

**A/E STATEMENT OF WORK**

Project 518-007

Replace Non-Compliant Community Living Center, PH 1

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## **I. INTRODUCTION:**

The objective of this project is to design a new building to accommodate private Community Living Center beds while addressing security, safety, IT and emergency preparedness concerns.

The design Period of Performance (type A and B services) is 315 days. The 315 days is calendar days and shall begin upon issuance of the Notice to Proceed by the Contracting Officer.

## **II. SCOPE**

This design project will include Type:

- A Services – Conceptual and Schematic Design
- B Services - preparation of contract drawings (DD and CD)
- C Services - construction administration

Review *Supplement A* as part of this scope of work (SOW) for all project specific Architectural and Engineer (A/E) services that will be required to successfully complete the design of a new Community Living Center.

The submission requirements at the seven (7) stages of formal review are located in *Supplement B*, including the Milestone Task Description (schedule). The allocation of days for each ID number can be modified at the discretion of the COR/CO. The overall period of performance of 315 calendar days will not change.

Refer to *Supplement C* for the minimal A/E submission requirements by disciplines that are required per the contract.

## **III. REFERENCES**

Some specifications, attachments and intranet links have been included in this document that will assist the A/E in the design of this project. The following link has a majority of the: *guides, specifications, and details/documents* that may be incorporated into the construction documents.

<http://www.cfm.va.gov/til/>

Part of the A/E SOW is to determine what specifications and guidelines are applicable to the project and to incorporate them into the project documents. The documents will require extensive editing to meet the specific needs of the project. Specification sections may be supplemented or replaced but must meet the design intent and performance requirements within the VA specifications.

**SUPPLEMENT “A”**  
**STATEMENT OF WORK (SOW)**

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## **I. DESIGN TASK/SUMMARY**

The VA provides a full spectrum of medical, surgical and rehabilitative care of our country's veterans. The VA has embraced the principles, spirit and intent of Evidence Based Design (EBD) together with the "*Planetree*" model of care which creates a healing environment for all their facilities. VA Medical Centers around the country have realized these principles can assist in identifying standards and solutions to veteran-centered care approaches to health care.

Veteran-Centered Design is a core guiding principle approach to design as it focuses specifically on supporting the veteran. It is the patient that is the central focus of the design. It means designing for the experience of what the Veteran is going through to support positive outcomes. The VA philosophy supports the body, mind and spirit of the veteran and his/her family and friends.

Care that is truly patient-centered that considers patients' cultural traditions, their personal preferences and values, their family situations, and their lifestyle, is to be the mainstay of VA facilities. It makes the patient and their loved ones an integral part of the care team who collaborate with health care professionals in making clinical decisions. Patient-centered care puts responsibility for important aspects of self-care and monitoring in patients' hands — along with the tools and support they need to carry out that responsibility. Patient-centered care ensures that transitions between providers, departments, and health care settings are respectful, coordinated, and efficient. When care is patient centered, unneeded and unwanted services are reduced.

### **A. BACKGROUND INFORMATION:**

1. The proposed Community Living Center will be located in the general vicinity of the existing Building 62 Courtyard. See *Attachment A* (Building designation plan) for the existing location of campus buildings.

### **B. DESIGN/PLANNING REQUIREMENTS:**

#### **1. GENERAL DESIGN**

- a. Design criteria for new 14,000 square foot building for Community Living Center. Refer to the hyperlink below for the specified design guide.

- i. CLC Design Guide:

<http://www.cfm.va.gov/til/dGuide/dgCLC.pdf>

- b. The project has been approved for 14,000 sf for the CLC and common/support spaces. This will be the basis for the initial design during

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Schematic Design. However, based on cost estimates for Schematic Design, the VA may seek to increase the area of phase one in order to maximize the size of the work based on the allocated budget. The A/E shall provide for a modularized design in order to accommodate the goal of maximizing space based on a fixed budget. The A/E shall include the revised Schematic Design as a part of the work in order to meet this goal.

- c. The VA CLC Design guidelines are the primary guidelines for the design criteria. However, programming meetings with the Integrated Project Team (IPT) and the Engineering Department should also be planned. Information from these meetings will provide context to the guidelines and flush out the approved programming requirements.
- d. The new building shall be located in the general area of the existing Building 62. Exact siting of the building is included in the scope of this design. A/E is to situate building onsite taking into consideration solar glare, placement/size of windows (use low E glass), doors, walkways, etc. in relation to the use of spaces to maximize views, sun and maintain privacy.
- e. The building's interaction with the clinical services in Buildings 2 & 78 shall be carefully considered.
- f. Access to the Bedford campus tunnel system should be considered. The connection to building 8 shall be included in the scope of the work as a construction, deduct alternate.
- g. The 2012 Facility Master Plan (MP) shall be reviewed to include findings, recommendations and guidelines from the report; see attachment. The approved concept is shown in detail under the "Supporting document" section of the report in Location One. Existing Site infrastructure, required improvements, maintenance of roadway access to other buildings and phasing of the work should be understood and presented. The siting of the building must look at the concept in relation to the overall master plan. The schematic module for phase one must be placed on the rest of the site to confirm applicability at full build out to gain the desired number of residents per the master plan. The plan calls for a total of 312 beds with a projected square footage of 212,800 square feet to accommodate long term care Community Living Centers for the entire campus on the north side of the loop. The Master Plan includes moving the existing residents to the new area of the campus to make room for growth and reallocation of space for concentrated out-patient clinics. The design should understand how many new beds will be gained during phase one.
- h. The exterior aesthetic of the building should work with the existing adjacent historic buildings in terms of materials, form, Architectural

## Supplement A

vernacular, but also strive to create a modern break that addresses the MP and EBD desire for a warm domestic feel that brings positive energy and light into the Veterans' spaces. The work during conceptual design should look at three options for massing, style and materials for the full build out of the CLC complex in the Master Plan.

- i. Specialized Consultants such as environmental and historic preservation consultants should be involved as required by the special requirements of the project. These may include specifications writers, materials and component specialists, sustainability consultants, and technical specialists with expertise in historic preservation, and parking design.

### 2. *HISTORICAL REQUIREMENTS:*

- a. During early design of any new construction or renovation, the historic character of any affected building should be determined, following regulations at 36 CFR Part 800 (See Directive/Handbook 7545). Specific design guidelines may then be developed in consultation with the State Historic Preservation Officer and other stakeholders. Refer to the following link for Historic Preservation: <http://www.cfm.va.gov/historic/index.asp> Provide a report on all applicable requirements and statement on intended compliance actions.
- b. Historical: The Bedford VA Medical Center is listed as a historic district on the National Registry of Historical Places. As such, coordination with the Bedford VAMC GEMS manager is required for this project.
- c. The A/E shall attend three meetings with the VA and state agencies (if necessary) to review the project, solicit input, brainstorm solutions, etc.
- d. The A/E shall coordinate all project activity with the VAMC GEMS Coordinator, as applicable and necessary. The Gems Coordinator as well as the VA Historic Preservation Program Staff will be an integral part of the Historical Process and will be involved in the entire process dealing with all Historical aspects of the work related to this scope.

### 3. *GEOTECHNICAL INVESTIGATION:*

- a. The VA has frequently found subsurface ledge during construction projects. In order to avoid unexpectedly finding ledge during construction, ground sampling shall be utilized to determine the quantity and location of ledge as accurately as possible.



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- i. Sampling shall take place as soon as possible before beginning design in all exterior corners of the proposed building as well as in the location of the proposed future structures. Quantity and location as required by the geotechnical and structural engineers.
- b. A Geotechnical profile shall be done utilizing ground sampling in the location of where utilities will be buried.
  - i. The A/E may propose alternate methods for locating ledge for utility excavations that have a similar or better accuracy as actual sampling (sonar), which may only be used if approved by the VA COR.

### 4. *SITE DESIGN*

- a. The Civil Engineer is essential for understanding the land, soil, and regulatory aspects of any construction project; early involvement is essential. The civil engineer prepares contract documents and assesses compliance of the work with the contract documents.
- b. The completed project shall not impact the total number of parking spaces available on campus. Some parking spaces may need to be removed as part of the project and new ones constructed to replace them.
  - i. Parking spaces may be taken out of service during construction, but this should be minimized as much as is reasonably feasible. See *Attachment B-D* for current parking layout of the site.
  - ii. Provide for new temporary parking as required. Propose alternate paving material with low impact to the environment.
- c. Landscaping/hardscaping shall minimize maintenance, including mowing, and shall not require irrigation. Landscaping shall help provide an aesthetically-pleasing welcome to the facility.
  - i. A landscape architect shall be engaged for the planning and execution of a design in the immediate area of the building. Design shall take into account the Master Plan and future requirements including pathways, gardens and infrastructure.
- d. Snow removal shall be considered in planning the site. Considerations shall include:
  - i. Providing locations that snow can be cleared to and stockpiled at, avoiding using wheel stops or anything that sits on the pavement, and providing appropriate protection for items that are likely to be hit by

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plows (signage, railings, etc.) when they can't be eliminated from the design.

- e. Comply with Section 438 of the Energy Independence and Security Act (EISA), which essentially requires the restoration of predevelopment hydrology for the area impacted by the project. The specific requirement and guidance is available at <http://water.epa.gov/polwaste/nps/section438.cfm>. Note that predevelopment hydrology is in regards to the site before ANY development (before the medical center was constructed). Also note that the area impacted by the project includes lay down areas and site work as well as location of construction trailer including temporary utility design.
- f. Refer to *Attachments b thru h* (Site plans) for use in the creation of the new Civil Design. The Utility site plan also includes; storm water, topographic, Building locations, etc. The accuracy of the site plan cannot be guaranteed and the A/E shall use only as a reference in the design of their own site/utility's. As part of this SOW a pdf will be provided. If at a later date the A/E request the AutoCAD copy, the VA shall supply the CAD file.
- g. Provide for a full survey of the area of proposed construction and areas impacted by the work. Survey shall include location of all aboveground and underground utilities. Survey shall utilize non-invasive and invasive measures as required to locate and identify the type of service, size and material or piping, conduit or wiring. Piping inverts, top of conduit and duct banks should be located in relation to sea level and grading. Digital copy with GIS capability shall be incorporated into the VA's existing software. Utilize markers as identified on existing conditions or/and create new markers outside area of construction.
- h. Expand existing conditions survey or area as noted herein from the north side of building 9 to the roadway to the north. Manhole covers, storm water drainage, etc. in the adjacent roadway to the area noted should be included as well. Verify inverts and camera lines to confirm condition of pipes to be used as a part of the work from the connection point to the main at Springs road.
- i. Provide existing grading in the proposed building and adjacent area as noted from building 9 towards the north.
- j. Site design shall include studying the existing affected conservation areas and the current storm water pollution prevention plan (SWPPP) and shall include updating.

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- k. The A/E shall update the Facility Master Plan with a revised plan showing parking and building designation for use by the facility.

### 5. *SEISMIC AND OTHER NATURAL HAZARDS*

- a. Seismic: The design shall comply with VA Handbook H-18-8 Seismic Design Requirements, available at <http://www.cfm.va.gov/til/etc/seismic.pdf>
- b. Bedford, MA is considered to be located in a “Moderately Low” seismic category. All VA facilities are considered as essential.
- c. Consideration should be given to seismic and blast resistant design as they share some common analytical methodologies and a performance based design philosophy that accepts varying levels of damage in response to varying levels of dynamic excitation. Both design approaches recognize that it is cost prohibitive to provide comprehensive protection against all conceivable events and an appropriate level of protection that lessens the risk of mass casualties can be provided at a reasonable cost. Both seismic design and blast resistant design approaches benefit from a risk assessment that evaluates the functionality, criticality, occupancy, site conditions and design features of a building. Weather related (hurricane and tornado) protection requires blast resistant design. Blast resistant façade systems require the glass to satisfy the debris hazard conditions in response to the specified blast loading, while the mullions and anchors are required to resist the collected forces within the specified deflection and ductility limits. In addition to resisting the specified blast loads, the criteria often require the designer to consider the damages resulting from a more extreme blast loading. The criterion requires a balanced design, for which the mullions must develop the capacity of the selected glass within allowable deformation limits and the anchors must develop the capacity of the selected mullions.
  - i. Window Fenestration: The total fenestration openings are not limited; however, a maximum of 40 percent per structural bay is a preferred design goal. In renovation of older buildings, and in new construction in ensembles of older buildings, the impacts of fenestration design on historic buildings and views must be considered and addressed in planning.
  - ii. Window Frames: The frame system should develop the full capacity of the chosen glazing up to 750 breaks per 1000, and provide the required level of protection without failure. This can be shown through design calculations or approved testing methods.

