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VA New England Healthcare System

Manchester VA Medical Center

718 Smyth Road

Manchester, NH 03104

Statement of Work

Project # 608-23-133

Laboratory Design – flood remediation

1.0 INTRODUCTION

The work includes but is not limited to; provide all labor, site visits, consultants, support services for the design of project that renovates the Laboratory Services Area - approximately 6400 ft² of area.

Since Saturday 26 November in Manchester, the Laboratory department along with other departments have been displaced from their location due to the flood damage. This project would design a new laboratory space in their former location, while including the remainder of the 2nd floor east on the second floor east of building 1. The service has been partially and temporarily stood up in the first floor west wing of building 1 (rooms W107-W120). This area that the laboratory service is currently utilizing is scheduled to be under construction by the summer of 2023. The design will need to encompass setting up a temporary laboratory (as an add alternate pricing item), external to the medical center while this new construction, as well as the construction of the permanent laboratory is being built. A possible location for a temporary laboratory is adjacent to building 5.

The A/E will need to perform the design and construction support of this gut renovation to include (but not limited to): replacing/relocating any utilities to logical locations, replacement of remaining steam lines, investigating alternate heating/cooling options (e.g. removing all steam perimeter heat and using hot water reheat VAV's), replacement of all water lines, surveying and designing new sanitary vent and stack lines to connect to the sewer lines, removing all abandoned utilities, adding electrical capacity to the area, new HVAC system – to include outside air and exhaust. The contractor will follow the design guide as closely as possible to provide a compliant design with all VA codes, design manuals and design guides. This work will encompass all needed services and utilities to have the laboratory service be able to move back into a 100% commissioned, working and functional work environment.

The A/E will design to all applicable VA design guides, manuals, and codes incorporated by reference therein.

Any drawings that are/will be provided during this project are for reference (use at own risk) only. A comprehensive drawing set does not exist for the campus, nor building 1. The A/E will provide full use REVIT files of the worked areas during this project as a final deliverable as well as full use AutoCAD files with layers showing the individual trades (i.e. Plumbing, Electrical, Architectural, HVAC, etc.) After Contract Award the Contractor is required to provide all Contracting Officer requested documents. Once received and confirmed, the period of performance for the above-mentioned project will begin with a Notice to Proceed (NTP) issued at a Pre-Design Meeting.

The **period of performance** for this work is **1000 calendar days** after NTP has been issued. This 1000

period of performance begins 14 days after notice to proceed is issued by the Contracting Officer. If the A/E feels this period of performance is too aggressive, they shall negotiate with the CO and COR prior to signing of the contract.

2.0 PROJECT STAFF

CONTRACTING OFFICER (CO)

TBD

718 Smyth Road | BSB Suite 105 | Manchester, NH 03104

CONTRACTING OFFICERS TECHNICAL REPRESENTATIVE (COR):

Matthew Welch

General Engineer

718 Smyth Road | Manchester, NH 03104

Phone 603.624.4366 x2323 | Email Matthew.Welch3@va.gov

3.0 GENERAL SCOPE

This design project will include the following Types of services:

A Services - site visits

B Services - preparation of contract drawings

C Services - construction administration

Review *Supplement C* as part of this performance work statement (PWS) for all project specific Engineering (A/E) services that will be required to successfully complete the design as well as minimal A/E submission requirements by disciplines that are required per the contract

The submission requirements at the five (5) stages of review are 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 1000 calendar days will not change.

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: Design guides, design manuals, specifications, and details/documents that will be incorporated into the construction documents.

<https://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.

4.0 CONSTRUCTION COST

The expected estimated construction cost of the project for the laboratory suite design is \$7.8M

5.0 SUPPLEMENT A – THIS Scope of Work (SOW)

This project involves the following items as part of the project scope that have been broken down into specific sections:

ITEM 1: Review as-built drawings and site surveys

To capture the existing conditions of the suite the A/E shall thoroughly review all VA provided as

built and recent drawings from the past. In addition to the review of the drawings, site surveys shall be conducted so that an accurate baseline can be developed so that a solution can be designed. The A/E may wish to meet with M&R employees so that they can give any feedback to knowledge they may have from providing maintenance to this equipment over the years. Additionally, the A/E will take the lab staff's direction, when possible, to design their new suite. The Laboratory department is the end user and final customer of the effort.

Ceilings throughout in the work area are congested. Coordinating and running new piping, ducts, etc. will be a challenge. Therefore, multiple site visits will be required to design a solution.

