

AGENCY SPECIFIC REQUIREMENTS: Cameron VA Clinic

SPACE CRITERIA

See Program For Design “Cameron VA Clinic Relocation” attached at the end of this document for all space requirements.

See “CBOC Prototype Layout – 1 PACT” and “1 PACT model” attached at the end of this document for a sample floor plan(s).

OTHER REQUIREMENTS:

THE GOVERNMENT WILL PAY FOR THE FOLLOWING:

- Courier Service
- Hazardous Material removal

THE LESSOR WILL PROVIDE:

- Snow/ice removal between 6 am and 6 pm M-F and occasional weekends as designated by the lessee
- Heating system, and heating system maintenance and repair.
- Window washing and window washing supplies (windows to be washed inside and out by lessor every 6 months)
- Lawn and landscaping maintenance
- Replacement of exterior/interior light bulbs/lamps that are hardwired to the building power
- Plumbing maintenance and repair
- Air conditioning, and air conditioning system maintenance and repair
 - o Electrical maintenance to include testing of the emergency lights and exit lights in accordance with NFPA 101-Life Safety Code 2015 Edition
- Carpet cleaning once every 6 months.
- Painting (repaint entire clinic every 5 years)
- Electrical Utility Service
- Water Service
- Heating Fuel / Natural Gas Service
- Trash removal (including exterior trash pickup)
- Cable Television
- Janitorial service and janitorial supplies (including exterior trash pickup)
- Supplies (soaps, hand lotions, cleaning chemicals, tissues, Feminine hygiene products, and towels)-must meet specified criteria outlined by the VA
- Pest Control
- A Fire Alarm and Intrusion System with a Dispatch Service and all Maintenance and Testing in accordance with NFPA 72 National Fire Alarm and signaling Code- 2013 Edition
- Two Communication Phone Lines for IT (provides for fire alarm and security)
- Maintain the building sprinkler system in accordance with NFPA 13- Standard for the Installation of Sprinkler Systems –2013 Edition
- Maintain the buildings fire extinguishers in accordance with NFPA 10 – Standard for Portable Fire Extinguishers 2013 Edition
- Physical security system for intrusion prevention that alerts local authorities

ARCHITECTURAL:

FLOORS: Space shall be all on one level with direct parking lot access. Entrance shall be handicap accessible.

SIZES: All room square feet listed are minimums. The facility may have up to 30% larger rooms or 15% additional rooms. Rooms other than storage rooms and corridors may not be over 3 times longer than they are wide.

WALL FINISHES: Wall coverings shall be washable PVC free vinyl wainscoting in corridors and washable paint elsewhere. Lessor shall repaint entire clinic on a 5 year cycle at no extra cost. Any vinyl covered walls to be refinished at a minimum of every 6 years at owner’s expense. VA to select colors. Vendor shall be responsible for moving and returning of furniture to allow painting and vinyl replacement. Painting/vinyl work shall be done after hours and must be odor free when clinic opens for business. Perimeters of rooms must have rubber or vinyl base cove. All walls shall be finished, no exposed ductwork, conduit or piping. Install wood or plastic chair rail to protect wall services. All finishes to meet national VA finish standards. See attached finish schedule for more detail.

PAINTING: Painted walls shall be washable eggshell; ceilings shall be flat paint finish. All other painted surfaces shall be washable semi-gloss. See attached finish schedule for more detail.

FLOOR FINISH: VA to select color and pattern of all floor surfaces, as applicable. The waiting **and** reception area shall be carpet. All corridors and exam rooms shall be a non-wax, LVT. Carpet must have a pile weight of 28 ounces per square yard minimum, a face weight of 28 ounces per square yard and 68 ounces per square yard minimum total weight. Carpet must be modular tile with continuous filament pile yarn with soil hiding nylon, acrylic/nylon combinations. Carpet must be a maximum 1/2 inch thick, padding

is not permitted. Carpet must meet recommended fire/smoke requirements. Vendor is responsible for moving and returning furniture during replacement of carpet. See attached finish schedule for more detail.

CEILING FINISH: Ceilings shall be lay in tile with a minimum NRC (Noise Reduction Coefficient) of 0.55. Provide PACT and shared documentation areas an NRC of 0.85 minimum. Examples of appropriate ceiling tiles include but are not limited to Armstrong Ultima Health Zone and Armstrong Lyria as indicated in the attached documentation in the finishes section. Owner to replace any wet, cut or damaged ceiling tiles as damage occurs. Complete ceiling tiles to be replaced and metal grid replaced or repainted every 10 years.

INTERIOR DESIGN: For brand recognition and facility furniture inventory finishes must comply/blend with color palette in the attached finish schedule. Color/Finish proposals to be done by a professional interior design service. A minimum of 3 proposals will be provided to the VA each time new finishes are to be reviewed.

EXTERIOR DESIGN: For brand recognition the exterior of the building will have large glass panels to allow natural light into the main waiting and lobby areas. The exterior should include natural elements such as stone, brick, or other permanent materials. The exterior building materials shall be subject to technical and aesthetic review and approval of the Contracting Officer Representative. The building shall be compatible with its surroundings. Overall, the building must project a professional and aesthetically pleasing appearance.

BUILDING DIMENSIONS: Area of building leased to VA must be roughly rectangular in shape and must not be more than 3 times longer than its width.

ASBESTOS: Existing building must be asbestos free.

ENERGY CONSERVATION: The windows must be double glazed and the walls and roofs must be insulated. Entire facility, including doors and windows must be weather tight. Building insulation and HVAC system must meet minimal DOE recommendations for this region. Building must have evening and weekend set back thermostats. Design to meet Energy Star rating of 75 or greater.

DOORS: Exterior doors and utility rooms to be equipped with automatic door closers. Automatic door openers are required at the main entrance of the clinic for handicap accessibility. Automatic doors are also required on doors leading from the waiting room to the clinic areas and from the waiting room into the restrooms. Doors to the clinic area shall be push pad operated on the clinic side and numerical combination operated on the waiting room side. VA will have the option of selecting sliding doors or hinged doors for all exam, consult, procedure, or treatment rooms. All doors shall be 42 inches or greater throughout the clinic. All doors leading into "staff only" areas are required to have a physical access proximity reader (badge reader). Doors to clinical rooms will have a sliding door and a swing door as identified by the VA.

LOCKS: All doors must be equipped with cylinder lock locking hardware and master keyed to match existing VA "Best" brand, 7 pin locking system. Egress doors must be equipped with panic hardware and meet NFPA requirements for exit. Toilets are to be equipped with privacy locks that can be unlocked in emergency with coin from outside.

SIGNAGE: All rooms must be equipped with solid plastic identification signs with room function and room number. Emergency egress signage meeting Life Safety code and JCAHO is required. No Smoking signage shall be located at the entrance(s) of the building by lessor. All signage must be ADA compliant. Signage shall be provided at all room access points and provided in key areas for wayfinding. For additional information regarding signage see <http://www.cfm.va.gov/til/spec.asp>. See attached finish schedule for more detail.

PRIVACY: Aural privacy is required between rooms and between rooms and corridor so that private patient information may be discussed without being overheard. For sound privacy, walls of exam rooms, Mental Health rooms and Multipurpose/conference room must go from deck to deck and be sound insulated with an approved acoustical insulation with a minimum STC of 40. Sound transmission shall be tested prior to acceptance and results provided to the VA. Shared Documentation space or Collaborative work areas are required to include multifaceted approaches for reductions in sound transmission to include lessor provided sound baffling/clouds, wall treatments, and white noise systems. All doors must be solid core and include mechanical door bottom seals where necessary. There is to be a privacy door(s) between the clinical area and the reception/waiting area. Provide privacy curtain tracks at all doors required in patient treatment areas. Track and curtain to be provided by lessor. Track shall be "On the Right Track" white tracks/grommets with Maharam Peer Bundle fabric. See attachment #3, VHA Program Guide PG-18-3, Topic 11, Noise Transmission Control for further guidance. Provide solar shades on all windows. Aural privacy specifications [HTTP://WWW.CFM.VA.GOV/TIL/CRITERIA.ASP](http://www.cfm.va.gov/til/criteria.asp)

TOILETS: Lavatories shall be equipped with supply dispensers for the building including toilet paper, paper towel, soap, shelf and mirror, feminine hygiene (ladies room) provided and installed by the lessor. Lessor shall provide recessed or semi-recessed trash receptacle. A coat hook shall be installed on inside face of door. The men's toilet shall have a urinal in addition to a commode. All toilets shall meet handicap accessibility codes and will include grab bars at commode. Metal partitions required at urinals and metal partitions with doors at commodes unless otherwise noted. Commodes and urinals shall be auto sensor flush. All female restrooms or unisex restrooms to have a shelf for feminine hygiene products.

CORRIDORS: All corridors shall be a minimum of 6 feet wide and require a handrail, crash rail, and corner guards on both sides of the corridor.

FIRE EXTINGUISHERS: Portable fire extinguishers will be provided, hung and maintained by the Lessor. If award is for a new building, fire extinguishers will be in recessed fire extinguisher cabinets to be approved by the VA and meet NFPA standards. Lessor is responsible for the required monthly and annual maintenance for fire extinguishers and emergency lights. All reports should be forwarded to the lessee safety office.

COUNTERS: All counter tops shall be solid surface material approved by VA. See attached finish schedule for more detail.

SPECIAL FIRE CODE: The storage rooms, laboratory room, mechanical rooms and housekeeping closets will be protected by one hour fire walls and doors. Storage rooms that equal to or >50 sq ft require a smoke wall barrier if they are equal to or >100sq ft they require a 1 hour barrier in accordance with NFPA 101 2015 Edition. Provide a knox box on the exterior of the building.

PATIENT TRAFFIC FLOW IN BUILDING: Building to be arranged such that patients enter immediately into vestibule, then enter waiting room then go by reception counter and finally enter clinical areas. See attached prototype clinic layouts. Exterior layout should be arranged so that entry is clearly identifiable and provides a healing atmosphere.

CANOPIES: Entrance doors will be recessed 3 feet or a minimum of 6 ft by 6 ft rain canopies will be over all entrance doors. Vestibule (air lock) must have 2 sets of doors separated by at least 8 feet and configured to avoid any wind-tunnel effects. One door in each set must have an automatic door opener.

MAIL BOX: Install a mailbox (with lock) at the mail entrance of the clinic in an appropriate location. VA will assist in defining the location during design.

SITE CONSIDERATIONS:

LOCATION: Facility must be highly visible and located in a high traffic area accessible to and from main thoroughfares.

PARKING: Adequate, safe lighted parking on site for a minimum of 25+ vehicles, 4 of which shall be handicapped reserved, with one designated van drop off/loading area. Parking area should include a space adjacent to the building that can accommodate mobile medical units, such as a mobile MRI or mobile Dental unit. There will need to be an exterior door, sidewalk and connections to include two 240 volt electrical circuits each on separate circuits (50 amp and 100 amp), water connection (outdoor spigot), sanitary connection, and data line. Staff and patient parking should be segregated by separate lots or appropriate color stripping.

ACCESSIBLE PARKING: The handicap accessible parking spaces must be immediately adjacent to the building, meeting local code but not exceeding a distance of 60 feet of entrance. Accessible spaces will be marked with signage by lessor. Entrance to the clinic must be handicap accessible in accordance with ADA/ABAAS and the VA Barrier Free Design Guide.

SITE TOPOGRAPHY: Site topography must not have pedestrian traffic grades exceeding 3% slope, 1 ft elevation change in 33 feet.

SITE SIGN: Lessor must provide internally lighted sign with VA logo and words as depicted on the attached sample template. Sign shall be a minimum of 24 inches above finished grade.

SITE FLAGPOLE: Lessor is to provide a 30 foot (minimum height) flagpole on site. Flagpole shall include adequate lighting to illuminate flag between dusk and dawn. Flagpole shall be protected from vehicular traffic. Lighting shall be controlled by a photocell device and maintained by lessor.

SIDEWALKS: Accessible minimal 5 foot wide sidewalks must be available from parking to entrance. Rear exit of the building which should be accessible for ambulance pickup requires a 7 foot wide sidewalk for accessibility of the patient gurney.

RAMPS: Ramps with over 5% rise, 1:20 slope, must have metal handicap style handrails on both sides.

LANDSCAPING: If site topography permits, site will be equipped with a variety of bushes and trees. Landscape should also include grass where appropriate. Maintenance schedule listed below:

Frequency of Landscape Maintenance

At a minimum, the Lessor shall perform the following at the frequency indicated:

- Weekly
 - Mow and edge lawns weekly during the growth season.
- Monthly
 - Remove weeds from around building, parking areas, all landscaped areas (including lawn).
 - Mow and edge lawns at least once a month during the dormant season.
 - Trim and prune shrubbery and trees to maintain an attractive appearance. Shrubbery shall not be allowed to grow up and cover windows.
- Quarterly
 - Provide interior and exterior extermination of insects and rodents. Use of chemicals shall conform to EPA and State requirements. The Lessor shall provide additional service at the request of VA, if any signs of re-infestation appear.
 - Lessor shall coordinate application of pesticide with the Government and only apply pesticide in a manner that VA agrees is protective of the health of patients, employees, and visitors.
- Semi-Annually
 - Replace all filters in HVAC system. Replace on a more frequent basis if required by the Manufacturer's recommendation.
- Annually
 - Re-mulch all planting beds.
- As Required
 - Lessor is responsible for the repair and replacement of all light fixture ballasts and starters.

MARQUEE: The Lessor will provide a lighted Marquee at the entrance to the property. VA will provide design.

CLEANING: The Lessor is responsible for interior cleaning and litter pickup. The Lessor is responsible for exterior cleaning and trash pickup from grounds.

PEST CONTROL: The Lessor is responsible to exterminate insects, rodents and other pests as required. Pest spraying must be done so as not to interfere with VA work. Due to sensitive nature of patients, spraying must be odorless and non-irritating. Response must be within 1 working day.

MAINTENANCE: Building equipment and maintenance requirements, interior and exterior, shall be met by the Lessor. The Lessor must have a building superintendent or local designated representative to promptly correct deficiencies or attempt to correct safety deficiencies within 4 hours. Lessor's representative shall be available via pager or cell phone for emergencies. Cosmetic and non-emergent deficiencies must be corrected within two weeks. If no attempt is made to correct the deficiency within the required time frame, the cost of the repairs will be deducted from the next month's rental payment. The Lessor is responsible for the total maintenance of the leased property with the exceptions listed specifically in this document. Such maintenance includes but is not limited to electrical systems, light fixtures, light fixture lamps/tubes/bulbs, mechanical systems, fire alarm, intercom/emergency call systems, exterior care for the building and the site, all sidewalks, parking areas, driveways, private access roads, lawns, shrubbery including all repairs and replacements. All equipment shall be maintained to provide reliable service without unusual interruption, disturbing noises, exposure to fire or safety hazards, unusual emissions of dirt. All maintenance will be done with applicable codes and manufacturer recommendations.