## Supplement A

- iii. Provide information to comply with review by the Anti-terrorism task force review.

### 6. *STRUCTURAL ENGINEERING*

- a. Design of the superstructure shall take into account the following:
  - i. Unique grade considerations and access to the level at grade at entrance points.
  - ii. Support of the facade material and the desired size and location of fenestration.
  - iii. Materials based on requirements for fire separation, building size based on the Master Plan and acoustical requirements between rooms.
  - iv. CMU and shear walls to be coordinated with the infrastructure and energy efficiency needs.
  - v. Structural consideration for blast resistant requirements as applicable.
  - vi. Floor structure shall provide the required spans and composed to dissipate sound transmission. Assembly shall also provide for duct work and routing of other infrastructure.

### 7. *BUILDING UTILITIES*

- a. Design and specify utility meters to track and continuously optimize performance. There is a central Building Management System project slated for construction prior to this project. All building systems and controls shall be 100% compatible with and tied into the Building Management System.
- b. All utility's feeding the building are to be underground. No poles are to be used to bring utilities to the building.
  - i. A/E is to determine if existing utilities can be "tapped" to provide that utility to the new building. It is anticipated that a new 120/208V feeder line will be required.

## Supplement A

- c. Coordinate type of domestic backflow required at the location of the water service entrance.
- d. All sewer and vent piping and fittings are to be cast iron (PVC is not acceptable whether or not allowed by code).
- e. All domestic underground water piping and fittings are to be cast iron-cement lined (PVC piping is not allowed).
- f. All aboveground domestic piping and fittings are to be copper (PB, PE and PVC piping is not allowed).
- g. Refer to attachments for site Features, Sewer, Electrical/Communications, Drainage, Water and boundaries as a basis for full site surveying.

### 8. *BUILDING MANAGEMENT SYSTEM*

- a. The new building is to tie into the existing Building Management System (BMS) and is to be a 100% seamless integration into the existing system.
  - i. Work with VA Engineer/ IT Department for integration & equipment that is to be monitored through the BMS. HVAC, lighting, security and access controls will be included at a minimum.
- b. All drawing documentation for construction shall utilize Building Information Modeling compatible software. In addition, design consultants shall coordinate the documents into a single "BIM" model with conflicts resolved. Information shall be included in software that will translate into the VA BMS.

### 9. *FIRE ALARM/PROTECTION*

- a. The fire alarm system shall tie into the existing Class A fiber loop Simplex fire alarm system.
  - i. Work with VA Engineer closely to determine zones and radio box identifications. Work is taking place at the time of this writing. Refer to Engineering Department for the latest fire alarm drawings.
- b. The Building shall be 100% sprinklered per the requirements of NFPA 13. The A/E shall be responsible for obtaining recent flow data or conducting flow test for use in their hydraulic calculations.

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- c. Coordinate location of pumper connections with the fire department as well as the type of pumper connection.
- d. Coordinate with the Bedford VAMC Engineering Service for the correct type of backflow prevention required based on the type of fire protection system(s) installed.

### 10. *ELECTRICAL/COMMUNICATIONS*

- a. Refer to the CLC design guide <http://www.cfm.va.gov/til/dGuide/dgCLC.pdf> & the VA Electrical Design Manual <http://www.cfm.va.gov/til/dManual/dmElec.pdf> for information on requirements for electric power, telephone land lines, cable wiring, CAT V, HDMI and speakers.
- b. Include power and communications as a part of the programming of the spaces. Provide a coordinated telecommunications plan with equipment in addition to power and lighting. Cabling as well as conduit must be included.

### 11. *EMERGENCY POWER*

- a. The goal of the medical center is to be able to continue providing critical services to patients during power outages. All patient care areas shall have adequate lighting and power to fully function during a power outage, including generator power for all computers and required equipment for a period of 96 hours. Equipment on emergency power shall include:
  - i. HVAC equipment
  - ii. Refrigerated storage
  - iii. Medical equipment used for continuous patient care
  - iv. Designated power locations for access to medical records
  - v. IT Server Room
  - vi. Emergency Lights
  - vii. Medical Gas
- b. The design of the building shall consider a remote building near the future build out that can service all buildings for emergency power or decentralized locations within the buildings at the point of service entry.
- c. A/E shall incorporate into the new electrical design, emergency backup services with a new backup generator.

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- i. The ATS should be redundant/cyclic so that maintenance can occur on the ATS's while on generator or street power.

### 12. HVAC

- a. Engineer to review options for the overall concept for the HVAC systems. Determine if the building systems will be tied into the existing energy plants or be independent. Engineer to provide a CBA for the analysis.
- b. Equipment to be off the ground and screened from view from the exterior. The existing buildings are historic in nature and the project must provide a "clean façade" with minimal grilles, louvers, equipment or penetrations visible from Springs Road.
- c. Contractor shall provide complete DDC automatic temperature control system compatible with the existing Metasys Building Management System by Johnson Controls, Inc. All HVAC system and ancillary components shall be controlled by the existing Metasys Building Management System. Final connection of new equipment to the existing Metasys Building Management System shall be made by a company and technicians fully qualified and certified by Johnson Controls, Inc. to program, install, adjust, repair, maintain, modify, or otherwise manipulate the Metasys Building Management System by Johnson Controls, Inc. Current company and technician qualifications and certifications to program, install, adjust, repair, maintain, modify, or otherwise manipulate the Johnson Controls Metasys system must be maintained throughout the construction of the project including any extensions of the construction performance period. If the Contractor utilizes the services of a subcontractor other than Johnson Controls to perform this work, the Contractor shall provide the VA, via submittal, copies of factory training certificates for each technician working on the Providence VAMC Metasys system prior to commencement of any controls work. The Providence VAMC will review the certifications as part of the submittal process. Contractor shall carry the cost of this work in their bid.
- d. All DDC controls shall be provided by the contractor and shall be Bacnet Metasys controls by Johnson Controls for AHUs, chillers, fans, FCUs, VAVs, circulating pumps, control valves, motorized dampers, and any other equipment or accessories as noted in the drawings and specifications.
- e. All controls shall have occupied and unoccupied functions.

## Supplement A

- f. All set points shall be fully adjustable.
- g. All monitored points, including status (ON, OFF, FAILED) and any alarms shall display at the DDC workstation(s).
- h. "Cooling Mode" shall be defined as any time the outside air temperature is above 50°F (adjustable) and a call for cooling exists from any associated piece of equipment. "Cooling Mode" shall extend to 1 hour beyond the call for cooling is satisfied to prevent short cycling.
- i. "Heating Mode" shall be defined as any time the outside air temperature is below 68°F (adjustable) and a call for heating exists from any associated piece of equipment.
- j. Where 100% redundant motorized equipment is installed, the two (or more) pieces of equipment shall alternate operation on an adjustable, equal run-time basis. The DDC system shall display cumulative run-time of each unit. If one unit fails, the other unit shall start automatically and the DDC system shall generate an alarm signal.
- k. HVAC system shall be designed in accordance with the latest version of the VA HVAC Design Manual and the latest versions of those standards referenced within that manual. The designer is responsible for verification of the latest version.
- l. All individual room environmental parameters shall be designed and set in accordance with the latest version of the VA HVAC Design Manual.
- m. All equipment shall be Energy Star certified and maximum efficiency.

### 13. SECURITY

- a. Physical Security: Ensure that the design complies with the VA Physical Security Design Manual (PSDM) for Life-Safety Protected Facilities, available at <http://www.cfm.va.gov/til/PhysicalSecurity/dmPhySecLS.pdf>
- b. Physical Security: Ensure that the design complies with the VA Risk Management Process for Federal Facilities, available at [https://www.dhs.gov/sites/default/files/publications/ISC\\_Risk-Management-Process\\_Aug\\_2013.pdf](https://www.dhs.gov/sites/default/files/publications/ISC_Risk-Management-Process_Aug_2013.pdf)
- c. VA facilities that are owned, leased, or managed; to be constructed or modernized; or to be purchased shall have countermeasures designed into the facility's infrastructure to abate potential threats.



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- d. The physical access security system (PACS) shall tie into the Bedford PACS system. Refer to VA Physical Security Design Manual for locations of where card readers are to be installed. All card readers/locked egress doors are to be tied into the fire alarm as required by NFPA101.
- e. Providing for security design that complies with VA Security Design Guidelines. The Design team will work with the IPT and the VAP on site specific requirements based on the composition of the campus and use of the facility.
- f. Consider control points for access into the building directly from the exterior and from building to building. Access will be restricted via door hardware systems. The Design team will work with the IPT and the VAP on specific control points, timing for secure locking and integration with BMS.
- g. Provide for CCTV monitoring in all common areas to the route back to the building security office at the main entrance and main police station on campus; including but not limited to common areas in the building (corridors, tunnels, elevators, etc.), outside at the perimeter and in the parking lots.
- h. If the Physical Security guidelines cannot be met the A/E (and or their consultant) shall provide alternatives to the guidelines or assist with any waivers that may be required for security measures that cannot be met.
- i. Care should be taken to implement physical security measures that allow Fire Protection forces access to sites, buildings and building occupants with adequate means of emergency egress.
- j. Consideration should be given to integrating various stand-alone security systems, integrating systems across remote locations, and integrating security systems with other systems such as communications, and fire and emergency management.
- k. Vehicle barriers, where required, shall be aesthetically pleasing and/or serve a dual purpose. For example, planters, rocks, and benches are strongly preferred over bollards.
- l. Provide a report on the PSDM and Risk Management Process measures that are applicable to the project. Include a list of waivers that may be required from the Office of Capital Asset Management (OCAM).

#### 14. *INTERIOR DESIGN*

- a. All interior design services for the project area shall be included in the scope of this task order. Interior design services include; recommending and coordinating all finishes, furniture, preparing story boards and color selections and coordinating with the VA Interior Designer for the project. It is anticipated that 2-3 options shall be provided in board form for the review by the IPT and MC leadership. Components from the finishes boards shall be interchangeable to allow for updating in the field in the future as needed. Refer to the VA Interior Design Manual. Multiple interior renderings to be provided on story boards. Exact locations to be determined by COR. The VISN Interior Designer will be an important part of the IPT for this work with direction coming thru the COR.
- b. Provide for interior renderings to communicate options, up to two revisions and translation to finish plans, interior elevations, casework and millwork details and schedules for finishes, furniture and fixtures.
- c. Decorative elements of the interior design shall be integrated within the architecture of the project. Provide for these elements to inform and enhance wayfinding, community space and a healing environment. Examples include artistic feature walls, lighting and materials & interior characteristics that help to identify the use of the space.
- d. Signage & Wayfinding: All building exterior, interior, and temporary signage and wayfinding shall be included in the design. Existing exterior and interior wayfinding signage shall be designed per the VA guidelines and local standard requirements; this includes both temporary updates during construction and permanent updates at construction completion. A/E interior designer to assist in filling out of the JnA for review by the CO. Signage is to match that of the existing Medical Center.

#### 15. *COST BENEFIT ANALYSIS (CBA)*

A/E shall conduct a CBA to determine the following (but not limited to):

- a. Means of heating & cooling the building
- b. Effort and expense to meet requirements for LEED Silver certification and Energy Star rating score of 90. (for Major Construction projects). For all other projects (i.e. Minor, NRM, CSI) AE shall refer to VA Sustainable Design Manual dtd May 2014 for required Guiding Principles criteria.
- c. Location to pick up domestic water
- d. Location to pick up main power

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- e. Means of producing domestic hot water
- f. Provide portion of building with Medical Gas to support CLC.
- g. Constructing a full or partial basement (or none) to house utilities and support infrastructure versus locating in a roof well.

