# **UNIFIED FACILITIES CRITERIA (UFC)**

# **INTERIOR DESIGN**



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#### **UNIFIED FACILITIES CRITERIA (UFC)**

#### **INTERIOR DESIGN**

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U.S. ARMY CORPS OF ENGINEERS

NAVAL FACILITIES ENGINEERING COMMAND (Preparing Activity)

AIR FORCE CIVIL ENGINEER SUPPORT AGENCY

Record of Changes (changes are indicated by \1\ ... /1/)

Change No.	Date	Location
<u>1</u>	July 26, 2007	Throughout. Added references for sustainable design
		guidance.

This UFC supersedes UFC 3-100-10N, General Architectural and Interior Design Guide, dated August 2004 (in part); TI 800-01, Design Criteria, Chapter 6, "Architectural;" the Atlantic Division Architectural Design Guide and Interior Design Guide, dated July 2002; SODIV-TG-1001, dated March 1997; and SODIV-TG-1007, dated August 1997.

#### **FOREWORD**

The Unified Facilities Criteria (UFC) system is prescribed by MIL-STD 3007 and provides planning, design, construction, sustainment, restoration, and modernization criteria, and applies to the Military Departments, the Defense Agencies, and the DoD Field Activities in accordance with <a href="USD(AT&L">USD(AT&L</a>) <a href="Memorandum">Memorandum</a> dated 29 May 2002. UFC will be used for all DoD projects and work for other customers where appropriate. All construction outside of the United States is also governed by Status of forces Agreements (SOFA), Host Nation Funded Construction Agreements (HNFA), and in some instances, Bilateral Infrastructure Agreements (BIA.) Therefore, the acquisition team must ensure compliance with the more stringent of the UFC, the SOFA, the HNFA, and the BIA, as applicable.

UFC are living documents and will be periodically reviewed, updated, and made available to users as part of the Services' responsibility for providing technical criteria for military construction. Headquarters, U.S. Army Corps of Engineers (HQUSACE), Naval Facilities Engineering Command (NAVFAC), and Air Force Civil Engineer Support Agency (AFCESA) are responsible for administration of the UFC system. Defense agencies should contact the preparing service for document interpretation and improvements. Technical content of UFC is the responsibility of the cognizant DoD working group. Recommended changes with supporting rationale should be sent to the respective service proponent office by the following electronic form: Criteria Change Request (CCR). The form is also accessible from the Internet sites listed below.

UFC are effective upon issuance and are distributed only in electronic media from the following source:

Whole Building Design Guide web site <a href="http://dod.wbdg.org/">http://dod.wbdg.org/</a>.

Hard copies of UFC printed from electronic media should be checked against the current electronic version prior to use to ensure that they are current. /1/

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## UNIFIED FACILITIES CRITERIA (UFC) NEW DOCUMENT SUMMARY SHEET

**Document:** UFC 3-120-10, Interior Design

Superseding:

- UFC 3-100-10N, General Architectural and Interior Design Guide, dated August 2004 (in part);
- TI 800-01, Design Criteria, Chapter 6, "Architectural;"
- Atlantic Division Architectural Design Guide and Interior Design Guide, dated July 2002;
- SODIV-TG-1001, dated March 1997; and
- SODIV-TG-1007, dated August 1997.

**Description of Changes:** This UFC is a coordinated compilation of Interior Design requirements, and references non-Government standards to the greatest extent practicable. It provides a succinct reference for Interior Designers to ensure that all requirements are met.

## Reasons for Changes: This UFC:

- Defines the requirements for interior design work on military construction and renovation projects;
- Relies on a list of industry and government standards, codes and references; and
- Provides DoD sources for standards and guidance not otherwise addressed.

**Impact:** Cost impacts are negligible; however, design delays should decrease as all requirements for all services are now in a single, consolidated document that has been coordinated with other elements of construction and renovation projects.

# **CONTENTS**

	CHAPTE	R 1 INTRODUCTION	1-1
Paragraph	_1-1	PURPOSE AND SCOPE	
	1-2	APPLICABILITY	
	1-3	REFERENCES.	
	1-3.1	More Stringent Requirements	
	1-3.2	Facilities Located Off Military Installations	1-2
	1-4	WHOLE BUILDING DESIGN GUIDE	1-2
	1-5	OVERVIEW OF MILITARY INTERIOR DESIGN	
	1-5.1	Structural Interior Design (SID)	1-2
	1-5.2	Furniture, Fixtures & Equipment (FF&E)	1-3
	CHAPTE	R 2 REQUIREMENTS	2-1
Paragraph	2-1	DESIGN REQUIREMENTS	2-1
	2-2	INTERIOR DESIGNER QUALIFICATIONS	2-1
	2-3	DESIGN CONSIDERATIONS	2-1
	2-3.1	Functional Design	2-2
	2-3.2	Design for Flexibility	2-2
	2-3.3	Cost Engineering.	2-2
	2-3.4	Life-Cycle Costs	2-2
	2-3.5	Value Engineering	
	2-3.6	Accessibility Requirements	
	2-3.7	Health & Safety Criteria.	
	2-3.8	Environmental Quality	
	2-3.9	Way Finding	
	2-3.10	Sustainable Design	
	2-3.11	Overseas Requirements	2-3
	CHAPTE	R 3 INTERIOR DESIGN PROCESS	3-1
Paragraph	3-1	GENERAL	3-1
	3-2	PROJECT DELIVERY PROCESS	3-1
	3-2.1	Design-Bid-Build (DBB).	3-1
	3-2.2	Design-Build (DB).	3-3
	3-2.2.1	DB RFP Development	3-3
	3-2.2.2	DB Technical Evaluation Board – Interior Design Participation	3-4
	3-2.2.3	DB Design after Award	3-4
	3-3	FURNITURE, FIXTURES & EQUIPMENT ACQUISITION STRATEGY	
	3-3.1	Contractor Furnished/Contractor Installed (CFCI) FF&E	
	3-3.2	Government Furnished/Government Installed (GFGI) FF&E	
	3-3.3	Government Furnished/Contractor Installed (GFCI) FF&E	
	3-4	DESIGN PROCESS.	
	3-4.1	Planning and Programming.	
	3-4.1.1	DD Form 1391	
	3-4.2	Concept Design.	3-8
	3-4.3	Design Development.	3-8
	3-4.4	Final Design	
	3-4.5	Review Process	3-8

## UFC 3-120-10 15 June 2006

		including Change 1, Ju	lv 2007
	3-5	CONSTRUCTION AND FF&E PROCUREMENT PHASES	3-9
	3-6	POST OCCUPANCY	
	3-7	FUNDING	
	3-7.1	Construction.	3-9
	3-7.2	Furniture, Fixtures and Equipment.	3-10
	3-7.3	Design Funds.	3-10
	3-7.4	Procurement and Installation of FF&E	3-10
	CHAPTE	R 4 STRUCTURAL INTERIOR DESIGN	4-1
Paragraph	4-1	DEFINITION.	4-1
-	4-2	INTERIOR DESIGN DRAWINGS	4-1
	4-2.1	Room Finish Schedule	4-1
	4-2.2	Furniture Footprint Plans.	4-2
	4-2.3	Interior Signage Placement Plans.	4-2
	4-3	SPECIFICATIONS	
	4-3.1	Finish Color Schedule.	
	4-3.1.1	Federal Standard Colors	
	4-3.1.2	Trade Names and Nonproprietary Disclaimers	
	4-4	SPECIFIC MATERIAL CONSIDERATIONS	
	4-4.1	Paint Selection	
	4-4.2	Carpet	
	4-4.3	Wallcovering and Mold Issues	
	4-4.4	Window Treatments.	4-4
	4-4.5 4-5	Interior SignageSID DESIGN SUBMITTAL REQUIREMENTS	4-4
	4-5 4-5.1	SID BINDERS SUBMITTAL REQUIREMENTS	
	4-5.1 4-5.2		
	4-5.2 4-5.3	Narrative of Interior Design ObjectivesFinish Color Boards for SID Binders	4-0
	4-5.4	Large Scale Presentation Boards	
	4-6	SID DESIGN SUBMITTAL REQUIREMENTS MATRIX.	4-6
	CHAPTE	R 5 FURNITURE, FIXTURES & EQUIPMENT INTERIOR DESIGN	5-1
Paragraph	5-1	DEFINITION.	5-1
	5-2	SOURCES OF SUPPLY FOR FF&E	
	5-3	FF&E DESIGN SUBMITTAL REQUIREMENTS	5-2
	5-3.1	FF&E Package Format Submittal.	5-2
	5-3.2	Narrative of Interior Design Objectives	
	5-3.3	Point of Contact List.	
	5-3.4	Itemized Furnishings Cost Estimate.	
	5-3.5	Item Code Legend	
	5-3.6	Item Installation List.	
	5-3.7	Furnishings Order Forms	
	5-3.8	Best Value Determination.	
	5-3.9	Furnishings Illustration Materials.	
	5-3.10	Manufacturers Source List	
	5-4	FURNITURE PLANS.	
	5-4.1	Furniture Systems	
	5-4.2 5-5	Artwork Placement Plans	
	· 1= ' 1	ECOC DESIGN SUDWILLAL BEULIBENIEN S MATRIX	r