Lessor will provide all labor and materials and supervision to adequately maintain the structure, roof, necessary building appurtenances to provide water tight integrity, structural soundness and acceptable appearance. All work done by the Lessor will be coordinated with the VA Contracting Officers Representative (COR).

EXTERIOR MAINTENANCE: The Lessor is responsible for snow and ice removal from parking areas and sidewalks. Snow and ice removal from overnight precipitation should be completed prior to opening of clinic if at all possible. Lessor is responsible for removing weeds from around building, parking areas and sidewalks. The Lessor is responsible for mowing, edging, trimming landscaping and watering lawns as well as leaf raking and removal.

PARKING LOT: Lessor shall re-seal parking lot and re-paint parking space lines as damaged. Entire lot to be resealed and painted every five years.

PLUMBING PROBLEMS: Drain problems that can be solved by simple application of a plunger will be handled by VA Staff. Drain problems that cannot be solved by simple application of a plunger or require repeated applications will be solved by the Lessor. All other plumbing problems are the responsibility of the Lessor and will be addressed within 24 hours of notification of Lessor's representative.

UTILITIES:

CABLE TV: Lessor will provide and pay for cable television service for up to two locations within the clinic. Wall jack shall be located within, or adjacent to all TV locations. A 120 volt duplex electrical outlet will be located adjacent to the cable box outlet.

EMERGENCY CALL SYSTEM: An emergency call system from each toilet to the reception area will be provided. A call light will be installed above the door to each of these rooms. The call system in the toilet will include a vinyl pull cord extending from 30 inches above floor to within 6 inches of the floor at the water closet.

SINKS: A sink shall be provided in all patient treatment areas, break rooms, staff lounges, and restrooms. The lessor will provide and install wall-mounted soap dispenser and paper towel dispenser for each sink. The lessor shall install the VA-approved dispensers at each sink; sink fixtures shall be provided with ADA compliant paddle handles.

EMERGENCY EYEWASH/SHOWER (AS REQUIRED): The lab shall be equipped with emergency eyewash. The eyewash shall be readily accessible without blocking equipment access. The eyewash shall be installed in accordance with ANSI standards.

STAFF CONFERENCE/BREAK/MEETING/STAFF EDUCATION ROOM UTILITIES: This room will be equipped with a small kitchen-type sink with disposal, free-standing ice and water dispenser, counter with over and under sink storage cabinets along with counter space for a microwave and floor space for a freestanding refrigerator. The microwave and refrigerator will be provided by the VA.

EMERGENCY LIGHTING: Must have adequate power failure lighting in corridors and waiting room. Lessor is responsible to maintain function of emergency lighting including bulbs, batteries and all other parts. Lights will be periodically tested by VA. Lights will have dual power source and automatic activation to illuminate egress route. The emergency lighting will be completely tested at least once per month by the owner with a copy of the testing report sent to the VA.

SECURITY ALARM: Automatic security alarm system with autodial to commercial security company or local police department must be provided by and maintained by the Lessor. Alarm sensors are required in the Medicine Storage Room and the IT / Data closet. A local minimum 80db alarm will be installed by the Lessor. The remote monitoring company shall be in the business full-time, shall be approved by the LCO, with all monitoring costs borne by the lessor for the term of the lease. The security alarm will be completely tested by the Lessor as required by the manufacturer. The security system will be completely tested at least once per month by the owner with a copy of the testing report sent to the VA. Updates to key pad entry, and code changes will be included in the lease. See VA HB Directive 0730/2 appendix B under 209 Security. [HTTP://WWW.VA.GOV/VAPUBS/SEARCH_ACTION.CFM?DTYPE=2](http://www.va.gov/vapubs/search_action.cfm?dtype=2)

LIGHTING: All interior lighting to be fluorescent or LED lighting. Initially, the Lessor shall provide T8 ECOLOGIC™ fluorescent lamps or better, designed to pass the Federal Toxic Characteristic Leaching Procedure (TCLP) criteria for classification as non-hazardous waste. Lessor responsible for replacing failed fixtures, ballasts or other parts. Lessor shall replace lamps on interior lights. Lessor is to provide and replace lamps on exterior lights. Lighting is to provide a minimum of 70 foot candles in work areas and 20 foot candles in non-work areas. Building entrances and parking lot to be lighted with high efficiency exterior lighting. Emergency lighting and exit signs will be tested monthly and annual in accordance with NFPA 101.

DRINKING FOUNTAINS: Two Dual high/low drinking fountains are required; one of them public accessible, may be placed in the waiting room. Must include water bottle filling station.

OUTDOOR SPIGOTS: Lessor shall provide at least one lockable outdoor spigot (frost free hose bib) within 10 feet of each exterior door. Lessor shall turn over 3 keys to VA.

HVAC: The heating, air conditioning and ventilating systems shall meet city, state and national codes and be designed to meet ASHRAE minimum recommendations. Return air shall be ducted. The repair and maintenance of the HVAC system including replacement/cleaning of filters according to manufacturer recommendations shall be maintained by the lessor. At a minimum, equipment shall be serviced two times per year, once in the Fall prior to the heating season and once in the Spring prior to the cooling season. Failure of the HVAC system shall be treated as an emergency with response within 3 hours. Equipment must maintain temperature ranges between 70-76 degrees regardless of weather conditions. Toilets, Housekeeping closet and multipurpose exam room will all include exhaust venting to the outside to create a negative pressure in these rooms. Rooms shall have a minimum of 6 air changes per hour. The building will be provided with enough thermostats and controls to adequately control the space with a minimum of 10 zones. HVAC shall be a certified system and Lessor shall provide a Test and Balance report to the VA. The mechanical rooms must be a separate room and the space shall not be considered as part of the net usable square footage.

**The data closet will be provided a separate, thermostatically controlled cooling unit capable of maintaining 70 degrees F with computer equipment producing a 12,000 btu heat load.

SOUND TRANSMISSION: The standards listed within this document for sound transmission is a minimum standard. The Lessor MUST include a white noise system with speakers placed in strategically placed locations of the ceiling. Locations must include but are not limited to: Shared documentation area, hallways, and clinical rooms.

ELECTRIC: Electric panels must be circuit breaker type with 25% excess capacity. Circuit breakers must be identified as to area served. Toilets and other wet locations must be equipped with GFCI outlets. All items must be U.L. approved. Rooms over 90 square feet must be equipped with at least one duplex outlet on each of four walls of rooms and an additional outlet for walls longer than 12 feet. Smaller rooms must have at least two outlets. No more than 8 outlets per circuit. Data closet to have at least 5 120Vduplex outlets on 2 circuits and 1 dedicated 30 amp, 208V, 2 pole, 3 wire circuit with a L6-30R outlet. Lessor is to provide one 120 V duplex in the center of the multipurpose/conference room, above the ceiling for future projector mounting provided and installed by the VA. Corridors will have outlets at least every 25 feet. All outlets in all rooms to be set ground plug up. All electrical systems shall meet and be in compliance with the National Electric Code (NFPA 70). The emergency lighting and exit signs should be on a dedicated circuit for maintenance testing.

SPECIAL ELECTRICAL OUTLETS: The Lessor will provide two (2) 240 volt electrical outlets on separate circuit breakers at a location in the clinic to be determined by the VA at the time of award. Owner to provide 5 additional 120 V duplex outlets in locations to be designated by the VA during drawing reviews. All receptacles will be hospital grade "green dot" outlets.

CHANGES: As part of the lease the Lessor will provide the VA with a cost per electrical outlet for the Lessor to install electrical outlet additions to the facility beyond the previously listed requirements.

FIRE ALARM: Building to be equipped with fire alarm system that meets city, state and NFPA 72 code requirements and remote annunciation to local fire department or monitoring service. Fire alarm testing required by NFPA 72 is the responsibility of the Lessor. Complete testing will be done in accordance with the required frequencies of NFPA 72.. Copies of all test reports will be sent to the VA. At a minimum there will be pull stations at each exit and smoke detectors in waiting areas, corridors, furnace/HVAC rooms and storage rooms. Strobes/audible devices will be installed as to be visible in all directions and in conference/multipurpose rooms. Any fire sprinklers will must have tamper and flow alarms and be tested in accordance with NFPA 13 standards.

WET AUTOMATIC FIRE SPRINKLER: Building will have an NFPA 13 compliant wet automatic sprinkler system. Building shall be fully sprinklered and contain all necessary fire alarm features. Lessor will be responsible for performing all NFPA required testing and maintenance on the system and a copy of the test report provided to the VA.

UTILITIES: Availability of utilities is the responsibility of the Lessor. The lessor is responsible for the cost of utility usage (electricity, gas, water, sewage, and telecommunications) based on consumption. If the VA area is co-joined to space leased to others then the Lessor will provide separate metering to measure government usage. The Lessor is required to pay any deposits and hook-up fees relative to utilities.

DATA CLOSET REQUIREMENTS: See "KCVA Telecommunication Construction and Project Documents" attached at the end of this document for all requirements.

OTHER:

CONDITION: Facility must be in a like new condition prior to VA occupancy. If the space is to undergo any construction, refinishing or remodeling prior to VA occupancy, Lessor to provide VA with color boards for selection of finishes and colors.

DRAWINGS: Lessor to provide drawings of facility building, site and location plan as part of bid and will provide "as-builts" as well as CAD drawings to the VA no later than 30 days from when the facility is turned over to the VA for occupancy. Drawings shall be submitted at 35%, 95%, and 100%.

DOCUMENTS: In addition to regular contract documents, test results described above and proof that the construction meets contract requirements, the contractor must provide MSDS sheets on chemicals used in maintenance such as pest control products, etc.

PHYSICAL SECURITY: Setback distance should be a minimum of 25 ft from the face of the Building's exterior to the protected/defended perimeter (i.e., any potential point of explosion). This means the distance from the Building to the curb or other boundary protected by bollards,

planters or other street furniture. Such potential points of explosion may be, but are not limited to, such areas that could be accessible by any motorized vehicle (i.e., street, alley, sidewalk, driveway, parking lot).

PHYSICAL SECURITY ACCESS: Badge access system should be provided by the lessor. System requirements include a separate internet connection separate to the VA system and a VPN router. The internet service must be for the sole purpose of PACS communication and not used for any other purpose. Internet service must of speeds no slower than 1Mbps on the slowest direction of travel (upload or download). A Siemens CCURE9000 server to be installed as this is the standard system that is compliant with the VA PIV system.

MOTION INTRUSION DETECTORS: An intrusion detection alarm system which detects entry into the room and which broadcasts a local alarm of sufficient volume to induce an illegal entrant to abandon a burglary attempt. Intrusion detectors must have the following essential features:

- An internal, automatic charging DC standby power supply and a primary AC power operation.
- A remote, key operated activation/deactivation switch installed outside the rooms and adjacent to the room entrance door frame.
- An automatic reset capability following intrusion detection.
- A local alarm level of 80 dB (min) to 90 dB (max) up to 100 feet [30.48 m] from the protected room.
- An integral capability for the attachment of wiring for remote alarm and intrusion indicator equipment (visual or audio).
- A low nuisance alarm susceptibility.

JANITORIAL REQUIREMENTS:

GENERAL: The Lessor shall provide all labor, supervision, management support, transportation, equipment, tools and materials, general supplies (replacement lights, cleaning chemicals, etc.) necessary to provide cleaning services for the Community Based Outpatient Clinic (CBOC).

HOURS OF OPERATION: The Cameron VA Clinic operating hours are 7:30 AM thru 4:30 PM. The Contractor shall perform janitorial services Monday through Friday, excluding Holidays, between 5:00 PM and 12:00 AM or at a time established by COR. The CBOC will normally be closed on weekends and holidays. The Contractor shall not be required to work on Federal Holidays. They are as follows and include any other day specifically declared by the President of the United States to be a national holiday: New Year’s Day, Martin Luther King’s Birthday, Presidents’ Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving, and Christmas.

SCHEDULING: Cleaning schedule shall include Monday through Friday between 5:00 PM and 12:00 AM. Jobs requiring more extensive timeframes – such as floor waxing – will be negotiated with the COR so that patient care is not interrupted.

STANDARDS: Cleaning services shall meet standards established by the Kansas City VA Medical Center in Kansas City, MO. The COR or designee for the CBOC will accomplish monthly inspections of the Veterans’ clinic and then issue results to the Contractor to correct any noted deficiencies. The COR will provide forms for inspections.

SPECIFIC WORK REQUIREMENTS: Contractor shall perform all tasks in accordance with contract specifications at frequency identified on the Task and Frequency Chart attached. Hazardous waste will be picked up by another contractor and is not a part of this janitorial services contract.

SECURITY: The Contractor shall be responsible for securing the clinic at the end of cleaning operations.

