

**Department of Veterans Affairs  
Tennessee Valley Healthcare System (TVHS)  
York Campus  
Requirements for A/E Services  
Project 626-314  
Construct Dental Clinic**

**I. GENERAL SCOPE OF WORK**

The consultant shall provide all necessary architectural and engineering (A/E) services as required to prepare complete contract drawings, specifications, technical reports, and cost estimates/cost control, including services throughout construction for "**Construct Dental Clinic**" in portions of buildings 1 and 9 of the TVHS York VA Medical center, 3400 Lebanon Rd, Murfreesboro, TN 37129. This project will design a standardized, efficient operation that will support VA objectives. The design includes but is not limited to space planning, mechanical, electrical power and systems, fire alarm, controls, sprinkler, plumbing, architectural, structural, industrial hygiene, and fire protection.

**II. VA PLANNING CONCEPT**

This project will relocate and expand the Dental Clinic to Building 9. Approximately 14,000 square feet will be renovated to accommodate the expanded dental program and renovate nearby space to specialty clinics. In addition, approximately 1300 to 1700 square feet will be added to Building 9 for patient entry, accessibility screening, security and waiting. After the Dental Clinic relocation, the vacated space in building 1 will be converted to approximately 2,900 square feet of Clinical Support Space. Project will include parking / patient drop off and associated site development. The renovated space should be 30% better than American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1-2007.'

**III. STATEMENT OF PROJECT OBJECTIVES**

The Department of Veterans Affairs intends to have the A/E thoroughly survey, investigate, and document the existing spaces and utility systems, to gain the knowledge and insight necessary to prepare accurate construction bid documents in a professional and competent manner. The project objectives are as follows:

- A. The project shall design for a modern, compliant Dental Clinic space, meeting Veteran Administration needs, space criteria, directives, standards, design guides and alerts.
- B. The project will ensure adequate space and systems to provide a fully functional Dental Clinic, to include all pertinent spaces per VA design guides, parking, patient drop off and security screening.
- C. To ensure compliance with all VA requirements adjacent areas affected by the construction should be included in all surveys. The project shall include any necessary upgrades, expansions, and additions to mechanical rooms and electrical, data closets as required.
- D. The design should be designed for flexibility and adaptability to accommodate future changes, growth, and equipment replacement/upgrades. The design shall allow for equipment serviceability/maintainability and future replacement without reworking systems/feeds.
- E. Included in the design will be the current Dental Clinic space (ground floor Building 1). AE shall design for the renovation of the current space to meet the needs of the new function/ users.
- F. The project will modernize systems and provide improved energy conservation and efficiency to ensure efficient controls and optimization.

**IV. STATEMENT OF A/E TASKS**

- A. The A/E shall furnish all services for a complete design development including construction

documents and construction period services as specified in the subject contract.

1. Necessary site survey work and evaluation, such as verifying existing conditions and verifying and analyzing utility systems, shall be accomplished in conjunction with the preparation of design documents. The A/E shall furnish documentation and drawings of these findings and address deficiencies in the design process. site surveys with each discipline on site
  2. The complete site survey work shall include a thorough investigation of existing conditions to accurately document and convey space dimensions for measured drawings, all utilities for affected areas, and utilities that traverse through affected areas. Typical construction types, variations, and finishes should be noted appropriately.
  3. Utility system verification shall include, but not be limited to, the necessary testing of affected systems to ascertain the existing conditions that will impact the design and construction process. Systems that are insufficient in capacity, or non-compliant or prevent new/upgraded equipment from operating shall be considered for expansion, modification, and/or replacement.
- B. The A/E shall provide cost estimation, project scheduling, phasing, and bid period services (bidder questions, request for information (RFI), and 2 pre-bid site surveys), and the optional construction period services (CPS) as further described in the contract.
- C. The A/E shall provide bid document preparation in quantities as specified in the contract.
- D. The A/E shall provide professional design and CPS utilizing individuals who are adequately knowledgeable of the various design disciplines and special systems as required by this project. Changes in personnel from those who are proposed in negotiations, interviews, kick-off meeting, general meetings, and/or A/E submission forms must be approved in writing. The registered individuals who will stamp the completed documents shall accomplish engineering design work.
- E. The A/E is to incorporate all adjacent spaces impacted by this project into their design. It is in the scope to investigate all existing utilities that must be moved, serve the space, or must be relocated to accomplish the renovations. At the conclusion of the project, all affected adjacent spaces on the same mechanical system shall be tested, adjusted, and balanced to ensure that the newly completed Dental suite and associated renovations do not rob HVAC services from the adjacent spaces.
- F. The design shall ensure proper life safety and egress requirements are met. Ensure required fire/smoke compartmentation, fire alarm, sprinkler system, etc. meet current building codes. The A/E shall provide a separate stamped Life Safety Sheet for the entire area within the submitted drawings.
- G. Utility systems and their spaces shall be surveyed and evaluated by the A/E to ensure they will meet the renovated space's requirements and VA design guide requirements without adversely affecting the surrounding areas. The A/E will design utility systems to meet VA standards/guidelines. As part of the design, the A/E shall pre-TAB (Test, Adjust, and Balance) mechanical systems to verify functionality and determine system capabilities.
- H. In addition to a 10% to 15% safety factor, the design should also allow for 10-15% growth for utility systems. The A/E is to provide a presentation on existing system findings and a comparative analysis of how the new system will perform.
- J. The design shall be energy efficient, durable, employing energy-saving measures such as occupancy sensors and night/unoccupied setbacks where applicable on lighting and HVAC systems. Energy efficiency improvements shall include lighting, Direct Digital Control (DDC), insulation, ductwork, temperature resets, AHU improvements and new Variable Frequency Drives (VFD) as required.
- K. The A/E shall provide estimates and design within funding limitations. The A/E shall design for a construction budget between **\$7 million to \$10 million**. The construction budget will be

