

CHAPTER VII
SPECIFICATIONS

Table of Contents

1. GENERAL INSTRUCTIONS
 - 1.1 Architect Engineer Responsibilities
 - 1.2 Unified Facilities Guide Specifications (UFGS)
 - 1.3 SpecsIntact
 - 1.4 WordSpec
 - 1.5 ENG Form 4288 "Submittal Register"
 - 1.6 Old Guide Specifications
 - 1.7 Buy American Act
2. SUBMITTAL REQUIREMENTS
 - 2.1 Project Definition/Project Engineering/Concept Submittal
 - 2.2 Preliminary Design (60%) Submittal/Final Submittal
 - 2.3 Corrected Final Submittal (100%)
 - 2.4 Electronic Bid Set
3. ORGANIZATION OF CONTRACT SPECIFICATIONS
 - 3.1 Construction Specifications Institute (CSI) Format
 - 3.2 Divisions
 - 3.3 Specification Section Number
 - 3.4 Specification Format
4. EDITING GUIDES
 - 4.1 Prepare and Submit
 - 4.2 General and Additional Notes
 - 4.3 Deviations for UFGS
 - 4.4 Edit the UFGS
 - 4.5 Contract Specs
 - 4.6 Federal Specs, Military Specs, or Industry Standards
 - 4.7 UFGS Reference
 - 4.8 Reference to Third Party
 - 4.9 Cross Reference
 - 4.10 Reference to Drawings
 - 4.11 Conflicts
 - 4.12 Terminology
 - 4.13 Use of "shall," "will," "may," and "should"
 - 4.14 Use of Phrase "Not Used"
 - 4.15 A-E Developed Specification Sections
 - 4.16 Amendment Changes

Table of Contents (cont.)

5. BIDDING SCHEDULE

6. GOVERNMENT-FURNISHED EQUIPMENT OR MATERIALS

7. DESIGN-BUILD CONTRACTS RFP SPECIFICATIONS

8. INSTRUCTIONS FOR PRINTING SPECIFICATIONS

8.1 SpecsIntact format

8.2 Reproduction Quality.

CHAPTER VII
SPECIFICATIONS

1. **GENERAL INSTRUCTIONS.**

1.1 **Architect Engineer (A-E)** is responsible for the preparation of all the contract specs technical Divisions 2 thru 16, including attachments, a table of contents listing technical Divisions 2 thru 16, a bidding schedule, submittal registers, and a list of contract related government furnished and contractor installed property. Prepare contract specifications per ER 1110-1-8155, Specifications, and these instructions.

1.2 **The Department of Defense uses the Unified Facilities Guide Specifications (UFGS)**, which are the master guide specifications issued by the Corps of Engineers and Navy, are available from TECHINFO and Construction Criteria Base (CCB). TECHINFO is a computer based criteria information system that may be accessed at Internet address <http://www.hnd.usace.army.mil/techinfo/>. CCB is a Department of Defense-sponsored compact disk-read only memory (CD-ROM) system distributed by the National Institute of Building Sciences (NBIS). Several commercial sources do not include all Corps of Engineers approved revisions and if utilized, the A-E must verify with the project's Technical Leader (TL) that the guides are the latest version available. The A-E should coordinate with the TL for District supplemental changes to particular guides.

1.3 **SpecsIntact** is an automated specification processing system for use in preparing construction project specifications from the master guide specifications. The use of SpecsIntact is mandatory. SpecsIntact is distributed on CCB, TECHINFO (Internet address in paragraph above).

1.4 **WordSpec** is a MS Word Macro that makes SpecsIntact documents compatible with MS Word. It gives SpecsIntact users the ability to edit their job specifications in Word. Specification section files created with WordSpec need to be uploaded into Specsintact to produce the submittal register, table of contents, and other reports. WordSpec software can be downloaded from the Internet through the SpecsIntact Internet Home Page (Internet address in paragraph above).

1.5 **ENG Form 4288 "Submittal Register."** This document identifies the shop drawings, continuation of design analysis, equipment specifications, and samples that the Construction Contractor will have to submit to the Government to assure that those items comply with the contract specifications. Items shall be classified for Government Approval (G) or For Information Only. Use SpecsIntact software to prepare the Submittal Register. Using Specsintact software is necessary in order to create the submittal register files required for interfacing with RMS.

1.6 **Never use UFGS or old specs** that are available from past work because these specs will be out of date. Most of the guides are updated frequently. When available, the District will furnish guide specs for items not covered by the UFGS. When neither UFGS nor other guide specs are available, the A-E shall prepare complete specs for the item that shall be consistent in all respects to the UFGS format.