JANITORIAL SERVICES TASK AND FREQUENCY CHART

Restrooms	M-F	Weekly	Monthly	Semi-Annually	Annually	As Needed
Clean/disinfect floors	X					
Clean mirrors	X					
High dusting		X				
Empty trash receptacles	X					X
Clean/disinfect toilets, urinals, sinks, commodes	X					
Spot clean walls and stalls	X					
Refill dispensers (toilet paper, paper towels, soap, feminine hygiene)	X					X
Replace string on call buttons						X

All other space	M-F	Weekly	Monthly	Semi-Annually	Annually	As Needed
LVT/Ceramic tile floors - Mop with disinfectant cleaner	X					
Clean/disinfect floors	X					
Clean cove base					X	X
Strip and wax tile floors (if applicable)					X	X
Top scrub and recoat				X		X
Buff tile floors	X					
High dusting		X				
Clean/disinfect sinks	X					
Refill dispensers (soap/paper)	X					
Empty Trash Receptacles	X					X

Miscellaneous Items	M-F	Weekly	Monthly	Semi-Annually	Annually	As Needed
Clean/disinfect horizontal surfaces, including tables, cabinets, work surfaces		X				
Spot clean vertical surfaces		X				
Furniture			X			X
Chairs/Seating			X			X
Plants/Decorative objects			X			X
Trash Cans - empty and replace liners	X					
Trash Cans cleaned with disinfectant cleaner			X			
Clean/Disinfect door handles and light switches	X					
Clean Windows				X		
Light fixtures	Remove any debris (such as insects) when present					

Rugs/Runners	M-F	Weekly	Monthly	Semi-Annually	Annually	As Needed
Vacuum and spot clean	X					
Clean/Shampoo Carpet					X	X

General Finish Specifications used at KCVA

FLOORING

ROOM	MANUF.	PATTERN	COLOR	SIZE	Other Information
Clinical Rooms	Centiva	Event Plank	WP 3319-E-NG-SB, Rock Maple	6" x 36"	Slight Bevel, INSTALL Offset
Corridors	Centiva	Event Stone	NS-7211-E, Narona Travertine	12" x 18"	Slight Bevel, INSTALL in BRICK fashion
Offices	Lee's Carpet	Vacant Beauty	Vestiges 334	24" x 24"	INSTALL BRICK ASHLAR
Waiting/Conf.	Lee's Carpet	Vacant Beauty	Vestiges 334	24" x 24"	INSTALL BRICK ASHLAR
Restroom	Crossville	Empire	Empress Unpolished	6"x24" or 12"x24"	Public restroom, INSTALL Offset *(Get Planked-Factory Cut)

WALLS

ROOM	MANUF.	TYPE	COLOR	USE	Other Information
Clinical Rooms	Benjamin Moore	Epoxy, Eggshell	Jute AF-80	Primary	
	Benjamin Moore	Epoxy, Eggshell	Solitude AF-545	Accent Wall	
	Benjamin Moore	Epoxy, Eggshell	Croquet AF-455	Accent Wall	
	Benjamin Moore	Epoxy, Eggshell	Thicket AF-405	Accent Wall	
Corridors	Benjamin Moore	Epoxy, Eggshell	Jute AF-80	Primary	
Offices	Benjamin Moore	Epoxy, Eggshell	Jute AF-80	Primary	
Waiting Rooms	Benjamin Moore	Epoxy, Eggshell	Jute AF-80	Primary	
Facility Wide	Benjamin Moore	Semi-Gloss	Pashmina AF-100	Trim	
Speciality Areas	Benjamin Moore	Epoxy, Eggshell	Jute AF-80	Primary	
	Benjamin Moore	Epoxy, Eggshell	Thunder AF-685	Accent Wall	
Restrooms	Benjamin Moore	Epoxy	Fossil AF-65	Primary	Color depends on Vintage of Restroom
	Crossville	Empire Tile	Empress Polished	3" x 24" offset	Public Toilets not Patient Room 48" - 52" Wainscot *(Get Planked-Factory Cut)
	Crossville	Ebb & Flow	Sand & Surf Linear Mosaic	1/2" x 6"	2rows on wall 6"h at 42" and 33" on 48" Wainscot

BASE

ROOM	MANUF.	TYPE	COLOR	USE	Other Information
Facility Wide	Roppe	Rubber	P178 Pewter		4" is preferred when at all possible

LAMINATE

ROOM	MANUF.	TYPE	COLOR	USE	Other Information
Public	Wilson-Art		7919 Amber Cherry	Vertical Surfaces	
Private	Wilson-Art		7909 Fusion Maple	Vertical Surfaces	
Public/Private	Nevamar		AM6001 Aluminite	Horizontal Surface	

SOLID SURFACE

ROOM	MANUF.	TYPE	COLOR	USE	Other Information
General	Corian		Canvas Doeskin Dove Stardust Savannah	Walls/Trim Restroom counter General General Patient Room	

HANDRAIL/CRASHRAIL

ROOM	MANUF.	TYPE	COLOR	USE	Other Information
Facility Wide	InPro	3500-Handrail 3500-Crashrail 900-Handrail 1600-Crashrail	Grip-Wood. Nat.Maple 0531 Crash-Chino 0258 Woodland Nat. Maple 0531 Chino 0258		

TECHNICAL SPECIFICATIONS

PRODUCT DESCRIPTION

2/90 Sign Systems Series 7 Post & Panel Exterior Sign, 62" h x 89" w (w/o posts)

PART A

Specs: 7" Bleed body frame including two .110 aluminum panels and no reveal
Size: 62" h x 89" w
Color: Matthews Blue MP 13702 (Semi-Gloss paint finish) (All sides except top)
Matthews Silver MP 18073 (Semi-Gloss paint finish) (Top)
Copy: Lines 2a/b (Logo Text)
Size: 3 1/4" h left justified
Font: NA
Color: Scotchlite Reflective White 280-10
Note: Artwork to be provided to manufacturer by ASA
Lines 3a/b & 4a/b (Facility Name Copy)
Size: 6 1/4" h left justified
Font: Helvetica Regular (HRC)
Color: Scotchlite Reflective White 280-10

PART B

Specs: 3" Post & Cap assembly
Size: 62" h
Color: Matthews Blue MP 13702 (Semi-Gloss paint finish)

PART C (quantity 2 of 8 parts)

Specs: 2" thick PVC or Aluminum Accent Trim
Size: 2" h x TBD w
Color: Silver 150

PART D (quantity 3 of 8 parts)

Specs: 3/4" thick PVC or Aluminum Accent Trim
Size: 3/4" h x TBD w
Color: Silver 150

PART E

Specs: 3" w x 7" deep rectangular post with 4" w x 9" deep cover and 4" x 9" custom cap
Size: 66" h
Color: Matthews Silver MP 18073 (Semi-Gloss paint finish)
Note: See Figure 1 for post and cover detail

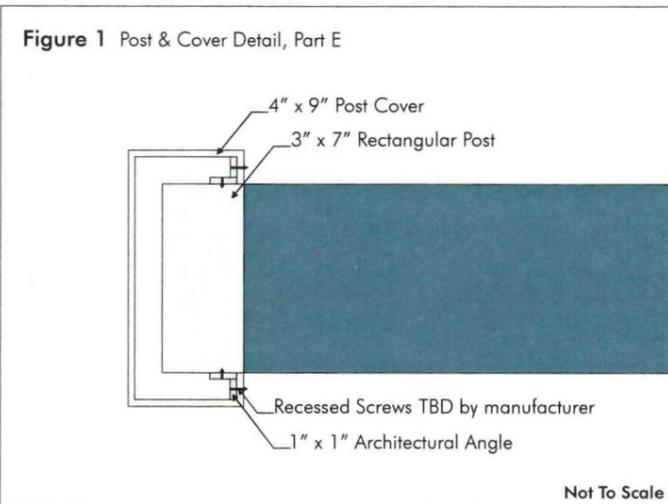
PART F (quantity 2)

Specs: 3/8" thick cut acrylic logo
Copy: Lines 1a/b (Logo Symbol)
Size: 10" h left justified
Font: NA
Color: Silver 150

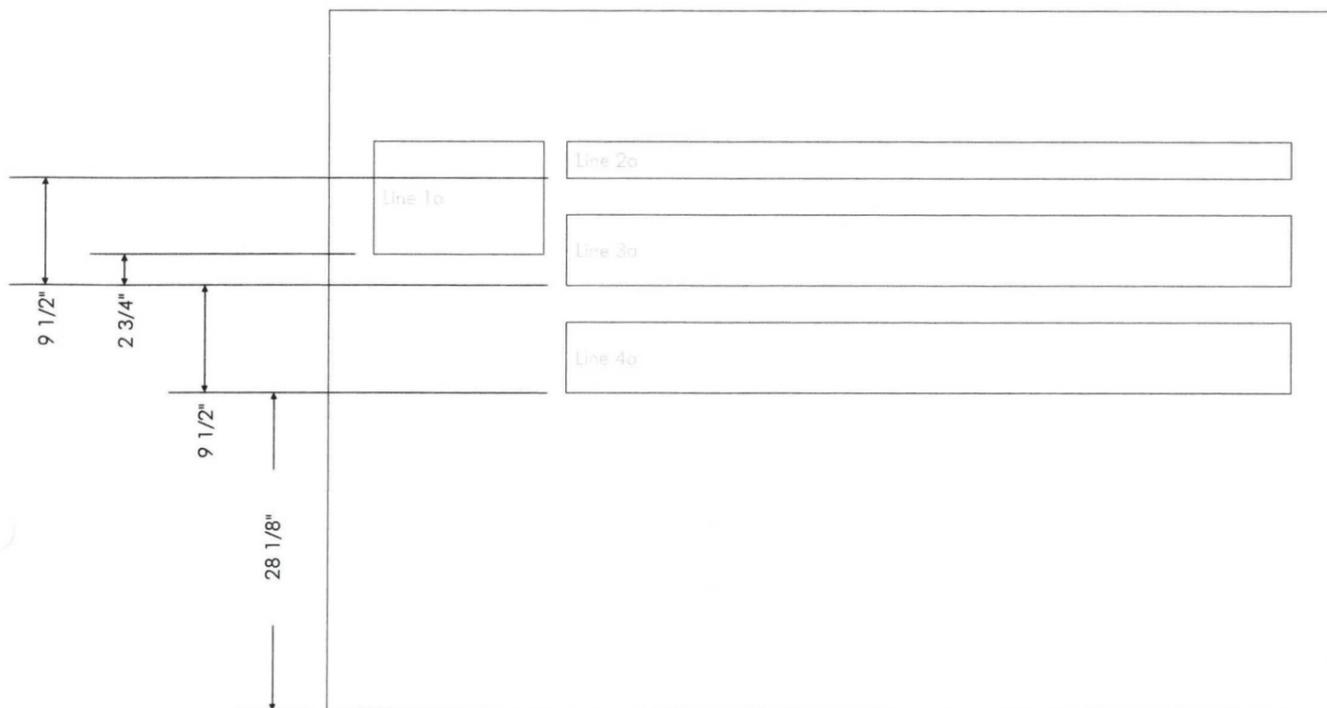
NOTES

- Parts C & D to have miter joints and to be attached to Parts A, B & E with concealed fasteners
- For Parts C & D, Accent Trim to Hang 1/16" above top edge of sign; Accent Trim to Hang 1/16" below bottom edge of sign
- Part E Cover attached to Part E Post with exposed recessed fasteners on inside face only
- Face B copy and Part F for Face B to be field installed, only if sign is placed in location appropriate for two-sided sign

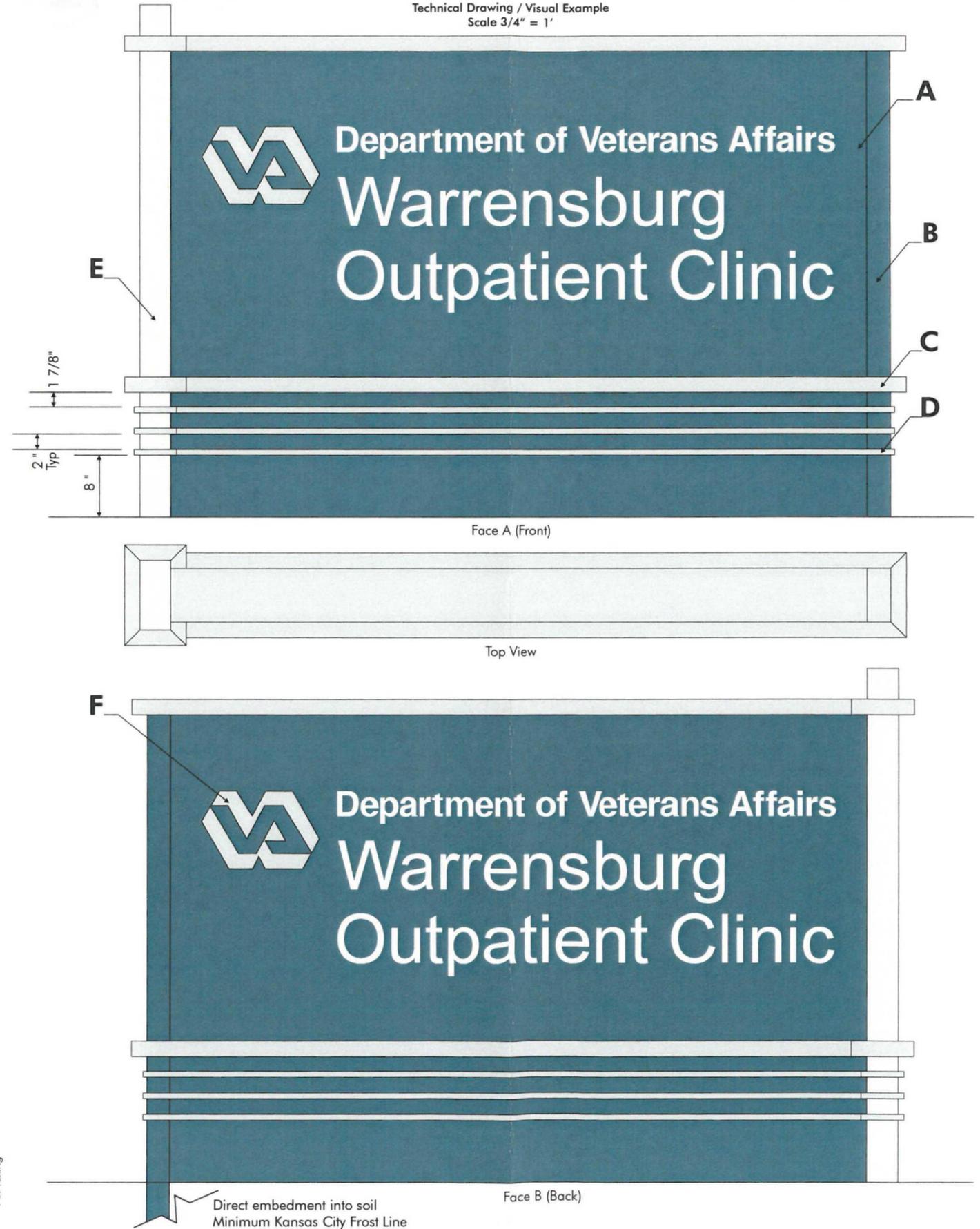
Figure 1 Post & Cover Detail, Part E



Technical Drawing - PART A
Scale 3/4" = 1'



Technical Drawing / Visual Example
Scale 3/4" = 1'



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For faxing



DEPARTMENT OF VETERANS AFFAIRS
Medical Center
4801 E. Linwood Boulevard
Kansas City, MO 64128-2226