disclosed to the selected A/E during negotiations. The design shall incorporate 10% deductive alternates.

- L. A/E shall coordinate and execute cost control measures throughout the design. Cost estimate(s), review, and cost control shall be part of each phase of the Quality Assurance (QA) process and each design submission and submission review.
- M. The A/E shall coordinate with equipment vendors and review/incorporate vendor equipment drawings to ensure proper site preparation of the equipment.
- N. Plans must be reviewed and approved by the TVHS multi-disciplinary team, Dental service, and third-party life safety review. Design is subject to VA national level oversight and review departments. AE will examine and resolve issues to ensure a compliant and operational space with working equipment.
- O. The A/E shall perform independent space planning, including coordination with the VA Planning department, surveys, and additional meetings with staff to produce accurate space programming.
- P. The A/E shall develop and execute a QA plan that demonstrates the team approach and methodology for design review, improvements, and code compliance, including fully documented comments / issues and resolutions / corrections. The QA process shall drive design review, improvement, and code compliance, including fully documented comments / issues and resolutions / corrections. The QA plan and the project schedule shall be submitted to the VA. It shall describe each QA task that will be taken during the development of the various design submission packages, including a review of submissions. The design QA effort shall be led by a senior design engineer and a senior architect and shall include senior designers for each trade. VA COR shall be invited to all QA meetings and reviews. Completion of each QA task shall be initialed and dated by the responsible QA team member. A 100% completed QA review shall be submitted with each A/E design submission, including the final construction bid document submission package. Cost review and cost control shall be part of each phase of the QA process and each design submission. The QA process shall produce deliverables included with each submission package, including but not limited to redline mark-ups and QA issue tracking sheets and a QA overview/narrative. The QA teams shall review issues with the design team, so corrections are made prior to submission of each package. QA team shall be involved throughout design, installation, inspection, and testing. A final QA report shall include an overview/main narrative, designer certification letters of compliance for each discipline/trade, a final inspection list, and a tracking sheet of corrections. The QA team leaders shall maintain a tracking sheet, mapping all code compliance issues from inception, review, and resolutions. Tracking sheet line-item activities shall include the date, issue/subject, review and decision, responsible A/E designer, and satisfactory resolution. Since the A/E is solely responsible for the design, 'VA Directed' shall not be an acceptable explanation of compliance or resolution. The QA team leaders shall simultaneously copy the VA COR and Contracting Officer when producing/conveying any QA work product (correspondence, observation lists, tracking, etc.). Any issues shall be discussed in group meetings and resolved to the satisfaction of the designers and QA team, then incorporated into the upcoming design submission package.
- Q. The A/E shall provide three (3) color boards of finishes for VA review, discussion, and selection.
- R. AE design shall include signage and wayfinding, matching the facility standard.
- S. The A/E shall provide 3<sup>rd</sup> party commissioning throughout the lifecycle of this project, to include design, construction period services and final inspection/ startup of all systems. The 3<sup>rd</sup> party commissioning firm shall be included on each submission and be on station for all major inspections/ start up of all major systems (HVAC, Dental Equipment infrastructure, Electrical, Dental specific plumbing, fire suppression/ detection).
- T. The A/E shall identify and design for the removal of all hazardous materials.