1.7 Compliance with the Buy American Act (BAA) is mandatory. The BAA generally requires the use of construction materials and equipment from domestic sources in Government contracts less than \$6,500,000. Above \$6,500,000. Mexico and Canada are approved sources by the North American Free Trade Agreement (NAFTA). Above \$7,311,000.00, there are other countries that are covered by the Trade Agreements Act. If materials and equipment are required which cannot be obtained from approved sources, the A-E shall notify the TL early in the design phase and provide a market analysis and justification to the TL to obtain a waiver to the BAA.

2. SUBMITTAL REQUIREMENTS. In addition to the following, see AEIM Chapter XI for specification submittal requirements.

2.1 Project Definition/Project Engineering/Concept Submittal (10% to 30%): The A-E marks up an index of the UFGS to indicate which UFGS are applicable to the contract and includes with the Project Definition/Project Engineering/Concept design analysis submittal.

2.2 Preliminary Design (60%) Submittal/Final Submittal: The A-E provides this submittal to the TL on CD-ROM disks in the SpecsIntact word processing software and in hard copy, quantity as determined by the TL. Do not submit "straight" MS Word sections, as these are not compatible with the SpecsIntact system. The A-E obtains copies of the current editions of UFGS required for this design contract and coordinates with the TL to incorporate any local supplements to each particular section. Carefully check the UFGS list for compliance with the project requirements and the Project Definition/Project Engineering/Concept plan, as applicable, and all annotated comments to these submittals. This submittal shall include a table of contents of Divisions 2 through 16, the edited technical sections, submittal register, and bidding schedule. Use Specsintact to edit the Divisions 2 through 16 specification sections showing proposed deleted text and proposed text additions highlighted. Division 0 "Bidding Requirements" and Division 1 "General Requirements" will be furnished to the A-E by the TL and be included in the specifications submitted.

2.3 Corrected Final Submittal (100%): The A-E provides these submittals to the TL on CD-ROM disks in the word-processing software specified by the supervising Corps District and in hard copy, quantity as determined by the TL. Printed copies shall include a submittal register (SR) at the end of each section. The disks shall include a separate directory containing all of the submittal registers for use by the Construction Contractor and project office after award of the construction contract. If files on the disks are in compressed format, provide the exploding program on the disk with the files. This submittal shall include, ready for publishing without further editing, a table of contents of Divisions 2 through 16, Divisions 2 through 16 sections with all highlighting removed and inapplicable text deleted, technical review comments incorporated, submittal registers, and bidding schedule. The District prepares Divisions 0 and 1 sections. The A-E contract Scope of Work will either make the A-E responsible for combining the sections, the final table of contents, and cover, or if this will be done by the district.

2.4 Electronic Bid Set. The Corps of Engineers is required to post their bid solicitations on the Army Single Face to Industry web site.

When required by the contract Scope of Work, the A-E provides the final specifications (and drawings) on CD-ROM. Specifications will be converted to Adobe Acrobat .pdf file format before placing them on the CD-ROM.

3. ORGANIZATION OF CONTRACT SPECIFICATIONS.

3.1 Organize the contract specs per the Construction Specifications Institute (CSI) format. The CSI format standardizes the sections of the technical specs into 16 divisions. UFGS guide specifications have been assigned five-digit section numbers in accordance with the CSI master format, plus an "A" or "N" depending on whether the guide is Corps of Engineers (Army) or Navy. Assign sections based on other than UFGS, and specially developed sections, the most applicable CSI division and section numbers in accordance with the CSI's Master Format.

3.2 Table of Contents. List only those Divisions (1 through 16), including their respective number and division title, having technical sections in the Table of Contents.

3.3 Specification Section Number. Identify each specification section by its UFGS or CSI five-digit identification number. Arrange the sections within their respective divisions in numerical order.

3.4 Specification Format. Specification sections and paragraphs shall utilize the CSI three-part format (General, Products, Execution). Number the paragraphs using the UFGS number/period paragraph identification system. Do not prefix the section number to the paragraph numbers. Keep the number of paragraph levels to four. Every paragraph shall have a title. The numbering system is illustrated below:

Number/Period System

Part 2 - Products

2.1

2.1.1

2.1.1.1

2.1.1.2

2.1.2

2.1.3

2.2

4. EDITING GUIDES. Up-to-date prints of contract drawings must be available to the specification writer while editing the guide specifications. The specification writer shall make a thorough study of the contract drawings.

4.1 Prepare and submit the final and corrected final project specifications per the District Office supplemental instructions and Chapter XI of this manual. Include a Submittal Register listing the submittal requirements for each specification section in the project with both the final and corrected final submittals in accordance with ER 415-1-10, Contractor Submittal Procedures, and the District's requirements.