April, 2015

Subject: VA Telecommunications Specifications

1. New construction and renovation standards

- Minimum Telecommunication Room (TR) Dimensions = 10' Length x 10' Width
- Wiring properly installed and supported by raceways, conduits, J-hooks, etc.
- Wiring installed for Wireless Network
 - 1 drop per 1000sq', with 20 foot Service loop.
 - Final Installation Points as defined by OIT Wireless Access Point Location Maps.
- Complete Network testing results for each data circuit (line) by port and rooms numbers.
- All patch panel Ports in the Telecommunication Rooms (TR), and Wall Jacks in rooms and common areas, properly labeled.
- Network Racks installed in Telecommunication Rooms (TR)
- Infrastructure (Cabling\Wiring) installed and tested between all Telecommunications Rooms (TR).
- Demarcation (DMARC) will be located inside TR, mounted on wall located directly behind rack containing network equipment.
 - Data lines will extend from DMARC to network rack using horizontal cable trays to route lines from DMARC to top of network rack.
 - Horizontal cable tray installation height is 7', level with, attached to, and feeding into top of network rack. Data lines are installed, supported, and dressed entire length of run from DMARC termination point to network rack patch panel termination.
- Data lines extended from demarcation to identified Primary/Central TR
- Data lines extended between Primary/Central TR to stacked (multi-floor) or distal TRs.
- Telecommunication Rooms (TR)
 - Network Infrastructure Equipment
 - Racks fastened to the floor, mounted and grounded
 - Lessor provided Rack Mounted Network addressable Uninterrupted Power Supplies (UPS) installed and tested
 - Power extended to UPS
 - Patch Panels installed, lines properly terminated.
 - Security (ISO will need to approve these items)
 - Walls – floor to structural ceiling
 - Doors – steel or solid wood
 - Hinges – if the door swings out, hinges with pins must be used
 - Lock – mortise lock with dead bolt

2. Adherence to the following VA Telecommunications Specifications is required for cabling:

- The VA Medical Center uses 48 port data patch panels wired for 568B connections on the data patch panels and Cat 5E for voice cabling on 110 blocks for voice terminations.
- All contracted bids will use **white** Cat 6 cable for voice and **black** Cat 6 cable for data.
- The VA Hospital uses four (4) cables to each jack: Two (2) voice designated by the telecommunications technician (example: 1 and 1a). The data cables are determined by port availability on patch panel (example: 101 and 102) on panel 1.
- Using Cat 6, trunk lines to data panel and voice 110 block should be neat, with no diving data cables. Any 90 degree bends should be sweeping turns and not sharp bends.
- Trunk lines for communications cable in the phone closet will be neat (no diving cables, no sharp bends, sweeping bends only). The cable will be terminated on 110 blocks in numerical order (no shotgun terminations). The 110 block will be labeled neatly and legibly. Both ends of the cable should be labeled.
- When terminating on the jacks at the field end, the voice cables will be terminated 568B , the data cables will be terminated 568B.
- On the patch panel, the cables should be separated on the back of the panel keeping a clean, neat trunk appearance (no diving cables) to the side of the panel.
- Separating the cabling should be done as follows:
 - Ports 1-12 and 25-36 down the data panel rack and brought up to the backside of the panel on the right side.
 - Ports 13-24 and 37-48 should be done the same as trunking on the right side, only these cables are brought up to the left side of panel.
- Termination on back of Panel:
 - All cables terminated on back of panel should have no more than one inch of exposed cable pairs, i.e., the insulation jacket trimmed only one (1) inch from the termination point.
- Termination at Data Jack:
 - In the ceiling above the cable drop there should be a strain relief coil. Terminations at the jack should have no more than one (1) inch of exposed cable pairs from insulation at the termination point. There should also be sufficient slack to work with behind jack.
- **All cabling will be certified using a Penta Scanner or similar tester. Submit results to Telecommunications, OI&T, within three (3) working days of completion. Printed test for each cable showing test results is requested with backup CD.**

- Cable ports will be marked on the jack, on the cable, and the room number will be marked clearly and legibly on patch panel.
- Any penetrations through the wall will be sealed with fire stop on both sides of the wall where applicable.
- Cable trays will be used when possible. Trunking lines in the ceiling will be kept to a minimum.
- Cable runs will not be secured to any electrical lines or conduit containing electrical wiring.
- Trunking runs above electrical lighting will be at least one (1) foot (12 inches) above the light.
- No trunking lines or cable runs will lie on top of the ceiling grid.
- For other cabling questions refer to USOC Codes for Cat 6 cabling.

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**DEPARTMENT OF VETERANS
AFFAIRS**

Medical Center

4801 E. Linwood Boulevard

Kansas City, MO 64128-2226

2015



SUBJECT: KCVA TELECOMMUNICATION PROJECTS GENERAL EQUIPMENT AND
INSTALLATION.

SCOPE OF WORK

A. GENERAL

- a. PROVIDE ENGINEERING, LABOR, MATERIALS, APPARATUS, TOOLS, EQUIPMENT, AND TRANSPORTATION AS REQUIRED MAKING A COMPLETE WORKING TELECOMMUNICATION CABLING SYSTEM INSTALLATION AS SPECIFIED AND INDICATED.
- b. PROVIDE A COMPLETE TELLECOMMUNICATIONS INFRASTRUCTURE CABLING SYSTEM INCLUDING:
 - i. SUPPORT SYSTEMS IN THE DCR AND TELECOMMUNICATIONS ROOMS.
 - ii. INSIDE PLANT UTP STATION CABLING, TERMINATIONS, AND OUTLETS.
 - iii. CABLE IDENTIFICATION TAGS AND SYSTEM LABELING
 - iv. CONDUITS AND BOXES.
 - v. TELECOMMUNICATIONS GROUNDING SYSTEM.
 - vi. SUBMITTALS.
 - vii. TESTING.
 - viii. AS-BUILT DOCUMENTS.
 - ix. WARRANTY.

B. RELATED DOCUMENTS

- a. KCVA TELECOMMUNICATIONS CABLE TESTING REQUIREMENTS.

REFERENCES

A. CONFORM TO THE FOLLOWING:

- a. FCC REGULATIONS:
 - i. RADIO FREQUENCY DEVICES AND RADIATION LIMITS
 - ii. CONNECTION OF TERMINAL EQUIPMENT TO THE TELEPHONE NETWORK
- b. NATIONAL ELECTRICAL CODE
- c. NATIONAL, STATE, LOCAL AND ANY OTHER BINDING BUILDING AND FIRE CODES

- d. UNDERWRITER'S LABORATORIES (UL): APPLICABLE LISTING AND RATINGS.
- e. ANSI/TIA/EIA-568 COMMERCIAL BUILDING TELECOMMUNICATIONS CABLING STANDARD – LATEST CURRENT EDITION.
- f. ANSI/TIA/EIA-569 COMMERCIAL BUILDING STANDARD FOR TELECOMMUNICATIONS PATHWAYS AND SPACES – LATEST CURRENT EDITION.
- g. ANSI/TIA/EIA-606 ADMINISTRATION STANDARD FOR THE TELECOMMUNICATIONS INFRASTRUCTURE OF COMMERCIAL BUILDINGS – LATEST CURRENT EDITION.
- h. TIA/EIA-526 OPTICAL POWER LOSS MEASUREMENTS OF INSTALLED MULTIMODE FIBER CABLE PLANT – LATEST CURRENT EDITION.
- i. TIA/EIA-526 MEASUREMENT OF OPTICAL POWER LOSS OF INSTALLED SINGLEMODE FIBER CABLE PLANT – LATEST CURRENT EDITION.
- j. NECA/BICSI 568-2006 INSTALLING COMMERCIAL BUILDING TELECOMMUNICATIONS CABLING.

SYSTEM DESCRIPTION

A. GENERAL

- a. THE TELECOMMUNICATION CABLING ENCOMPASSES THE OFFICE'S COMMUNICATION INFRASTRUCTURE, AND HORIZONTAL CABLING SYSTEMS.

B. DATA COMMUNICATIONS ROOM (DCR)

- a. PROVIDE LAN EQUIPMENT RACKS AND MODULAR PATCH PANELS IN LAN RACK TO SUPPORT THE CABLE TERMINATIONS.

C. HORIZONTAL DISTRIBUTION

- a. PROVIDE HORIZONTAL CABLING FROM THE DCR TO WALL MOUNTED OUTLETS AND THE MODULAR WORKSTATIONS. PROVIDE EACH WORKSTATION AND IWS/LAN EQUIPMENT WITH ONE CATEGORY 6 CABLE.

SUBMITTALS

A. REFER TO OIT FOR ADDITIONAL SUBMITTAL REQUIREMENTS

- B. SUBMIT DETAILED DRAWINGS OF THE DCR IF THE PROPOSED INTALLATION LAYOUT DIFFERS FROM THE CONSTRUCTION DOCUMENTS. MINIMUM CALE: ¼" = 1'-0". REVISED TELECOMMUNICATIONS EQUIPMENT LAYOUTS MUST BE APPROVED PRIOR TO RELEASE OF ORDER FOR EQUIPMENT AND PRIOR TO INSTALLATION.

C. SUBMIT THE FOLLOWING INFORMATION FOR REVIEW AND APPROVAL PRIOR TO START OF CONSTRUCTION.

- a. CATALOG INFORMATION FOR ALL CABLES AND CONNECTIONS INDICATING CONFORMANCE WITH NEC, UL, TIA/EIA LISTINGS, CERTIFICATIONS AND SPECIFICATIONS.
- b. CATALOG INFORMATION FOR ALL SUPPORT EQUIPMENT AND SYSTEMS. E.G., CABLE TRAY, PATCH PANELS, ETC., SHOWING PROOF OF

CONFORMANCE WITH RELEVANT NEC, UL, AND TIA/EIA LISTINGS
CERTIFICATIONS AND SPECIFICATIONS.

- c. CATALOG INFORMATION FOR CABLE IDENTIFICATION TAGS.
- D. SUBMIT THE FOLLOWING INFORMATION FOR REVIEW AND APPROVAL AT THE COMPLETION OF CONSTRUCTION OR RENOVATION:
 - a. TEST REPORTS
 - b. AS-BUILT DOCUMENTS.
 - c. OEM MANUALS.
- E. SUBMIT THE FOLLOWING CATALOG INFORMATION CONCURRENTLY WITH THE PRE-TRAVEL WORK VERIFICATION FORM, CLEARLY INDICATING THE PRODUCTS APPROVED AND INSTALLED
 - a. CABLES
 - b. CONNECTORS
 - c. PATCH PANNELS

QUALITY ASSURANCE

- A. GENERAL
- B. I
 - a. INSTALL COMPLETE SYSTEM IN A NEAT, HIGH QUALITY MANNER ACCEPTABLE TO THE CONTRACTING OFFICER AND IN CONFORMANCE WITH APPLICABLE CODES AND DATA STANDARDS.
 - b. PROVIDE NEW MATERIALS OF CURRENT MANUFACTURER, OF HIGHEST GRADE, AND WITHOUT DEFECTS OF ANY KIND.
 - c. ONLY PRODUCTS AND APPLICATIONS LISTED MAY BE USED ON THE PROJECT.

PRODUCT DELIVER AND HANDLING

- A. DELIVERY
 - a. DO NOT DELIVER TELECOMMUNICATION CABLING SYSTEM COMPONENTS TO THE SITE UNTIL PROTECTED SPACE IS AVAILABLE.
 - b. REPLACE AND RETURN DAMAGED EQUIPMENT TO THE MANUFACTURER AT NOT COST TO US.
- B. HANDLING
 - a. HANDLE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - b. PREVENT COMPONENT DAMAGE, BREAKAGE, DENTING, AND SCORING. DO NOT INSTALL DAMAGED EQUIPMENT.

WARRANTY

- A. GENERAL
 - a. SERVICE MUST BE RENDERED WITHIN 6 HOURS OF SYSTEM FAILURE NOTIFICATION. CONTRACTOR TO NOTE ANY DEVIATION OR IMPROVEMENTS TO THIS SERVICE AT THE TIME OF BID.
 - b. RECOMMENDED MANUFACTURERS OF THE MAJOR SYSTEM COMPONENTS SHALL MAINTAIN A REPLACEMENT PARTS DEPARTMENT

- AND PROVIDE TESTING EQUIPMENT WHEN NEEDED. A COMPLETE PARTS DEPARTMENT SHALL BE LOCATED CLOSE ENOUGH TO THE JOB SITE AREA TO SUPPLY REPLACEMENT PARTS WITHIN A 6 HOUR PERIOD.
- c. CONTRACTOR WARRANTS THAT ALL INSTALLED HARDWARE IN THEIR CONTRACT WILL BE, UNDER NORMAL USE AND SERVICE, FREE FROM DEFECTS AND FAULTY WORKMANSHIP. THE WARRANTY PERIOD SHALL BE 12 MONTHS FROM THE DATE OF ACCEPTANCE FOR CATEGORY 6 CABLING SOLUTIONS. DURING THIS TIME, THE ENTIRE SYSTEM SHALL BE KEPT IN OPERATING CONDITION AT NOT ADDITIONAL MATERIAL OR LABOR COSTS TO THE OWNER.
 - d. THE MANUFACTURER WARRANTS THAT ALL INSTALLED SYSTEM COMPONENTS (CABLE, CONNECTORS, ETC) WILL, UNDER NORMAL USE AND SERVICE, COMPLY WITH ANSI/TIA/EIA-568 PERFORMANCE SPECIFICATIONS FOR A PERIOD OF 15 YEARS FROM THE DATE OF ACCEPTANCE. ANY REPLACEMENTS REQUIRED TO COMPLY SHALL BE PROVIDED AT NO ADDITIONAL MATERIAL OR LABOR COSTS TO THE OWNER REGARDLESS OF THE STRUCTURED CABLING SYSTEM SPECIFIED AND THE STANDARD MANUFACTURER WARRANTY. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR MAKING UP ANY DEFICIENCIES IN THE RECOMMENDED MANUFACTURERS WARRANTY AND MAY BE REQUIRED BY THE OWNER TO POST A PERFORMANCE BOND FOR THE ENTIRE 15 YEAR PERIOD IN ORDER TO COMPLY WITH THESE SPECIFICATIONS.

PRODUCTS

A. GENERAL

- a. PROVIDE A CONTINUOUS SINGLE CABLE, HOMOGENEOUS IN NATURE FOR EVERY CABLE RUN. SPLICES ARE NOT PERMITTED.