1. Perform a hazardous material survey to identify approximate quantities type and location for complete abatement from the general limits of construction. Adjacent areas outside of these limits but are affected by construction for utility modifications or tie-ins shall limit abatement to the extent necessary to complete the utility work.

## V. BASIS FOR DESIGN

- A. Department of Veterans Affairs standards may be obtained from the Internet at <http://www.cfm.va.gov/TIL/> and referencing VA Office of Construction & Facilities Management Design Guides
- B. PG-18-12 Dental Service Design Guide, [DESIGN GUIDES \(PG-18-12\) - Office of Construction & Facilities Management \(va.gov\)](#)
- C. Comply with VA Directives, <https://www.va.gov/vhapublications/publications.cfm?pub=1>
- D. Comply with the Barrier Free Design Standard VA PG 18-13. <https://www.cfm.va.gov/til/accessibility.asp>
- E. Comply with current federal, national, and international building codes, applicable state and local building codes and standards, as well as codes/standards from other recognized authoritative bodies. This includes, but is not limited to, authoritative bodies such as Association for the advancement of Medical Instrumentation (AAMI), Associated Air Balance Council (AABC), American Concrete Institute (ACI), Acoustical and Insulating Materials Association (AIMA), American National Standards Institute (ANSI), American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE), American Society of Mechanical Engineers (ASME), American Society for Testing and Materials (ASTM), Gypsum Association (GA), International Building Code (IBC), National Electric Code (NEC), National Fire Protection Association (NFPA), National Environmental Balancing Bureau (NEBB), National Standard Plumbing Code (NSPC), Occupational Safety and Health Administration (OSHA), Sheet Metal and Air Conditioning Contractors' National Association (SMACNA), Electronic Industry Alliance/ Telecommunications Industry Association (EIA/TIA), American Disabilities Act (ADA), American Barriers Act (ABA) and other applicable codes referenced in the VA design guidelines and Master Specifications. Designers shall indicate each applicable code with the current date, revision, version indicated on one sheet, including each applicable VA Guidelines / Standards. Submit this with the Schematic Design Submission and include with the drawing packages
- F. Any deviation from requirements, guidelines, standards, specifications, etc., including the application of equivalent and/or supplementary codes/standards supporting the project work, shall be requested in writing, and presented to the VA for approval. The deviation request shall include the item for which deviation is requested and the reason or justification for deviation. VA review of requests shall not alleviate the AE of their responsibility of producing a fully compliant, working design.
- G. Comply with VA TIL, PG-18-3, Design and Construction Procedures <http://www.cfm.va.gov/TIL/cPro.asp>
- H. Comply with VA TIL, PG-18-15, AE Design Submissions and Review (Volume C-Minor and NRM Projects). <http://www.cfm.va.gov/til/aeDesSubReq.asp>
- I. Comply with TVHS Energy Requirements and Design Guide (revision September 2014, attached). See ASHRAE 90.1-2010 for energy requirements.
- J. Ensure proper life safety and VA accessibility requirements. Code Analysis will be clearly defined on the Index Sheet of the Construction Documents. There shall be a stamped life safety sheet.
- K. The awardee shall design within the construction budget provided at the time of contract award.
- L. Comply with the requirements of the VA Design Manuals PG-18-10 <http://www.cfm.va.gov/til/spclRqmts.asp#PHS>

- M. Comply with the Physical Security design manuals for VA Facilities. This is a Mission Critical Facility.
- N. Comply with PG-18-14, Room Finishes, Door, and Hardware Schedule.
- O. Comply with latest Electronic Health Records Management requirements.

**VI. DETAILED SUBMISSION REQUIREMENTS**

Program Guide PG-18-15 establishes the guidelines for the A/E submissions. The design shall be performed and submitted in accordance with VA A/E Submission Instructions for Minor and NRM Construction Program. Refer to (<http://www.cfm.va.gov/til/aeDesSubReq.asp>). These guidelines indicate a minimum level for submission compliance, which may not be adequate for certain types of design. In some instances, in which critical decisions need to be made, sufficient and relevant information must be provided timely for the design to progress to meet specific milestone dates. The level of applicability of the program guide depends upon the scope of work and the exclusions, which are herein specified. Questions about the applicability of specific requirements shall be resolved with the medical center staff prior to any submission deadline. Where “days” are stated, this refers to “calendar,” not “work” days.