ITEM 2: Design

Design Standards;

The A/E design must meet the requirements of applicable VA design guides, manuals, and codes incorporated by reference therein. If un-accounted for variances from these is found in the constructed design, it will be the A/E's responsibility to correct these design issues. The area of suite design is expected to be in the entirety of the east wing of building 1, 2nd floor as well as the former adjacent laboratory space. If the A/E believes it needs more area to fit the requested department into this space, this will be brought up during the conceptual phase. Design work will not stop due to an expected or estimated increase of construction budget.

Contractor is also responsible for updating the 100% "final bid" documents to deliver an as-is condition when the construction is complete to include any changes, contractor in field markups or deviations to the "final bid" documents. The design of this space is expected to take no more than 120 days from NTP to 100% final bid documents.

6.0 DESIGN GUIDANCE

A/E shall follow the document titled: *VA Medical Center Projects - A/E Submission Instructions for NRM Construction Program*.

This document is provided as part of this SOW and has been edited specifically for this project. A/E shall use this document to determine what A/E services they will be providing as part of the design package. As part of this document is also the design milestone as part of the performance requirements. All relevant VA design guides and design manuals will be the basis for the A/E to design from.

7.0 PERFORMANCE REQUIREMENTS

A/E to follow all the above listed/included design documents to assist in the complete design SOW items shall be implemented into the design package

Period of Performance shall be 1000 days unless A/E lets the CO know of a different duration

All milestones part of the *VA Medical Center Projects - A/E Submission Instructions for NRM Construction Program* shall be met at each designated interval.

8.0 REFERENCE

This SOW

VA Medical Center Projects - A/E Submission Instructions for NRM Construction Program (as part of this SOW)

AE Submission requirements

SUPPLEMENT “B”
A/E SUBMISSIONS OF DESIGN REVIEW MATERIAL

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

- 1 Set of reduced size and PDF preliminary layout plans with proposed alternates per meeting
- 1 Sets of conceptual estimates with proposed alternates per meeting
- Renderings (exterior only) for final options presented. 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.

SECOND REVIEW (30% Submittal – Schematics)

- 1 Set of PDF schematic drawings in accordance with Supplement “A” Item 6
- 1 Set of half size bound schematic layout plans/details
- 1 Set of MS Word draft specifications
- 1 Set of schematic estimates
- 1 Set of draft phasing plans
- 1 Set of hardcopy 3D colorized renderings
- 1 Set of PDF 3D colorized renderings

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

- 1 Set of REVIT, AutoCAD & PDF design drawings
- 1 Set of half size bound design development layout plans/details
- 1 Set of MS Word design specifications
- 1 Set of design development estimates
- 1 Set of design development phasing plans
- 1 Set of DD project cost estimates

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

- 1 Set of REVIT, AutoCAD & PDF construction drawings
- 1 Set of full size bound construction documents plans/details – 42 inches by 30 inches
- 1 Set of MS Word & Adobe PDF construction specifications
- 1 Set of construction documents estimates
- 1 Set of construction documents phasing schedules

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

- 1 Set of full use REVIT, AutoCAD & stamped (by registered architect or PE) PDF bid drawings
- 2 Set of approved full size bound bid drawings with PE stamps
- 2 Sets 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 PDF final estimates
- 1 Sets of final phasing schedules
- 1 Set of 3D colorized renderings, to be used for describing the project to VA staff, Veterans, and/or the public
- 1 Set of PDF 3D colorized renderings

SUPPLEMENT “B”

ID	Milestone Task Description	Duration	Schedule Date
1	VA Engineering Preliminary Mtg (Review Scope, Site Survey Investigation)	1 Day	NTP + 7
2	Preliminary Investigation of Existing Conditions	As Needed	
3	Submit Conceptual Layout Schemes with Proposed Alternates	---	NTP + 20
4	User Group Mtg (Review Proposed Schemes)	1 Day	
5	Submit Revised Conceptual Layout Plans with Proposed Alternates	---	
6	User Group Mtg (Review Conceptual Plans)	1 Day	
7	Submit Revised Conceptual Layout Design for Approval	---	
8	User Group Mtg (Review/Approve Conceptual Plans)	1 Day	
9	Prepare 30% Schematic Design Submissions	---	
	Survey Existing Conditions, Coordinate Design with Consultants & VA Comments	As Needed	
10	Submit 30% Schematic Design Package	---	NTP + 40
	VA Engineering 30% Review	14 Days	
11	User Group 30% Schematic Design Review Meeting	1 Day	
12	Prepare 60% “DD” Design Development Submissions	---	
	Confirm Existing Conditions, Coordinate Design with Consultants & VA Comments	As Needed	
13	Submit 60% “DD” Design Development Package	---	NTP + 60
	VA Engineering 60% Review	14 Days	
14	User Group 60% “DD” Review Meeting	1 Day	
15	Prepare 90% “CD” Construction Document Submissions	---	
	Coordinate Design with Consultants, Existing Conditions & VA Comments	As Needed	
16	Submit 90% “CD” Construction Documents Package	---	NTP + 90
	VA Engineering 90% Review	14 Days	
17	User Group 90% “CD” Review Meeting	1 Day	
18	Prepare 100% Bid Final Documents	---	
	Finalize Coordination with Consultants, Existing Conditions & VA Comments	As Needed	
19	Submit 100% Bid Final Documents with PE Stamps	---	NTP + 120
20	Bid Opening Date and/or Negotiate with Contractor	---	
21	Construction Complete		NTP + 1000