## II. SUSTAINABILITY

### A. SUSTAINABILITY GUIDELINES:

1. The A/E is to design to *the VA Sustainable Design Manual*, dated May 2014 with criteria for Minor projects. All designers of new projects shall document in writing, and deliver to VA Project Manager, actions taken or considered versus each element and sub-element of the Guiding Principles.
2. Ensure that the design complies with the applicable sections of the VA Sustainable Design Manual, available at <http://www.cfm.va.gov/til/sustain.asp>.
3. The Federal Government has issued four Federal Mandates (one law and three Executive Branch policies) for Executive Branch agencies that outline sustainable and energy goals. In addition, on March 30, 2007 VA signed a Green Buildings Action Plan that provides guidance for compliance.
4. The VA Sustainable Design Manual (located on the VA TIL site) is the agency's guidance to define a methodology to achieve these Federal Mandates. The Manual provides guidance in incorporating sustainable design on every phase of a project, from proposals, goal setting, and preliminary planning through design and construction for projects of all sizes. Recognizing that each space acquisition project is unique and will require different strategies, all projects are, nevertheless, required to meet the Federal Mandates as appropriate given the project scope and budget.
5. The A/E is to take the lead with regards to NEPA compliance. This project shall comply with the VA's NEPA implementing regulation, 38 CFR Part 26, the VA document "NEPA Interim Guidance for Projects", and the Council on Environmental Quality's "A Handbook for Integrating NEPA and Section 106". The NEPA process shall commence immediately at the start of the project, and shall be an integral part of the project, throughout to project completion.
  - a. The A/E shall determine whether or not this project has a significant environmental effect, and related social and economic effects (e.g. CATEX, EA/FONSI, EIS/ROD), and execute the required NEPA assessment.
6. Provide a report on all applicable requirements and statement on intended compliance actions. Provide a written summary of the energy savings measures proposed evaluated and the extent of the evaluation signed and stamped by a registered professional engineer.

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7. A/E review of the following document will be part of this scope as well as incorporation of any applicable standards: COUNCIL ON ENVIRONMENTAL QUALITY EXECUTIVE OFFICE OF THE PRESIDENT AND ADVISORY COUNCIL ON HISTORIC PRESERVATION NEPA and NHPA - A Handbook for Integrating NEPA and Section 106 (March 2013). Provide a report on all applicable requirements and statement on intended compliance actions.

### **B. ENERGY EFFICIENCY:**

1. Establish a whole building performance target that takes into account the intended use, occupancy, operations, plug loads, other energy demands, and design to earn the Energy Star® targets for new construction and major renovation where applicable. Provide a written report for these performance targets during Design Development.
  - a. For new construction, reduce the energy cost budget by 30 percent compared to the baseline building performance rating per the American National Standards Institute (ANSI) / Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., (ASHRAE) and the Illuminating Engineering Society of North America (IESNA) Standard 90.1-2004, Energy Standard for Buildings except Low-Rise Residential. All new construction projects shall be designed to achieve an energy consumption level that is at least 30% below the level achieved under ASHRAE Std 90.1-2010, if life-cycle cost effective. If a life-cycle cost effective design cannot be achieved that meets the 30% reduction requirement, select the most effective design that meets or exceeds the minimum requirements and is lifecycle cost-effective. No design shall be less than 30% more efficient than ASHRAE 90.1-2007. Use Appendix G of ASHRAE Std 90.1-2010, excluding plug & process loads, to document the savings. The most recent version of ASHRAE 90.1 mandated for Federal use by the Department of Energy shall be used to establish the baseline. Combined heat and power and renewable generation shall be considered for inclusion in all projects. Project components shall be included to meet this mandate even if not life cycle cost effective. Provide energy model results comparing the design to both ASHRAE 90.1-2007 and ASHRAE 90.1-2010.

This project was approved based upon the installation of a new 50KW roof top solar array. Ensure that this design utilizes remaining roof SF area (ensure that there is sufficient room for necessary roof mounted HVAC equipment). The solar array shall be a roof mounted system (preferably not visible from Springs Rd to accommodate specific Historical requirements)

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2. **Measurement and Verification:** In accordance with DOE guidelines issued under section 103 of the Energy Policy Act of 2005 (EP Act), install building level utility meters in new major construction and renovation projects to track and continuously optimize performance.
  - a. Compare actual performance data from the first year of operation with the energy design target. After one year of occupancy, measure all new major installations using the Energy Star® Benchmarking Tool for building and space types covered by Energy Star®. Enter data and lessons learned from sustainable buildings into the High Performance Buildings Database.

### **C. OPTIMIZE ENERGY PERFORMANCE**

1. **Energy Efficiency:** Establish a whole building performance target that takes into account the intended use, occupancy, operations, plug loads, and other energy demands. Design the infrastructure and building envelope to earn the Energy Star® target score of 90 or higher for new construction. Provide a report on an analysis of what would need to take place to achieve this score. Compare if there is a conflict with the Energy Star requirements and those for LEED certification.
2. For new construction, reduce the energy cost budget by 30 percent compared to the baseline building performance rating per the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., (ASHRAE) and the Illuminating Engineering Society of North America (IESNA) Standard 901., Energy Standard for Buildings except Low-Rise Residential.

### **D. PROTECT AND CONSERVE WATER**

1. **Indoor Water:** Employ strategies that meet the Energy Policy Act of 1992 fixture performance requirements. Determine incentives from the federal government that may be applicable to this project and produce report for the findings in design development for selection by the VA.
2. **Outdoor Water:** Use water efficient landscape and irrigation strategies, including water reuse and recycling, to reduce outdoor potable water consumption by a minimum of 50 percent over that consumed by conventional means (plant species and plant densities). Employ design and construction strategies that reduce storm water runoff and polluted site water runoff. Strategies may include storm water retention, storm water collection and drywells (tanks), etc.

#### **E. EXECUTIVE ORDER 13693**

##### Reduction of greenhouse gases

1. This Executive Order requires agencies to measure, manage, and reduce greenhouse gas emissions toward agency-defined targets. It describes a process by which agency goals will be set and reported, additionally the Executive Order requires all Federal agencies to meet a number of energy, water, and waste reduction targets.
2. Ensure that the design complies with the applicable sections of the EO13693 [http://vaww.ceosh.med.va.gov/01EN/02EN\\_Guidebook/Executive%20Order%20Mar%202015%20GHG.pdf](http://vaww.ceosh.med.va.gov/01EN/02EN_Guidebook/Executive%20Order%20Mar%202015%20GHG.pdf)
3. It is the intent and responsibility that all A/E's designing projects for the VA (whether they be minor or major in scope) meet the goals of this Executive Order to reduce costs, reduce air and water pollution, and utilize clean energy. Implementation of the Executive Order will focus on integrating achievement of sustainability goals with agency mission and strategic planning to optimize performance and minimize implementation costs. Provide a report to explain the goals outlined in the executive order and how the project will work to meet these goals. The report should be provided during Design Development.

#### **F. SOLAR ARRAY**

##### Renewable energy compliance

1. Refer IAW VA SUSTAINABLE DESIGN MANUAL dated May 2014 “ for minimum criteria for the system. Provide no less than 10% of the anticipated annual consumption, to the extent technically and economically feasible should from onsite renewable electric energy”
2. System may not be ground mounted and final location to be approved by the State Historic Commission.

### **III. CONSTRUCTION BUDGET**

- A. The construction budget is \$7.5 million plus contingency. The estimate shall include a contingency of 7.5%.
- B. A/E to engage a qualified cost estimating company with relative experience to provide detailed cost estimates at milestones as noted. The cost estimate shall take into account the government timeframe for procurement and construction and its impact on escalation costs. Representative of estimating company shall join A/E at meeting with VA to review the cost estimate and strategize on

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adjustments as required. The goal is to make adjustments that do not affect the scope of the work for the A/E or impact the relative scope of the work for the construction. The estimating company shall be prepared to make one revised estimate at each report (4) based on feedback from the A/E and VA.

- C. Construction Budget shall include all escalation costs, impact costs, testing & inspections, related site costs, physical security requirements, IT cabling.
- D. Design costs to include required environmental and other required site reviews
- E. Other project costs such as acquisition costs are not a part of the budget and include items such as Clinical equipment, furniture, computers and electronic equipment.
- F. The intent of the design shall be a project that can be built without changes or change orders, within budget, and function as intended. If, at any time, the A/E suspects that the project cannot be designed within the established construction budget, they shall notify the contracting officer and contracting officer's representative (COR) immediately.

### IV. TYPE A AND B SERVICES

- A. Conceptual Design should include (but not limited to) the Team kick off meeting, all research as required, programming and multiple meetings with the IPT, site investigations (survey and civil) and conceptual level design of the massing, materials and style of the building. A/E/ to prepare two options for review of the massing taking into account the full build out of the CLC complex based on the MP room quantity. The program should be consistent for both design options and include a list of spaces; develops estimates of requirements both spatial and technical; initiates assessment of possible environmental impacts. There should be multiple design meetings during conceptual design allowing the presentation of the options, feedback from the IPT and revisions to be provided. A direction may be chosen during this phase or the two options may be developed conceptually for deliverable items as noted in Supplement B. The A/E shall provide a full schedule of meetings and deliverables at the kick off meeting.

Involvement of all members of the Project Design Team, Owner, Users, A/E, and other consultants, is a critical part of the process at this stage - their individual insights made at this point can prevent costly changes further along in the process. Environmental impact assessment (EIA) and consultation with regulators and affected parties at this stage of the process helps identify alternative scenarios and potential impacts on the environment to be resolved through design. Gradually a design emerges which embodies the interests and requirements of all participants while also meeting the overall area



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requirements which the project budget established during Pre-Design activities. VA to provide review and comment on the submission for incorporation into the next phase.

- B. Schematic Design: Once the Conceptual Design activities are complete, the VA shall provide direction on the Conceptual design if not already provided. Schematic Design Phase commences. The A/E design team produces initial graphic information in order to review and flush out program requirements and aesthetic considerations with the IPT. Provide alternatives/options/scenarios for the project or portions of it based on the Conceptual design selected over a series of design meetings.

The resulting Schematic Designs produced at this stage shall show site location and organization, general building shape, space allocation, materials, plans, elevations, and building sections. In addition, options for the building infrastructure shall be provided by the A/E in the context of the campus, research performed, OOM costs and the future plans in the MP and as expressed by the IPT. The A/E will provide memos or narratives for the individual services and their options that outline and weigh out the pros and cons of the various systems. The options will be discussed and a direction provided. Narratives on the selected infrastructure will be included in the final delivery package as noted in Supplement B. VA to provide review and comment on the submission for incorporation into the next phase.

- C. Design Development enlarges the scale of consideration—greater detail is developed for all aspects of the building—the collaborative process continues with the architect in the role of facilitator for the various disciplines. Greater detail is achieved for all aspects of the building. The technical aspects of the building and immediate grounds will be explored. Spatial requirements will be understood and integrated with the infrastructure equipment and components identified. In addition, Interior design will be developed and a series of presentations shall be provided to the IPT and Users. Finish boards shall provide three options for materials with the materials interchangeable between options. The interior designer shall work closely with the VISN Interior Designer to understand approved materials, color palettes and review fixtures and furniture requirements. It is understood that selections will be made during this phase and the A/E will manage the process of selections in collaboration with the VISN ID and track decisions to be made for the timely completion of the contract documents.

The conclusion of this phase is a detailed design on which all players agree and may be asked to sign off. By the end of this phase, compliance with the National Environmental Policy Act and, where relevant, the National Historic Preservation Act should be complete, resulting in the incorporation of measures to minimize unnecessary negative impacts on significant aspects of the built and natural environments. At this stage it is expected that the final

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construction budget shall be confirmed with the approved project funding, as well as the 10% deduct alternates.

Peer review shall take place at the Design Development submission. A/E shall be prepared to address items noted in the review for all disciplines as a part of the work. "Redlines" from the Peer review shall be incorporated into the work for the subsequent submission with a memo to address items that are not incorporated with a description of how the items are addressed or to answer the relevant questions. VA to provide review and comment on the submission as well for incorporation into the next phase.

- D. Contract Documentation: The Development of Contract Documents involves translating the Design Development information into formats suitable for pricing, permitting, and construction. Contract document quality can be achieved by scrutiny, accountability to the initial program needs by the design team and the client, along with careful coordination among the technical consultants on the design team. Decisions continue to be made with the appropriate contributions of all team members (A/E and IPT). The A/E shall manage the process to prevent scope creep to the extent possible. A/E shall notify the Project Engineer of any potential impact of decisions to the scope of the work or/and the cost estimate for the construction. The final cost estimate by an estimator shall be made at this point, prior to or simultaneous with bidding, in order to assure compliance with the budget and to check the bids.

Peer review shall take place at the 90% Construction Document submission. A/E shall be prepared to address items noted in the review for all disciplines as a part of the work. "Redlines" from the Peer review shall be incorporated into the work for the subsequent submission with a memo to address items that are not incorporated with a description of how the items are addressed or to answer the relevant questions. VA to provide review and comment on the submission for incorporation into the next phase.