UFC 3-120-10 15 June 2000	_
including Change 1, July 200	7
APPENDIX A - REFERENCES	1
GOVERNMENT PUBLICATIONS:	
NON-GOVERNMENT PUBLICATIONS:A-	
APPENDIX B – BEST PRACTICESB-	
APPENDIX C - INTERIOR DESIGN RELATED STANDARDS & CODES	
APPENDIX D - SAMPLE FORMS FOR INTERIOR DESIGN SUBMITTALS D-	
APPENDIX E – FF&E PROCUREMENT REFERENCES AND SOURCES E-	1
FIGURES	
Figure D-1 Navy Sample FF&E Order Form	1
Figure D-2 Navy Sample Furniture Illustration Sheet	
Figure D-3 Navy Sample FF&E Order Form	3
Figure D-4 Navy Sample SID Color Binder Form	4
Figure D-5 Army Sample FF&E Order Form	5
Figure D-6 Army Sample FF&E Order Form	6
TABLES	
Table 3-1 Design-Bid-Build Interior Design Process	2
Table 3-2 Design-Build RFP Interior Design Process	
Table 3-3 Design-Build After Award Interior Design Process	
Table 4-1 SID Design Submittal Requirements Matrix4-	
Table 5-1 FF&E Design Submittal Requirements Matrix5-	

UFC 3-120-10 15 June 2006 including Change 1, July 2007 CHAPTER 1 INTRODUCTION

#### 1-1 PURPOSE AND SCOPE.

This UFC provides general guidance and outlines technical requirements that apply to both building related and furniture related interior design projects, new construction and renovation projects. The information provided in this UFC will be used by interior designers and architects and will serve as the minimum interior design requirements. This UFC covers requirements in the development of design criteria, construction contract documents, specifications, calculations, and procurement documentation and project presentations for Design-Bid-Build (DBB) and Design-Build (DB) projects. Project conditions may dictate the need for design that exceeds these requirements.

Excellence in design is the primary goal for all projects. Reaching this goal requires a commitment by the government and designers to a level of quality that includes the coordinated relationship of interior design with the building design, as well as the details of design that affect the users of the facilities. Quality interior design is value added to a project as it vitally improves facility operating efficiency, attractiveness, livability, lifecycle economics, and most importantly, the productivity of the users. Project conditions may dictate the need for design that exceeds these minimum requirements.

#### 1-2 **APPLICABILITY**.

This UFC applies to agencies of the U.S. Armed Services and their contractors that are preparing construction contract documents and Furniture, Fixtures & Equipment (FF&E) data for all new construction and renovation building projects. These criteria are applicable in the fifty states, the District of Columbia, Puerto Rico, U.S. territories and possessions, and as far as practical, at installations in foreign countries. This UFC applies to all types of construction regardless of funding, including properties listed or eligible for listing on the National Register of Historic Places, as well as National Guard and Reserve projects constructed on military installations or non-military DoD property. Certain specialized facilities, such as healthcare facilities, carry additional requirements. Also, see the Unified Facilities Criteria (UFC) or other criteria applicable to specialized facility types. When performing work for different activities, regional or installation requirements may differ from those included herein. Identify these regional differences at the beginning of the project delivery process.

#### 1-3 **REFERENCES.**

All design and construction shall comply with <u>UFC 3-100-10</u>, *Architecture* and <u>UFC 1-200-01</u>, *General Building Requirements*. Furthermore, Appendix A contains the list of references used in this UFC. These other publications, standards, and technical data referenced herein form a part of this criteria to the extent referenced. In the case of conflicts between the IBC and other military criteria, use the military criteria.

## 1-3.1 More Stringent Requirements.

For projects in overseas locations, host nation building codes, regulations, and international agreement requirements apply when more stringent than the criteria and standards contained in this UFC.

## 1-3.2 Facilities Located Off Military Installations.

Where facilities are located off military installations, if the local jurisdiction uses a building code other than that referenced in UFC 1-200-01, confirm which code will be used with the Government project manager.

#### 1-4 WHOLE BUILDING DESIGN GUIDE

The Whole Building Design Guide (<a href="http://www.wbdg.org">http://www.wbdg.org</a>) is a gateway to up-to-date information on integrated design techniques and technologies. It is a valuable resource for information on "Design Objectives" such as accessibility, aesthetics, cost effective design, functional requirements, historical preservation, productivity, security, and sustainable design. Additionally, it contains information on and links to "Building Types" such as armories, aviation facilities, educational facilities, libraries, office buildings, parking facilities, and warehouses, and building products. It is the site where online access to all Construction Criteria Base (CCB) criteria, standards and codes through the IHS system, Unified Facilities Criteria (UFC), Unified Facilities Guide Specifications (UFGS), Performance Technical Specifications (PTS), design manuals, and specifications will reside for the DoD Military Departments, NASA, and others.

\1\ The web site also includes the *Technical Guidance for Implementing the Federal Leadership in High-performance and Sustainable Buildings Memorandum of Understanding* (Sustainable MOU) (<a href="http://www.wbdg.org/sustainablemou/">http://www.wbdg.org/sustainablemou/</a>), which provides technical guidance to achieve high-performance and sustainable design buildings. /1/

## 1-5 **OVERVIEW OF MILITARY INTERIOR DESIGN.**

Interior design is required on new building construction and renovation projects regardless of funding source or type of project. A Comprehensive Interior Design (CID) will be provided, unless otherwise directed, and includes the Structural Interior Design (SID) and the Furniture, Fixtures and Equipment (FF&E) Design. The two types of services cover different aspects of the interior environment and are funded through different sources. See Chapter 2 for discussions on funding sources.

## 1-5.1 Structural Interior Design (SID).

The Structural Interior Design includes building related design elements and components generally part of the building itself, such as walls, ceilings, floor coverings and built in casework. The interior designer's knowledge and involvement in the project from the programming stage forward affords maximum success in accomplishing the

user's goals and requirements. The interior designer must be involved with the programming and space planning to help achieve the client's goals for space utilization, and with determining the desired interior finish materials and their respective aesthetic, durability and maintenance qualities or characteristics. In addition, the interior designer must provide a furniture footprint based on the project program. The SID will be performed by a qualified interior designer. See Chapter 3 for more detailed requirements for the SID.

## 1-5.2 Furniture, Fixtures & Equipment (FF&E)

The Furniture, Fixtures & Equipment is the selection, layout, specification and documentation of workstations, seating, storage, filing, visual display items, accessories, window treatments, and artwork including contract documentation to facilitate pricing, procurement and installation. The FF&E package is based on the furniture footprint developed in the SID portion of the interior design. Items such as markerboards, bulletin boards and some window treatments may be specified in either the SID or the FF&E. See Chapter 4 for more information on FF&E requirements.

UFC 3-120-10 15 June 2006 including Change 1, July 2007 CHAPTER 2 REQUIREMENTS

#### 2-1 **DESIGN REQUIREMENTS**

The interior designer must satisfy the following for each project:

- a. Fully indicate or follow the Scope of Work in the contract documents.
- b. Comply with applicable codes, regulations and laws.
- c. Provide a design within funding limits.
- d. Provide a design within Scope of Work limits.
- e. Provide a design of appropriate appearance in accordance with Service standards.
- f. Provide a design that satisfies the functional requirements of the project.
- g. Provide a design with coordinated systems (interior finish materials, furnishings, fixtures, equipment, electrical, lighting, etc.)
- h. Provide complete, accurate, and coordinated construction/procurement documentation for the Project.
- Provide a fully coordinated Comprehensive Interior Design, unless otherwise directed, which includes:
  - (i) Fully coordinated Structural Interior Design (SID;) and
  - (ii) Fully coordinated Furniture, Fixtures & Equipment Interior Design (FF&E.)
- j. Provide a design that is in accordance with sustainable design principles.

#### 2-2 INTERIOR DESIGNER QUALIFICATIONS

Design and review must be accomplished by, or in consultation with, professional interior designers or architects with significant interior design experience. Qualification of designers is based on education, experience and examination. Interior designers or architects will have completed a recognized program of academic training in interior design; and/or will have attained registration or licensure as required by the locality or district where the project work occurs. For contracted interior design services, the interior designer or architect must be NCIDQ certified and must not be affiliated with any furniture dealership, vendor or manufacturer. The Government reserves the right to approve or disapprove the qualifications of the interior designer selected by an A/E or a Contractor.

#### 2-3 **DESIGN CONSIDERATIONS**

Designers must consider interior design compatibility with the local environment, functional requirements, ergonomics, and economy of construction, energy conservation, interior details, sustainable design and life cycle costs. Additionally, facilities must be designed in harmony with the architectural character of existing facilities that are to remain, especially those that are considered historically or architecturally significant. Design excellence must not add to project costs but balance the functionality, aesthetics, quality, sustainability and maintainability of facilities. Designs must comply with each installation design guide.