VA Medical Center Projects

A/E Submission Instructions for NRM Construction Program:

- **Schematics**
- **Design Development**
- **Construction Documents**

**A/E SUBMISSION INSTRUCTIONS FOR
NRM CONSTRUCTION PROGRAM
MEDICAL CENTER PROJECTS
SUPPLEMENT C**

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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. The Department of Veterans Affairs (VA) may contract with an Architect/Engineer (A/E) for any portion of a design: Schematics, Design Development, Construction Documents, or a combination of these.

a. For projects where the VA is contracting for Schematics Documents only, Schematics and Design Development Documents only, or Schematics, Design Development, and Construction Documents, the VA will provide the Design Program (if available), Facility Development Plans (if available), and VA design standards to accompany the Scope of Work for the project.

b. For projects where the VA is contracting for Design Development and Construction Documents only, the VA will provide the Schematics Plans and VA design standards to accompany the Scope of Work for the project.

c. For projects where the VA is contracting for Construction Documents only, the VA will provide the Design Development Plans and VA design standards to accompany the Scope of Work for the project.

3. 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.

4. 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.

5. VA will review all submittals for functional and aesthetic relationships. However, no further functional decisions are anticipated after the Design Development phase.

6. 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 and/or design development submission.
7. 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.
8. Provide individually packaged drawings for each submission to each unit specified in the "Distribution of A/E Materials" section.
9. Submit a complete set of final approved drawings incorporating all revisions, within 30 days after completion of the Schematics and Design Development stages.
10. At each review stage, the VA's technical reviewer, a value-engineering consultant, or a construction manager will perform a value engineering review.
11. Submit final drawings (Bid Documents) via email or file exchange server to be used with the AutoCAD version at the VAMC. Submit instructions on the use of the files along with a complete listing of all layers that are used.

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 receive a copy of their respective VA design manuals, standard details, construction standards, and VA National CAD Standard Application Guide. The AE is responsible for obtaining the NCS.
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 adhere to the approved Memorandum of Agreement (MOA).
5. A/E shall provide a checklist of all submittals, certifications, tests, and inspections required per drawing and specification section.
6. In addition, the A/E shall conduct interim fire protection installation inspections and witness final fire protection equipment testing.

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 Office of Facilities Management has initiated a Quality Assurance/Quality Control program. The A/E shall develop, execute, and demonstrate that the project 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.

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.

E. ADDITIONAL SERVICES:

If additional services (i.e. surveys, soil borings, asbestos surveys, water flow testing, or lead surveys), 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 its selection, for VA approval. A/E should submit survey information for the Schematic Review.

F. CRITICAL PATH METHOD PHASING MEETINGS

A. 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 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.

B. 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.

A. ARCHITECTURAL: Submit or show the following:

Architectural:	Schematics*	DD**	CD***
Location of:			
• Rooms ¹	✓	✓	✓
• Doors ²	✓	✓	✓
• Corridor(s) ³	✓	✓	✓
• Equipment rooms	✓	✓	✓
• Signal and telephone closets	✓	✓	✓
• Mechanical shafts and space	✓	✓	✓
Floor Plans/Drawings:			
• Equipment floor plans 1:50 (1/4 inch) scale ⁵		✓	✓
• Demolition plans ⁶		✓	✓
Door locations, sizes, and swings		✓	✓
Wall thickness and chase walls		✓	✓
Fixed equipment		✓	✓
Equipment elevations and details			✓
Fire and smoke rated partitions ¹⁴	✓	✓	✓
Construction details ¹⁵		✓	✓
Drafting symbols, abbreviations, and general notes		✓	✓
Door, window, and louver schedules			✓
Interior details, elevations, sections			✓
Finish schedule ¹⁶		✓	✓
Specifications		✓	✓

* 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.