B. CABLE

- a. HORIZONTAL CATEGORY 6 UNSHIELDED TWISTED PAIR (UTP) CABLE
 - i. PROVIDE CABLE SUITABLE FOR INDOOR INSTALLATION.
 - ii. PROVIDE CABLE WITH FOUR TWISTED PAIRS OF INSULATED COPPER CONDUCTERS PER CABLE, 23 AWG SOLID COPPER, FULLY INSULATED WITH RETARDANT LOW-SMOKE THERMOPLASTIC MATERIAL, PLENUM NEC RATED AND UL LISTED AS SUCH.
 - iii. COLOR CODE TWISTED PAIRS INDIVIDUALLY, WITHIN COLOR CODED BUNDLES, TO INDUSTRY STANDARDS (ANSI/ICEA PUBLICATION S-80-576, AND EIA-230).
 - iv. COMPLY WITH TIA/EIA-568, REVISION C, 2009 PERFORMANCE REQUIREMENTS FOR CATEGORY 6 UTP CABLING.
 - v. PROVIDE CABLE WITH BLACK JACKET TO REPRESENT DATA AND CABLE WITH WHITE JACKET TO REPRESENT VOICE ONLY.
 - 1. RECOMMENDED RECOMMENDED MANUFACTURERS
 - a. AMP: CATEGORY 6 UTP CABLE
 - b. BELDEN: DATATWIST 2400

- c. BER-TEK: LANDMARK-6
- d. COMMSCOPE: MEDIA 6 CABLE
- e. MOHAWK: 6 LAN CABLE
- f. SUPERIOR ESSEX: SERIES 77
- g. GENERAL: LAN 6

C. LAN EQUIPMENT RACK

- a. PROVIDE LAN EQUIPMENT RACKS FROM ONE MANUFACTURER
- b. PROVIDE LAN EQUIPMENT RACKS CONFORMING TO TIA/EIA STANDARDS WITH THE FOLLOWING FEATURES AND CHARACTERISTICS AND ACCESSORIES:
 - i. 19-INCH WIDE, 84" HIGH, TWO-POST AND FOUR-POST, AS INDICATED, HIGH STRENGTH ALUMINUM CONSTRUCTION, EIA – 310-D. OR PROVIDE A HIGH STRENGTH STEEL RACK.
 - ii. LOAD CAPACITY: 1400 LBS (635 KG)
 - iii. 19" RACK MOUNTING RAILS WITH TIA/EIA HOLE PATTERN.
 - 1. ROUND PUNCHED HOLES FOR THE TWO-POST VERTICAL RAILS.
 - 2. SQUARE PUNCHED HOLES FOR THE FOUR-POST VERTICAL RAILS.
 - iv. FLOOR MOUNTING HARDWARE.
 - v. EQUIPMENT MOUNTING HARDWARE: 20 SETS FOR EACH RACK.
 - vi. VERTICAL CABLE MANAGEMENT WITH FRONT AND REAR ACCESS
 - vii. HORIZONTAL CABLE MANAGEMENT, TOP AND BOTTOM.
 - viii. EQUIPMENT SHELVES: 2
 - ix. GROUNDING LUG.
 - x. BAKED-POLYESTER POWDER COAT FINISH, BLACK.
 - xi. RECOMMENDED MANUFACTURERS (FOUR-POST RACK)
 - 1. CHATSWORTH CPI: MODEL 15254-703
 - 2. HOFFMAN: MODEL E4DRS19FM45U
 - 3. HUBBELL PREMISE: MODEL H1KR84
 - 4. PANDUIT OR SIMILAR: MODEL R4PCN
 - xii. RECOMMENDED MANUFACTURERS (TWO-POST RACK)
 - 1. CHATSWORTH CPI: MODEL 48363-703
 - 2. HOFFMAN: MODEL EDR19FM45U
 - 3. HUBBELL PREMISE: MODEL HPW84RR19
 - 4. PANDUIT OR SIMILAR: MODEL R2P
 - 5. PANDUIT OR SIMILAR: NFR84

D. PATCH PANELS

- a. HORIZONTAL CABLING PATCH PANEL (DCR)
 - i. ONE-PIECE STEEL CONSTRUCTION, MODULAR OR PUNCH-DOWN TYPE, SUITABLE FOR RACK MOUNTING, WITH FACTORY-APPLIED BLACK BAKED ENAMEL FINISH, WITH DEVICES, JUNCTION FITTINGS AND OTHER MATCHING ACCESSORIES AS REQUIRED FOR A COMPLETE CATEGORY 6 SYSTEM AND PER UL 1683.

- ii. 48-PORT IN 568B CONFIGURATION. QUANTITY AS REQUIRED TO TERMINIATE ALL CABLES RUNS TO DATA JACKS OR VOICE ONLY JACKS.

E. CONNECTORS

- a. CATEGORY 6 MODULAR CONNECTORS
 - i. 8 POSITION MODULAR CONNECTOR, CATEGORY 6 CERTIFIED, UNIVERSAL LABEL CODED FOR T568A AND T568B WIRING SCHEMES
 - ii. MANUFACTURER
 - 1. AMP: SL SERIES WHITE (VOICE ONLY), BLACK (DATA)
 - 2. PANDUIT OR SIMULAR: MINI-COM TX6 SERIES WHITE (VOICE ONLY, BLACK (DATA)
 - 3. OR AS APPROVED BY OIT.

F. DATA OUTLETS

- a. PROVIDE OUTLET BOX, MINIMUM 53-MM (2-1/4 INCHES) DEEP AND FACEPLATE WITH NUMBER OF CONNECTION PORTS AS INDICATED FOR WALL MOUNTED APPLICATIONS.
- b. PROVIDE WHITE COLORED FACEPLATES FOR WALL MOUNTED APPLICATIONS.
- c. PROVIDE WHITE COLORED FACEPLATES FOR FURNITURE MOUNTED APPLICATIONS.
- d. FACEPLATE MANUFACTURER
 - i. WALL MOUNTED: PANDUIT OR SIMULAR FACEPLATE, OR AS APPROVED BY OIT.
 - ii. FURNITURE MOUNTED: PANDUIT OR SIMULAR FACEPLATE, OR AS APPROVED BY OIT
- e. WALL PHONES
 - i. PROVIDE A STAINLESS STEEL KEYSTONE WALL MOUNT TELEPHONE PLATE WITH CATEGORY 6 JACKS AS SPECIFIED.

G. WIRELESS NETWORK

- a. PROVIDE ADEQUATE NUMBER OF ACCESS POINTS THAT MEET REGION 2 STANDARDS
- b. PULL DATA DROPS TO ENSURE ONE DROP COVERS EVERY 1000 SQ FT, WITH A SERVICE LOOP OF TWENTY (20) FEET

H. FIBER

- a. BOTH SINGLEMODE AND MULTIMODE FIBER WILL BE INSTALLED TO SUPPORT NETWORK EQUIPMENT.
- b. A MINIMUM OF 8 STRANDS 62.5/125 MICRON MULTIMODE (LC TO LC) OR 50/125 MICRON MULTIMODE (LC TO LC)
 - i. MANUFACTURER
 - 1. CORNING
 - 2. OR APPROVED BY OIT
- c. A MINIMUM OF 8 STRANDS 9/125 MICRON SINGLEMODE (LC TO LC)
 - i. MANUFACTURER
 - 1. CORNING
 - 2. OR APPROVED BY OIT

I. CABLE MANAGEMENT AND SUPPORT

- a. WIRE MESH CABLE TRAY
 - i. MANUFACTURERES
 - 1. GS METALS: FLEXTRAY
 - 2. B-LINE: WIRE BASKET
 - 3. CABLOFIL: EZ TRAY
 - ii. PROVIDE WELDED STEEL WIRE MESH CABLE TRAY WITHIN A 50-MM (2-INCH) BY 100-MM (4-INCH) MESH SIZE AND A MINIMUM WIRE DIAMETER OF 0.197-INCHES.
 - iii. PROVIDE CABLE TRAY DIMENSIONS OF 50-MM (2-INCHES) USABLE LOAD DEPTH BY 300-MM (12-INCHES) WIDE.
 - iv. CONSTUCT UNITS WITH ROUNDED EDGES AND SMOOTH SURFACES, HOT-DIPPED GALVANIZED AFTER FABRICATION.
 - v. PROVIDE CONNECTOR ASSEMBLIES, CLAMP ASSEMBLIES, WATERFALLS, CONNECTOR PLATES, ETC AS NEEDED FOR A COMPLETE INSTALLATION.
- b. J-HOOK CABLE SUPPORT SYSTEM
 - i. PROVIDE J-HOOKS RATED TO SUPPORT CATEGORY 6 CABLE AND OPTICAL FIBER, MOUNTED 1500-MM (5-FEET) ON-CENTER FOR SUPPORT OF HORIZONTAL CABLING. DO NOT EXCEED 40 PERCENT FILL RATIO.
 - ii. PROVIDE J-HOOKS WITH GALVANIZED STEEL CONSTRUCTION AND 90 DEGREE ROLLED SAFETY EDGES.
 - iii. PROVIDE LATCHED RETAINERS TO CONTAIN CABLES WITHIN THE HOOK AREA.
 - iv. PROVIDE J-HOOKS WITH A STATIC LOAD CAPACITY OF 30 POUNDS PER HOOK AND FASTNER HOLD THAT ACCEPTS 6-MM (1/4 INCH) BOLTS.
 - v. MANUFACTURER
 - 1. ERICO: CADDY CABLECAT
 - 2. B-LINE: CABLE HOOK SYSTEM

J. DEMARC EXTENSIONS

- a. COPPER
 - i. PROVIDE AND INSTALL ALL NECESSARY EXTENSIONS FROM THE DEMARC TO THE DCR AND TERMINATE IN RACK
 - ii. COORDINATE WITH OIT FOR REQUIREMENTS
- b. FIBER
 - i. PROVIDE AND INSTALL ALL NECESSARY EXTENSIONS FROM THE DEMARC TO THE DCR AND TERMINATE IN RACK
 - ii. COORDINATE WITH OIT FOR REQUIREMENTS
- c. COAX
 - i. PROVIDE AND INSTALL ALL NECESSARY EXTENSIONS FROM THE DEMARC TO THE DCR AND TERMINATE IN RACK
 - ii. COORDINATE WITH OIT ON REQUIREMENTS

K. LABELS

- a. HORIZONTAL CABLES

- i. PROVIDE SELF-LAMINATING ADHESIVE LABELS ON BOTH ENDS OF CABLES, MACHINE PRINTABLE WITH A LASER PRINTER SUITABLE FOR CABLE DIAMETERS INSTALLED.
 - ii. PRINTABLE AREA: 50-MM (2-INCH) BY 12-MM (1/2 INCH)
 - iii. COLOR: WHITE
 - iv. MANUFACTURER:
 - 1. PANDUIT OR SIMULAR #PLL-40-Y3-1, WHITE
 - b. FACEPLATES
 - i. PROVIDE FACEPLATE LABELS FOR ALL OUTLET FACEPLATES, MACHINE PRINTABLE WITH A LASER PRINTER
 - ii. COLOR: WHITE
 - iii. MANUFACTURER
 - 1. PANDUIT OR SIMULAR #CPPLF-5, WHITE
 - iv. LABEL WILL REFLECT RACK-PANEL-PORT
 - c. OUTLETS AND PATCH PANEL
 - i. PROVIDE LABELS FOR DATA CABLE TERMINATION LOCATIONS, MACHINE PRINTABLE WITH A LASER PRINTER
 - ii. COLOR: WHITE
 - iii. MANUFACTURER
 - 1. PANDUIT OR SIMULAR #PLL-22-PO-1W WHITE
 - iv. LABEL WILL REFLECT ROOM OR CUBE-FACEPLATE-PORT
 - d. 110 BLOCKS
 - i. PROVIDE A 110 BLOCK FOR POTS TERMINATIONS
 - ii. MOUNT AND SECURE 110 BLOCKS ON PLYWOOD
 - iii. 110 BLOCK WILL SUPPORT RJ45 CONNECTIONS
 - 1. MANUFACTURER:
 - a. VERSA TECHNOLOGY 100 PAIR 110 RJ45 BLOCK
 - 2. OTHER SOLUTIONS SUCH AS 110 TO RJ45 ADAPTORS MUST BE PRESENTED AND APPROVED BY OIT
- L. MISCELLANEOUS COMPONENTS
 - a. VELCRO CABLE TIES
 - i. PROVIDE VELCRO CABLE TIES, PLENUM OR NON-PLENUM RATED AS APPROPRIATE FOR THE INSTALLATION, IN THE SAME COLOR AS THE CABLE TO WHICH IT IS BEING APPLIED.
 - ii. RECOMMENDED MANUFACTURERS
 - 1. PANDUIT OR SIMULAR HLSP SERIES (PLENUM RATED)
 - 2. PANDUIT OR SIMULAR HLS SERIES (NON-PLENUM RATED)

EXECUTION

A. GENERAL

- a. INSTALL WORK IN A NEAT, HIGH QUALITY MANNER AND CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL CODES
- b. REPAIR OR REPLACE WORK COMPLETED BY OTHERS THAT IS DEFACED OR DESTROYED.
- c. INSTALL CABLES IN A MANNER TO PROTECT THE CABLE FROM PHYSICAL INTERFERENCE OR DAMANGE

- d. DO NOT EXCEED MANUFACTURER'S MINIMUM ALLOWANCE FOR BEND RADIUS OF THE CABLE
- e. DO NOT EXCEED MANUFACTURER'S MAXIMUM ALLOWANCE FOR PULLING TENSION ON CABLE
- f. GROUND ALL RACKS AND OTHER SUCH COMPONENTS PER MANUFACTURER'S REQUIREMENTS

B. INSTALLATION

a. HORIZONTAL CABLE

- i. TERMINATE CABLES WITH 568B WIRING CONFIGURATION. ALL TERMINATIONS MUST BE THE SAME WIRING CONFIGURATION
- ii. TERMINATE DATA CABLE IN ACCORDANCE TO MANUFACTURER'S INSTRUCTIONS AND TIA/EIA-568 STANDARD INSTALLATION PRACTICES
- iii. SUPPORT STATION CABLES OUTSIDE THE DCR AT 1500-MM (5- FEET) ON-CENTER USING J-HOOK CABLE ANGERS
- iv. DO NOT EXCEED 90 METERS (300- FEET) IN LENGTH FROM THE TERMINATION AT THE USER'S FACEPLATE TO THE TERMINATION AT THE DCR ROOM.
- v. ENTER LAN RACK FROM THE TOP
- vi. PROVIDE A MINIMUM OF 150-MM (SIX INCHES) OF SLACK SHEATHED CABLE BEHIND EACH STATION OUTLET FACEPLATE. COIL THE SLACK CABLE INSIDE THE JUNCTION BOX OR RACEWAY AS PER THE CABLING MANUFACTURER'S INSTALLATION STANDARDS.
- vii. ROUTE DATA CABLES IN CABLE TRAY IN THE DCR AND FROM CABLE TRAY TO THE LAN RACK AND TERMINATE WITH SPECIFIED JACK INTO PATCH PANEL. DO NOT SUPPORT CABLES TO THE OUTSIDE OF THE CABLE TRAY
- viii. COIL ANY EXCESS CABLE IN THE DCR IN AN EXTENDED LOOP IN THE CABLE TRAY.
- ix. ROUTE CABLES A MINIMUM OF 150-MM (6-INCHES) AWAY FROM POWER SOURCES TO REDUCE INTERFERENCE FROM EMI
- x. INSTALL CABLES WITH SUFFICIENT BEND RADIUS SO AS NOT TO BREAK OR KINK, SHEAR OR DAMAGE BINDERS, OR TO INTERFERE WITH TRANSMISSION IN ANY WAY.
- xi. NEATLY DRESS AND ORGANIZE CABLES IN THE CABLE TRAY. BUNDLE CABLES SEQUENTIALLY INTO GROUPS OF 12. WRAP EVERY 600-MM (24-INCHES) WITH VELCRO CABLE TIES. DO NOT TIGHTLY BUNDLE CABLES TOGETHER, FASTEN CABLE TO CABLE TRAY VIA VELCRO-TYPE STRAPS.
- xii. ROUTE CABLE HOMERUNS, PARALLEL AND PERPENDICULAR TO BUILDING STRUCTURE ALLOWING FOR BENDING RADIUS, AND ALONG CORRIDORS FOR EASE OF ACCESS. DO NOT ROUTE CABLES THROUGH AN ADJACENT SPACE IF A CORRIDOR BORDERS AT LEAST ONE WALL OF THE ROOM.