## 2-3.1 Functional Design

Facility designs will be governed by the functional requirements of the project, will conform to the appropriate criteria and standards, and will be consistent with applicable funding limitations. Provide facilities and furnishings that achieve optimum life-cycle savings. Conduct comparisons as needed to determine the most life-cycle cost effective, materials, finishes, methods of construction, furnishings and services.

## 2-3.2 **Design for Flexibility.**

Flexibility in architectural and interior design facilitates the accommodation of changing functional requirements while conserving resources. The U.S. military may own or lease a facility from its time of construction until the end of its useful life. During this long tenure of use, functional requirements of buildings will change, often drastically. For this reason, flexibility is a significant design requirement for buildings, except for those with highly specialized functions where adaptive reuse would be cost prohibitive.

## 2-3.3 Cost Engineering.

Cost Engineering (CE) will be an integral part of the design process. Apply the CE principles and practices in the pre-design and programming development stage relative to establishing costs. Initiate more CE costs relative to the scope and requirements at the concept design on program documents and use throughout the design and construction of projects.

## 2-3.4 Life-Cycle Costs.

Base design decisions on life-cycle cost considerations to determine an economical design for facilities. Take into account not only the initial construction costs but also the operating and maintenance costs of buildings, the associated impacts on productivity and the missions performed within the facility over their anticipated life. Designers must design within current cost criteria and requirements of each project's programming documents and Form DD 1391.

#### 2-3.5 Value Engineering.

Value Engineering (VE) will be an integral part of the design process, regardless of project size. Initiate VE in the development of the concept design based on program documents and use VE during the design and construction of projects.

#### 2-3.6 Accessibility Requirements.

Federal facilities open to the public and/or facilities with civilian employees must be accessible. Ensure the building design and furniture plans meet Americans with Disabilities Act Accessibility Guidelines (ADAAG). Interior signage within accessible facilities must meet current ADAAG requirements.

## 2-3.7 Health & Safety Criteria.

Designers must comply with NFPA 101 and provide for safe egress in the event of fire. For other code issues, use the International Building Code as modified by the UFC 3-600-01, *Fire Protection Engineering for Facilities*. Designers must provide protection against injury and death from falls, chemical emissions, electronic emissions, and microbial conditions. Designers must use materials with low VOC emissions, superior indoor air quality characteristics as well as antimicrobial components. Designers must also incorporate appropriate ergonomic design in the facility and furnishings.

## 2-3.8 Environmental Quality.

Designers must be concerned with designing an environment that is comfortable, welcoming and conducive to work or other prescribed activity. Contributing factors include proper HVAC, lighting, acoustics and furnishings. Acoustic design issues include speech privacy, sound isolation or sound masking. See UFC 3-450-01 *Vibration and Noise Control*. Lighting, both artificial and daylight, is an important tool in shaping the ambiance of the environment. See UFC 3-530-01, *Design: Interior and Exterior Lighting* for lighting requirements.

## 2-3.9 Way Finding.

Interior design for military facilities must incorporate methods of way finding through the facility, including the development of an interior signage package, using color and patterns as applicable. These design components will form a well-organized, comprehensible interior environment that guides users and visitors through the building to their destinations. Refer to UFC 3-120-01, *Air Force Sign Standard*.

## 2-3.10 Sustainable Design.

Designers must incorporate sustainable design in the selection of materials and in the promotion of interior environmental quality. Projects must achieve designated LEED ratings. Consider sustainable or "green" design elements on all projects. Designers will evaluate furnishings and finish materials containing recycled product and materials that can be recycled at the "end of their useful life". Whenever possible, use sustainable principles when choosing interior finishes and materials, furnishings and equipment, especially on projects slated as Sustainable Showcases.

#### 2-3.11 Overseas Requirements.

Overseas projects may have special interior design requirements based on availability of products and interior finish materials. Finish materials may need to be selected from products available within a certain geographical region. The RAL color system is an international color-matching system that can serve as a reference for painted and prefinished interior and exterior finish materials. It is recommended that special requirements be identified as early in the design process as possible so that product

sampling may be obtained for use on the project.

UFC 3-120-10 15 June 2006 including Change 1, July 2007 CHAPTER 3 INTERIOR DESIGN PROCESS

#### 3-1 **GENERAL**.

A Comprehensive Interior Design (CID,) which includes both SID and FF&E design services, will be developed and coordinated with the architectural design in accordance with applicable design guides, the project delivery process and project scope of work. The following information outlines the interior design process using industry standard design phases and does not reflect the specific submittal phases in terms of percentages and terminology for each branch of service and/or type of project. Verify actual submittal phases required on a project-by-project basis as each activity will have its own specific requirements.

#### 3-2 PROJECT DELIVERY PROCESS.

While other project delivery methods are possible, the two main methods are Design-Bid-Build and Design-Build.

\1\ Use an integrated design process throughout the project planning, design and delivery process to achieve high-performance objectives and sustainable buildings. Technical guidance for integrated design is available at the WBDG web site at <a href="http://www.wbdg.org/sustainablemou/">http://www.wbdg.org/sustainablemou/</a>. /1/

## 3-2.1 **Design-Bid-Build (DBB)**.

When the Design-Bid-Build (DBB) project delivery process is used, the SID/FF&E design should be developed by a single interior design source in the prescribed formats discussed herein. The SID portion of the interior design is performed concurrently with the architectural design. Where furniture is planned, the conceptual design of the furniture is performed concurrently with the architectural design to insure coordination with building systems. The FF&E portion of the interior design is initiated during either the building design or the construction process. The completion of the FF&E design, procurement and installation will be coordinated with the user's Beneficial Occupancy Date (BOD.) In some situations, a Government designer performs the FF&E design instead of the A/E interior designer, which designed the SID portion of the project. The following table outlines the interior design process and at what stage the designer is involved for the DBB project delivery process.

Table 3-1 Design-Bid-Build Interior Design Process

	BUILDING DESIGN PROCESS										
INTERIOR DESIGN PROCESS (A/E Or Govt.)	Pre-Design Conference	Planning and Programming	Concept Design Submittal (10-15%)	Design Develop. Submittal (30-65%)	Pre-Final Submittal (90%)	Final Submittal (100%)	Construction Funded	Construction Award	Construction	Beneficial Occupancy	Post Occupancy Evaluation
Pre-Design Conference											
Generate Programming Documents											
Develop DD1391 & FF&E Cost Estimate											
Establish SID/FF&E Requirements											
Establish FF&E Acquisition Strategy											
Structural Interior Design											
Furniture Footprint Design											
Award /Initiate FF&E Design											
FF&E Pre-Design Conference											
FF&E Preliminary Submittal											
FF&E Presentation To Customer											
FF&E Final Submittal											
Submit To Contracting Authority For Funding											
FF&E Presentation To Customer											
Field Verification & Review Of SID Finish Submittals With Contracting Officer											

Table 3-1 Design-Bid-Build Interior Design Process

		BUILDING DESIGN PROCESS										
INTERIOR DESIGN PROCESS (A/E Or Govt.)	Pre-Design Conference	Planning and Programming	Concept Design Submittal (10-15%)	Design Develop. Submittal (30-65%)	Pre-Final Submittal (90%)	Final Submittal (100%)	Construction Funded	Construction Award	Construction	Beneficial Occupancy	Post Occupancy Evaluation	
Procurement Of Furniture												
Furniture Delivery And Installation												
Photography Of Complete Interior												
Post Occupancy Evaluation												

## 3-2.2 Design-Build (DB).

When the DB project delivery process is used, there are three distinct parts to the process.

- DB RFP Development;
- DB Technical Evaluation Interior Design Participation; and
- DB Design after Award.

## 3-2.2.1 **DB RFP Development**

In the Request for Proposal (RFP) development, the interior designer will participate in the pre-design conference or design charrette to establish project requirements in terms of interior finish and material requirements, space utilization, personnel requirements, FF&E requirements and an FF&E acquisition strategy. The interior designer will develop the performance specifications for the SID and the FF&E. The following table outlines the interior design process and at what stage the designer is involved during the Design-Build RFP development process.

Table 3-2 Design-Build RFP Interior Design Process

	RFP DEVELOPMENT PROCESS										
INTERIOR DESIGN PROCESS (A/E Or Govt.)	Pre-Design Conference	Planning and Programming	Concept Design Submittal (10-15%)	Design Develop. Submittal (30-65%)	PreFinal Design Submittal (90%)	Final Submittal (100%)	Construction Funded				
Pre-Design Conference/ Design Charrette											
Generate Programming documents											
Develop DD1391 & FF&E Cost Estimate											
Establish SID/FF&E Requirements											
Establish FF&E Acquisition Strategy											
Generate SID Performance Specifications											
Generate FF&E Performance Specifications											
Advertise Design-Build Request for Proposal											

## 3-2.2.2 **DB Technical Evaluation Board – Interior Design Participation.**

The Government interior designer participates in the team evaluation of the DB-RFP proposals to ensure that the selected contractor meets the RFP requirements regarding the SID and FF&E. The Government interior designer also evaluates the qualifications of the contractor's interior design source.

## 3-2.2.3 **DB Design after Award.**

The contractor's interior designer will meet with the Government interior designer and customer to review the SID and FF&E specifications and requirements and proposed materials and furnishings. There may be the need for an additional design charrette to verify and clarify the RFP requirements in which the contractor's interior designer will participate. The following table outlines the interior design process for Design-Build after the contract has been awarded.