A. NOTES:

1. Use lines between spaces to indicate the centerline of the partition (for schematics only).

2. Indicate doors with a slash mark.
3. Along the corridor, the line shall represent the corridor side of the partition.
4. Indicate ceiling mounted equipment, lighting fixtures, air diffusers, registers, tracks, and other significant elements.
5. 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), VA-furnished with construction funds [VC(CF) and VV(CF)], 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.
6. Indicate existing finish schedule and notes on plan.
7. 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.
8. Indicate construction including fire resistance rating, building materials and systems, and proposed sill and head heights of openings. Indicate both new and renovated areas on form provided by VA.
9. 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.
10. Indicate new building components and systems, such as window design, roofing system, special entryways, building "skin", and any special architectural elements for the project. Complete detailing of miscellaneous items is not required for this submission.
11. Indicate all building systems, materials, and future expansion, if applicable.
12. Submit a drawing for all which is part of the construction contract.

13. 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.

B. FIRE PROTECTION: Submit the following:

Fire Protection:	Schematics*	DD**	CD***
Fire protection narrative: ¹			
• Fire and smoke separation	✓		
• Fire sprinkler	✓		
• Fire alarm systems ²	✓		
• Size of air handling unit	✓		
• Exit paths from each zone	✓		
• Distances to stairs	✓		
• Occupancy of each area	✓		
• Smoke control features	✓		
Floor Plans/Drawings: ^{3 & 4}			
• Smoke zones	✓		
• Building water supply	✓		
• Interior sprinkler supply lines	✓		
• Sprinkler design hazards per NFPA 13		✓	✓
• Exit signs and emergency lighting		✓	✓
Location of:			
• Fire alarm system		✓	✓
• Audio-visual devices		✓	✓
• Smoke detectors		✓	✓
• Duct smoke detectors		✓	✓
• Smoke dampers		✓	✓
• Fire dampers		✓	✓
• Emergency lighting mech room		✓	✓
• Fire sprinklers		✓	✓
Wall sections indicating fire resistive ratings		✓	✓
Staff sleeping rooms		✓	✓
Excavation plan signage		✓	✓
Door and window schedule with fire rating or fire rated glazing			✓
Zoning of each fire alarm initiating device			✓
Details:			
Interconnection of fire alarm system with:			

Fire Protection:	Schematics*	DD**	CD***
• Smoke dampers			✓
• Air handlers			✓
• Elevator controls			✓
• HVAC system with smoke duct detectors			✓
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.

B. NOTES:

1. 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.
2. 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.
3. Provide information to meet JCAHO 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.
4. 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.

5. Show new equipment and/or the necessary changes involved if modification to the existing system is required. Include any recommendations where certain requirements of VA criteria might be waived, in order to allow the existing equipment to be reused.

C. 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			
Existing equipment	✓	✓	✓
New equipment	✓	✓	✓
Plumbing piping	✓	✓	✓
• Size of pipe		✓	✓
• Equipment schedule		✓	✓
• Fire & smoke partitions	✓	✓	✓
• Demolition plans		✓	✓
• Legend, notes, and details			✓
Contract Specifications			✓

C. PLUMBING (cont.):

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

** 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).

D. HVAC: Submit the following:

HVAC:	Schematics*	DD**	CD***
Description of HVAC systems	✓		
Equipment for each functional space	✓		
Life cycle cost analysis ¹	✓		
Tentative location/sizes:			
• Mechanical equipment room	✓		
• Principal vertical shafts	✓		
Block layout of equipment	✓		
Louvers: ²			
• Outside air	✓	✓	✓
• Exhaust air	✓	✓	✓
• Relief air	✓	✓	✓
Engineering calculations ³	✓	✓	✓
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		✓	✓
Tabulation of steam consumption		✓	✓
Psychometric chart for air handling unit		✓	✓
Coil entering and leaving conditions		✓	✓
Fan motor heat gains		✓	✓
Consumption of humidification loads		✓	✓
Sound/acoustic analysis		✓	✓
Room-by-room air balance charts ⁴		✓	✓
Chilled water plant: ⁵			
• 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		✓	✓

Supplement C

HVAC:	Schematics*	DD**	CD***
HVAC floor plan: ⁶			
• 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		✓	✓
Interconnection of HVAC equipment with fire protection equipment (see fire protection)		✓	✓
Plan/section of mechanical equipment rooms		✓	✓
Schematic flow and riser diagrams ⁷		✓	✓
Schematic control diagrams ⁸		✓	✓
HVAC demolition drawings		✓	✓
Phasing plan		✓	✓
Equipment schedule		✓	✓
Seismic bracing		✓	✓
VA symbols and abbreviation		✓	✓
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 ⁹			✓
Standard detail drawings			✓

HVAC:	Schematics*	DD**	CD***
Automatic temperature control drawings ¹⁰			✓
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.