- A. Provide each submission with all drawings and support material dated and appropriately labeled above the title block:

Work Element	Copies	Duration
Onsite Design Kick-off Meeting & onsite A/E Site Survey & Space Planning Meetings		2 Days
A/E Space Programming Submission		14 Days
Government Review & AE Programming Meeting		7 Days
Schematic Documents (SD1), including but not limited to space programming, utility system verification/calculations, reference standards/codes/compliance, block/flow diagram layout	2 hard copies+ electronic	28 Days
Government Review		14 Days
SD1 review and onsite AE field investigation		1 Days
Schematic Documents (SD2), including but not limited to Final space programming, 3 layout options/concepts	2 hard copies+ electronic	28 Days
Government Review & Leadership Concept Sign-off		14 Days
Onsite SD2 review and onsite AE field investigation		2 Days
Design Development (DD1)- further development of chosen concept	2 hard copies+ electronic	35 Days

Government Review		14 Days
Onsite DD1 review and field investigation		2 Days
Design Development 2 (DD2)	2 hard copies+ electronic	35 Days
Government Review		14 Days
DD2 review and field investigation		1 Days
Construction Document 1 (CD1)	2 hard copies+ electronic	28 days
Government Review		14 Days
CD1 review and AE field investigation		1 Day
Construction Document 2 (CD2)	2 hard copies+ electronic	21 days
Government Review		7 Days
CD2 review and AE field investigation		1 Day
100% final bid documents	2 hard copies+ electronic	10 Days
<b>Total Days</b>		<b>293 days</b>

- A. The VA submission review comments may be verbal, noted directly on review sets, or written list. The AE shall be responsible for compiling & addressing review comments. The A/E shall produce and distribute meeting notes or minutes for VA review immediately after each submission review meeting. The AE is responsible for running the meetings, reproducing of all meeting materials for review, and producing the agenda, attendance, and complete meeting minutes. Meeting minutes shall be distributed within 3 days of each meeting. An in-person design meeting will be required for each submission that is indicated in the schedule as “on-site.” Where “AE field investigation” is indicated in the schedule, the AE shall conduct a follow-on group survey of the space for 2 hours or longer as required to address issues.
- B. The schematic submission shall include three (3) viable proposed layout (space configuration) options. The A/E shall thoroughly present each option for discussion, pointing out the advantages and disadvantages of each option.
- C. For each submission, furnish electronic files in the latest version of Microsoft Office and/or AutoCAD 2020. PDFs of the specifications will also be furnished. Submit two (2) hard copies of all drawings (one of which will be half-sized) and submission materials.

- D. The designers will stamp and sign the 100% construction document submission. The required stamp of the licensed architect or engineer of record will be considered as certification of compliance with the contract requirements.
- E. The final construction documents submission package will incorporate all VA supplied comments from the earlier submission package reviews.
- F. The Construction Specifications - Project specifications shall include specifications for all products, materials, equipment, methods, and systems shown on the construction drawings in accordance with standard professional practice and the resulting contract. The specification submitted for review shall include the name of the manufacturer, the product name, model number, or other identification as appropriate to clearly identify the product that will be used in the.
- G. Final bid documents shall be reproduced as part of the contract. Two **(2)** full sets and two **(2)** half sets of the Construction Bid Documents are to be delivered to the CO/COR. Electronic files of the Construction Bid Documents will be provided to the CO/COR.
- H. Total time to the design from beginning through final reproduced bid documents shall be **293** calendar days from the issuance of the Notice to Proceed. Each submission will require maximum fourteen (14) calendar days for VA review. The A/E shall prepare a submission schedule based upon their understanding of the design and their staffing workload.

**VII.** SOLICITATION SUPPORT SERVICES (OPTIONAL – exercised at the VA's discretion)

- A. Solicitation Support Services (Option Line Item): The A/E shall provide the following solicitation support services during the construction project's solicitation phase:
  - A. Attend the pre-bid site visit, to include meeting and project walk-around.  
  
Contractors are invited to the job site to visually inspect the construction site in order to accurately develop a construction bid package.
  - B. Answer any technical questions/requests for information (RFIs) received from contractors over the duration of the solicitation, including questions asked following the site visit.
- B. Questions from contractors may come at multiple times and cover several questions over the course of the solicitation period. Technical question responses will be provided to the Contracting Officer, who will distribute the information via amendment to the solicitation.  
  
