMENT

Materials and equipment shall be commercially available products, shall be the manufacturer's latest design, and shall meet or exceed ANSI EIA/TIA and NECA standards. All cable and cable-related materials furnished by the contractor shall be NEW and meet current industry standards. No OBSOLETE material, or items not longer supported by the manufacturer shall be used in the installation. A manufacturer's label or name plate shall be secured to each major item or equipment, or stenciled on cables. All cables, connectors, jacks, wall plates, and patch panels shall meet EIA/TIA/NECA standards.

2.1 The following hardware/equipment is acceptable for the installation:

- Category 6 Plenum Rated Cable
- UTP RJ-45 Jack/Universal/Cat 6 Patch Panel Modular Inserts
- Cabling Cross-Connects
- Cat-6 Patch Panel

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3.0 INSTALLATION UTP (Cat 6-Plenum Rated) CABLE HARDWARE

The contractor shall provide personnel having the required levels of professional certification/technical experience to perform the work required by this statement of work as well guarantee the cabling performance installation for **12 months**.

The maximum distance between the telecommunication outlet and the horizontal cross connect shall be no more than 90 meters. The maximum length of all patch cords and jumpers in the telecommunications closet shall be no more than 5 meters, and the total length of all patch cords both in the telecommunications closet and at the work area shall be no more than 5 meters. All cable/peripherals installation shall include labor, hole drilling, terminals, blocks, connectors, wire (J-hooks) puller hooks, supporting rings, and all other hardware, supplies, and tools as necessary in compliant with applicable ANSI/EIA/TIA standards.

Cables must not be tie-rapped to electrical conduit. Each cable, face plate and each port on a patch panel shall be labeled in accordance with ANSI/EIA/TIA 606-B standards. Where cables penetrate through partitions, firewalls, or floors, a fire stop that provides an effective barrier against the spread of fire, smoke and gases must be installed. The fire stop material shall be packed tightly with all clearances between cable openings. In the event a ceiling tile is damaged during installation, the contractor shall be liable for replacement. Work area clean-up must be accomplished at the end of each task/work performed.

4.0 TESTING REQUIREMENTS

The contractor shall provide all equipment and materials required to install and test all cables compliant of ANSI/EIA/TIA and NECA 301-2004 standards. There are four basic test parameters that should be completed on each link.

The results shall be provided to the VA on hardcopy and CD. The test equipment should perform the following field test parameters:

4.1 WIRE MAP: Test is intended to verify pair to pin termination at each end and the identification of installation connectivity errors.

4.2 LENGTH: The maximum physical length of the basic link shall be 94 meters (including test equipment cords). The maximum physical length of the channel shall be 100 meters (including test equipment cords and patch cords).

4.3 CAPCITANCE: A measurement of the total amount of charge stored between two electrical components.

4.4 ATTENUATION: A measure of signal loss in the basic link or channel.

4.5 NEAR-END CROSSWALK (NEXT): A measure of signal coupling from one pair to another within a UTP cabling link and is derived from swept/stepped frequency voltage measurements.

5.0 MAINTENANCE AND SERVICE

5.1 The contractor must guarantee that **Emergency** repair action will be initiated within two (2) hours upon receipt of an emergency trouble ticket.

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Codes of Practice
IRMS WCHCS

1. General VAWCHCS

1.1 Codes of Practice

Adherence to the VA Network Cable Specifications by cabling installation contractors is a condition of contract. In the event the cabling installation is sub-contracted by the prime contractor, the prime contractor will supply a copy of these specifications to the sub-contractor. This requirement shall cover all levels of sub-contracting.

Any variations to the issued job specification shall be referred for approval to the Contracting Officer Technical Representative (COTR).

Contractors shall install all cable and cabling products with a proven track record for data network cabling installations. Such installations shall also meet all requirements as set out in this specification.

Un-terminated "future capacity" cables are not permitted. All installed cables shall be terminated at each end and documentation, labeling and (where applicable) test results provided. This applies to all permanently installed cable types.

1.2 Documentation

At least two copies of documents describing the data cable installation shall be provided. A copy to be supplied to the COTR for approval

1.3 Network Equipment

COTR must approve the installation or removal of network hardware equipment. Non-VA staff shall carry out such work only with prior approval from the COTR.

1.4 Network Equipment Environment

Punch down area(s) (location of the data communication rack(s)) will be determined by the building Architect/Engineer and the COTR.

Contractor shall supply at minimum 1000BaseT, Category 6 certified rack-mounted modular RJ45 HIGH DENSITY patch panel (24/48 ports) for jacks meeting the ANSI/EIA/TIA t568-B- category 6 standards.

Contractor shall supply at minimum 1000BaseT, Category 6 certified AT&T style 110 blocks for voice requirements meeting the ANSI/EIA/TIA t568-B- category 6 standards. Contractor shall install one full wall of fire-rated plywood for the 110 blocks to be mounted on.