- xiii. PROVIDE PERMANENT MACHINE GENERATED LABELS ON EACH END OF THE CABLE NO MORE THAN 100-MM (4-INCHES) FROM THE EDGE OF THE CABLE JACKET.
 - xiv. TERMINATE CABLES IN PATCH PANELS WITH CATEGORY 6 MODULAR CONNECTORS.
 - b. LAN EQUIPMENT RACKS
 - i. INSTALL RACK IN A SECURE MANNER PER MANUFACTURER'S RECOMMENDATIONS AND AS INDICATED.
 - 1. INSTALL SEISMIC RESTRAINTS FOR LAN RACKS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS FOR SEISMIC ZONES 3 AND 4 OR AS REQUIRED BY LOCAL BUILDING CODE.
 - c. PATCH PANELS
 - i. INSTALL CATEGORY 6 PATCH PANELS INTO LAN EQUIPMENT RACK
 - ii. CABLES SHOULD BE SEPERATED ON THE BACK OF THE PANEL KEEPING A CLEAN, NEAT TRUNK APPERANCE TO THE SIDE OF THE PANEL. PREFERRABLY SPLIT DOWN THE MIDDLE TO RELATIVE SIDES RATHER PULLING ALL CONNECTIONS TO ONE SIDE.
 - iii. ALL CABLES TERMINATED ON THE BACK OF THE PANEL SHOULD HAVE NO MORE THAN 1/2 INCH OF EXPOSED WIRE PAIRS.
 - iv. CABLE SUPPORT STRUCTURES WILL BE ADDED AS NECESSARY TO ENSURE PROPER BEND RADIUS AND TENSION.
 - d. OUTLETS AND CONNECTORS
 - i. PROVIDE STATION OUTLETS WITH CONNECTORS
 - ii. PROVIDE PERMANENT MACHINE GENERATED CLEAR LAMINATED LABELS ON THE FRONT OT EACH FACEPLATE OR SURFACE BOX.
 - e. INSTALLATION OF CABLE TRAY
 - i. INSTALL CABLE TRAY AS INDICATED; IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES, TO ENSURE THAT THE CABLE TRAY EQUIPMENT COMPLIES WITH REQUIREMENTS OF NEC, AND APPLICABLE PORTIONS OF NFPA 70B AND NECA'S "STANDARDS OF INSTALLATION" PERTAINING TO GENERAL ELECTRICAL INSTALLATION PRACTICES.
 - ii. COORDINATE INSTALLATIONI WITH OTHER WORK AS NECESSARY TO PROPERLY INTERFACE WITH OTHER WORK.
 - iii. PROVIDE SUFFICIENT SPACE AROUND CABLE TRAY TO PERMIT ACCESS FOR INSTALLING AND MAINTAINING CABLES.

C. FIBER

- a. BOTH SINGLEMODE AND MULTIMODE FIBER WILL BE INSTALLED TO SUPPORT NETWORK EQUIPMENT.
- b. A MINIMUM OF 8 STRANDS 62.5/125 MICRON MULTIMODE (LC TO LC) OR 50/125 MICRON MULTIMODE (LC TO LC)
- c. A MINIMUM OF 8 STRANDS 9/125 MICRON SINGLEMODE (LC TO LC)

- d. ALL FIBER INSTALLATION WILL MAINTAIN PROPER CABLE PROTECTION, BEND RADIUS, AND TENSION.

D. 110 BLOCKS

- a. PROVIDE A 110 BLOCK FOR POTS TERMINATIONS
- b. MOUNT AND SECURE 110 BLOCKS ON PLYWOOD
- c. 110 BLOCK WILL SUPPORT RJ45 CONNECTIONS
 - i. MANUFACTURER:
 - 1. VERSA TECHNOLOGY 100 PAIR 110 RJ45 BLOCK
 - 2. OTHER SOLUTIONS SUCH AS 110 TO RJ45 ADAPTORS MUST BE PRESENTED AND APPROVED BY OIT

E. WIRELESS NETWORK

- a. PROVIDE ADEQUATE NUMBER OF ACCESS POINTS THAT MEET REGION 2 STANDARDS
- b. PULL DATA DROPS TO ENSURE ONE DROP COVERS EVERY 1000 SQ FT, WITH A SERVICE LOOP OF TWENTY (20) FEET
- c. FINAL INSTALLATION POINTS AS DEFINED BY OIT WIRELESS ACCESS POINT LOCATION MAPS.

F. DEMARC EXTENSIONS

- a. COPPER
 - i. PROVIDE AND INSTALL ALL NECESSARY EXTENSIONS FROM THE DEMARC TO THE DCR AND TERMINATE IN RACK
 - ii. ENSURE PROPER CABLE PROTECTION, BEND RADIUS, AND TENSION
- b. FIBER
 - i. PROVIDE AND INSTALL ALL NECESSARY EXTENSIONS FROM THE DEMARC TO THE DCR AND TERMINATE IN RACK
 - ii. ENSURE PROPER CABLE PROTECTION, BEND RADIUS, AND TENSION
- c. COAX
 - i. PROVIDE AND INSTALL ALL NECESSARY EXTENSIONS FROM THE DEMARC TO THE DCR AND TERMINATE IN RACK
 - ii. ENSURE PROPER CABLE PROTECTION, BEND RADIUS, AND TENSION

G. RECORDS

- a. LABELING
 - i. LABELING THE TELECOMMUNICATIONS SYSTEM COMPONENTS IN CONFORMANCE WITH TIA/EIA-606 ADMINISTRATION STANDARDS, INCLUDING, BUT ARE NOT LIMITED TO, THE FOLLOWING:
 - 1. CABLES (BOTH ENDS)
 - ii. PERMANENTLY MARK CABLE ENDS WITH A MACHINE-GENERATED OR STENCILED (NOT HANDWRITTEN) WRAP-AROUND LABELS WITH A SELF-LAMINATING FEATURE

- iii. PERMANENTLY MARK COMPONENTS, SUCH AS RACKS AND PATCH PANELS WITH MACHINE-GENERATED LABELS.

H. PROJECT CLOSE-OUT

- a. SUBMIT PRIOR TO FINAL ACCEPTANCE OF SYSTEM:
 - i. TEST RESULTS
 - 1. PROVIDE TEST RESULTS AS SPECIFIED
 - ii. MANUALS FOR TESTING, OPERATION AND TRAINING INCLUDING:
 - 1. 11"X17" PRINTS OF RECORD DRAWINGS AS DESCRIBED ABOVE.
 - 2. MANUFACTURER'S ORIGINAL CATALOG INFORMATION SHEETS FOR EACH COMPONENT PROVIDED
 - 3. PROVIDE MANUALS IN A WHITE, 3-RING BINDER WITH FRONT COVER AND SPINE CLEAR POCKETS FOR INSERTION OF THE MANUAL NAME AND PROJECT INFORMATION. MANUAL SHALL BE INDEXED WITH INDIVIDUAL DIVIDERS.

I. CERTIFICATION

- a. PROVIDE THE CONTRACTING OFFICER AND FCIO WITH A WRITTEN FORM OF ACCEPTANCE FOR SIGNATURE. COMPLETE ALL CORRECTIONS BEFORE ACCEPTANCE IS GIVEN.

DEPARTMENT OF VETERANS AFFAIRS

Medical Center

4801 E. Linwood Boulevard

Kansas City, MO 64128-2226

March 2014



SUBJECT: KCVA TELECOMMUNICATIONS CABLE TESTING REQUIREMENTS

SCOPE OF WORK

A. GENERAL

- a. PROVIDE ENGINEERING, LABOR, MATERIALS, APPARATUS, TOOLS, EQUIPMENT, AND TRANSPORTATION AS REQUIRED TO TEST A COMPLETED TELECOMMUNICATION CABLING SYSTEM INSTALLATION AS SPECIFIED AND INDICATED
- b. PROVIDE ON-SITE SUPERVISION AND TESTING EQUIPMENT FOR USE BY VA'S TELECOM ENGINEER DURING THE SITE INSPECTION AND TESTING. VA'S TELECOM ENGINEER WILL VERIFY THE RESULTS OF THE INSTALLING CONTRACTORS FIELD TESTS BY "SPOT-CHECKING" A SELECT NUMBER OF CABLE DROPS. THE EXACT QUANTITY OF DROPS TO BE DETERMINED BY THE TELECOM ENGINEER.
- c. FULL TESTING OF A COMPLETED COMMUNICATION INFRASTRUCTURE CABLING SYSTEM INCLUDING:
 - i. HORIZONTAL CATEGORY 6 UNSHIELDED TWISTED PAIR (UTP) CABLING
 - ii. PROCEDURE SUBMITTALS
 - iii. TESTING
 - iv. TEST RESULTS

B. RELATED DOCUMENTS

- a. KCVA TELECOMMUNICATIONS STANDARDS FOR CONSTRUCTION AND RENOVATION

REFERENCES

A. CONFORM TO THE FOLLOWING:

- a. FCC REGULATIONS:
 - i. PART 15 – RADIO FREQUENCY DEVICES AND RADIATION LIMITS
 - ii. PART 68 – CONNECTION OF TERMINAL EQUIPMENT TO THE TELEPHONE NETWORK
- b. NATIONAL ELECTRICAL CODE
- c. NATIONAL, STATE, LOCAL AND ANY OTHER BINDING BUILDING AND FIRE CODES
- d. UNDERWRITER'S LABORATORIES (UL): APPLICABLE LISTING AND RATINGS
- e. ANSI/TIA/EIA – 568 COMMERCIAL BUILDING TELECOMMUNICATIONS CABLING STANDARD – LATEST CURRENT EDITION

- f. TIA/EIA-526 OPTICAL POWER LOSS MEASUREMENTS OF INSTALLED MULTIMODE FIBER CABLE PLANT – LATEST CURRENT EDITION
- g. TIA/EIA-526 OPTICAL POWER LOSS OF INSTALLED SINGLEMODE FIBER CABLE PLANT – LATEST CURRENT EDITION

SYSTEM DESCRIPTION

A. GENERAL

- a. REFER TO DRAWINGS AND KCVA TELECOMMUNICATIONS STANDARDS FOR THE TELECOMMUNICATIONS CABLING SYSTEM DESCRIPTION

B. HORIZONTAL / STATION CABLING

- a. THE HORIZONTAL CABLING, IN GENERAL CONSISTS OF ONE UTP CABLE TO EACH IWS/LAN WORKSTATION AND PERIPHERAL EQUIPMENT (SUCH AS PRINTERS, FAXES, ETC.)
- b. THE HORIZONTAL CABLING WILL BE ROUTED THROUGH ADJUSTABLE CABLE SUPPORT PATHWAYS OF THE GENERAL OFFICE SPACE ABOVE THE LAY-IN GRID CEILING.
- c. THE WORKSTATIONS, IN GENERAL, WILL BE MODULAR/SYSTEMS FURNITURE. THE TELECOMMUNICATIONS OUTLETS WILL BE INSTALLED INTO THE MODULAR FURNITURE AND OTHER WALL MOUNTED LOCATIONS.

SUBMITTALS

- A. FURNISH SUBMITTAL DATA NEATLY BOUNDED IN AN 8-1/2" X 11" 3-RING BINDER
- B. SUBMITTALS SHALL CONSIST OF TEST EQUIPMENT INFORMATION INCLUDING SERIAL NUMBERS AND SOFTWARE/FIRMWARE VERSIONS OF TESTERS TO BE USED, AND TEST RESULTS INCLUDING PRINTED AND ELECTRONIC VERSIONS. FURNISH TWO COPIES OF EACH FORMAT. HAND-WRITTEN TEST REPORTS ARE NOT ACCEPTABLE.
- C. SUBMIT THE FOLLOWING INFORMATION FOR REVIEW AND APPROVAL AT THE COMPLETION OF CONSTRUCTION:
 - a. CATALOG INFORMATION FOR TEST EQUIPMENT SHOWING PROOF OF CONFORMANCE WITH RELEVANT UL, AND TIA/EIA LISTINGS, CERTIFICATIONS AND SPECIFICATIONS.
 - b. TEST EQUIPMENT SERIAL NUMBERS AND SOFTWARE/FIRMWARE VERSION NUMBER.
 - c. UPON REQUEST, THE CONTRACTOR MAY BE REQUIRED TO SUBMIT THE USER MANUALS FOR THE TESTERS BEING UTILIZED ON THE PROJECT FOR REVIEW.
 - d. TEST REPORTS
 - i. PROVIDE A TITLE PAGE WITH INCLUDES:
 1. FIELD OFFICE NAME
 2. FIELD OFFICE CODE NUMBER
 3. FIELD OFFICE ADDRESS
 4. CONTRACTOR'S NAME
 5. DATE OF SUBMITTAL

6. P
- ii. PROVIDE TABS WHICH BREAK DOWN THE TEST RESULTS PER DCR ROOM, IF MORE THAN ONE DCR ROOM EXISTS.
- iii. UTP TEST RESULTS: PROVIDE SUMMARY TEST RESULTS INFORMATION CONTAINING:
 1. TEST EQUIPMENT, MAKE MODEL AND SERIAL NUMBER
 2. DATE AND TIME OF LAST CALIBRATION
 3. TEST PERSONNEL NAME(S)
 4. AMBIENT TEMPERATURE
 5. CABLE ID
 6. OVERALL TEST RESULT (E.G., PASSED)
 7. CATEGORY OR RATING TESTED TO (I.E., CATEGORY 6)
 8. CABLE LENGTH
 9. DATE AND TIME OF TEST
- iv. FURNISH COMPLETE TEST RESULTS IN PRINTED, HARD-COPY FORMAT AND CD FORMAT IN THEIR NATIVE DATA FORMAT AND AN EXPORTED MICROSOFT EXCEL COMPATIBLE FORMAT. INCLUDING ALL NECESSARY SOFTWARE TO ALLOW VIEWING AND PRINTING OF INDIVIDUAL TEST RESULTS. LABEL CD WITH THE PROJECT NAME, CONTRACTOR NAME AND DAATE OF SUBMISSION.
- v. SUBMIT TEST REPORT TO OIT, ON OR BEFORE THE ACCEPTANCE DATE.