**Table 3-3 Design-Build After Award Interior Design Process** 

	DESIGN AND CONSTRUCTION PROCESS										
INTERIOR DESIGN PROCESS (A/E Or Govt.)	Construction Funded & Awarded	Pre-Design Conference	Design Develop Submittal (30-65%)	Pre-Final Design. Submittal (90%)	Final Submittal (100%)	Construction	Beneficial Occupancy	Post Occupancy Evaluation			
Award Design & Construction											
Pre-Design Conference/ Design Charrette											
Verify SID/FF&E Requirements											
Verify SID/FF&E Submittal Format											
SID/FF&E Preliminary Submittal											
SID/FF&E Presentation To Customer											
SID/FF&E Final Submittal											
SID/FF&E Presentation To Customer											
Contractor obtain authorization to procure through govt. sources											
Procurement Of Furniture											
Furniture Delivery And Installation											
Photography Of Complete Interior											
Post Occupancy Evaluation											

## 3-3 FURNITURE, FIXTURES & EQUIPMENT ACQUISITION STRATEGY.

As early as possible and before starting any project, FF&E procurement criteria must be determined in conjunction with the facility design criteria and the project delivery process. First determine if the FF&E package will be part of the project design. Then establish how and when the FF&E will be procured, for example, using O&M or NAF funds. Additionally, the procurement method, format and schedule must be coordinated with the applicable contracting office for their specific requirements.

## 3-3.1 Contractor Furnished/Contractor Installed (CFCI) FF&E.

The Contractor may procure and install the FF&E, known as Contractor Furnished / Contractor Installed (CFCI). This acquisition strategy is used most often in Design-Build situations where the Contractor is authorized to procure FF&E from GSA negotiated schedules. The FF&E design is prepared by the A/E interior designer on the Contractor's team or by a government interior designer. Project coordination is minimized since the customer has only one point of contact for a turnkey project. To avoid undetermined additional costs to the customer, the Design-Build RFP must state that the coordination efforts associated with providing the FF&E package must be included in the Contractor's base contract price. The Contractor is required to purchase the FF&E as specified with no deviations unless approved by the government. The Government will provide separate funding for the actual purchase of the FF&E including shipping and installation. Being an integral part of the FF&E design, Best Value Determinations are required, however, manufacturer's price quotes are not required as back-up. The Government interior designer reviewing the interior design deliverables is critical to ensuring the Government procurement regulations and requirements are met.

## 3-3.2 Government Furnished/Government Installed (GFGI) FF&E.

The Government may procure and install the FF&E package independently of the building construction or renovation, known as Government Furnished / Government Installed (GFGI). The FF&E design is prepared by an A/E interior designer or by a Government interior designer. The FF&E package is procured through DoD agencies or non-DoD Agencies, such as the General Services Administration (GSA), GovWorks or the Veterans Administration (VA). In this scenario, the project delivery team must plan for extensive coordination between the building design, the FF&E design, changing construction schedules, and furniture delivery schedules. Other issues to consider in this acquisition strategy are:

- a. All acquisition methods require Best Value Determinations (BVD). Those that require manufacturer's price quotes for backup, increase design fees as well as lengthen the design schedule.
- b. Determine if the procurement agency charges a service charge or purchasing fee, which may increase a customer's furniture budget.
- c. Determine if the procurement agency can or cannot accept expiring funds prior to being obligated. This affects when funding for the FF&E design and procurement must be in place, and adds to the project coordination.
- d. Determine if the procurement agency accepts a single funding document for the whole FF&E package or requires multiple funding documents for each separate order of the FF&E package.
- e. Determine if procurement agencies may be more rigid in their evaluation of the procurement regulations and may require more documentation than the Best Value Determination.

- f. Determine if procurement agencies have the technical expertise to purchase large projects or understand the need to purchase FF&E projects without deviating from the design intent.
- g. Determine if non-DoD procurement agencies require an Interagency Agreement to procure the FF&E.

## 3-3.3 Government Furnished/Contractor Installed (GFCI) FF&E.

The Government may have the contractor install existing furnishings as part of its scope of work, known as Government Furnished / Contractor Installed (GFCI). This may be accomplished with either the Design-Build or Design-Bid-Build. An FF&E design may be performed for reconfiguration or for additional furnishings to match existing furnishings. Consider all of the above issues when planning this type of acquisition strategy.

## 3-4 **DESIGN PROCESS.**

## 3-4.1 Planning and Programming.

The interior designer will be involved during the initial programming and DD1391 development and preparation. The designer will be involved in the initial information gathering, or design charrettes, at the onset of a project. The designer contributions during the planning and programming stage ensure that all applicable interior design issues are considered, and evaluated as part of defining the project scope.

\1\ Use an integrated design process throughout the project planning, design and delivery process to achieve high-performance objectives and sustainable buildings. Technical guidance for integrated design is available at the WBDG web site at <a href="http://www.wbdg.org/sustainablemou/">http://www.wbdg.org/sustainablemou/</a>. Guidance for conducting charrettes is available at the WBDG web site at <a href="http://www.wbdg.org/design/charrettes.php">http://www.wbdg.org/design/charrettes.php</a>.

Refer to the Sustainable MOU (<a href="http://www.wbdg.org/sustainablemou/">http://www.wbdg.org/sustainablemou/</a> to review applicable technical guidance to achieve high-performance and sustainable design objectives. /1/

#### 3-4.1.1 **DD Form 1391.**

Interior Designer involved with the DD Form 1391 will provide an estimated cost for furnishings based on the <u>Air Force Interior Design Cost Estimating Guide</u> or other historical project data. When furniture is required as part of a project, it must be specifically identified on the DD Form 1391. If so identified, it is funded from other sources (normally O&M) and is an integral part of the construction project. Furniture is listed on the DD Form 1391 as a non-add entry in Block 9 for Equipment Provided from Other Appropriations. In Block 12b, list the equipment as an O&M funded item, the fiscal year the funds are requested, and the line item cost. The FF&E must be verified at the command level by those responsible for budgeting O&M appropriations. Any equipment included on the 1391 must be estimated separately from the furnishings and

added to the FF&E budget.

## 3-4.2 Concept Design.

During the concept design phase, the interior designer will meet with representatives of the using activity and the building design team to determine the design concept. The design concept must be described in the design analysis as required in the project delivery process. The design concept must meet the user's functional, physical, and aesthetic needs. The interior designer will produce programming documents including space utilization, personnel requirements, concept space plan, furniture foot print and FF&E list with cost estimate.

## 3-4.3 **Design Development.**

Upon approval of the concept design, the designer will develop the design concept. In the DB project delivery process, the interior designer may participate in a design charrette to verify the RFP requirements before proceeding with developing the design concept. In addition to participating in the floor plan development, the designer will contribute to the interior architectural detailing. The designer will determine the appropriate interior finish materials as well as the conceptual furniture layout. Ensure architectural and engineering disciplines are coordinated with interior design components. Furnishings layouts and locations of built-in equipment must be considered during the placement of lighting, power and communication receptacles, electrical/fire protection panels, sprinklers, etc. Fully coordinate furnishings with the building systems during design development through the final submittals.

## 3-4.4 Final Design.

In the final stages of a project, the designer follows through with completing the SID/FF&E interior design in sufficient detail to ensure successful execution. Coordinate specifications with the final drawings, schedules and details as well as furnishings types and layouts with other disciplines. In addition to equipment placement, types of furnishings that require coordination with electrical systems include, but are not limited to, furniture systems; motorized projection screens, electrically powered high-density filling, power and communications in conference and training tables or computerized directory systems. During furniture layout and selection, coordinate building elements such as power sources, ceiling heights, column placement, lighting, wall switches, thermostats, alarm panels, window placement, etc.

#### 3-4.5 Review Process.

When the design is performed by an A-E, direct communication with the Government's project manager, users, interior designer or architectural reviewer is required. This will avoid unnecessary submittal of plans and specifications due to a misunderstanding. The reviewer's name, phone number and email address can be found on the comment sheets. The Government reviewer(s) will provide comments regarding corrections or clarifications to be incorporated into contract documents or other design submittals.

The interior designer will ensure that comments are incorporated into the subsequent submittal, or the reason for not incorporating the comment must be thoroughly documented in the A-E's response to the comment. The Army and the Navy use a webbased Government review management system called DrChecks, which will be use if called for in the contract.

#### 3-5 CONSTRUCTION AND FF&E PROCUREMENT PHASES.

During building construction, the interior designer will verify that equipment was coordinated with the FF&E plans and installed properly. The designer will also verify the correct interior finishes and materials have been installed per the specifications, or that those interior finishes that are to be installed, coordinate with the design intent and the FF&E package.