Contractor will supply a 19"W x 84"H steel data communication rack. The rack shall have a grounding wire and bus bar installed to earth ground.

Each jack on the AT&T style 110 block and HIGH DENSITY rack mountable patch panel will correspond with the jack at the wall device faceplate.

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Where network equipment is to be located in a secure room or large closet, the room or closet shall have a dry powder extinguisher, suitable for electrical fires, provided and installed within the room. Air conditioning is required in each IT room. And the OI&T key core should be installed.

2. Unshielded Twisted Pair (UTP) Category 6

- IEEE 802.3 100BaseT UTP Level 6, 24 AWG plenum rated cable.
- Insulation - high-speed data grade.
- Sheath - high temperature UL data grade.

2.1 Network Configuration Constraints

- Each segment comprises a four pair Category 6 cable.
- Pin all 8 conductors.
- Maximum link length - 90 meters
- Maximum channel length - 100 meters
- Maximum number of stations per segment - 1.

2.2 Installation Constraints

2.2.1 Installation Standards

Cable and connecting hardware meeting or exceeding the Category 6 specifications shall be used throughout, with pairs terminated according to the T568B wiring scheme.

2.2.2 General Requirements

The cabling system shall include all patch panels, horizontal cables, transition blocks, vertical cabling, modular jacks, system cables, patch cables, cable management, and a comprehensive labeling system.

2.2.3 Data Outlets

The following information represents a minimum requirement for the number of UTP outlets that shall be installed in each type of workspace.

If the construction at the location of the voice/data outlet is drywall, provide flush-mounted single-gang outlet boxes with six-port base plates and applicable wall device faceplates (cable to be installed behind drywall).

If the construction at the location of the voice/data outlet is a solid wall, provide surface-mounted single-gang outlet boxes with four-port base plates and applicable wall device faceplates (cable to be installed in plastic wall mold equipped with protective insulator or sleeve).

Where modular furniture is used, the location of the voice/data outlet will be in the baseboard of the furniture, where the networked equipment (computers, printers, etc) will be located. Provide flush-mounted single gang outlet boxes with four-port base plates and applicable wall device faceplates. If flush-mounted single-gang outlet boxes cannot be used, then modular surface mount boxes will be used with four-port inserts. All cable runs in modular furniture will be through furniture wire baseboard ducts/conduit.

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2.2.4 Horizontal Cabling

The horizontal wiring shall be a star topology connecting each network outlet jack to a jack on a patch panel rack in a communications enclosure/room.

The cable used shall be 4-pair 100-ohm high performance, 24 AWG solid conductor, and unshielded twisted pair cable, meeting or exceeding the Category 6 specification.

2.2.5 Network Outlet and Labeling

Each network outlet faceplate shall incorporate one or more modular, universal RJ45 IDC jack sockets meeting or exceeding the Category 5e specification. Label each jack at this wall device faceplate to correspond with the label on the patch panel jack (N1, N2, etc.). All numbering should be readily visible.

2.2.6 Cable Installation

The cable interconnecting a network outlet to the patch panel shall be one continuous length with no intermediate joins, splices or taps. Each cable runs shall be no longer than 300 feet total in length, from start to finish.

Cable termination onto a horizontal distribution panel or patch panel shall be undertaken in a manner that permits additional cables to be terminated without unduly disturbing previously installed cables.

Each voice/data outlet / device location will have three (3) cable runs. One (1) will terminate on the AT&T style 110 block for voice requirements and two (2) will terminate on the high density rack mounted patch panel.

No more than 24 cables shall be cable tied in a bunch.

A 2-meter loop of cable shall be left within or on the approach to each communications room/enclosure to facilitate re-termination of the cable in the future, should this be required. Such cable slack shall be coiled and supported in a neat and practical manner.

A 0.5-meter loop of cable shall be left in the trunking on the approach to each network outlet to facilitate re-termination of the cable in the future, should this be required.

The amount of untwisting in a pair as a result of termination to connecting hardware shall be no greater than 13mm, and less than this if possible.

Cable bend radii shall be no less than eight times the cable diameter or as specified by the cable manufacturer; whichever is the greater.

Precautions shall be observed to eliminate cable stress caused by tension in suspended cable runs and tightly strapped bundles.

Cable bundles shall not rub on, or be unduly compressed against any cable tray, equipment racking, or other cable support.

Cable bundles shall not obstruct the installation and removal of equipment in equipment racks.

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Where UTP cables are run parallel with electrical cables the following minimum separation rules shall be observed:

Circuit rating	Unshielded power/data	Shielded power/data
< 1 KVA	300mm	25mm
> 1 < 2 KVA	450mm	50mm
> 2 < 5 KVA	600mm	150mm
5 KVA	1500mm	300mm

Where UTP cables are run in the proximity of electrical motors or transformers the minimum separation shall be 1 meter.