## V. OTHER A/E CONTRACTUAL OBLIGATIONS

- A. The A/E shall provide complete investigative and design services needed to provide a fully coordinated, functionally integrated, and operational design and subsequent built project. The A/E shall include all required site visits as part of this SOW to accomplish the design. Additional funds will not be given to the A/E for any oversights in the judgement of the number of hours needed to complete a task.
- B. The costs of investigations shall be included in this task order. Examples include: topographic surveys, test borings, test pits, soil tests, subsurface exploration, water flow tests, etc.

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- C. A/E to develop a timeline of performance for the construction of the job to be used for the solicitation as well as the final cost estimate to be sent to the CO.
- D. The A/E shall work with the VA to incorporate 10% in deduct alternates to allow for any cost adjustments if necessary during the Construction award process.
- E. Provide all necessary engineering and design services for architectural, interior design, site development, mechanical (plumbing, fire protection and HVAC), electrical, structural, asbestos abatement, signage, and other specialty consultant elements within the limits of the project goals established to support Supplement "B" submissions. Each discipline shall document and investigate the relevant existing conditions, review the building available information, and verify all essential elements pertinent to their discipline.
- F. Design shall comply with the latest editions of all applicable DVA guidelines (Construction Standards, Design Guides, Master Specifications Standard Details, and Special Design Criteria), NFPA, JC, Federal and State codes pertinent to the project scope.
- G. The A/E shall provide prompt, written notification to the Contracting Officer concerning conflicts with or recommended deviations from codes, laws, regulations, standards, and opinions of review officials as described above.
- H. No work altering the scope of this contract shall be undertaken prior to receipt of written approval of the Contracting Officer. The COR/Project Engineer does not have the authority to modify the contract.
- I. Preliminary meetings and site survey investigations to define the necessary elements of the project scope of work. This includes presentation of preliminary layout plans with proposed alternatives to the User Group and preparation of a detailed project plan based on User Group meetings and site survey.
- J. Design Review Meetings:
  - 1. Professional Architects, Engineers and related design disciplines familiar with the work shall be provided to attend the VA design reviews at the VA Medical Center in Bedford, MA. Refer to milestone task description for the minimal number of site visits required to execute the design (Supplement B).
  - 2. The A/E shall provide minutes of each design review meeting to the Contracting Officer and COR for review within 2 business days of the review meeting.

**VI. TYPE C SERVICES-CONSTRUCTION PERIOD ADMINISTRATION (CPA) SERVICES**

- A. After the award of the project to the general contractor the architect and other members of the team must remain fully involved.
- B. Decisions previously made may require clarification; suppliers' information must be reviewed for compliance with the Contract Documents; and substitutions must be evaluated.
- C. If changes affect the operation of the design and building, it is especially important that the IPT be involved. User requirements may change, necessitating changes in the building—these changes require broad consultation among the consultants and sub-consultants, pricing, and incorporation into the contract documents and the building. At no additional cost, A/E to provide full assessment of the impact to the schedule and design fees and construction costs in order for the VA to evaluate and make a determination on moving forward with the potential change.
- D. The architect acts as the lead designer coordinates communication and work of the consultants during construction and reviews progress of the work for general compliance with the documents.
- E. The architect participates in the construction phase of the project, assessing compliance with the contract documents by managing appropriate intervals of on-site reviews, acceptance of required contractor submissions and mock ups and evaluations by the sub-consultants. The architect assists in the evaluation of requests for payment by the builder and other professionals.
- F. Review and approval of construction submittals covering products that have been listed within the contract documents, including cut sheets, manufacturer's data/performance sheets, samples, shop drawings, schedules, and phasing plans. Specifications should call for Contractor to provide a schedule of all submittals, cut sheets, etc. Submittals to be sent electronically, redlined and stamped for VA review. The A/E responsibility includes coordination and review of submittals for engineers. Review shall provide recommendation for VA action.
- G. Review of compatibility analyses of different materials and recommendations provided by the Contractor, associated with acceptance or rejection of alternate materials and products.
- H. Responses to Request for Information (RFI) within 2 business days.
- I. Provide sketches for clarification to the documents as requested by the Contractor no longer than 5 business days.

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- J. Review and recommendation on Change order requests by the Contractor.
- K. Manage and track design decisions needed by the Owner with a matrix to be reviewed at each meeting
- L. Preparation of cost estimates for Request for Proposal (RFP).
- M. Cost/time/impact estimates and recommendations relevant to design omissions and construction plan deviations;
- N. 50 site visits (minimal) spread across the various design disciplines, as required and/or requested by the VA Contracting Officer and Project Engineer for inspection of ongoing construction, including final tests and inspections. Refer to Attachment for the Type C milestone inspection requirements during the construction of the project. Provide add/alt or deduct for cost of inspections anticipated. Milestone requirement provided is an initial guide and should be supplemented as needed.
- O. A site inspection report shall be furnished to the Contracting Officer and Project Engineer within three work days following all site visits during the construction period. The A/E shall meet with the site superintendent and Project Engineer when entering the site and before leaving to review progress of the work, issues on site affecting the design intent or technical aspects of the work and exceptions that may be noted. Report shall indicate these items discussed.
- P. The site inspection report shall include the purpose of the inspection, the status of the work with photos, items reviewed, deficiencies observed, recommendations and additional actions required.
- Q. The A/E shall conduct interim fire protection installation inspections and witness final fire protection equipment testing.
- R. At the time that the General Contractor notifies the VA that they believe substantial completion has been reached, the A/E shall receive a punch list from the Contractor and review and coordinate the review of all consultants and add to the Contractor's punch list. The A/E shall provide recommendation if Substantial Completion has been achieved and provide notification to the VA. At the time of SC, the punch list shall be provided to the VA. The VA shall review the work and add items as appropriate. The A/E, Contractor and VA shall review the list and sign off on completed items. The A/E shall manage the punch list and keep a log of all findings by each division and conduct as many site visits that may be required to verify completion of the punch list.
- S. A/E shall verify all devices (valves, circuits, equipment, etc.) has been properly labeled and or tagged with charts and cards as noted in the specifications or per codes.

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- T. A/E to assist in the filling out of JnA's (Justification and Approval for Other than Full and Open Competition) for any Brand Name specific items needed in the project.

### **VII. TYPE C SERVICES- COMMISSIONING**

- A. Provide for full commissioning to be completed in conjunction with the A/E, Contractor and Engineering Department of the VA.
- B. A/E to provide the qualifications of three firms for selection by the VA.
- C. Commissioning process shall be specified to implement the requirements included in EO 13423, EO 13514 & EO13693 and the 2015 Guiding Principles for Sustainable Federal Buildings and Associated Instructions dated, February 2016  
[https://www.whitehouse.gov/sites/default/files/docs/guiding\\_principles\\_for\\_sustainable\\_federal\\_buildings\\_and\\_associated\\_instructions\\_february\\_2016.pdf](https://www.whitehouse.gov/sites/default/files/docs/guiding_principles_for_sustainable_federal_buildings_and_associated_instructions_february_2016.pdf)  
Specifications and selected firm shall utilize the Whole Building Commissioning Process Manual.

### **VIII. TYPE C SERVICES-CONSTRUCTION COORDINATION**

- A. The Architect and Engineer shall take lead on project coordination. A/E shall "share" their building model (REVIT) with all sub-contractors to use for the coordination of their trade during the construction phase of the project.
- B. The A/E shall manage the model and allow all applicable trades to have access to the building model for their use in the coordination of their trade.
- C. A/E shall set guidelines (and enforce) the order of trade coordination using the building model:
  - 1. Mechanical
  - 2. Plumbing
  - 3. Electrical
  - 4. Fire protection/Fire Alarm
  - 5. IT/Security
- D. The A/E shall provide resolutions to coordination's issues. If during the process the A/E design requires revising (ex. Duct decreased in depth and

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increased in width) to allow for trades to “fit”, they shall do so under Type C services at no additional cost.

- E. The “Coordination” (in REVIT) option shall be utilized to show all “hits” that may occur in the model.

### **IX. TYPE C SERVICES - AS-BUILTS**

- A. The Architect shall be required to modify their backgrounds from site inspections (as well as any issued SK's or RFI's) to assist in the compiling of as-built documents. The Architect shall supply a 100% complete and accurate as-built of backgrounds for use by all subs to overlay their as-builts.
- B. Verification of as-built conditions: A/E shall utilize as-record drawings (field mark-up set from Contractor) and review documents against finished conditions to verify the work. A/E shall then prepare electronic as-built documents.
- C. The A/E shall be responsible for assuring that as-built documents are accurate at the end of the construction of the project.
- D. A/E shall give input to complete percentages for use to approve payment to subs. Final payment shall not be made to GC/Subs until the A/E confirms that as-builts are 100% complete.

### **X. TYPE C SERVICES - POST OCCUPANCY EVALUATION**

- A. Provide a post occupancy evaluation by conducting interviews with the IPT and staff 12 months after completion of the work. Generate feedback on lessons learned and share in a report.
- B. Meet with the design, construction team and IPT to review lessons learned for the next phase of the work.

### **XI. ADDITIONAL PROJECT SPECIFIC REQUIREMENTS**

- A. Specifications: VA Master Construction Specifications, available at <http://www.cfm.va.gov/TIL/spec.asp>, shall be the basis for the construction specifications. However, these are a guide only and are written to cover a wide variety of project types and sizes. Revise and provide supplemental specifications as required for complete documents.
- B. The required response time for all VA reviews, unless otherwise stated by the VA, shall be 14 calendar days. If the scope of the required action is extensive,

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the A/E shall notify the Contracting Officer and request additional time as soon as possible.

### C. Construction Document Requirements:

1. Provide in accordance with Supplement "B" sets of drawings (REVIT, and PDF) and specifications (MS Word and PDF).
2. Provide a complete set of drawings in a single Adobe Acrobat PDF file.
3. Drawing preferred size is 30 inches by 42 inches.
4. Drawings shall be compatible with the most current version of REVIT. Specifications shall be compatible with MS Word 2010.
5. File names shall begin with the VA project number, followed by the official project name, submission title and date of issue.
6. Final specification sections shall be merged into a single pdf file to include separate full document pagination in the right-hand side of Footer without the loss of individual file Headers/Footers. Each specification section shall be "bookmarked" in Adobe Acrobat.
7. Renderings: Renderings shall be of professional quality and in adequate number to effectively convey the project done utilizing REVIT. No less than 4 different renderings shall be prepared. Renderings shall show the building's exterior from multiple perspectives and a sample of interior spaces such as the waiting area, lobby, check in/out areas, or a typical patient care room. Renderings shall be provided in electronic pdf format.
8. The A/E shall employ the following professional personnel (at minimum) to perform the services required under this contract. The same person may fill two or more roles if appropriately qualified. As from past jobs many Architects can successfully fill the roles of: Hardware specialist, Security specialist, Historical consultant. Any additional disciplines not included below shall be included as part of this SOW.

