**Department of**
**Veterans Affairs**

**Numerous Individual Indefinite Delivery Indefinite Quantity (IDIQ)**
**Architect/Engineering (AE) Contracts**
**VISN 8 Healthcare Facilities**
**VA248-17-R-1010**

# VA Medical Center Projects

# A/E Submission Instructions for Minor and NRM Construction Program

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

**Program Guide, PG-18-15, Volume C**
**Nov 2008**

Department of Veterans Affairs
Washington, DC 20420

## FOREWORD

This document states the minimum requirements for each submission in the production of VA Schematics, Design Development, and Construction Documents for Minor and NRM Construction Program for Medical Center Projects. It will give VA reviewers and the A/E a clear understanding of what is required of the A/E at each stage of design.

This document does not relieve the A/E firms of their professional responsibility to produce a correct, complete, and fully coordinated set of construction documents.

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Director, Facilities Quality Office

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

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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 D/B Project.

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. Provide a design narrative/analysis for each technical discipline (e.g., architectural, mechanical, fire protection, etc.) which describes the intent of each design development submission.

4. 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.

5. Provide individually packaged drawings for each submission to each unit specified in the "Distribution of A/E Materials" section.

6. Submit a complete set of final approved drawings incorporating all revisions according to specification.

7. At each review stage, the VA's technical reviewer, a value-engineering consultant, or a construction manager will perform a value engineering review.

8. Submit final drawings (Bid Documents) in electronic form and hard copies according to specifications.

## 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. The AE is responsible for obtaining a copy of their respective VA design manuals, standard details, construction standards, VA National CAD Standard Application Guide and the NCS.

3. DB Contractor 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.

## C. SUBMISSION POLICY:

1. Construction Document (CD***) submission indicated in this guide shall be a “guide”. The VAMC may alter the submission requirements depending upon the complexity of the project by adding or deleting certain reviews.

2. At each submission, the A/E shall date all material and present the designs on VA standard size drawings that are appropriately labeled, "DRAFT 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. 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.

2. 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. This work shall be included in your proposals.

## 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 construction document submissions.

**A. SITE DEVELOPMENT:** Submit the following:

| Site Development: | Schematics | DD | CD |
|---|---|---|---|
| | | | |
| Narrative | | | x |
| Analysis of site | | | x |
| Phasing analysis | | | x |
| Demolition plan | | | x |
| • Mechanical and electrical equipment on grade | | | x |
| • Walks | | | x |
| • Contractor's staging area | | | x |
| Site details | | | x |

**B. ARCHITECTURAL:** Submit or show the following:

| Architectural: | Schematics | DD | CD |
|---|---|---|---|
| | | | |
| • Electrical | | | ✓ |
| • Mechanical | | | ✓ |
| • Stair(s) | | | ✓ |
| • Ramp(s) | | | ✓ |
| • Demolition plans | | | ✓ |
| Finish grades at corners, entrances, exits, platforms and ramps | | | ✓ |
| Construction details | | | ✓ |
| Drafting symbols, abbreviations, and general notes | | | ✓ |

*** 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. Identify all equipment for work area. Draw equipment details which are necessary for major decisions, though complete detailing is not required for this submittal.

2. If the project requires exterior work, show all proposed building materials, mechanical equipment, architectural screens on the drawings.

3. Indicate all building systems, materials, if applicable.

4. Submit a drawing for all which is part of the construction contract.

**E. STRUCTURAL:** Submit the following:

| Structural: | Schematics* | DD** | CD*** |
|---|---|---|---|
| | | | |
| Supporting calculations | | | ✓ |
| Cost estimates for each system | | | ✓ |
| Structural plans | | | ✓ |
| Sections | | | ✓ |
| Details | | | ✓ |
| Slabs | | | ✓ |
| Foundations | | | ✓ |
| Elevations | | | ✓ |
| Schedules | | | ✓ |

| Structural: | Schematics* | DD** | CD*** |
|---|---|---|---|
| | | | |
| General notes | | | ✓ |
| Specifications | | | ✓ |

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. Indicate existing utilities and structures within, adjacent, or contiguous to the new construction.