Schedule the delivery and installation of FF&E to be complete by the user's beneficial occupancy date. Note that a construction completion date may occur significantly before the user's beneficial occupancy date, depending on the procurement methods selected. The project delivery team will establish an FF&E point of contact. This person is responsible for procurement of furnishings, fixtures, and equipment, tracking of orders, warehousing of FF&E, delivery, assembly and installation, and verification that the FF&E received match the procurement documents, shop drawings and/or specifications. When FF&E design services are provided, the designer involved will need to provide additional services to include:

- a. Consultation during procurement, delivery and installation of FF&E;
- b. Assistance in evaluating deviations from specified FF&E to avoid installation of inferior or inappropriate FF&E; and
- c. Supervision of furniture assembly and placement.

#### 3-6 **POST OCCUPANCY**.

Approximately one year after completion of construction, conduct a Post Occupancy Evaluation (POE) of the project to determine the effectiveness of the design. This evaluation involves inspection of the completed facility by a team composed of members of the project delivery team, the directorate of public works, or facility maintainers and the using activity. The POE is used by the project delivery team in effecting improvements in the project delivery process.

#### 3-7 **FUNDING**

#### 3-7.1 Construction.

Funding for the construction or renovation of a building may come from a broad range of sources. The most common sources in military programs are Military Construction funds (MILCON), Non-Appropriated Funds (NAF) and Operations and Maintenance (O&M) funds.

## 3-7.2 Furniture, Fixtures and Equipment.

Furniture, Fixtures and Equipment (FF&E), as defined as fixed or movable personal property, are normally provided using O&M and NAF funds.

## 3-7.3 Design Funds.

Design funds are associated with the type of funding for construction. When construction is funded under the Military Construction Program (MILCON), planning and design funds are used for SID interior design and the design only of FF&E. O&M or NAF funds are also used for the design of FF&E. When the using activity identifies funds for the procurement of the FF&E on the DD Form 1391 and requests FF&E interior design in the description of construction (Section 3) USACE will provide this service from planning and design funds. When FF&E interior design is not included in the programming documents, the design and review effort will be provided from the using activity O&M or NAF funds. For projects whose construction is funded from O&M or NAF funds, the using activity will provide funds for design and design review from this source.

#### 3-7.4 Procurement and Installation of FF&E.

Funds to support the procurement, tracking, shipping, warehousing, installation, inspection and associated services in addition to the furnishings themselves will be provided by the using activity from the same source as the funds for FF&E, normally O&M or NAF funds.

UFC 3-120-10 15 June 2006 including Change 1, July 2007 CHAPTER 4 STRUCTURAL INTERIOR DESIGN

#### 4-1 **DEFINITION**.

Structural Interior Design (SID) requires the accommodation of required FF&E within the building and the design, selection and coordination of interior finish materials that are integral to or attached to the building structure. The SID provides basic space planning for anticipated FF&E requirements in conjunction with the functional layout of the building and design issues such as life safety, privacy, acoustics, lighting, ventilation, and accessibility. Completion of a SID involves the selection, specification and sampling of applied finishes for the building's interior features including, but not limited to, walls, floors, ceilings, trims, doors, windows, window treatments, built-in furnishings and installed equipment, lighting, and signage. The SID package will include furniture floor plans, finish schedules, and any supporting interior elevations, details or plans necessary to communicate the building finish design and build out.

#### 4-2 INTERIOR DESIGN DRAWINGS.

Interior design building related drawings must indicate the placement and extents of SID material, finishes and colors and must be sufficiently detailed to define all interior work. Refer to the Tri-Services A/E/C CADD Standards for drawing formats, nomenclature, etc. The following is a list of minimum requirements, in addition to those listed in UFC 3-100-10:

- 1. Room Finish Schedules: Provide detailed schedules keyed to the Finish Color Schedule, to include finish materials and colors for floors, walls, and ceilings with special features noted on a per room basis.
- 2. Finish Color Schedule: Provide schedules on the drawings or use UFGS 09915 Color Schedule. Provide a finish code, material type, manufacturer, series, and color designations.
- 3. Interior Finish Plans: Indicate floor patterns and color placement, material transitions and extents of interior finishes.
- 4. Interior Elevations, Sections and Details: Indicate material, color and finish placement.
- 5. Furniture Footprint Plans: Provide plans to indicate anticipated location, configuration and size of furniture.
- 6. Interior Signage Plans. Indicate locations, typical signs/signage details and signage schedule when not adequately conveyed in the signage specification.
- 7. Renderings & Sketches: Renderings or black and white perspective sketches may be required.

#### 4-2.1 Room Finish Schedule.

The Interior Designer is responsible for selection, coordination and specification of interior finish materials and color selections. Obtain input from the using activity, and the Government's architectural and interior design representatives, incorporating installation guidelines and requirements. The interior design drawings must be fully

coordinated with Unified Facility Guide Specifications (UFGS), particularly the UFGS 09915 *Color Schedule* when used. f the UFGS 09915 is not used, it is useful as a check list and coordination tool.

## 4-2.2 Furniture Footprint Plans.

Incorporate FF&E requirements into the project design from the beginning through to the end of the project. The designer will work directly with the using activity to assess their needs and develop a written program of furnishings required for each space within the facility. Develop the furniture footprint plans to show that the furnishings necessary for the user's functional requirements can be accommodated within the spaces, comply with accessibility requirements, and satisfy applicable life safety codes. The furniture foot print plan will show the appropriate size and type of furnishings and critical or required clearances. The furniture footprint plans and documented user requirements serve as the basis for a fully integrated project design as well as the basis for the Furniture, Fixtures & Equipment (FF&E) package.

The interior designer is also responsible for identifying the requirements for equipment items with regards to space allocation and coordination with building systems; even though the interior designer may not be responsible for specifying those equipment items.

When the design of the FF&E package is included in the building design contract, the furniture footprint is the furniture plan and is fully developed, along with the FF&E package. If the FF&E package is not included as part of the building design contract, ensure that the furniture footprint plans are clearly noted "Not in Contract." Furniture Footprint Plans must be included throughout the design delivery process, from initial concept to Final submission, to ensure coordination of architectural components and engineering disciplines (lighting, power, mechanical, window placement, etc.) with respect to furniture placement.

## 4-2.3 Interior Signage Placement Plans.

Signage placement plans must indicate the location of every sign and directory in the facility. The sign symbol must indicate the sign type and be keyed to the signage schedule, which then describes message, symbols and details. Separate typical sign drawings must be prepared for each type to indicate plaque size, type, location and message for all signs. For larger projects, incorporate building or floor directories and directional signage. The typical sign drawings and schedule may be included solely in the specification or as an attachment to the specifications instead of on the contract set of drawings.

## 4-3 **SPECIFICATIONS**.

Each project has different specification requirements, identified in the project scope and the project delivery process. Make the specifications as brief as possible, definitive, and free of ambiguities and omissions that may result in controversy and contractor claims.

Unified Facilities Guide Specifications (UFGS) provide important information on government quality standards and submittal requirements and should be used as the basis for project specifications. These specifications are available on the Whole Building Design Guide's web page, www.wbdg.org. For Navy projects, see also UFC 1-300-09N, "Design Procedures".

#### 4-3.1 Finish Color Schedule.

The Finish Color Schedule will be provided in the contract documents in one of two ways.

The <u>UFGS 09915 Color Schedule</u> guide specification may be used to document manufacturer's materials, textures, patterns, color names and numbers for exterior and interior finishes and specialties which will be exposed to view in the finished construction. This specification has been fully integrated as a reference in all UFGS's that require a named material, color and finish reference. When used to the fullest extent, this UFGS can be referenced on the Finish Schedule drawings or in the Design Criteria for a Design-Build Request for Proposal.

If the UFGS 09915 is not used, provide the Finish Color Schedule on the drawings associated with the Room Finish Schedule. The Finish Color schedule on the drawings will indicate manufacturer's materials, textures, patterns, color names and numbers for all interior finishes and specialties which will be exposed to view in the finished construction.

When matching existing materials and colors, it is not sufficient to state, "match existing." Identify specific existing materials and colors to the greatest extent possible. <u>Do not</u> indicate that the Contracting Officer will make color selections. The designer must provide all color selections on the Finish Color schedule.

#### 4-3.1.1 Federal Standard Colors.

The current MIL-STD-595B *Federal Standard Colors* are to be used when required by installation specific criteria. The use of this standardized method of defining colors and finishes varies on a project-by-project basis.

## 4-3.1.2 Trade Names and Nonproprietary Disclaimers.

The government prohibits the use of proprietary materials, finishes and colors. A disclaimer must be used on the drawings or in the specifications indicating materials and colors are shown for reference only. However, it is important to use specific manufacturers, finishes and color to establish a frame of reference in the development of the SID. Reference UFGS 09915 Color Schedule for the appropriate disclaimer to use that addresses this issue when developing the SID.

#### 4-4 SPECIFIC MATERIAL CONSIDERATIONS.

The following paragraphs address special considerations and material issues for selecting and specifying materials and finishes; however, these do not cover all finishes normally incorporated into design projects.

#### 4-4.1 Paint Selection.

Paint selection and specification will be based on the <u>UFGS 09900 Paints and Coatings</u>. Each coating category is identified in the Master Painter's Institute (MPI) "Approved Products List" as either having been performance tested or categorized for intended use. Select paints and coatings from MPI's "Detailed Performance Standards" which are paints and coatings that have been tested to specific performance standards. Do not use MPI's "Intended Use" standards, as they have not been tested against the performance standards. Refer to the <u>Master Painter's Institutes' (MPI's)</u> "Architectural Painting Specification Manual" for more information.