Professional Discipline	Name	Job Title
Principle-in-Charge		
Project Manager		
Architectural		
<b>Building envelope specialist</b>		



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<b>LEED consultant</b>		
Structural		
Mechanical		
Fire protection		
<b>Fire alarm</b>		
Electrical		
<b>Lighting Designer</b>		
Plumbing		
Estimating		
Civil		
Landscape Architect		
Information technology		
Hardware specialist		
Security specialist		
Interior Design		
Historical specialist		
Industrial Hygiene		
Geotechnical		

**SUPPLEMENT “B”**

**A/E SUBMISSIONS OF DESIGN REVIEW MATERIAL**

**FIRST PHASE REVIEW** (Conceptual – Preliminary User Group Meetings & Field Surveys)

- 1 Full size and one half size sets of PDF preliminary layout plans for both concepts
- 2 Sets of conceptual estimates with proposed alternates per meeting
- Ground level renderings (3 per concept) of the exterior only. These renderings will be used to help the VA choose an option and won't be used for advertising the project, thus they do not need to be detailed or have high level finishing. The renderings should have massings of surrounding buildings and the site modeled with plants, people, etc.
- Cost estimate based on cost per square foot
- Report on the PSDM requirements and list of waivers that may be desired
- Report on the Risk Management Process for Federal Facilities and applicable requirements
- Provide the CBA for items as applicable during this phase

**SECOND PHASE REVIEW** (30% Submittal – Schematics)

- 1 Set of REVIT & PDF schematic drawings in accordance with Supplement “A” Item 6
- 1 Set of full size bound schematic layout plans/elevations/two building sections – 42 inches by 30 inches
- 1 Set of half size bound schematic layout plans/elevations/two building sections
- 1 Set of Engineering narratives
- Interior Design deliverables as noted herein
- 1 Set of MS Word draft outline specifications
- 1 Sets of draft outline specifications in 3-ring binders
- 2 Sets of draft phasing plans (11X17)
- 1 Set of hardcopy 3D colorized renderings (3 exterior and 3 interior)
- 1 Set of PDF 3D colorized renderings
- Provide the following reports (1 print set and PDF):
  - Findings and requirements of EO13514
  - Energy Policy Act of 1992
  - Energy Star target analysis
  - Energy performance targets for the entire building
  - Hard and soft costs directly related to achieving LEED Silver Certification
- Detailed cost estimate (1 print set and PDF)
- Provide the remaining CBA during this phase
- Preliminary code review for all disciplines

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### **THIRD PHASE REVIEW** (60% Submittal – “DD” Design Development)

- 1 Set of REVIT & PDF design drawings
- 1 Set of full size bound design development layout plans/details – 42 inches by 30 inches
- 1 Set of half size bound design development layout plans/details
- 1 Set of MS Word design specifications
- 1 Set of design specifications in 3-ring binders
- 1 Set of design development estimates
- 1 Set of design development phasing plans
- Detailed cost estimate (1 set and PDF)
- Report on the PSDM requirements and list of waivers that may be desired based on costs or other reasons. Provide mitigation recommendations for waiver request items.
- Report on design parameters that meet Sustainability and energy requirements
- Updated code review for all disciplines

### **FOURTH PHASE REVIEW** (90% Submittal – “CD” Construction Documents)

- 1 Set of REVIT & PDF construction drawings
- 1 Set of full size bound construction documents plans/details/etc. – 42 inches by 30 inches
- 1 Set of half size bound construction documents plans/details
- 1 Set of MS Word & Adobe PDF construction specifications
- 1 Set of construction specifications in 3-ring binders
- 1 Set printed, Excel and PDF of construction documents estimates
- 1 Sets of construction documents phasing schedules
- Detailed cost estimate
- Memo addressing Design Development peer review
- Full Code report

### **FIFTH PHASE REVIEW** (100% Submittal – Bid [Final] Documents)

- 1 Set of REVIT & stamped (by registered architect and PE) PDF bid drawings
- 1 Set of approved full size bound bid drawings with PE stamps
- 1 Set of approved half size bound bid plans/details
- 1 Set of MS Word final specification sections
- 1 Set of Adobe PDF final specification sections merged with bookmarks
- 1 Set of final specifications paginated front to back in 3-ring binders.
- 1 Set of Excel and PDF final estimates
- 1 Set of PDF final phasing schedules
- 1 Set of PDF 3D colorized renderings, to be used for describing the project to VA staff, Veterans, and/or the public (3 exterior and 3 interior)
- 1 Set of PDF 3D colorized renderings
- Detailed cost estimate
- Memo addressing 90% submittal peer review
- Full Code report

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### **SIXTH PHASE REVIEW** (Following construction award)

- 1 Set of PDF 3D colorized renderings, updated to reflect the project as awarded, taking into account any deduct alternates taken.

### **SEVENTH PHASE REVIEW** (Project Close Out Submittal – “As-Built” Construction Documents)

- 1 Set of REVIT & stamped (by registered architect and PE) PDF As-Built drawings in accordance with Supplement “A” Item 6.
- 1 Sets of approved full size As-Built drawings with PE stamps

**SUPPLEMENT “C”**

**A/E MINIMUM SUBMISSION REQUIREMENTS**

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**A/E SUBMISSION INSTRUCTIONS FOR  
MINOR AND NRM CONSTRUCTION PROGRAM  
MEDICAL CENTER PROJECTS**

**I. GENERAL**

**A. INTRODUCTION**

1. This document contains information and minimal submission requirements for contract documents specified in the A/E contract.
2. Coordinate all activities with the VA Medical Center (VAMC). Hold informal meetings (upon mutual consent of the VA and the A/E) at the VAMC to discuss the design and related issues. Continue to expand contacts by telephone, rough sketch studies and other means of communication with the purpose of finalizing a general design approach to be followed.
3. Final approved Schematic documents shall be the basis for the development of the Design Development phase. Likewise, final approved Design Development documents shall be the basis for the development of the Construction Documents phase. The VAMC must approve any changes from each set of documents before the A/E proceeds to the next phase.
4. VA will review all submittals for functional and aesthetic relationships. However, no further functional decisions are anticipated after the Design Development phase.
5. Provide a design narrative/analysis for each technical discipline (e.g., architectural, mechanical, fire protection, etc.) which describes the intent of each discipline with schematic submission.
6. Provide computations and sizing calculations for electrical, mechanical (HVAC, plumbing, and steam), sanitary, structural and fire protection designs. For computerized calculations, submit complete and clear documentation of computer programs, interpretation of input/output, and description of program procedures with 90% Contract Documents.
7. Provide for the following design alternate prices:
  - a. Green Globes, LEED registration and certification
  - b. Number of site inspections during CPS

**B. A/E RESPONSIBILITIES:**

1. Contract documents shall meet or exceed the requirements of this document.
2. The A/E is responsible for producing a complete set of drawings, design narrative/analysis, calculations, sample boards, and specifications in accordance with professional standard practices and VA criteria. Each A/E discipline shall utilize the VA design manuals, standard details, construction standards, and any applicable BIM documents/details that may be available at start of design via the VA resources on-line.
3. A/E shall conduct coordination meetings between A/E technical disciplines before submitting material for each VA review and provide minutes of the meetings to VAMC.
4. A/E shall provide a checklist of all submittals, certifications, tests, and inspections required per drawing and specification section as a part of the 90% and 100% submissions.

**C. SUBMISSION POLICY:**

1. There is a Schematic\* submission, a Design Development (DD\*\*) submission, and a Construction Document (CD\*\*\*) submission indicated in this guide. The VAMC may alter the submission requirements depending upon the complexity of the project by adding or deleting certain reviews. Where additional reviews might be required, the VAMC will issue, at their discretion, a detailed "Statement of Task" or supplemental instructions to the A/E, which would be provided at the time of solicitation for a fee proposal.
2. At each submission, the A/E shall date all material and present the designs on VA standard size drawings that are appropriately labeled, "SCHEMATIC SUBMISSION", "DESIGN DEVELOPMENT SUBMISSION", OR "CONSTRUCTION DOCUMENT SUBMISSION", in large block letters above or beside the VA standard drawing title block. In each submission, the A/E shall incorporate the corrections, adjustments, and changes made by VA at the previous review.

**D. QUALITY ASSURANCE/QUALITY CONTROL (QA/QC):**

In an effort to reduce construction change orders due to design errors and omissions, the A/E shall develop, execute, and demonstrate that the project

## Supplement C

plans and specifications have gone through a rigorous review and coordination effort. The requirements are as follows:

1. Fee Proposal: Provide an outline of the actions that your firm will take during the design process along with an associated fee.
2. Two Weeks after Receipt of the Notice To Proceed: Submit a detailed QA/QC Plan describing each step that will be taken during the development of the various phases of design. Each step should have an appropriate space where a senior member of the firm can initial and date when the action has been completed. This work shall happen independently and in conjunction with a separate peer review as noted herein.
3. 100% Submittal: Submit the completed QA/QC Plan along with the latest marked-up documents (plans, specifications, etc.) necessary to ensure that a thorough review and coordination have been completed.
4. It is expected that oversights/errors will be at a minimum and will be picked up prior to the final 100% construction documents being issued. Design errors mean change orders and time delays which could negatively affect the project.
5. The AE's may be charged for any errors that occur by their failure to properly design and coordinate the complete design package.

### **E. ADDITIONAL SERVICES:**

As a new project, additional design services should not be required. Design services shall include costs for testing, etc. However, if additional services are necessary to be performed by consultants, submit criteria for the work to be performed to the VAMC Contracting Officer as soon as possible. Upon approval of the criteria, submit proposals and qualifications of at least three firms being considered for the work in accordance with the contract procedures (CP1) of the contract, together with a proposal from the recommended firm and a brief justification for the additional work not anticipated and selection of the consultant, for VA approval.

### **F. CRITICAL PATH METHOD PHASING MEETINGS**

1. If required and prior to submission of Schematic material, the A/E shall meet with the VAMC's Project Manager to discuss and outline phasing requirements for the project. These phasing requirements shall describe the general sequence of the project work, estimated project duration, and what



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Government constraints will exist that will influence the Contractor's approach to the construction project. The A/E shall be responsible for recording the phasing requirements. It is anticipated that phasing will be required for connection of the new building to campus "tunnel system". As noted herein, provide a conceptual phasing plan that confirms the intent of the Master Plan.

2. Submit a phasing narrative and phasing plans (on reduced size plans) within two weeks after each phasing meeting to the VAMC Project Manager. VA will review these submission(s) and return comments to the A/E within two weeks of receipt. The A/E will then use this information in preparing their schematic, design development, and construction document submissions.

## II. SUBMISSIONS

**A. SITE DEVELOPMENT:** Submit the following for Civil Engineering and Landscape Design:

Site Development:	Conceptual*	Schematics**	DD***	CD
Narrative	✓			
Analysis of site	✓			
Circulation study	✓			
Phasing analysis	✓	✓		
Parking analysis	✓	✓		
Development concept showing proposed buildings and structures	✓	✓		
Landscape drawings with plant groupings		✓		
Topographic, utility, and landscape survey	✓			
Demolition plan		✓	✓	✓
Layout plan showing location of:				
• Building and structures	✓	✓	✓	✓
• New site infrastructure		✓	✓	✓
• Roads	✓	✓	✓	✓
• Fire Access	✓	✓	✓	✓
• Parking	✓	✓	✓	✓
• Accessible spaces			✓	✓
• Van spaces			✓	✓
• Mechanical and electrical equipment on grade		✓	✓	✓

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Site Development:		Conceptual*	Schematics**	DD***	CD
• Future expansion		✓	✓		
• Service area(s)				✓	✓
• Entrances and exits			✓	✓	✓
• Walks			✓	✓	✓
• Inlets				✓	✓
• Contractor's staging area				✓	✓
• Vertical and horizontal road alignment				✓	✓
• Paving joint patterns				✓	✓
Grading plan showing:					
• Existing contours			✓	✓	✓
• Proposed contours			✓	✓	✓
• Spot elevations at structure corners, entrances, equipment pads, etc.				✓	✓
• First floor elevations				✓	✓
• Rim and invert elevations on storm drainage fixtures				✓	✓
• Erosion and sediment control				✓	✓
Rock excavation (quantity)				✓	✓
Planting plan showing:					
• List of plant material			✓	✓	✓
Site details				✓	✓
Landscape plans and details				✓	✓
Signage plan and schedule				✓	✓
Specifications				✓	✓

\* Submit site and landscape plans at an appropriate scale to show all work involved.

\*\* Submit site and landscape plans at same scale as topographic/utility survey incorporating all of the revisions required by comments from schematics.

\*\*\* Submit fully dimensioned, complete, and coordinated site and landscape plans incorporating all revisions required by comments from the design development phase.

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### B. STRUCTURAL: Submit the following:

Structural:	Conceptual	Schematics*	DD**	CD***
Narratives for design options	✓			
Three alternative structural systems for typical bays <sup>1</sup>		✓		
Supporting calculations <sup>2</sup>		✓	✓	✓
Cost estimates for each system <sup>3</sup>		✓		
Recommend preferred system		✓		
Column locations		✓		
Shear load resisting elements <sup>4</sup>		✓		
Boring location plan <sup>5</sup>		✓		
Structural plans			✓	✓
Sections			✓	✓
Details			✓	✓
Size/location of:				
• Columns			✓	✓
• Beams			✓	✓
Lateral load resisting elements			✓	✓
Load bearing walls			✓	✓
Slabs			✓	✓
Foundations			✓	✓
Elevations				✓
Schedules				✓
General notes				✓
Boring logs				✓
Subsurface investigation report				✓
Estimated quantity of rock				✓
Specifications				✓

\* Submit, as a minimum, a single line layout for at a scale not less than 1:100 (1/8 inch). Submit a complete double line layout of areas of critical importance, at a scale of 1:50 (1/4 inch) including equipment.

\*\* Submit minimum 1:100 (1/8 inch) scale floor plans, new and renovated, incorporating all of the revisions required by comments from schematics.

\*\*\* Submit fully dimensioned, complete, and coordinated 1:100 (1/8 inch) scale floor plans, incorporating all revisions required by comments from the design development phase.