QUALITY ASSURANCE

- A. GENERAL
 - a. ONLY PRODUCTS AND APPLICATIONS LISTED IN THIS SECTION MAY BE USED ON THE PROJECT
- B. CONTRACTOR QUALIFICATIONS
 - a. FURNISH TECHNICIAN(S) QUALIFIED TO OPERATE THE TEST EQUIPMENT WITH EXPERIENCE USING THE SAME TEST EQUIPMENT ON AT LEAST THREE OTHER SITES AND HAVING A MINIMUM OF THREE YEARS EXPERIENCE INSTALLING AND TESTING THE TYPE OF CABLING SYSTEMS SPECIFIED AND INDICATED
 - b. SUPPLY ALL REQUIRED TEST EQUIPMENT, REPORT FORMS, 3-RING BINDERS, ETC. AS SPECIFIED
- C. COORDINATION SERVICES
 - a. COORDINATE THE TELECOMMUNICATION TESTING WORK WITH OTHER TRADES.

PRODUCTS

GENERAL

- A. THE PRODUCT NUMBERS LISTED IN THIS SECTION ARE SUBJECT TO CHANGE BY THE MANUFACTURER AT ANY TIME. IN THE EVENT A PRODUCT NUMBER IS INVALID OR

CONFLICTS WITH THE WRITTEN TEST DESCRIPTION, NOTIFY OIT, IN WRITING PRIOR TO TESTING

- B. TESTING.

MANUFACTURERS

- A. CATEGORY 6 TESTERS
 - a. FLUKE(LATEST SOFTWARE VERSION)
 - b. MICOTEST (LATEST SOFTWARE VERSION)
 - c. PENTA (LATEST SOFTWARE VERSION)
- B. FIBER TESTER
 - a. FLUKE
 - b. OR OTHER APPROVED BY OIT

PART 3 – EXECUTION

GENERAL

- A. PREPARE A TEST SCHEDULE FOR THE SPECIFIED ACTIVITIES AND SUBMIT TO OIT PRIOR TO TESTING.
- B. OIT RESERVE THE RIGHT TO BE PRESENT DURING THE TESTING

FIELD QUALITY CONTROL AND TESTING

- A. PERMANENTLY RECORD AND PRESENT TEST RESULT IN A FORMAT ACCEPTABLE TO OIT AND ENGINEERING BEFORE SYSTEM ACCEPTANCE. REMOVE AND REPLACE CABLES AND CONDUCTORS FAILING TO MEET THE INDICATED STANDARDS, WITH CABLES WHICH PROVE IN TESTING, TO MEET THE STANDARDS. THE INSTALLATION WILL NOT BE ACCEPTED UNTIL TESTING HAS INDICATED A 100% AVAILABILITY OF ALL CABLES AND CONDUCTORS OR OIT HAS APPROVED A DEVIATION FROM THIS REQUIREMENT.
- B. CALIBRATE EACH TEST SET AND ASSOCIATED EQUIPMENT PER THE MANUFACTURER'S PRINTED INSTRUCTIONS AT THE BEGINNING OF EACH DAY'S TESTING AND AFTER EACH BATTERY CHARGE. FULLY CHARGE THE TEST SETS PRIOR TO EACH DAY'S TESTING TO ENSURE OPERATION.

TWISTED PAIR CABLING TEST REQUIREMENTS

- A. GENERAL
 - a. THE INSTALLATION WILL BE ACCEPTED WHEN TESTING HAS INDICATED A 100% PASSING OF ALL TERMINATED COPPER UTP PAIRS OR OIT HAS APPROVED ANY DEVIATION FROM THIS REQUIREMENT.
- B. PROCEDURE
 - a. PERFORM A BASIC LINK TEST ON CATEGORY 6 SYSTEMS AS DESCRIBED IN ANSI/TIA/EIA-568.

- b. TEST THE CATEGORY 6 SYSTEMS AS DESCRIBED IN ANSI/TIA/EIA-568.
- c. PROVIDE THE NECESSARY QUANTITY OF 2-METER (6-FOOT) LONG CATEGORY 6 STRANDED TEST EQUIPMENT CORDS, APPROVED FOR USE BY THE TEST EQUIPMENT MANUFACTURER

MANUFACTURER.

- d. PERFORM THE FOLLOWING CATEGORY 6 FIELD TESTING AND INCLUDE IN TEST REPORT:
 - i. WIRE MAP (RESULTS TO INDICATE THAT CABLING HAS NO SHORTS, CROSSED PAIRS, REVERSED PAIRS, SPLIT PAIRS, ANY OTHER MIS-WIRING AND HAS END TO END CONNECTIVITY)
 - ii. TOTAL PHYSICAL CABLE LENGTH (INCLUDING TEST EQUIPMENT CORDS)
 - iii. ATTENUATION OR INSERTION LOSS
 - iv. NEAR END CROSSTALK (NEXT)
 - v. POWER SUM NEAR END CROSSTALK (PSNEXT)
 - vi. EQUAL LEVEL FAR END CROSSTALK (ELFEXT), OR ATTENUATION TO CROSSTALK RATIO, FAR END (ACR-F)
 - vii. POWER SUM EQUAL-LEVEL FAR END CROSSTALK (PSELFEXT), OR POWER SUM ATTENUATION TO CROSSTALK RATION, FAR END (PS ACR-F)
 - viii. STRUCTURAL RETURN LOSS
 - ix. PROPAGATION DELAY
 - x. DELAY SKEW
 - xi. ATTENUATION TO CROSSTALK RATION (ACR) OR ATTENUATION TO CROSSTALK RATION, NEAR-END (ACR-N)
- e. CHECK EACH PIECE OF TEST EQUIPMENT FOR ACCURACY BY PERFORMING A CONSISTENCY CHECK ON THE FIELD TESTER PER THE MANUFACTURER'S RECOMMENDATIONS. DOCUMENT THE RESULTS OF THE TESTS AND SUBMIT THEM TO OIT FOR REVIEW
- f. LINKS WHICH REPORT A FAIL FOR ANY OF THE INDIVIDUAL TESTS ARE CONSIDERED AS AN OVERALL LINK FAIL. ALL INDIVIDUAL TEST RESULTS MUST RESULT IN A PASS TO ACHIEVE AN OVERALL PASS.
- g. RETEST FOR CONFORMANCE RECONFIGURATION OF LINK COMPONENTS REQUIRED AS A RESULT OF A TEST FAIL.

FIBER CABLING TEST REQUIREMENTS

A. GENERAL

- a. THE INSTALLATION WILL BE ACCEPTED WHEN TESTING HAS INDICATED A 100% PASSING OF ALL TERMINATED FIBER PAIRS OR OIT HAS APPROVED ANY DEVIATION FROM THIS REQUIREMENT.

B. PROCEDURE

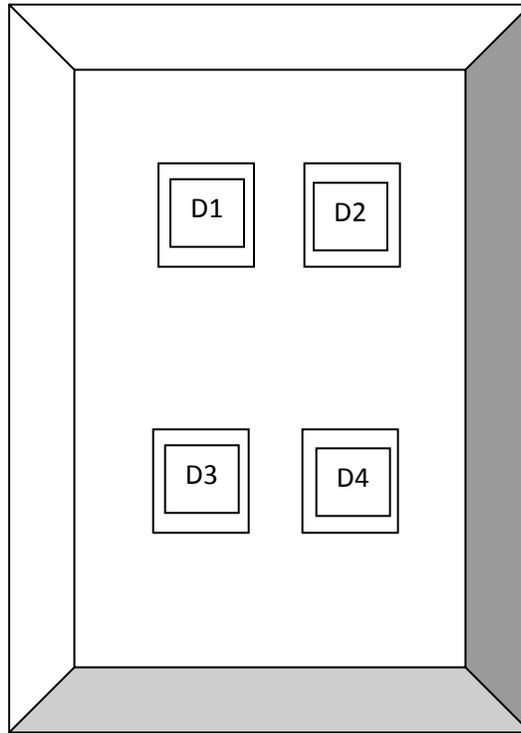
- a. PERFORM A BASIC LINK TEST ON FIBER SYSTEMS AS DESCRIBED IN TIA/EIA-526.
- b. TEST THE FIBER SYSTEMS AS DESCRIBED IN TIA/EIA-526.
- c. PROVIDE THE NECESSARY QUANTITY OF FIBER TEST EQUIPMENT CORDS,
APPROVED FOR USE BY THE TEST EQUIPMENT MANUFACTURER

MANUFACTURER.

- d. PERFORM THE FOLLOWING FIBER FIELD TESTING AND INCLUDE IN TEST REPORT:
 - i. WIRE MAP (RESULTS TO INDICATE THAT CABLING END TO END CONNECTIVITY)
 - ii. TOTAL PHYSICAL CABLE LENGTH (INCLUDING TEST EQUIPMENT CORDS)
 - iii. ATTENUATION OR INSERTION LOSS
 - iv. STRUCTURAL RETURN LOSS
 - v. PROPAGATION DELAY
 - vi. DELAY SKEW
- e. CHECK EACH PIECE OF TEST EQUIPMENT FOR ACCURACY BY PERFORMING A CONSISTENCY CHECK ON THE FIELD TESTER PER THE MANUFACTURER'S RECOMMENDATIONS. DOCUMENT THE RESULTS OF THE TESTS AND SUBMIT THEM TO OIT FOR REVIEW
- f. LINKS WHICH REPORT A FAIL FOR ANY OF THE INDIVIDUAL TESTS ARE CONSIDERED AS AN OVERALL LINK FAIL. ALL INDIVIDUAL TEST RESULTS MUST RESULT IN A PASS TO ACHIEVE AN OVERALL PASS.
- g. RETEST FOR CONFORMANCE RECONFIGURATION OF LINK COMPONENTS REQUIRED AS A RESULT OF A TEST FAIL.

Kansas City VA Medical Center

Data Only - Faceplate Config.

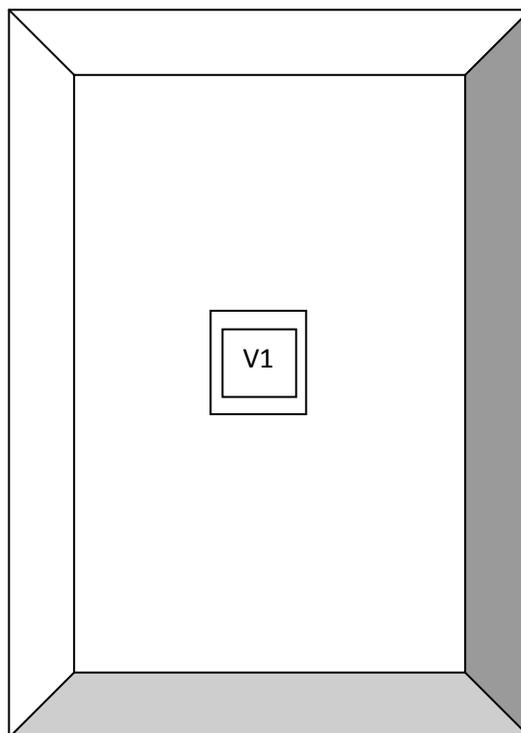


Data is assigned according to room/rack/panel/port inside data closet.

****Consult OIT prior to labeling.**

(Example: **1A43**)

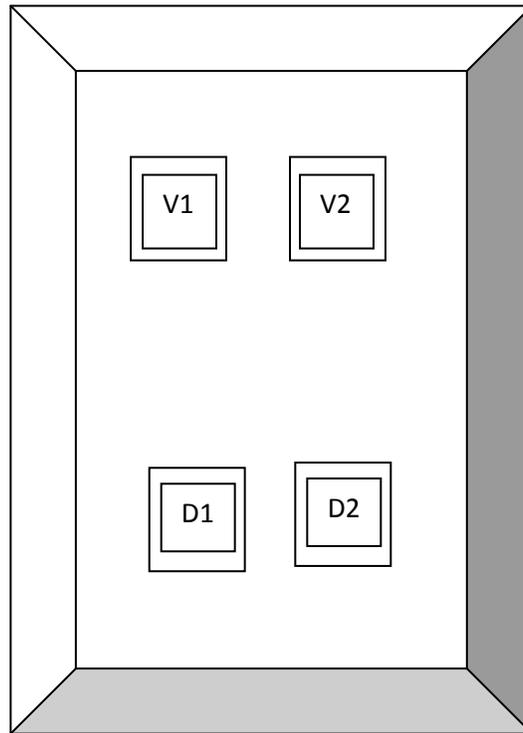
Voice Only - Faceplate Config.



Voice is assigned according to VA Telecom.

****Consult TELECOM prior to labeling.**

Voice & Data - Faceplate Config.



Data/Voice is assigned according to room/rack/panel/port inside data closet.