4.2 **General and technical notes** are found within each UFGS which clarify and provide instructions on editing the guide. Strictly follow these instructions. Delete all notes from the corrected final submittal. If it's the District's policy, also delete the section table of contents in the individual guides from the corrected final submittal.

4.3 **Deviations for UFGS.**

4.3.1 Tailor the UFGS to fit the specific project under design. Only authorized deviations as defined in ER 1110-1-8155 are permitted.

4.3.2 Deviations shall not (a) permit the use of products involving hazards to life or property, (b) reduce competition by eliminating options which have been recognized by USACE as acceptable, (c) violate requirements established by legal precedence, or (d) lead to higher life cycle cost by increasing future maintenance cost, etc.

4.4 **Carefully edit the UFGS** to fit the actual conditions of the design shown on the drawings. Add additional paragraphs as required to cover all features of the work. Delete all inapplicable portions of the guides. Phraseology of the UFGS should not be changed unless it is clearly evident that such changes must be made to obtain the results desired. The final draft shall completely cover the work to be done and will not contain extraneous material. Carefully coordinate each spec section with the drawings and with all related sections so that there are no duplication, overlapping, conflicting, or ambiguous statements.

4.5 **Contract specs** shall include all optional products and materials contained in the UFGS except where deletions are authorized in the guide specification notes or by ER 1110-1-8155. Contracting without providing for full and open competition is a violation of statute unless permitted by authorities contained in the Federal Acquisition Regulations. Regulations prohibit inclusion of additional optional materials; prohibit the use of proprietary or sole source materials, systems, and processes to the exclusion of other materials, systems, and processes; and prohibit the use of unproved methods or materials without prior justification and approval. The A-E should request assistance from the district's project Technical Leader if other than open competition is to be used.

4.6 **Federal Specs and MIL Specs** have been phased out with a few exceptions. Only those Federal and MIL specs in the current editions of the UFGS may be used without justification. All other Federal Specs and MIL Specs may be used ONLY if written justification is furnished to the TL. Industry standards (e.g. ASTM, ANSI, UL) should be used to the greatest extent practicable for description of materials. When there is no standard product or system spec, then specify the item or system by performance description. Use trade names only when absolutely necessary and then only when the product's salient physical, functional, or other characteristics are included in the spec. Always use the words "or approved equal" in connection with trade names.

4.6.1 Type, Grade, Class. Material, equipment, and/or end items based on Federal Specs, ASTM or other industry standards, or other agency standards shall be identified by type, grade, class, etc., as

applicable. Merely referencing a particular publication is usually insufficient.

4.7 Reference shall not be made to the UFGS (such as: "shall conform to UFGS-08201") in design-bid-build contract specs. The UFGS are used only for writing contract specs and are not normally available to suppliers and contractors. UFGS are guides; they are not Standard Specs even though one of the purposes of these guides is to standardize requirements.

Design-Build Projects: This prohibition does not apply to design-build contracts where the Contractor will be required to write the construction specs. For design-build projects the Contractor will be instructed to use either the Corps or Industry guide specs. If Corps guide specs are to be used, the Contractor will be given the Techinfo web site for UFGS and the District's local guides and supplements.

4.8 Reference to Third Party. Avoid references to a third party. The "Contractor" and the "Contracting Officer" are the only contracting parties in a contract. The terms "Contractor" and "Contracting Officer," and in certain instances, "Government," shall be used in the contract specs. Make reference to work done "by others" only when that work is not a part of the contract and will be done under another contract or by the Government. Do not use References to third parties, such as "Air Installations Officer," "Post Engineer," "Architect-Engineer," "Sub-contractor," and "Engineer" in the contract specs as these are not "parties" to the Contract.

4.9 Cross References. Do not cross reference to other paragraphs by paragraph number. Make reference by paragraph titles to prevent erroneous references due to renumbering.

4.10 References to Drawings. The specification writer must check drawings to ensure that features associated with phrases as "as shown on the drawings", "as indicated", or "as otherwise detailed", etc., are actually shown. If the information is not on the drawings, coordinate with the appropriate technical design specialist to resolve the discrepancy. Use of the search capabilities of the word processing software to assist in locating these phrases within UFGS is recommended.

4.11 Conflicts. Drawing notes and details that conflict with the specifications shall be corrected or deleted. Drawings and specifications must agree as to sizes, thickness, spacing, etc. The UFGS reflect the most current design and detail criteria except for those items for which specific engineering instructions are furnished, in which case, the latter will prevail and the guide shall be altered accordingly. When preparing a color schedule, take particular care to assure that any item listed by brand name complies with the technical requirements of the appropriate specification section.