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### B. NOTES:

1. When only one structural system is possible due to other project requirements, include an explanatory statement and submit only that structural system.
2. Include vertical and lateral load design for CD submission.
3. Include foundation and fireproofing.
4. Indicate existing utilities and structures within, adjacent, or contiguous to the new construction.
5. Upon approval of the subsurface investigation criteria, submit qualifications of at least three consultants being considered for the work together with the proposal of the consultant recommended as most qualified.

### C. ARCHITECTURAL: Submit or show the following:

Architectural:	Conceptual	Schematics*	DD**	CD***
	Location of:			
• Rooms <sup>1,12</sup>	✓	✓	✓	✓
• Doors		✓	✓	✓
• Corridor(s) <sup>2</sup>	✓	✓	✓	✓
• Basic column grid/sizes		✓	✓	✓
• Expansion and seismic joints		✓	✓	✓
• Electrical closets		✓	✓	✓
• Equipment rooms		✓	✓	✓
• Signal and telephone closets		✓	✓	✓
• Mechanical shafts and space		✓	✓	✓
• Stair(s)	✓	✓	✓	✓
• Ramp(s)			✓	✓
• Elevator(s), if applicable	✓	✓	✓	✓
• Automatic Conveyances, if applicable	✓	✓	✓	✓
	Floor Plans/Drawings:			
• All floors	✓	✓	✓	✓
• Penthouse		✓	✓	✓
• Roof plan	✓	✓	✓	✓
• Pipe basement			✓	✓
• Pipe tunnel			✓	✓

# Supplement C

Architectural:	Conceptual	Schematics*	DD**	CD***
• Reflected ceiling <sup>3</sup>			✓	✓
• Equipment floor plans 1:50 (1/4 inch) scale <sup>4</sup>			✓	✓
• Demolition plans <sup>5</sup>			✓	✓
• Egress and rating Diagrams <sup>10</sup>			✓	✓
• Exterior building elevations <sup>8</sup>	✓	✓	✓	✓
• Wall sections <sup>11,13</sup>			✓	✓
• Building sections <sup>11,13</sup>		✓	✓	✓
• Construction details			✓	✓
• Drafting symbols, abbreviations, and general notes			✓	✓
• Door, window, and louver schedules				✓
• Interior details, elevations, sections		✓	✓	✓
• Finish schedule			✓	✓
• Graphics and signage				✓
Other deliverables:				
Code review		✓	✓	✓
Exterior colors and materials		✓	✓	
Sample boards for exterior materials, products, and finishes		✓	✓	
Room names and numbers <sup>6</sup>	✓	✓	✓	✓
Program net/designed net <sup>7</sup>	✓	✓	✓	✓
Exterior dimensions/total building gross area	✓	✓	✓	✓
Size and shape of all departmental functions and services		✓	✓	✓
Finish floor elevations <sup>9</sup>		✓	✓	✓
Door locations, sizes, and swings			✓	✓
Wall thickness and chase walls			✓	✓
Handrail location/dimensions			✓	✓
Fixed equipment			✓	✓
Equipment elevations and details				✓
Plumbing fixtures		✓	✓	✓
Wheelchair accessible facilities			✓	✓
Finish grades at corners, entrances, exits, platforms and ramps			✓	✓
Fire and smoke rated partitions		✓	✓	✓
Lead-lined and radio-frequency-shielded partitions			✓	✓
Fire extinguisher cabinets			✓	✓

## Supplement C

Architectural:	Conceptual	Schematics*	DD**	CD***
Spray-on fire proofing (see fire protection)				
Color rendering	✓	✓		✓
Specifications		✓	✓	✓
Lead abatement		✓	✓	✓
Lead abatement specification				✓

\* Submit, as a minimum, a single line layout for at a scale not less than 1:100 (1/8 inch). A scale of 1:200 (1/16 inch) is acceptable for architectural floor layout if an entire floor cannot be shown on one sheet. Submit a complete double line layout of areas of critical importance, at a scale of 1:50 (1/4 inch) including equipment.

\*\* Submit minimum 1:100 (1/8 inch) scale floor plans, new and renovated, incorporating all of the revisions required by comments from schematics.

\*\*\* Submit fully dimensioned, complete, and coordinated 1:100 (1/8 inch) scale floor plans, incorporating all revisions required by comments from the design development phase.

### **C. NOTES:**

1. Use lines between spaces to indicate the centerline of the partition (for schematics only).
2. Along the corridor, the line shall represent the corridor side of the partition.
3. Indicate ceiling mounted equipment, lighting fixtures, air diffusers, registers, tracks, and other significant elements.
4. Identify all equipment for each room. Indicate and coordinate all equipment with the Equipment Guide List (Program Guide 7610) and Activated Equipment List. Use VA standard symbols and notation to distinguish between contractor-furnished and installed (CC), VA-furnished contractor-installed (VC), VA-furnished and installed (VV), and relocated (R) equipment. Equipment floor plans are not required for the offices, consultation rooms, classrooms, conference rooms, and waiting rooms within the above departments. Draw equipment details which are necessary for major decisions, though complete detailing is not required for this submittal.
5. Indicate existing finish schedule and notes on plan.

## Supplement C

6. Label as required for schematic drawings. Coordinate new room numbering with medical center.
7. Use the same names on drawings as those used in the space program. Provide area figures in fractional form, e.g., 400/390. Indicate space provided, but not called for in the space program, as: -/390.
8. If the project requires exterior work, show all facades indicating massing, proposed fenestration and the building relationship to adjacent structures and the finish grade. Show all significant building materials, including their colors, any proposed roof top mechanical equipment, architectural screens, skylights, and stacks on the elevation drawings. If building is designed for future expansion (vertical and/or horizontal), delineate elevations with and without the future expansion. If project is an addition, show elevations of the existing building in sufficient detail to illustrate the relationship between the new and existing in terms of scale, material, and detail.
9. Define the relationship of the finish ground floor to finish grade at major entrances and docks.
10. Provide full code review based on IBC, NFPA and associates references for commercial construction. Indicate construction including fire resistance rating, building materials and systems, etc.
11. Define building configuration. Draw sections at the same scale as floor plans, normally 1:100 (1/8 inch). If the building abuts an existing structure, indicate in the section how the new floor elevations align with existing.
12. Identify psychiatric areas where special considerations are required to ensure the safety of patients (e.g. hard ceilings, safety glazing, etc.).
13. Indicate new building components and systems, such as window design, roofing system, special entryways, building "skin", and any special architectural elements for the project.
14. Indicate all building systems, materials, and future expansion, if applicable.
15. Submit a drawing for all which is part of the construction contract.
16. Format provided in SPECIFICATIONS. If there is no VA master specification, develop contract specification that is in compliance with regulations of the Environmental Protection Agency.

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### **D. INTERIOR DESIGN:** Submit the following:

Interior Design:	Schematics*	DD**	CD***
Written interior design concept <sup>1</sup>	✓		
Illustrate overall design solution <sup>2</sup>	✓		
Material and finish samples boards with rendered enlarged plans and elevations	✓		
Sketches	✓		
Design solution for interior spaces:			
• Perspectives	✓	✓	
• Keyed finish and furniture Plans with schedules		✓	✓
• Details		✓	✓
• Elevations		✓	✓
• Sections		✓	✓
• Casework plans, elevations and sections		✓	✓
• Interior design details, elevations, and sections		✓	✓
• Millwork details			✓
• Wayfinding		✓	✓
• Floor patterns		✓	✓
• Wall patterns		✓	✓
• Lighting		✓	✓
• Signage		✓	✓
• Handrails		✓	✓
• Bumper guards		✓	✓
Specification section 09050		✓	✓
Edited carpet and wallcovering specifications		✓	✓
Specifications			✓

\* Submit, as a minimum, a single line layout for at a scale not less than 1:100 (1/8 inch). Submit a complete double line layout of areas of critical importance, at a scale of 1:50 (1/4 inch) including equipment.

\*\* Submit minimum 1:100 (1/8 inch) scale floor plans, new and renovated, incorporating all of the revisions required by comments from schematics.



## Supplement C

\*\*\* Submit fully dimensioned, complete, and coordinated 1:100 (1/8 inch) scale floor plans, incorporating all revisions required by comments from the design development phase.

### D. NOTES:

2. Provide a document of data collected in interior design programming. Include collection and analysis of data from the VAMC project coordinator and interior designer. Data includes, but is not limited to the following: existing interior and exterior design and materials, light, safety, patient profile, customer's "vision" or desired image, public vs. private spaces, complete signage package, goals of customer, relationship to existing facilities, future expansion/renovation plans, regional influences, etc.
3. Discuss and illustrate the overall design solution for the primary areas of the project using marked-up floor plans, loose sketches, and material and finish samples. Use broad categories of materials, finishes, color palettes, patterns, textures, and scales. Separately group all major neutral background materials and finishes that will be used and discuss how they will be integrated with all other materials and finishes on the project. Include all primary and secondary corridors, typical patient and toilet rooms, lobbies, atriums, eating spaces, chapels, waiting rooms, and exam rooms. Show the relationship among departments and functions, and between public and private spaces.

### E. EQUIPMENT: Submit the following:

Equipment:	Schematics*	DD**	CD***
Equipment (on architectural drawing)	✓	✓	✓
Activation Equipment List (Excel format)		✓	✓
Specifications			✓

\* Submit, as a minimum, a single line layout for at a scale not less than 1:100 (1/8 inch). Submit a complete double line layout of areas of critical importance, at a scale of 1:50 (1/4 inch) including equipment.

\*\* Submit minimum 1:100 (1/8 inch) scale floor plans, new and renovated, incorporating all of the revisions required by comments from schematics.

\*\*\* Submit fully dimensioned, complete, and coordinated 1:100 (1/8 inch) scale floor plans, incorporating all revisions required by comments from the design development phase.

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### F. FIRE PROTECTION: Submit the following:

Fire Protection:	Schematics*	DD**	CD***
Fire protection narrative: <sup>1</sup>			
• Code review	✓		
• Fire and smoke separation	✓		
• Fire sprinkler/standpipe system	✓		
• Water supply available/max. demand	✓		
• Water flow testing results	✓		
• Fire alarm systems <sup>2</sup>	✓		
Existing to be modernized	✓		
Base loop system for interface of new construction	✓		
• Kitchen extinguishing systems, if applicable	✓		
• Size of air handling unit	✓		
• Exit paths from each zone	✓		
• Distances to stairs	✓		
• Occupancy of each area	✓		
• Exit calculations for each floor	✓		
• Smoke control features	✓		
Floor Plans/Drawings: <sup>3 &amp; 4</sup>			
• Sprinkler zones		✓	✓
• Fire alarm zones		✓	✓
• Smoke zones		✓	✓
• Building water supply		✓	✓
• Interior sprinkler supply lines		✓	✓
• Standpipes		✓	✓
• Fire extinguisher cabinets		✓	✓
• Fireproofing of structural members		✓	✓
• Sprinkler/standpipe riser supply piping		✓	✓
• Termination of sprinkler main and inspector test drains		✓	✓
• Sprinkler alarm valves		✓	✓
• Waterflow and tamper switches		✓	✓
• Sprinkler system fire department connections		✓	✓
• Sprinkler design hazards per NFPA 13		✓	✓

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Fire Protection:	Schematics*	DD**	CD***
• Exit signs and emergency lighting		✓	✓
• Occupied areas not protected by automatic sprinklers		✓	✓
Calculations	✓	✓	✓
Estimated capacities for proposed air handling units in cubic meters (cubic feet) per minute		✓	✓
Location of:			
• Fire alarm system		✓	✓
• Annunciator panels		✓	✓
• Pull stations		✓	✓
• Flow switches		✓	✓
• Audio-visual devices		✓	✓
• Smoke detectors		✓	✓
• Duct smoke detectors		✓	✓
• Smoke dampers		✓	✓
• Fire dampers		✓	✓
• Fire alarm risers <sup>5</sup>		✓	✓
• Exit signs		✓	✓
• Emergency lighting		✓	✓
• Fire sprinklers		✓	✓
• Standpipes		✓	✓
• Fire hydrants		✓	✓
• Post indicator valves		✓	✓
• Sectional valves		✓	✓
• Fire extinguisher cabinets		✓	✓
• Electromagnetic door hold open devices		✓	✓
Wall sections indicating fire resistive ratings		✓	✓
Excavation plan signage		✓	✓
Door and window schedule with fire rating or fire rated glazing			✓
Zoning of each fire alarm initiating device			✓
Details:			
• Stairwell sign, if applicable			✓
• Annunciator panel			✓
Interconnection of fire alarm system with:			
• Smoke dampers			✓

## Supplement C

Fire Protection:	Schematics*	DD**	CD***
• Air handlers			✓
• Elevator controls, if applicable			✓
• Kitchen fire extinguishing, if applicable			✓
• HVAC system with smoke duct detectors			✓
Single line riser diagram for fire alarm system			✓
Height/configuration of storage racks and shelving			✓
Specifications			✓

\* Submit, as a minimum, a single line layout for at a scale not less than 1:100 (1/8 inch). Submit a complete double line layout of areas of critical importance, at a scale of 1:50 (1/4 inch) including equipment.