In situations where the above minimum distances cannot be applied due to a lack of available space, data cables shall be enclosed in rigid and/or flexible steel conduit. Conduit shall be bonded to a protective ground at one point in the installation. No steel cabling enclosure medium shall be installed without having continuity to a protective ground.

2.3 Inter-Building Cabling

Wiring Maintenance or other local buildings:

If local network connectivity for Maintenance or other local buildings is required, follow all specifications as stated in this document.

Connecting Maintenance or other local buildings with the Administration Building:

If the distance between the punch down area in the Administration Building to the punch down area in the Maintenance Building does not exceed 100m or 328' (maximum length of the cable run), then 1000BaseT UTP Level 6 24AWG plenum 4 pair cable may be used. Two cables will be required and must be installed in direct buried conduit that will connect the two buildings.

If the distance to the punch down area in the Maintenance Building exceeds 100m / 328' but is no more than 2km / 1.24 miles (maximum length of the cable run). Cable should be routed as shown on the contract drawing. All feeder and riser copper cabling shall be terminated on 110 blocks and associated protectors shall be installed according to ansi/eia/tia standards.

If the distance to the maintenance building exceeds 2km / 1.24 miles but is no more than 5km / 3.10 miles, then single-mode fiber 8x125 microns is recommended.

The contractor will install LC connectors at both ends of the SM fiber. A minimum of 12 SM strands will be required and must either be installed in conduit and/or installed below the frost line, however, it is highly recommend the cable be installed in conduit. All bends will be made with long radius conduit. All associated fiber patch panels shall be installed by the contractor.

Below is a list of hardware that is required if fiber is installed. VA will supply the Cisco Catalyst Switch for installation by the contractor on an approval basis. Contact the COTR to arrange delivery.

Single-mode

Cisco Catalyst 3750-48 port
Cisco Catalyst LX uplink port
Single-mode Fiber 8.3x125 microns
LC Connectors

2.4 Testing

Testing shall be carried out with building electrical services operating (lighting, power, air-conditioning plant and lift services where applicable).
Wiring shall be tested to verify the continuity, integrity and polarity of the cable according to the specified pin and pair grouping assignments.

2.5 Documentation

The contractor shall provide installation documentation at the completion of the cabling system installation. The contractor shall certify that the cabling system meets the UTP cabling system requirements for Category 6 performance levels.

3. Optical Fiber Cable (Ethernet)

- Single-mode Fiber
- Core Diameter 7 - 9 microns
- Cladding diameter 125 microns
- Prim. Acryl. Buffer diameter 250 microns
- Proof test not less than 50kpsi.
- Numerical aperture 0.11
- Attenuation not greater than 0.5dB/Km @ 1310nm. not greater than 0.4dB/Km @ 1550nm.
- Termination: All Single-mode terminations shall be made with LC connectors

3.1 Fiber Network Configuration Constraints

Maximum Single-mode segment length – 5 km

3.2 Installation Constraints

Minimum bend radius (during installation)- not less than 20 X outside diameter of cable.

Minimum bend radius (as installed) - not less than 10 X outside diameter of cable or the manufacturer's specification, whichever is the greater.

During installation the pulling force shall not exceed the manufacturer's specified maximum.

Cable slack shall be provided as follows:

- Within pits - 2 meters minimum.
- At a termination location - 2 meters minimum.
- Within a termination enclosure - 0.5 meter minimum.

VA's Special Requirements

All fiber cable terminations are to be LC connectors. When using a wall or rack mount enclosure, a patch cord protector shall be included in the installation.

3.3 Testing

100% Insertion Loss (light source and power meter) testing of all terminated fibers shall be performed in both directions at 1310nm for single mode cables.

OTDR tests shall be performed at high wavelength, if the distance is greater than 1000m at 1550nm for single mode cables.

Optical loss covers the total loss between two corresponding optical ports and must include allowances for losses due to fiber, connectors, passive optical components, splices and any margin for maintenance. This loss shall not exceed 5db.

Copies of all test results are to be provided to the COTR on completion of the project.

3.4 Documentation

Documentation of a cable installation shall comprise the following:

Cable type
Route followed
Pit locations (where applicable)
Building names
Table of losses for each core

VA's Special Requirements

Grants Pass Health Care System
Telecom Requirements:

- 2- (4) inch cores above door and inside Telco
- Need access to buildings (bldg.) demark via conduit stub out and pull string on both ends
- AC in room or adequate ventilation
- Tbar to wall with cable ladder on bldg contractor provided data relay racks
- regular 20am p, 110 outlet networking power connection:
- on red outlet – bldg or generator back up power
- Wall with fire rated plywood on it for 110 blocks
- Lighting
- IRMS key Core on door AN1
- Electronic locks to be provided by Engineering
- Supply & install and ground IT relay racks.
    - Busbar (earth ground) and grounding wire #6 installed to IT rack
- Cable trays
- Tie cable between demark and VA IT room.
- Floor to Ceiling walls (no false ceiling).
- Fire rated solid door