4.12 Terminology. Terminology used on drawings must match that used in the UFGS. The specification requirements may not be binding if terms used therein do not coincide with those on the drawings.

4.13 **Use of "shall," "will," "may," and "should".** For mandatory requirements in the specifications use "The Contractor shall." For requirements to be fulfilled by the government use "The Government will." Use "may" to allow an option. Never use "should" in the specifications.

4.14 **Use of the phrase "Not Used."** This phrase is normally utilized as a labor and time saving device. It may be used sparingly in the editing of specifications to continue an existing numbering system to eliminate excessive renumbering of subsequent paragraphs and subparagraphs whenever one or two isolated paragraphs within a text are deleted. Do not use "not used" to account for all unused guide specification paragraphs. Whenever several consecutive or near-consecutive paragraphs are deleted, renumber the remaining paragraphs. Do not end sections or paragraphs with "Not Used" subparagraphs.

4.15 **A-E Developed Specification Sections.** For items not covered by the UFGS or district guide specifications, create new sections using the SpecsIntact ARMYSECT template. Edit the section template using the Specsintact Editor.

4.16 **Amendment Changes.** Changes to any specification section during the time that the Plans and Specifications are out for bids will result in the entire section being reissued, with the amendment changes underlined and the amendment number inserted at the beginning of the change (AM#___). Each reissued section will have a header on every page giving the amendment number and solicitation number (e.g. ACCOMPANYING AMMENDMENT NO TO SOLICITATION NO). Deleted paragraphs will have the word DELETED next to the paragraph number with the text gone. Deleted sentences shall be replaced by an Amendment number (AM#___) followed by a blank line with a period.

5. **BIDDING SCHEDULE.** Submit a bidding schedule with the final and corrected final specs with the bid amounts left blank (except for the bid items for O & M manuals and final as-built drawings as applicable to the District's policy). Include all applicable notes. For bidding schedule content and format, refer to local District Cost Engineering Supplements for instructions.

6. **GOVERNMENT FURNISHED EQUIPMENT OR MATERIALS (GFE).** This includes items to be furnished by the Government and installed by the Contractor. The Division 1 General Requirements prepared by the District Office includes the entire list of Government-furnished, Contractor-installed items for the contract and includes all information needed by the prospective bidder to determine the cost of handling and installing the GFE. Such information shall be furnished by the A-E and shall include the quantity of each item to be furnished by the Government; manufacturer's name, model number, size, weight, and source (i.e., from storage at project site, f.o.b. railroad cars, or f.o.b. truck); whether the district office needs to requisition the items; and other pertinent data. Items of installed material or equipment to be relocated from one area or building to another are not considered Government-furnished property and the listing of such items in Division 1 General Requirements is not required.

7. DESIGN-BUILD CONTRACTS RFP SPECIFICATIONS

7.1 Design-build contracts are different from design-bid-build contracts in that the Contractor designs and constructs the project in accordance with the design and performance criteria specified in the Request For Proposal (RFP) document. There generally are no technical CSI-formatted technical sections. The RFP's design and construction criteria are generally specified in performance requirements as opposed to UFGS's prescriptive specifications used for design-bid-build contracts. RFP specifications should follow the Corps of Engineers' Design-Build Guidance located on the Techinfo web site under Supported Documents and the "Design-Build and Military Construction" Prospect Course Manual in developing the. Since the UFGS are primarily prescriptive specifications, it is recommended using the CSI/Design-Build Institute/Building System Design, Inc. PerSpective software for format and to develop the technical performance requirements, product quality specifications, and substantiation requirements. Since PerSpective is comprehensive software written for private industry construction contracts, its Request For Proposal Documents module and most of the chapters in the Contracting Documents module need to be turned off, as they are not applicable to Federal contracts. These need to be replaced by the Corps of Engineers' standard Division 0 Bidding and Contracting Requirements and Division 1 General Requirements documents. Within PerSpective's Contracting Documents module, Chapters 00570 Contract Definitions, 00830 Design and Construction Procedures, and 00840 Referenced Documents can be edited and made applicable to Federal contracts.

8. INSTRUCTIONS FOR PRINTING SPECIFICATIONS.

8.1 Specsintact format. Corrected Final specifications shall be converted to Adobe Acrobat format (.pdf) files. Hard copies of the specifications shall be printed from these .pdf files.

8.2 Reproduction Quality. The A-E shall check the final printed copies for reproduction quality before submitting to the district office.