#### 4-4.2 Carpet.

Where carpet is required, each project has specific carpet requirements in regards to performance, aesthetics, functional use and maintenance. Refer to the <a href="UFGS 09680">UFGS 09680</a> <a href="Carpet">Carpet</a> specification for guidance on selections and discussion on standards and performance. See <a href="Air Force ETL titled "Air Force Carpet Standards">Air Force ETL titled "Air Force Carpet Standards"</a> for specific material and performance requirements. In addition, the designer must coordinate carpet selections and specifications with the installation design guides. Carpet tile will be specified where electrical power and/or communications are accessed from the floor. The use of a multi-colored and/or patterned carpet is recommended due to superior soil hiding capabilities.

## 4-4.3 Wallcovering and Mold Issues.

Breathable wall coverings are required where used on the interior face of exterior walls in environments with high humidity where mold frequently occurs. <u>Air Force ETL titled "Design Criteria for the Prevention of Mold in Air Force Facilities"</u> and NAVFAC Interim Technical Guidance ITG FY05-02, NAVFAC Humid Area HVAC Design Criteria provides more discussion of this issue. Also, refer to UFGS 09720 Wall Coverings.

#### 4-4.4 Window Treatments.

Maintain uniformity of window treatments and color for primary window treatments such as miniblinds or roller shades which are viewed from the outside of the building. Primary window treatments may be included in the SID and the construction documents. Secondary window treatments such as sheers, draperies, top treatments, and room-darkening shades are specified as required on a project-by-project basis and are usually included as part of the FF&E package.

## 4-4.5 Interior Signage.

Ensure that interior signage schedules and details are incorporated into the contract

documents. Coordinate signage design and selection with the installation design guides. Accessible facilities will use signage which meets current ADAAG requirements with regard to Braille, raised characters, finishes (contrast), type size, and mounting height. If room names are subject to frequent change, an interchangeable message strip will be used to facilitate removal and replacement. Signage schedules must be coordinated with <a href="UFGS 10440">UFGS 10440</a> "Interior Signage". Also, see <a href="UFC 3-120-01">UFC 3-120-01</a> "Air Force <a href="Sign Standard">Sign Standard</a>" for sign standards.

#### 4-5 SID DESIGN SUBMITTAL REQUIREMENTS.

#### 4-5.1 SID Binders.

Interior and exterior finish color binders must display actual samples of proposed finishes required in the design of a project. Color boards are required at various submittal phases as noted in the project's scope of work. Submit SID information and samples in separate three ring binders with pockets on the inside of the covers. When samples are numerous or thick, use more than one binder. Large D-ring binders are preferred to O-ring binders. Fold out items must have a maximum spread of 25 1/2". Each binder must be labeled on the outside spine and front cover with the following information: Phase %, Date, SID, A-E firm, Project Title and Number, Location and Volume number. Include the 09915 Color Schedule or the Room Finish Schedule and Finish Color Schedule from the drawings. The interior designer must coordinate the SID binder format with the installation design guides where applicable.

## 4-5.2 Narrative of Interior Design Objectives.

The SID binder is to include a narrative that discusses the building related finishes. Include topics that relate to base standards, life safety, sustainable design issues, aesthetics and durability. Discuss the Furniture Footprint Plan development and features as it relates to the customer's requirements and the building design. This may also be included in the Basis of Design or Design Analysis.

## 4-5.3 Finish Color Boards for SID Binders.

Finish Color boards must be in 8 1/2" x 11" format and sturdy enough to support samples. Use page protectors that are strong enough to keep pages from tearing out. Anchor large or heavy samples with mechanical fasteners, Velcro, or double-faced foam tape rather than rubber cement or glue. Label finish samples with the material codes used in the contract documents. Samples that are difficult to attach, or large samples, such as ceiling tiles or flooring samples can be provided separately from the color board in a loose sleeve. Samples must be labeled with the finish code so they can be identified independently if removed from the binder.

Material and finish samples must indicate true pattern, color and texture. Photographs or colored photocopies of materials or fabrics to show large overall patterns are required in conjunction with actual samples to show the actual colors. Finish samples must be large enough to show a complete pattern or design where practical. For example, if the

specified carpet has a large pattern, provide a color photograph showing the overall pattern in addition to the carpet sample with representative colors. Provide a label or header identifying the submittal stage, project title and location, A/E and construction contract numbers, A/E name and date on each color board.

## 4-5.4 Large Scale Presentation Boards.

When required for presentations, large-scale Finish Color boards will be a minimum of 16" X 20", either foam core or mat board. Boards must be sufficiently rigid to support heavy samples. Finish materials must be labeled to fully coordinate with the contract documents. Material and finish samples must represent true pattern, texture and color. Samples must be large enough to indicate any pattern repeats where practical. Provide a label or title block identifying the submittal stage, project title and location, A/E and construction contract numbers, A/E name and date. Separate boards must be submitted for exterior and interior finishes. A copy of the Room Finish Schedule and Finish Color Schedule must be attached to the back of the board.

## 4-6 SID DESIGN SUBMITTAL REQUIREMENTS MATRIX.

In addition to providing the appropriate drawings and information in the contract documents, the following matrix indicates what information must be included in each SID binder submittal. Note that SID Submittals must run concurrent with Architectural Submittals.

The following submittal phases are representative and will vary due to the project delivery process. The scope of work will define the phases, specific types and number of submittals on a project-by-project basis

UFC 3-120-10 15 June 2006 including Change 1, July 2007 Table 4-1 SID Design Submittal Requirements Matrix

Item	Description	10-15% Concept	30-65% Des. Dev.	90% Pre- Final	100% Final
1	Cover/Title Page	Х	Х	Х	Х
2	Table of Contents (as required)	Х	Х	Х	Х
3	Narrative of Interior Design Objectives	Х	Х	Х	Х
4	Furniture Footprint Plan	Х	Х	Х	Х
5	Photo of Completed Interior Color Rendering(s) (if required by contract)			Х	Х
6	Black and White Sketch Perspective(s) (if required by contract) One will be approved for the interior rendering.		Х	Х	Х
7	Finish/Color Boards		Х	Х	Х
8	Finish Color Legend, or UFGS 09915 Color Schedule		Х	Х	Х
9	Room Finish Schedule	Х	Х	Х	Х
10	Hard copy and/or Electronic files of Drawings, Plans, Schedules, and Finish Color Boards				Х
\1\ 11	Narrative of SID sustainability objectives and issues.	Х	Х	Х	X /1/

UFC 3-120-10 15 June 2006 including Change 1, July 2007 CHAPTER 5 FURNITURE, FIXTURES & EQUIPMENT INTERIOR DESIGN

#### 5-1 **DEFINITION**.

The Furniture, Fixtures & Equipment Interior Design (FF&E) includes the design, selection, specification, color coordination and procurement documentation of the required items necessary to meet the functional, operational, sustainability, and aesthetic needs of the facility. The FF&E package will include placement plans, ordering and finish information on all freestanding furnishings and accessories, and cost estimates. The Interior Designer will select and specify colors, fabrics, and furniture finishes to coordinate with the Structural Interior Design (SID) interior finish materials. The selection of furniture style, function and configuration will be coordinated with the user/customer's requirements. Examples of FF&E items are workstations, seating, files, tables, beds, wardrobes, draperies and accessories as well as markerboards. tackboards, and presentation screens. Secondary window treatments such as sheers, draperies, top treatments, and room-darkening shades are specified as required on a project-by-project basis and are usually included as part of the FF&E package. Criteria for furniture selection will include function and ergonomic considerations, maintenance, durability, sustainability, comfort and cost. Also, the designer may have to consider reuse of and coordination with existing furnishings.

The FF&E budget, the customer's program requirements and the Furniture Footprint plans will be the basis for the FF&E Package. The designer will work directly with the using activity to assess their needs and develop a list of furnishings required for each space within the facility. The FF&E package will be developed and coordinated with the architectural design as is appropriate with the project delivery process and the FF&E acquisition strategy. Refer to Chapter 2 Interior Design Process.

Equipment not included in MILCON construction may or may not be included in the FF&E package, depending on the funding used. The user or user's consultants may specify or provide specifications for specialized equipment. The Army and Air Force do not include equipment in their FF&E package. The Navy and Marines usually include equipment in their FF&E packages where appropriate.

#### 5-2 **SOURCES OF SUPPLY FOR FF&E.**

Most FF&E items are available through Government Sources of Supply (UNICOR, Federal Supply Catalog, etc.) or current General Services Administration (GSA) contracts. Additional sources include GSA Advantage, AFNAF Commanders Smart Buy Programs or AFNAFPO, and the Veterans Administration (VA).

If an open market procurement of any item is necessary, the Interior Designer is required to prepare adequate written justification, giving reasons why the item(s) must be procured through the open market. The Interior Designer coordinates product lead times with the construction completion dates. See Appendix D for applicable DoD procurement sources.