\*\* Submit minimum 1:100 (1/8 inch) scale floor plans, new and renovated, incorporating all of the revisions required by comments from schematics.

\*\*\* Submit fully dimensioned, complete, and coordinated 1:100 (1/8 inch) scale floor plans, incorporating all revisions required by comments from the design development phase.

### **F. NOTES:**

2. Indicate NFPA 220 and UBC fire resistive rating of the building, NFPA 101 occupancy type, and fire protection code analysis to access compliance with NFPA 101.
3. Determine type, features, age, reliability, compliance with present day codes, capacity, zoning, supervision, control panel and power supplies, initiating devices and circuits, and auxiliary functions for existing fire alarm system. Indicate manufacturer, model number, voltage, and wiring style of existing alarm systems and devices. Provide recommendations for the proposed fire alarm work.
4. Provide information to meet Joint Commission requirements; e.g. location of all fire rated barriers, smoke barriers, exit signs, fire extinguishers, manual pull stations, smoke detectors, and sprinkler flow switches. Show all interim life safety measures such as temporary systems Fire Alarm, Sprinkler, and Smoke.

## Supplement C

5. At DD Submission, add room names, room numbers, door locations and swings, smoke and fire rated partitions, sprinkler/standpipe risers to floor plans. Identify psychiatric areas on drawings so areas for institutional type heads are identified. Add location of all valves (post indicator, sectional) and backflow preventer if provided.
6. Show new equipment and/or the necessary changes involved if modification to the existing system is required.

### **G. PLUMBING:** Submit the following:

Plumbing:	Schematics*	DD**	CD***
Narrative:			
• Existing plumbing systems to be used and necessary modifications	✓	✓	✓
• New plumbing systems	✓	✓	✓
Floor Plans/Drawings:			
• Room names	✓	✓	✓
• Identify			
New plumbing fixtures w/VA numbering system	✓	✓	✓
Existing equipment		✓	✓
New equipment		✓	✓
New medical gas outlets		✓	✓
Plumbing piping	✓	✓	✓
• Size of pipe		✓	✓
• Equipment schedule		✓	✓
• Fire & smoke partitions	✓	✓	✓
• Demolition plans		✓	✓
• Riser diagrams			✓
• Legend, notes, and details			✓
Location and size of sprinkler riser and standpipes (see fire protection)		✓	✓
Location of emergency eyewash and shower equipment		✓	✓
Calculations (equipment & piping)		✓	✓
List of Required Contract Specifications		✓	
Contract Specifications			✓

\* Submit, as a minimum, a single line layout for at a scale not less than 1:100 (1/8 inch).

## Supplement C

**\*\*** Submit minimum 1:100 (1/8 inch) scale floor plans, new and renovated, incorporating all of the revisions required by comments from schematics phase.

**\*\*\*** Submit fully dimensioned, complete, and coordinated 1:100 (1/8 inch) scale floor plans, incorporating all revisions required by comments from the design development phase. Submit a complete double line layout of areas of critical importance, at a scale of 1:50 (1/4 inch).

### **H. SANITARY:** Submit the following:

Sanitary:	Schematics*	DD**	CD***
<b>Narrative:</b>			
• Existing sanitary systems: underground water, sanitary sewers, storm sewers, & fuel gas with sources, disposal methods, storage pressures, condition, etc.	✓		
• New sanitary systems	✓		
• Circulation study to assess emergency vehicle access	✓		
<b>Utility Plans/Drawings showing existing and new sanitary systems:</b>			
• Size of pipes	✓	✓	✓
• Invert elevations of sewers	✓	✓	✓
• Locate/size			
Pumps	✓	✓	✓
Storage facilities	✓	✓	✓
Treatment equipment, if applicable	✓	✓	✓
Fire hydrants		✓	✓
Sectional and post indicator valves		✓	✓
Backflow preventer		✓	✓
• Profiles of sanitary & storm sewers		✓	✓
• Demolition Plans		✓	✓
• Legend, notes, and details			✓
Point of connection to sprinkler system	✓	✓	✓
Calculations		✓	✓
List of specifications		✓	
Contract Specifications			✓

## Supplement C

\* Submit utility drawings at same scale as provided for Site Development drawings.

\*\* Submit utility drawings at same scale as provided for Site Development drawings, incorporating all of the revisions required by comments from the schematics phase.

\*\*\* Submit utility drawings at same scale as provided for Site Development drawings, incorporating all of the revisions required by comments from the design development phase. Submit legend, notes, and details at a scale not less than 1:100 (1/8 inch).

### I. HVAC: Submit the following:

HVAC:	Schematics*	DD**	CD***
Narrative:			
• Description of HVAC systems	✓		
• Equipment for each functional space	✓		
• Life cycle cost analysis <sup>1</sup>	✓		
Tentative location/sizes:			
• Mechanical equipment room	✓		
• Principal vertical shafts	✓		
Block layout of equipment	✓		
Louvers: <sup>2</sup>			
• Outside air		✓	✓
• Exhaust air		✓	✓
• Relief air		✓	✓
Engineering calculations <sup>3</sup>	✓	✓	✓
Selection of HVAC equipment		✓	✓
Catalog cuts of equipment		✓	✓
Room by room heating and cooling loads		✓	✓
Zone by zone heating & cooling loads		✓	✓
Building block heating & cooling loads		✓	✓
Psychometric chart for air handling unit		✓	✓
Coil entering and leaving conditions		✓	✓
Fan motor heat gains		✓	✓
Consumption of humidification loads		✓	✓
Sound/acoustic analysis		✓	✓

# Supplement C

HVAC:	Schematics*	DD**	CD***
Narrative:			
Room-by-room air balance charts <sup>4</sup>		✓	✓
Chilled water plant: <sup>5</sup>			
• Quantity and type of chillers		✓	✓
• Capacity in tons of refrigeration		✓	✓
• Electrical equipment		✓	✓
Heating system:			
• Total heating load		✓	✓
• Domestic hot water load		✓	✓
• Humidification load		✓	✓
• Equipment steam demand		✓	✓
• Zoning of heating system		✓	✓
HVAC floor plan: <sup>6</sup>			
• Main supply, return and exhaust ductwork		✓	✓
• Volume dampers		✓	✓
• Fire and smoke partitions		✓	✓
• Fire and smoke dampers		✓	✓
• Smoke detectors		✓	✓
• Automatic control dampers		✓	✓
• Air quantities for each room		✓	✓
• Air inlets/outlets		✓	✓
• Rises and drops in ductwork		✓	✓
• Expansion loops		✓	✓
• Anchors		✓	✓
• Vales		✓	✓
• Drip assemblies		✓	✓
• Balancing fittings		✓	✓
• Plan/section of mechanical equipment rooms		✓	✓
• Schematic flow and riser diagrams <sup>7</sup>		✓	✓
• Schematic control diagrams <sup>8</sup>		✓	✓
• HVAC demolition drawings		✓	✓
• Phasing plan		✓	✓
• Equipment schedule		✓	✓
• Seismic bracing		✓	✓
• VA symbols and abbreviation		✓	✓



## Supplement C

HVAC:	Schematics*	DD**	CD***
Narrative:			
• Standard detail drawings			✓
• Automatic temperature control drawings <sup>10</sup>			✓
Selection of			
• Pumps			✓
• Fans			✓
Sizing and selection of			
• Expansion tanks			✓
• Steam to hot water convertor			✓
• Heat exchangers			
Sound analysis			✓
Complete selection data			✓
Outside chilled water and condenser water distribution <sup>9</sup>			✓
Interconnection of HVAC equipment with fire protection equipment (see fire protection)		✓	✓
HVAC specifications			✓

\* Submit, as a minimum, a single line layout for at a scale not less than 1:100 (1/8 inch). Submit a complete double line layout of areas of critical importance, at a scale of 1:50 (1/4 inch) including equipment.

\*\* Submit minimum 1:100 (1/8 inch) scale floor plans, new and renovated, incorporating all of the revisions required by comments from schematics.

\*\*\* Submit fully dimensioned, complete, and coordinated 1:100 (1/8 inch) scale floor plans, incorporating all revisions required by comments from the design development phase.

### I. NOTES:

1. Provide specific design recommendations and full back-up data. Include the heating and cooling capacities of each functional area and the block cooling and heating loads for each new and/or existing building.
2. New mechanical equipment will be identified on construction drawings and labeled according to the following naming convention: Bldg# + Floor# + Wing (North/south/east/west) + three digit cumulative sequence number of each type of equipment. (eg. AHU-1 on the 5<sup>th</sup> floor, North end of building 1 would be AHU-15N001, and so on).

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If the equipment will be located on the roof, then the numerical level of the roof will be used for the Floor#.

Before the 100% Design is complete, the VAMC will assign the actual cumulative sequence number of new mechanical equipment. The A/E shall first provide a list of mechanical equipment (usually the mechanical equipment schedule) to the VAMC. The VAMC will then provide to the A/E a new equipment label (changing only the cumulative sequence number for each new mechanical equipment item) and the A/E shall indicate on the construction documents the full identification of the equipment in accordance with this naming/numbering convention.

3. The locations of these louvers must not allow short circuiting of air from emergency generator exhaust or truck waiting and loading dock areas into air intake etc. Consider factors affecting louver location such as visibility, historical considerations, wind direction, nuisance and health hazard odors (from emergency generator or truck exhausts).
4. Include room-by-room, peak zone-by-zone, and building block heating and cooling loads. Provide a tabulation of steam consumption based on data from all sources. Show correlation between each HVAC zone boundary and architectural floor area correlation between the architectural room numbers and abbreviated/coded room numbers used with computer input data sheets.
5. Show supply, return, exhaust, make-up, and transfer quantities with intended pressure relationships, i.e. positive, negative, or zero with respect to adjoining spaces.
6. Provide pertinent data on accessories such as pumps and cooling tower etc. Show the extent of the outside chilled water and condenser water piping. Clearly show how the piping will be laid in tunnels, trenches, or by direct burial.
7. Show ceiling clearances, at locations where ducts cross each other, by providing 1:50 (1/4 inch) scale local sections. Show all ductwork, and piping 150 mm (6 inch) and larger in double line. Show separate floor plans for air distribution and piping unless waived by VA. Show clearances required for access and maintenance with coil and tube pull.
8. Show typical air handling systems and all hydronic systems with existing capacities and new estimated loads. Verify actual operating conditions and capacities of HVAC systems prior to design.
9. Show control devices, such as, thermostats, humidistats, flow control valves, dampers, freezestats, operating and high limit sensors for all air systems and

## Supplement C

fluids, smoke dampers, duct detectors etc. Provide a written description of the sequence of operation on the floor plans. Detail the scope of work involved with the Central Engineering Center (ECC) and address if enough spare capacity is available or a new ECC is required. Show a point schedule for analog/digital input/output to be included in ECC.

10. Show pipe sizes and insulation with plans, profile, sections, details, and all accessories, such as, anchors, expansion loops/joints, valves, manholes, capped and flanged connections, interface between the new and existing work (if any). Clearly indicate interferences (if any) with the existing utilities and/or landscape elements on outside piping layout drawings. Show rerouting any utilities, cuttings of roads, pavements, trees, etc., and the extent of new and demolition work. Outside utility drawings shall be based on the study of the latest site drawings, discussions with engineering personnel, and actual site inspection of the existing utility.
11. Show all duct detectors, control valves/dampers static pressure sensors, differential pressure control assemblies, etc., whose actual physical location is critical for the intended sequence of operation on floor plans.