Answers to RFIs will be required from the A/E within five calendar days of the date the questions are sent to the A/E from either the project COR or CO. An alternate response period may be submitted for review, however, unless approved by the CO and COR, the A/E is required to comply with the five-calendar day requirement.
- C. Throughout the solicitation period, the A/E shall provide addenda as necessary if required to revise specs and drawings.
- D. In response to any technical questions and/or addenda issued during the solicitation period, the A/E shall provide any final revisions to the 100% Construction Documents as part of the construction contract. These documents shall be labeled Final Construction.

**VIII.** CONSTRUCTION PERIOD SERVICE REQUIREMENTS (OPTIONAL – exercised at the VA's discretion)

- A. Review of Submittals: A/E shall review all material submittals, shop drawings, test reports (as applicable), etc. Reviews shall be completed, and submittals returned to the VA Project Engineer within seven (7) days of the A/E's receipt of the submittal.
- B. Review Analysis of Requests for Information (RFI), Change Orders, and Costs concerns: The A/E shall provide prompt response when contacted by the CO or COR, to review and provide

analysis of construction contractor RFI; change orders; and resulting cost adjustments due to omissions, errors, ambiguities, etc. The A/E's reply regarding his/her review of cost proposals and his/her recommendations shall include an independent breakdown of costs in detail, quantities, and unit prices and shall cover both additions and deductions of labor, materials, and equipment. The A/E shall also supply cost estimates as requested by the COR for Request for Proposals (RFP) for anticipated changes. RFI response time shall be 5 days.

- C. Site Visits: A/E shall provide **48** additional site visits (1 person for 3 hours onsite) during the construction period, in addition to mandatory A/E site visits for pre-bid conferences, in-wall inspection, above ceiling inspections, controls optimization and programming, and final inspection. The A/E shall produce an observation list(s) and a narrative with each site visit. A site visit "unit" is defined as a visit to the site by one individual for any part of a day when requested by the Contracting Officer or an authorized representative. On this job, a site visit should last 3 hours and may require the use of multiple "units" when more than one individual or an extended period is needed to inspect an area of work. Only registered architects and engineers familiar with the project may make these site visits. The COR has the prerogative to determine the professional discipline(s) required for each site visit. The A/E shall notify the COR of their presence on site, before any work is performed, to document the number of individuals who are making the site visit. The A/E shall observe the construction, advise the COR of any deviations, deficiencies, and recommend appropriate corrective actions.
- D. The A/E, when requested, shall assist the CO and COR to interpret the construction documents and shall:
  - 1. Recommend any action(s) deemed suitable for the satisfactory execution of the construction work
  - 2. Prepare any supplemental drawings, specifications or other documents that may be required to clarify or supplement the construction documents.
  - 3. Assess the preparation of Construction Contract Modifications initiated by or through VA to be executed in accordance with the Construction Documents.
- E. "Record Drawings" Requirement: A/E shall revise the solicitation documents if necessary and provide a complete set of all drawings showing actual conditions, completed construction, and reflecting any changes incorporated in the work on hard (bond) copy and on electronic media. Electronic media drawings shall be in AutoCAD 2020 and always electronically stamped. A/E shall load and demonstrate full AutoCAD compatibility at VA site. Compatibility means that data can be accessed directly by target system without translation or processing of data files. Problems shall be corrected to satisfaction of VA. Final electronic media specifications shall be in Microsoft Word 2020 and Adobe PDF.

#### **IX.** MATERIALS TO BE FURNISHED TO THE A/E BY VA

The following items will be furnished to the selected A/E:

- A. Electronic media of floor plans and prints of the station utility drawings, site plans, and building floor plans). The station has limited electronic versions of existing utilities (mechanical, electrical, plumbing, etc.). Prints are made available to A/E at Projects Section. A/E is to view drawings needed and may remove (same business day) to make copies at an offsite location. The accuracy of drawings is not guaranteed and shall be used for general information only. Actual conditions shall be field verified by the A/E.
- B. VA Concept Space Planning (VA SEPS) will be provided for informational purposes during negotiations with the selected AE. This AE is responsible for a systemic review, discussing program variables and resolving issues to develop the AE space programming for the new Dental Clinic.
- C. VA Project Concept Proposed Location