**F. PLUMBING:** Submit the following:

| Plumbing: | Schematics | DD | CD |
|---|---|---|---|
| | | | |
| Narrative: | | | |
| • Existing plumbing systems to be used and necessary modifications | | | ✓ |
| • New plumbing systems | | | ✓ |
| Existing equipment | | | ✓ |
| New equipment | | | ✓ |
| Plumbing piping | | | ✓ |
| • Size of pipe | | | ✓ |
| • Equipment schedule | | | ✓ |
| • Demolition plans | | | ✓ |
| • Riser diagrams | | | ✓ |
| • Legend, notes, and details | | | ✓ |
| Calculations (equipment & piping) | | | ✓ |
| Contract Specifications | | | ✓ |

**F. PLUMBING (cont.):**

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. HVAC:** Submit the following:

| HVAC: | Schematics | DD | CD |
|---|---|---|---|
| | | | |
| Description of HVAC systems | | | x |

| HVAC: | Schematics | DD | CD |
|---|---|---|---|
| | | | |
| Equipment for each functional space | | | x |
| Life cycle cost analysis | | | x |
| Engineering calculations | | | ✓ |
| Selection of HVAC equipment | | | ✓ |
| Catalog cuts of equipment | | | ✓ |
| • Electrical equipment | | | ✓ |
| • Anchors | | | ✓ |
| • Valves | | | ✓ |
| • Drip assemblies | | | ✓ |
| • Balancing fittings | | | ✓ |
| Schematic flow and riser diagrams | | | ✓ |
| Schematic control diagrams | | | ✓ |
| Phasing plan | | | ✓ |
| Equipment schedule | | | ✓ |
| VA symbols and abbreviation | | | ✓ |
| Selection of | | | |
| • Pumps | | | ✓ |
| • Fans | | | ✓ |
| Sound analysis | | | ✓ |
| Complete selection data | | | ✓ |
| Outside chilled water and condenser water distribution[9] | | | ✓ |
| Standard detail drawings | | | ✓ |
| HVAC specifications | | | ✓ |

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.

**H. NOTES:**

1. 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.

2. 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.

3. 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.

**I. ELECTRICAL:** Submit the following:

| Electrical: | Schematics | DD | CD |
|---|---|---|---|
| | | | |
| Narratives: | | | |
| • Electrical distribution equipment | | | x |
| Drawings showing: | | | |
| • Electrical plot plan of existing and proposed underground power (including manholes) | | | ✓ |
| • Proposed electrical system[4] | | | ✓ |
| • Electric symbols | | | ✓ |
| Load calculations for normal & emergency use | | | ✓ |
| • Power layouts | | | ✓ |
| • Demolition plans | | | ✓ |
| Riser diagrams | | | ✓ |
| Branch circuit wiring (typ.) | | | ✓ |
| Electrical details | | | ✓ |
| Specifications | | | ✓ |

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. 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. 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.

**J. EQUIPMENT:** Submit the following:

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

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. STEAM GENERATION:** n/a
**L. STEAM DISTRIBUTION (OUTSIDE): n/a**
**M. SOLID WASTE DISPOSAL SYSTEM INCLUDING INCINERATION: n/a**
**N. AUTOMATIC TRANSPORT:** n/a
**O. ASBESTOS ABATEMENT**: n/a
**P. SPACE PLANNING: n/a**
**Q. CRITICAL PATH METHOD (CPM): n/a**
**R. ESTIMATING:** n/a

**S. SPECIFICATIONS**

| | Schematics | DD | CD |
|---|---|---|---|
| | | | |
| Specifications (All Disciplines) | | | ✓ |

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. 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.

### T. 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.

# III. DISTRIBUTION OF A/E MATERIAL

## A. SYMBOL IDENTIFICATION OF CONTRACT DRAWINGS

**AS** - Architectural Drawings (Numbered Only)
**ES** - Electrical Drawings
**MH** - Heating, Ventilating, and Air Conditioning Drawings
**PL** - Plumbing Drawings
**GS** - Site Development and Environmental Drawings
**SS** - Structural Drawings

## B. GENERAL NOTES

1. Bond prints shall be half-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

## Construction Documents Submission:

| VA Medical Center (VAMC) | Contracting Office |
|---|---|
| 3 complete sets | 1 complete set |