### **J. ELECTRICAL:** Submit the following for electrical and telecommunications:

Electrical:	Schematics*	DD**	CD***
Narratives:			
• Design <sup>1</sup>	✓		
• Life cycle analysis for electrical systems	✓		
Location and size of:			
• Electrical equipment <sup>2</sup>	✓		
• Electric closets <sup>3</sup>	✓		
• Telephone closets <sup>3</sup>	✓		
• Signal closets <sup>3</sup>	✓		
• Electrical distribution equipment	✓		
Drawings showing:			
• Electrical plot plan of existing and proposed underground power (including manholes)	✓	✓	✓
• Telephone systems	✓	✓	✓
• Signal inter-building systems	✓	✓	✓
• Proposed electrical system <sup>4</sup>	✓	✓	✓
• Electric symbols		✓	✓

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Electrical:	Schematics*	DD**	CD***
• Lighting fixture schedule		✓	✓
• Emergency Life Safety Equipment (see fire protection)			
• Symbols, note, abbreviations		✓	✓
List of specialty areas	✓		
Method of short-circuit calculations	✓		
Method of voltage drop and demand calculations	✓		
Utility company correspondence, if applicable	✓		
Utility company requirements, if applicable		✓	✓
Load calculations for normal & emergency use	✓	✓	✓
Drawings:			
• Interior and building Lighting layouts and schedules		✓	✓
• Power (EMP) layouts		✓	✓
• Signal layouts		✓	✓
• Specialty area layouts		✓	✓
• Demolition plans		✓	✓
• Riser diagrams		✓	✓
• Branch circuit wiring (typ.)		✓	✓
• Phasing scheme		✓	✓
• Electrical details			✓
• Smoke partitions and fire alarm zones	✓	✓	✓
• Fire alarm and signal riser diagrams (see fire protection)		✓	✓
Location and size of:			
• Primary distribution switchgear/switchboard		✓	✓
• Engine-generator sets, if applicable		✓	✓
• Substation/padmouted transformer, if applicable		✓	✓
• Manholes		✓	✓
• Location of smoke dampers and duct smoke detectors			✓
• Interconnection of electrical control			

## Supplement C

Electrical:	Schematics*	DD**	CD***
equipment with HVAC equipment (see fire protection)			✓
• Calculations for emergency generator(s)		✓	✓
• Specifications			✓

\* Submit, as a minimum, a single line layout for at a scale not less than 1:100 (1/8 inch). Submit a complete double line layout of areas of critical importance, at a scale of 1:50 (1/4 inch) including equipment.

\*\* Submit minimum 1:100 (1/8 inch) scale floor plans, new and renovated, incorporating all of the revisions required by comments from schematics.

\*\*\* Submit fully dimensioned, complete, and coordinated 1:100 (1/8 inch) scale floor plans, incorporating all revisions required by comments from the design development phase.

**J. NOTES:**

1. Include basic assumptions, points of interconnection, impact of new construction to existing electrical distribution system, current demand loading (high voltage switchgear and primary feeder), and projected load of new construction. Propose various feasible electrical systems for project and provide advantages/disadvantages. Address emergency power, including analysis of loading on the existing generators and impacts of new construction.
2. Include means and clearances for installation, maintenance, and removal/replacement of equipment.
3. Electrical, signal and telephone closets must stack vertically if a multi-story building.
4. Include high voltage and low voltage switchgear, transformers and low voltage main and/or distribution panels, branch panels and methods of feeding 277/480 volt and 120/208 volt normal and emergency panels.

## Supplement C

### K. AUTOMATIC TRANSPORT: Submit the following, if applicable:

Automatic Transport: <b><u>IF APPLICABLE</u></b>	Schematics*	DD*	CD*
Hoistway (arch. dwg.)		✓	✓
Machine room vents (arch. dwg.)		✓	✓
Type of ventilation (mech. dwg.)		✓	✓
Electrical requirements (elect. dwg.)		✓	✓
Drawings: <sup>1, 2, &amp; 3</sup>			
• Automatic Transport Systems		✓	✓
• Elevators		✓	✓
• Dumbwaiters		✓	✓
• Other ATS systems		✓	✓
Sizes/dimensions/details:			
• Hoistway enclosures		✓	✓
• Pits		✓	✓
• Pit ladders		✓	✓
• Machine area ladder and railings		✓	✓
• Entrances		✓	✓
• Machine rooms		✓	✓
Locations/dimensions:			
• Elevator cars		✓	✓
• Entrances		✓	✓
• Counterweights		✓	✓
• Trap doors		✓	✓
Location of hoistway vents		✓	✓
Location of steel hoisting beams		✓	✓
Size of machine beams		✓	✓
Size of end reactions		✓	✓
Location/detail of machine beam pockets		✓	✓
Rail loadings		✓	✓
Hydraulic elevator piston pit loads		✓	✓
Details			
• Hoistway entrances for elevators		✓	✓
• Dumbwaiters		✓	✓
• Trash chutes		✓	✓
• Linen chutes		✓	✓
• ETVS		✓	✓
Elevator machine room equipment layout		✓	✓

## Supplement C

Automatic Transport: <b><u>IF APPLICABLE</u></b>	Schematics*	DD*	CD*
Interface with automatic recall and shutdown (see fire protection)			✓
Specifications		✓	✓

\* Submit, as a minimum, a single line layout for at a scale not less than 1:100 (1/8 inch). Submit a complete double line layout of areas of critical importance, at a scale of 1:50 (1/4 inch) including equipment.

\*\* Submit minimum 1:100 (1/8 inch) scale floor plans, new and renovated, incorporating all of the revisions required by comments from schematics.

\*\*\* Submit fully dimensioned, complete, and coordinated 1:100 (1/8 inch) scale floor plans, incorporating all revisions required by comments from the design development phase.

### K. NOTES:

1. Include tracking, piping, battery charging areas, blower rooms, queuing areas, cart holding areas, cart washer, central control area, and floor or wall recessed transport control units. Indicate architectural features in areas to be utilized for these systems. Indicate on architectural drawings all the major equipment located in machine rooms, secondary levels, pits, and the areas pertaining to ATS, AGVS and ETVS.
2. Indicate changes required on the architectural drawings where existing transport systems are retained and modified to serve new and existing areas.
3. Provide all electrical criteria (per basic electrical notes and Automatic Transport Design Manual) on electrical drawings.



## Supplement C

### L. ASBESTOS ABATEMENT: Submit the following:

Asbestos Abatement:	Schematics*	DD**	CD***
Asbestos abatement report including: 1. Summary results of building records 2. Summary results of station personnel interview 3. determination of materials known to contain asbestos 4. visual inspection of building to determine location and condition of asbestos 5. sample strategy on the extent of asbestos present	✓		
Name and location of qualified laboratory for sample analysis	✓		
Asbestos abatement drawing		✓	
Major Decontamination Areas showing: 1. Limits of sealing off the location 2. Quantities of asbestos material 3. Arrangements for auxiliary rooms 4. Engineering of negative air systems 5. Path of asbestos to loading platform 6. Location and connection to required utilities		✓	
Minor Decontamination Areas showing: 1. location, type, and length of pipe element to be abated by "Glove and Bag" approach 2. Other abatement features		✓	
Summary of: <sup>1</sup>			
• Square meter (feet) of floor space for abatement		✓	✓
• Total linear and square meter (feet) of asbestos to be abated		✓	✓
• Total cost of abatement <sup>2</sup>		✓	✓

## Supplement C

Asbestos Abatement:	Schematics*	DD**	CD***
Asbestos abatement drawings including: 1. restoration of impacted building sub-systems 2. integrated phasing on execution of abatement			✓

\* Submit, as a minimum, a single line layout for at a scale not less than 1:100 (1/8 inch). Submit a complete double line layout of areas of critical importance, at a scale of 1:50 (1/4 inch) including equipment.

\*\* Submit minimum 1:100 (1/8 inch) scale floor plans, new and renovated, incorporating all of the revisions required by comments from schematics.

\*\*\* Submit fully dimensioned, complete, and coordinated 1:100 (1/8 inch) scale floor plans, incorporating all revisions required by comments from the design development phase.

### **L. NOTES:**

1. Provide a copy of the summary to the construction cost estimator for inclusion as a separate bid item in the project estimate.
2. Include any cost for decontamination of equipment and fixtures.

## Supplement C

### G. SPACE PLANNING

	Schematics	DD	CD
Space-Accounting Summary Table	✓ <sup>1</sup>	✓ <sup>2</sup>	✓ <sup>3</sup>

### M. NOTES:

1. Provide a tabular table with columns entitled Departmental Function, H-7610 Requirements, Approved Space Program [Net Square Meters (Net Square Feet)], Variance Between H-7610 and Approved Space Program, Departmental Conversion Factor, Planned Departmental Gross Square Meters (Feet); column totals; and a Total Project Net to Gross Factor. Also, list separately the area required for additions to the program, unassigned space, major circulation (inter-departmental corridors, stairs, elevators), major mechanical and electrical spaces, exterior walls, connecting corridors to other buildings, space for future mechanical system expansion, and similar special requirements.
2. Update table. Justify in writing substantial deviations from the approved space program.
3. Update table.

### N. PHASING: Submit the following:

Phasing:	Schematics	DD	CD
Phasing Narrative	✓	✓	✓
Phasing Plans (on reduced site plans)	✓		
Phasing Diagram	✓		
Phases (marked on full size drawing)	✓		
Written list of systems <sup>1</sup>	✓	✓	✓
Phasing Diagram (drawn on Phasing Plan)		✓	✓
CPM Phasing Plans (full size contract drawings) <sup>2</sup>		✓	✓

### N. NOTES:

1. Include temporary system by phase, and separate by technical discipline.
2. One drawing may reflect several reduced site plans.

## Supplement C

### **O. ESTIMATING:** Submit the following:

Estimating:	Schematics	DD	CD
Cost estimate in compliance with Manual for Preparation of Estimates (separate estimates for new construction and alteration work)	✓	✓	✓
Level "A" Summary Sheets for building	✓	✓	
Level "A" Summary Sheets for sitework	✓	✓	
Building gross area computation (new)	✓	✓	
Building gross area computation (alteration work)	✓	✓	
Asbestos abatement		✓	✓
Detailed estimate take-off sheets			✓
Level "B" Summary Sheets for buildings			✓
Level "B" Summary Sheets for sitework			✓
Detail Market Analysis			✓

## P. SPECIFICATIONS

	Schematics	DD	CD
Specifications (All Disciplines)		✓ <sup>1, 2. &amp; 3</sup>	✓ <sup>4</sup>

1. Submit for all technical disciplines the original VA Master Specification section drafts marked-up with pencil showing the editing for the project. Clearly identify modifications, deletions and insertions. Assure the specification drafts have been edited and tailored in their application to represent accurate coordination between drawings and specifications.
2. When no VA Master Construction Specification exists for a "unit of work", prepare the specification section consistent with VA Master Construction Specifications format.
  - a. Use generic or non-proprietary specifications describing the minimal acceptable product criteria level where no "Standard" exists to define quality and workmanship levels.
  - b. Use applicable "Standards" to define quality and workmanship when these publications exist. List complete designation and title of each publication used in Part 1; follow format in VA Master Construction Specifications for Applicable Publications.
  - c. Do not use proprietary specifications or systems that restrict competition unless authorization in writing has been received from the VA Project Manager for such proprietary specification. See the Federal Acquisition Regulation (FAR) Part 10, Part 14, and Part 36.
  - d. Do not use trade names or manufacturers brand names, except as previously noted.
  - e. When a deviation is requested, define and specify the minimum acceptable levels of essential criteria in descriptive, physical, functional, or performance requirements.
3. Type specifications in final format and content including any desk copy changes made by the VAMC staff at the previous review. Submit a complete set of the typed specifications for review. Include one set of full size final drawings of all disciplines, fully coordinated.
4. Return all draft specifications reviewed at DD review to aid the final bid document review. These draft specifications will later be returned to the A/E.

**Q. FINAL BID DOCUMENTS**

1. Place the seal of the Registered Architect, Registered Landscape Architect, and Professional Engineer responsible for the design and the VAMC Project Director's signature on the Construction Documents.

**R. FORMAT OF A/E MATERIAL**

1. Symbol identification of Contract Drawings
  - a. Refer to the VHA National CAD Standards Application Guide for the latest application of drawings naming, numbering and prefix designation.
2. General Notes
  - a. Bond prints shall be full-sized.
  - b. Bind all drawings into sets in the order of their above classification symbol.
  - c. All submitted specifications shall be original, marked-up VA Master Specifications submitted in 3-ring binders. Where no VA Master Specification is available, submit a developed specification.
  - d. Submit all materials, packaged and clearly marked by discipline, to the VA's Contracting Officer. However, where a small amount of material is submitted, the drawings may be packaged together for all disciplines as long as the drawings are separated and tagged with the discipline name. Other material may also be consolidated provided they are labeled and can easily be identified and separated.
  - e. Material provided unbound will be returned to the A/E. All resubmission costs will be the responsibility of the A/E