#### 5-3 FF&E DESIGN SUBMITTAL REQUIREMENTS.

The FF&E submittal is used for procurement of furnishings for new or renovated facilities. It also becomes the record and resource document for facilities management personnel to reference for repairing or replacing furnishings and reordering additional items.

FF&E information and samples are to be submitted in 8 1/2" x 11" format using three ring binders with pockets on the inside of the covers. When there are numerous pages with thick samples, use more than one binder. Large D-ring binders are preferred to O-ring binders. Fold out items must have a maximum spread of 25 1/2". Provide cover and spine insert sheets identifying the document as a "Furniture, Fixtures & Equipment" package and include the project title and location, project number, A/E name and date, and the submittal stage. The design submittal requirements will include, but are not limited to.

## 5-3.1 FF&E Package Format Submittal.

The specific format and organization of these binders must be coordinated with the government designer and installation design guides as well as with the contracting specialists or designated contracting official. For Navy projects, coordinate the procurement documents with the Collateral Equipment Manager (CNI). When required, a submittal will be made at the concept stage for the FF&E package format only, to confirm the installation and procurement requirements.

## 5-3.2 Narrative of Interior Design Objectives.

Provide a narrative description of the furnishings design addressing the selection of furnishings, finishes and colors. Discuss the Furniture Plan development and features and how it meets project specific requirements. Enumerate the design decisions made to fully coordinate the SID and the FF&E, including function, safety and ergonomic considerations, durability and aesthetics.

#### 5-3.3 Point of Contact List.

Provide a comprehensive list of POCs needed to implement the FF&E project. This would include appropriate project team members, using activity contacts, interior design representatives, contractors and installers involved in the project. In addition to name, address, phone, fax and email, include each contact's job function.

## 5-3.4 Itemized Furnishings Cost Estimate.

Provide an itemized cost estimate of furnishings keyed to the plans and specifications of products included in the package. This cost estimate is based on GSA pricing. The cost estimate must include percentage allowances for general contingency, shipping, inflation and installation costs, listed as separate line items. Installation and freight quotes from vendors should be used in lieu of a percentage allowance when available.

## 5-3.5 Item Code Legend.

Provide a consolidated list of all FF&E items in the design package with the item code and a short description of each item.

#### 5-3.6 Item Installation List.

The Item Code Legend may be expanded to be used as an Item Installation List. Indicate quantity per room, model number, manufacturer and which vendor is responsible for installing each furnishings item. This provides a quick reference for managing larger furniture installations.

## 5-3.7 Furnishings Order Forms.

One Furnishings Order Form will be prepared for each item specified in the design. This form identifies all information required to order each individual item. In addition to the project name and location, project number, and design submittal phase, the order form must include:

- a. Item Code and Name
- b. General Services Administration (GSA) Federal Supply Category (FSC) Group, Part, Section and Schedule Name
- c. SIN number
- d. GSA contract number, expiration date, maximum order limit, shipping terms
- e. GSA Contractor name, address (ordering and payment), phone, fax, email or website
- f. Manufacturer's name (if different from the Contractor), address, phone number and contact information if different than the Contractor.
- g. Dealership/Installer name, address, phone number and contact information
- h. Ship-to address for example, some items are delivered directly to the site and some to the installer's warehouse.
- i. Federal Stock information (if applicable)
- j. Product specification information, manufacturer's item name, series, model number, description, dimensions, configuration, features or options
- k. Finishes and fabrics these must be coded to the furnishings illustration boards
- I. An image of the item to be purchased the image must be as close to the actual item to be purchased or it must be noted that the image is representative or similar if not the actual item. The illustration of each item may be shown on the Furnishings Order Form or on other furnishings illustration materials (see 4-3.7).
- m. Location of items indicating quantity of items used per room number
- n. Total quantity of items used in the project
- o. Unit cost
- p. Extended or total cost
- g. Shipping and cartoning costs
- r. Special Instructions indicating packaging information, mounting heights information, installation coordination notes, etc.

- s. Interior Design Source contact whether it be the A/E interior designer, or the government interior designer
- t. Dealer/Vendor quotes where applicable

The goal is to provide this information on one page, however, if necessary, a second page may be used for additional detailed specifications. Open market justifications and/or any other critical procurement information must be indicated as well as special instructions for ordering and/or installation. The Furnishings Order Forms are to be organized by product category in the binder and keyed to the Item Code Legend. Refer to Appendix C for examples of specific forms.

#### 5-3.8 Best Value Determination.

The purpose of the Best Value Determination (BVD) is to provide a contracting official with the proper documentation to assist in determining that the FF&E package meets Federal Acquisition Regulations (FAR). A complete and well-written BVD is the first step in ensuring the FF&E package will be purchased as designed. Coordinate with the contracting official on the procurement source of supply and associated BVD requirements to be incorporated into the FF&E package. Best Value Determinations must be performed for orders over \$2,500. Typically, furnishings must be evaluated through market research and price comparisons. The documentation will list the types of furnishings, then the three required vendors considered for the item, the price of the three considered and a brief statement why the selected furnishings are the "best value" to the government.

## 5-3.9 Furnishings Illustration Materials.

Coordinate the format and information contained in the furnishings illustration sheets with the applicable design guides and installation requirements. The intent is to minimize duplication of information and tailor the illustrations to best communicate the project design, taking into consideration the size and complexity of the project. The finish and fabric samples must be labeled and keyed to the item codes used on the Furnishings Order Forms and the furnishings plans. One or more of the following formats may be used.

Provide Furnishings Color Boards or Furnishings Illustration Forms with the finishes and fabric samples mounted and labeled with finish codes and item codes corresponding to the specifications on the furnishings order forms. If furnishings illustrations are not shown on the Furniture Order Forms, include an image of each item specified with its associated finishes. Verify the format of the Furnishings Illustration Forms with each installation. Color boards must be in 8 1/2" x 11" format and must be sturdy enough to support the finish samples. Use page protectors that are strong enough to keep pages from tearing out. Large samples in protective sleeves must be labeled with the finish code so they can be identified independently if removed from the binder. Finish samples must indicate true pattern, color and texture. Use photographs or color photocopies of materials or fabrics to show large overall patterns in conjunction with finish samples to show the true colors. Finish samples must be large enough to show a complete pattern

or design where practical. Provide a label or header identifying the submittal phase, project title and location, A/E and construction contract numbers, A/E name and date on each color board.

Large-scale Furnishings Presentation Boards may be required for briefings to illustrate typical products proposed for the project and their associated finishes and fabrics samples. When required, furnishings presentation boards will be a minimum of 16" X 20", either foam core or mat board. Boards must be sufficiently rigid to support heavy samples. Finish materials must be labeled and keyed to the Furnishings Order Forms. Material and finish samples must represent true pattern, texture and color. Samples must be large enough to indicate any pattern repeats where practical. Color photocopies of artwork and plants are acceptable. For contracted services, provide a label or title block identifying the submittal stage, project title and location, A/E and construction contract numbers, A/E name and date.

#### 5-3.10 Manufacturers Source List.

This list identifies the manufacturers and sources used in the FF&E package. Provide the Contractor's address, the ordering address, and the payment address including contact names, phone numbers, fax, and email address. Also, provide GSA contract information including contract number, FSC group, part, section, expiration date, maximum order limit, pricing terms, shipping terms, etc.

#### 5-4 **FURNITURE PLANS**.

Provide furniture plans in an adequate scale to indicate locations of all furniture, furnishings, equipment and accessories. Identify these items with an item code that is keyed to the Furnishings Order Forms and the furnishings illustration materials. Typically, furnishings plans will be the same scale as the architectural drawings. Some projects may require furnishings plans for individual rooms or areas to show furnishings in sufficient detail for installation. Examples of this include enlarged plans for systems furniture; or individual room drawings where exact room configurations are repeated throughout a project. Refer to the A/E/C Tri-Service CADD standards for drawing formats. The furniture plans will be submitted in both the construction set of drawings as well as in the FF&E package.

## 5-4.1 Furniture Systems.

Furniture systems must be designed using product and features available from three or more manufacturers to ensure open competition. Refer to UFGS 12705 Furniture Systems for specifications and required detail drawings to include in the contract documents.

#### 5-4.2 Artwork Placement Plans.

If the artwork cannot be clearly shown on the furniture placement plans, provide separate artwork placement plans. Ensure that mounting heights and special installation

instructions are indicated on the plans and on the Furnishings Order Forms.

### 5-5 FF&E DESIGN SUBMITTAL REQUIREMENTS MATRIX.

In addition to providing the appropriate drawings for the contract documents, the following matrix indicates what information must be included in each submittal if that work is a part of the design contract. The specific format and organization of the FF&E binders must be coordinated with the installation design guides and requirements as well as the contracting requirements.

The following submittal phases are representative and will vary due to the project delivery process. The scope of work will define the phases, specific types and number of submittals on a project-by-project basis.