D. 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. 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).
3. 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.
4. Show supply, return, exhaust, make-up, and transfer quantities with intended pressure relationships, i.e. positive, negative, or zero with respect to adjoining spaces.
5. 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.
6. 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.

7. 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.

8. Show control devices, such as, thermostats, humidistats, flow control valves, dampers, freezestats, operating and high limit sensors for all air systems and 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.

9. 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.

10. 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.

E. ELECTRICAL: Submit the following:

Electrical:	Schematics*	DD**	CD***
Narratives:			
• Design ¹	✓		
• Life cycle analysis for electrical systems	✓		
Location and size of:			
• Electrical equipment ²	✓		
• Electric closets ³	✓		
• Signal closets ³	✓		
• Electrical distribution equipment			
Drawings showing:			
• Signal inter-building systems	✓	✓	✓
• Proposed electrical system ⁴	✓	✓	✓
• Electric symbols	✓	✓	✓
• 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	✓		
Utility company requirements		✓	✓
Load calculations for normal & emergency use	✓	✓	✓
Drawings:			
• Lighting layouts		✓	✓
• Power layouts		✓	✓
• Signal layouts		✓	✓
• Specialty area layouts		✓	✓
• Demolition plans		✓	✓
Riser diagrams		✓	✓
Branch circuit wiring (typ.)		✓	✓
Location and size of:			
Location of smoke dampers and duct smoke detectors			✓
Interconnection of electrical control equipment with HVAC equipment			✓

Electrical:	Schematics*	DD**	CD***
(see fire protection)			
Smoke partitions and fire alarm zones	✓	✓	✓
Fire alarm and signal riser diagrams (see fire protection)		✓	✓
Calculations for emergency generator(s)		✓	✓
Phasing scheme		✓	✓
Electrical details			✓
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.

E. 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.
2. Include means and clearances for installation, maintenance, and removal/replacement of equipment.
3. Electrical, signal and telephone closets must stack vertically.
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.

F. CRITICAL PATH METHOD (CPM): Submit the following:

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

F. NOTES:

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

G. 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)	✓	✓	
Project Data Sheet 1	✓		
Project Data Sheet 1 and 2		✓	✓
Asbestos abatement		✓	✓
Detailed estimate take-off sheets			✓
Level "B" Summary Sheets for buildings			✓
Level "B" Summary Sheets for sitework			✓
Supplement A to SF 252			✓
Detail Market Analysis			✓

H. SPECIFICATIONS

	Schematics	DD	CD
Specifications (All Disciplines)		✓ 1, 2. & 3	✓ 4 & 5

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.
4. 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.
5. 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.

I. FINAL BID DOCUMENTS

- a. 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. A stamp of the VAMC Project Director's signature will be furnished.
- b. Submit updated Department Ratio Chart of Final Bid stage to the VAMC Project Manager.

III. DISTRIBUTION OF A/E MATERIAL

A. SYMBOL IDENTIFICATION OF CONTRACT DRAWINGS

- AS** - Architectural Drawings (Numbered Only)
- HA** - Asbestos Removal Drawings
- BI** - Boring Log Drawings
- ES** - Electrical Drawings
- FA** - Fire Protection Drawings
- MH** - Heating, Ventilating, and Air Conditioning Drawings
- PL** - Plumbing Drawings
- GS** - Site Development and Environmental Drawings
- CU** - Sanitary and Irrigation Drawings
- MU** - Steam Distribution Drawings
- MP** - Steam Generation Drawings
- SS** - Structural Drawings

B. GENERAL NOTES

1. Bond prints shall be full-sized.
2. Bind all drawings into sets in the order of their above classification symbol.
3. All submitted specifications shall be original, unbound, and marked-up VA Master Specifications. Where no VA Master Specification is available, submit a developed specification.
4. 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.
5. Material provided unbound will be returned to the A/E. All resubmission costs will be the responsibility of the A/E

Distribution of A/E Material

Schematic Submission:

VA Medical Center (VAMC)	Appropriate Network Office*
1 complete sets – half size	

Design Development Submission:

VA Medical Center (VAMC)	Appropriate Network Office*
1 complete sets – half size	

Construction Documents Submission:

VA Medical Center (VAMC)	Appropriate Network Office*
1 complete set	1 complete set

*Network Office will coordinate the necessary review with the responsible safety and fire protection person in their network.