**** Consult OIT prior to labeling.**

(Example: **1A43**)

PROGRAM FOR DESIGN

CAMERON VA CLINIC RELOCATION

RELOCATE CAMERON CLINIC
CAMERON MISSOURI

Projected Year: 2016 Midpoint Year: 2017

VISN: 15 State: MO Station ID: 589
Station: Kansas City
Installation: VA Medical Center

Project Created: 14 Aug 2015 11:38AM ET by Ryan Locascio
Space Plan Last Edited: 20 Aug 2015 11:14AM ET by Ryan Locascio

Contents List Created: 17 Aug 2015 04:20PM ET by Ryan Locascio
Contents List Last Edited: 20 Aug 2015 11:09AM ET by Ryan Locascio

Report Generated: 20 Aug 2015 11:15AM

Program For Design (20 Aug 2015 11:15AM)

CAMERON VA CLINIC RELOCATION
RELOCATE CAMERON CLINIC
CAMERON MISSOURI

Department: 1 - OUTPATIENT / PACT CLINIC (265)

Functional Area: 1 - LOBBY / RECEPTION AREA

Qty	Room Code	Room Name	Unit Area	Net Area	Const Phase	Const Type
1	SRLW1	Alcove, Wheelchair	90	90	1	0
1	RECP4	Kiosk, Patient Check-In and MyHealthVet	60	60	1	0
1	RECP3	Reception	60	60	1	0
1	RECP5	Reception, Accessible	100	100	1	0
2	TLTU1	Toilet, Public	75	150	1	0
1	LOB02	Vestibule	150	150	1	0
1	WRC04	Waiting, PACT 1	150	150	1	0

FA Totals: Room Qty: 8 Net Area: 760 Gross Area: 1,140

Program For Design (20 Aug 2015 11:15AM)

**CAMERON VA CLINIC RELOCATION
RELOCATE CAMERON CLINIC
CAMERON MISSOURI**

Department: 1 - OUTPATIENT / PACT CLINIC (265)

Functional Area: 2 - PATIENT ALIGNED CARE TEAM (PACT) CLINIC 1

Qty	Room Code	Room Name	Unit Area	Net Area	Const Phase	Const Type
1	PEHW2	Alcove, Height / Weight Accessible Station	40	40	1	0
1	WKTM1	Classroom/TeleHealth room	240	240	1	0
3	EXPA1	Exam Room, Patient Aligned Care Team (PACT)	125	375	1	0
1	LR004	Locker, Staff Personal Property	60	60	1	0
1	SL001	Lounge, Staff	150	150	1	0
1	WRM1	Team Work Area	240	240	1	0
1	WRM3	Tele-Retinal Room	125	125	1	0
1	TLTU1	Toilet, PACT Patient	60	60	1	0
2	TLTU1	Toilet, Staff	60	120	1	0
1	UCCL1	Utility Room, Clean	60	60	1	0
1	WKTM3	Workroom, Patient Aligned Care Team (PACT)	100	100	1	0

FA Totals: Room Qty: 14 Net Area: 1,570 Gross Area: 2,355

Department: 1 - OUTPATIENT / PACT CLINIC (265)

Functional Area: 14 - PATHOLOGY AND LABORATORY MEDICINE (PLM) SERVICE

Qty	Room Code	Room Name	Unit Area	Net Area	Const Phase	Const Type
1	LBVP1	Blood Specimen Collection Room	80	80	1	0
1	LGM1	Laboratory, General	150	150	1	0

FA Totals: Room Qty: 2 Net Area: 230 Gross Area: 345

Program For Design (20 Aug 2015 11:15AM)

**CAMERON VA CLINIC RELOCATION
RELOCATE CAMERON CLINIC
CAMERON MISSOURI**

Department: 1 - OUTPATIENT / PACT CLINIC (265)

Functional Area: 15 - PHARMACY SERVICE

Qty	Room Code	Room Name	Unit Area	Net Area	Const Phase	Const Type
1	PHOD4	Automated Drug Dispensing System	100	100	1	0

FA Totals: Room Qty: 1 Net Area: 100 Gross Area: 150

Department: 1 - OUTPATIENT / PACT CLINIC (265)

Functional Area: 23 - SUPPORT AREA

Qty	Room Code	Room Name	Unit Area	Net Area	Const Phase	Const Type
1	COMC1	Communications Room	100	100	1	0
1	JANC1	Housekeeping Aides Closet - HAC	60	60	1	0
1	USCL1	Utility Room, Soiled	60	60	1	0

FA Totals: Room Qty: 3 Net Area: 220 Gross Area: 330

Dept Totals: Room Qty: 28 Net Area: 2,880 Gross Area: 4,320

Bldg Totals: Room Qty: 28 Net Area: 2,880 Sum of Dept Gross Area: 4,320 Gross Area: 5,832

Program For Design (20 Aug 2015 11:15AM)

**CAMERON VA CLINIC RELOCATION
RELOCATE CAMERON CLINIC
CAMERON MISSOURI**

Department Area Summary (NSF/GSF)

Department	Total NSF	Total GSF
1 - OUTPATIENT / PACT CLINIC (265)(NTG Factor: 1.50)	2,880	4,320
Totals:	2,880	4,320

CAMERON VA CLINIC RELOCATION
RELOCATE CAMERON CLINIC
CAMERON MISSOURI

Building Area Summary And Net to Gross Factor Breakdown

Current Building Factor applied to this Project: 1.35

	Circulation	Mechanical	Electrical	Half Areas	Walls & Partitions	Flexible Areas	Building GSF
Current	16.00	6.00	5.00	0.00	7.00	1.00	5,832

**CAMERON VA CLINIC RELOCATION
RELOCATE CAMERON CLINIC
CAMERON MISSOURI**

Report Parameters

Sorted By: Compressed to Dept position, FA position, Room Name

(END OF REPORT)

One-PACT Community Based Outpatient Clinic Prototype

Plan Overview

LEGEND - FUNCTION

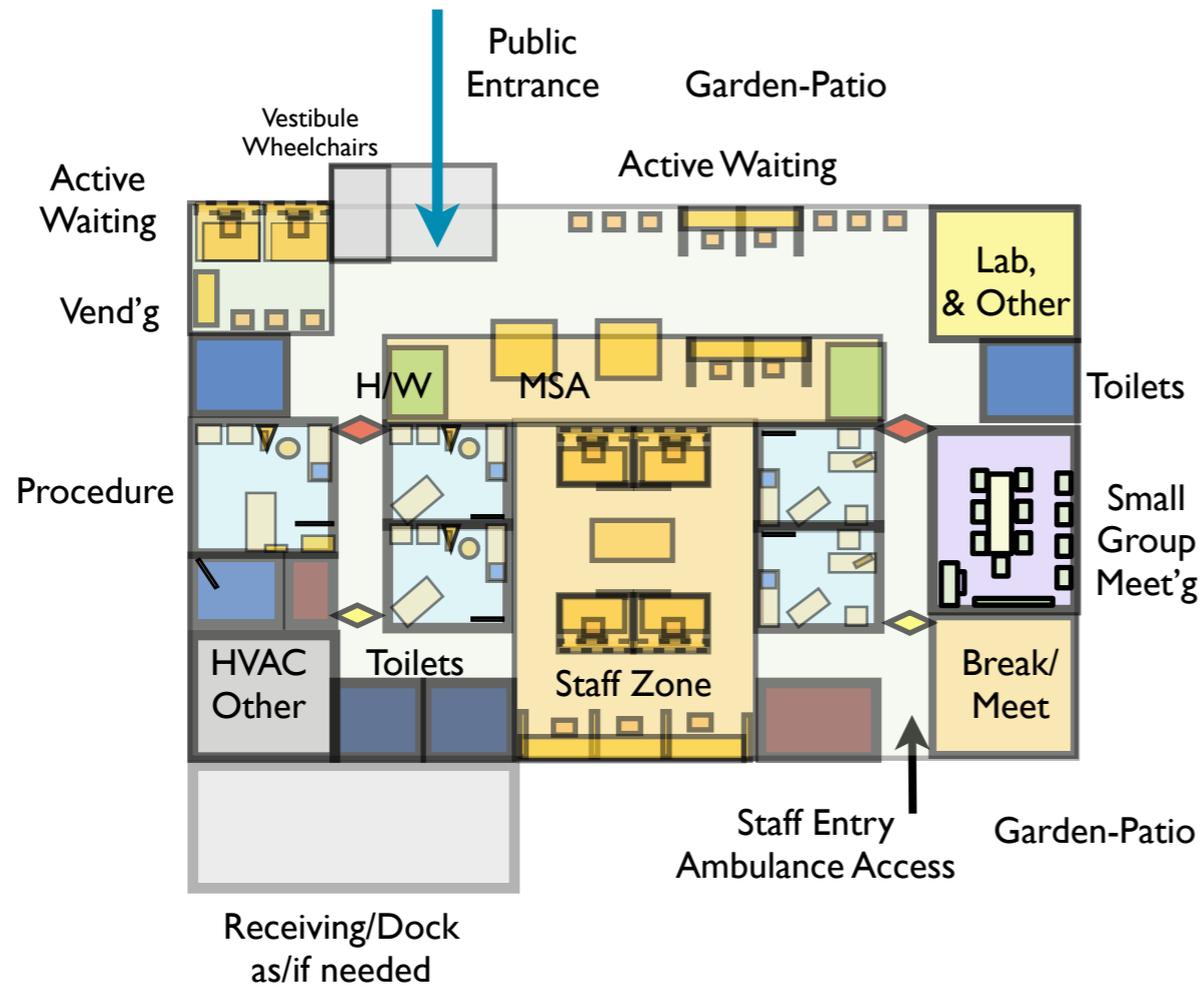
- TEAM WORK AREA
- OFFICES
- STAFF SUPPORT
- CLASSROOM/CONFERENCE
- RECEPTION/WAITING/PUBLIC SPACE
- EXAM/CONSULT ROOMS
- TREATMENT/PROCEDURE ROOMS
- CLINIC SUPPORT
- MECH, ELEC, PLUMB, COMM
- CIRCULATION



Figure 5.3
One-PACT CBOC
Prototype



Very Small CBOC Center Staff Work Zone/Hall Model Sample: I+ Panels for Manual



SAMPLE CLINIC DIMENSIONS: Center Staff Model1+Panel				
	F-B	R-L		
LOBBY		10	13	GROUP/ PROCEDURE
RECEPTION		8	5	HALL
EXAM-CONSULT		22	13	EXAM-CONSULT
HALL		5	20	STAFF ROOM
TOILET		7	13	EXAM-CONSULT
		0	5	HALL
		0	13	GROUP/ PROCEDURE
		0	0	
GSF		52	82	4264

Sample exam-consult-procedure room configurations shown in pictograms. Actual room configurations, numbers and arrangement will be based on staffing and projected workloads and innovation level

Team Work Zone/Open Office Sample, actual based on local staffing plan, team input and work flow

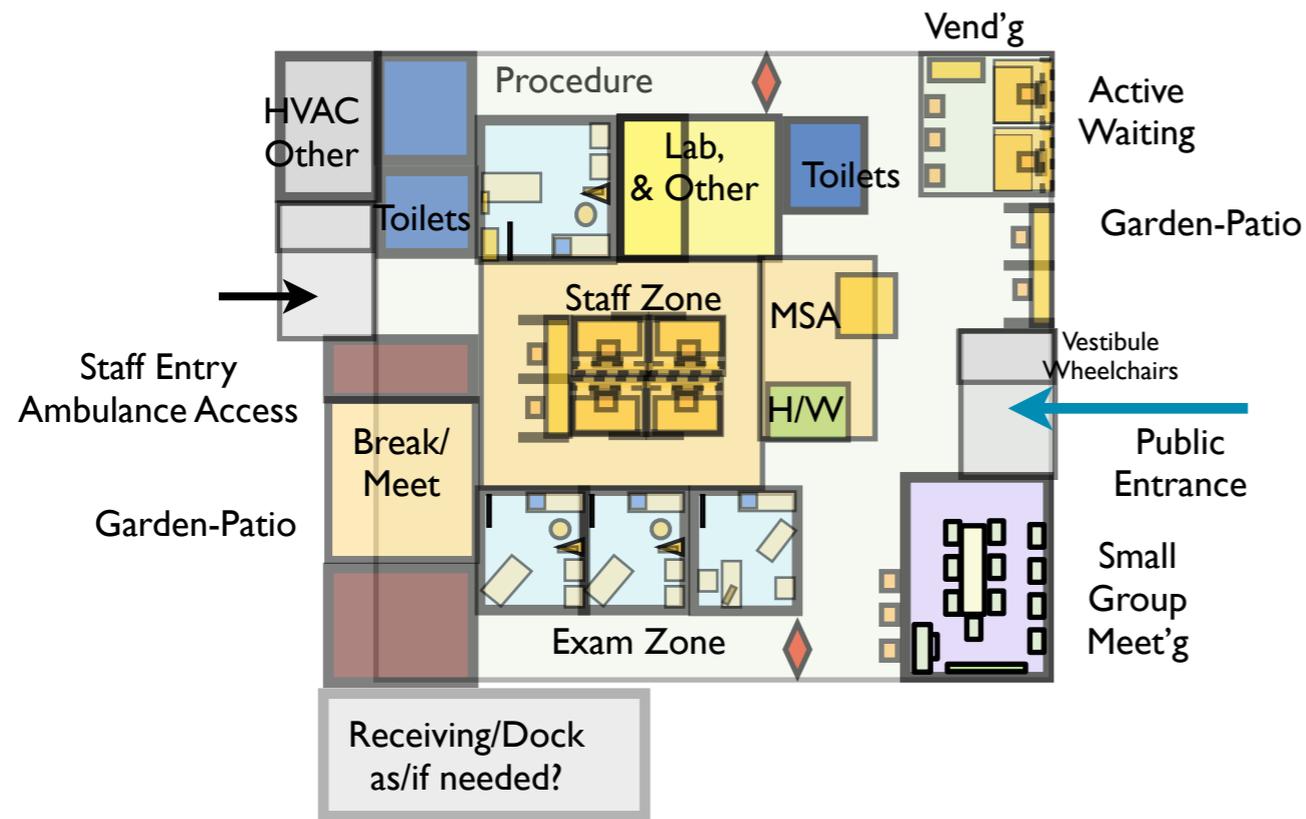
Space relationships good. Lobby/Waiting areas a bit excess. Try to reduce

Not an architectural floor plan. Conceptual. Not to Scale. For discussion and planning purposes only in working with your A&E team

Comments for draft/discussion:

Could not get your specific dimensions to fall into a "grid" and to my mind an 11' wide SMA room is too tight. Made slight adjustments in sizes. Tried to keep reception "window" off line of entry. Lab-Phlebotomy has two zones... blood draw and local spin-down/handling. Unisex toilets as per your plan. Appropriate at this scale. Added H/W station/alcove function for roll on scale. Added HVAC/Mechanical Space/janitor closet allocations. Staff zone may be a little snug. Regret loss of real connection to daylight/outside. Consider glass wall at break-huddle-meeting room.

Very Small CBOC Center Staff Work Zone/Hall VISN 18 Model Sample: 1+ Panels for Manual



SAMPLE CLINIC DIMENSIONS: Center Patient Hall VISN 18 Model 1+ Panels			
	F-B	R-L	
ACTIVE WAIT'G	10	6	HALL
HALL	5	14	LAB-PROCEDURE, GROUP
RECEPTION	10	20	STAFF WORK ZONE
STAFF WORK ZONE	28	14	EXAM-CONSULT
BREAK-MEET	12	6	HALL
TOTAL & GSF	65	60	3900

Generally a compact layout except out patient halls. These, if in a store front and basically blind common walls to next unit just a slight waste of SF. If free standing shame that all that potential daylight is just a dead end hall.

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