### UFC 3-120-10 15 June 2006 including Change 1, July 2007 Table 5-1 FF&E Design Submittal Requirements Matrix

Item	Description	10-15% Concept	30-65% Des. Dev.	90% Pre- Final	100% Final
	BINDER				
1	Preliminary FF&E package format only submittal	Х			
2	Cover/Title Page	Χ	Х	X	Х
3	Table of Contents (if required)	Χ	Х	Х	Х
4	Narrative of Interior Design Objectives	Χ	Х	Х	Х
5	Point of Contact List	Χ	Х	Х	Х
6	Photo of Completed Interior Color Rendering(s) (if required by contract)			Х	Х
7	Black and White Sketch Perspective(s) (if required by contract). One will be approved for the interior rendering.		Х	Х	Х
8	Itemized Furniture Cost Estimate		Х	Х	Х
9	Item Code Legend (required) or		Х	Χ	Х
	Item Installation List (if required)				
10	Furnishings Order Form (sample form only)	Х			
11	Furnishings Order Form (all items)		Х	Х	Х
12	Best Value Determination form (appropriate sample form for established procurement method/source of supply)	Х			
13	Best Value Determination forms (all items)		Х	Х	Х
14	Furniture Illustration Sheet (sample form only)	Х			
15	Furniture Illustration Sheets with photos, number codes and finishes (all items/areas)		Х	Х	Х
16	Artwork Illustration Sheets /Artwork Placement Plans (if required)		Х	X	Х
17	Manufacturers Source List (if required)			Х	Х
	DRAWINGS				
18	Furniture Plans with Conventional and Furniture Systems	Х	Х	X	Х
19	Furniture System Panel Plans (if required)		Х	X	Х
20	Furniture System Electrical/Voice/Data Plans (optional)		Х	X	Х

Item	Description	10-15% Concept	30-65% Des. Dev.	90% Pre- Final	100% Final
21	Furniture System Elevation/Isometric and Components Inventory Drawings		X	X	Х
22	Hard copy and/or Electronic files of all Drawings, Plans, Schedules, Color Boards			Х	Х
\1\ 23	Narrative of FF&E sustainability objectives and issues	Х	Х	Х	X /1/

### **APPENDIX A - REFERENCES**

#### **GOVERNMENT PUBLICATIONS:**

**Department of Defense**UFC 1-200-01, Design: General Building

Requirements;

Unified Facilities Criteria (UFC)

Internet site UFC 1-300-09N, *Design Procedures* http://65.204.17.188//report/doc\_ufc.html

UFC 3-100-10, Architecture

UFC 3-120-01, Design: Air Force Sign

Standard

UFC 3-600-01, Design: Fire Protection

Engineering for Facilities

ERDC/TL TR-01-6 Tri-Services A/E/C

CADD Standards,

http://192.168.0.6/UDS/AECCADDStandar

dVolume1.pdf

http://192.168.0.6/UDS/AECCADDStandar

dVolume2.pdf

U.S. Architectural and Transportation Barriers Compliance Board

ADAAG, "Americans with Disabilities Act

Accessibility Guidelines"

http://www.access-

board.gov/adaag/html/adaag.htm

# GOVERNMENT PUBLICATIONS: Department of the Navy

Standardization Documents Order Desk 700 Robbins Avenue, Bldg. 4D Philadelphia, PA 19111-5094 MIL-HDBK 1012/3, Telecommunications Premises Distribution Planning, Design, and Estimating http://www.hnd.usace.army.mil/techinfo/mi sc/121012n.pdf

NAVFAC Planning and Design Policy Statement 97-02, *Quality of Design* 

NAVFAC Planning and Design Policy Statement 94-01, *Barrier Free Design Accessibility Requirements* 

**U. S. Army Corps of Engineers** 

Engineering Regulation ER 1110-345-122 "Engineering and Design – Interior Design

Design Guide DG 1110-3-122 "Design Guide for Interiors"

Technical Instruction TI 800-01 "Design Criteria"

### **GOVERNMENT PUBLICATIONS:**

U.S. Air Force Center for Environmental

Excellence HQ AFCEE

3300 Sydney Brooks

Brooks City-Base TX 78235-5112

http://www.afcee.brooks.af.mil/

Air Force Interior Design Guides

Air Force Handbook 32-1084 "Facility

Requirements"

http://www.wbdg.org/ccb/AF/AFH/32 1084

.pdf

Engineering Technical Letter ETL 03-3 "Air

Force Carpet Standards"

http://www.afcesa.af.mil/userdocuments/p

ublications/ETL/ETL 03-3.pdf

Engineering Technical Letter ETL 04-3 "Design Criteria for the Prevention of Mold

in Air Force Facilities"

http://www.afcesa.af.mil/userdocuments/p

ublications/ETL/ETL 04-3.pdf

Air Force Sustainable Facilities Guide, http://www.afcee.brooks.af.mil/dc/dcd/arch

/rfg/index.html

Whole Building Design Guide <a href="http://www.wbdg.org/">http://www.wbdg.org/</a>

Technical Guidance for Implementing Federal Leadership in high-performance and Sustainable Buildings Memorandum of

*Understanding*, January 24, 2007, http://www.wbdg.org/sustainablemou/

NON-GOVERNMENT PUBLICATIONS:

Master Painters Institute (MPI) http://www.paintinfo.com/

"Architectural Painting Specification

Manual"

"Maintenance Repainting Manual"

U.S. Green Building Council (USGBC)

http://www.usgbc.org/

Leadership in Energy & Environmental

Design (LEED) Rating System

UFC 3-120-10 15 June 2006 including Change 1, July 2007 APPENDIX B – BEST PRACTICES

There are no Best Practices requirements at this time.

### APPENDIX C - INTERIOR DESIGN RELATED STANDARDS & CODES

#### INTERIOR DESIGN RELATED STANDARDS AND CODES

Airborne Sound ASTM C423, PBS C.1 **ACOUSTICS** 

Impact Sound Transmission ASTM C423-66, PBS C-2

**EGRESS** NFPA 101 Fire Safety Code

International Building Code, IBC

ASTM D2047 Test for Slip Resistance of Hard Surfaces **FALLS** 

ASTM E84 Steiner Tunnel Test. FIRE, FLAME SPREAD

BS 476, Part 7 Flammability Standard (UK and Belgium)

CAL TB-133 Flammability Test Procedure for Seating Furniture for Use in Public Occupancies

CAL TB-117 (Sections A through E) Test Procedures for Testing the Flame Retardant of Resilient Filling Materials Used in Upholstered Furniture

DIN 4102, B1 Flammability Standard (German)

DOC FFI-70 Standard for the Surface Flammability of

Carpet and Rugs (Methylamine Pill Test)

NFPA-705 Field Flame Test for Textiles and Films

NFPA 80 Fire Test of Door and Windows

NFPA-220 Standard on Types of Building Construction

NFPA-253 Flooring Radiant Panel Test

NFPA-255 Standard Method of Test of Surface Burning

Characteristics of Building Materials

NFPA-258 Research Test Method for Determining Smoke

Generation of Solid Materials

NFPA-259 Potential Heat of Building Materials

Appendix C-1

NFPA-260 Methods of Tests and Classification System for Cigarette Ignition Resistance of Components

NFPA-261 Method of Test for Determining Resistance of Mock-up Upholstered Furniture Material Assemblies to Ignition by Smoldering Cigarettes

NFPA-264 Standard Test Method for Heat Release Rates for Upholstered Furniture Components or Composites and Mattresses Using an Oxygen Consumption Calometer

NFPA-265 Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Textile Wall Coverings

NFPA-267 Standard on Mattress Subjected to Open Flame Ignition Using an Oxygen Consumption Calometer

NFPA-701-1 / 701-2 Standard Method of Fire Test for Flame Resistant Textiles and Films

NFPA-703 Standard for Fire Retardant Impregnated Wood and Fire Retardant Coatings for Building Materials

UBC 8-2-(94) Test Method for Textile Wall Coverings.

**FURNISHINGS** 

ANSI/BIFMA X5.6-86 American National Standard for Office Furnishings

Wyzenbeck Abrasion, ASTM D4157-02 Standard Test Method for Abrasion Resistance of Textile Fabrics (Oscillatory Cylinder Method)

INDOOR AIR QUALITY

ASHRAE 62-1989R Ventilation Standard for Acceptable Indoor Air Quality

### APPENDIX D - SAMPLE FORMS FOR INTERIOR DESIGN SUBMITTALS

### Figure D-1 Navy Sample FF&E Order Form.

SOUTHWEST DIVISION	ON			SHEET:	
NAVAL FACILITIES ENGINEERING COMMAND			DATE:		
FACILITY:					
ITEM:		_		ITEM CODE:	
FSC GRP:	PART: SECTION:	EXP: DATE:		GSA#:	
MANUFACTURER:				ORDERING ADDI	RESS:
CONTRACTOR:					
LOCAL REP:				PHONE NUMBER	
ANY VARIANCE OR MODIFICATION OF TH	IS SPECIFICATION WILL BE COORDINATE	D THROUGH SOUTHWEST	DIVISION, NAVAL F	ACILITIES ENGINEERING CO	MMAND.
CONTACT: DEBORAH LOVERIDGE, I	NTERIOR DESIGNER SWI	DIVNAVFACENGO	COM, 619-53	32-3128	
DESCRIPTION:			QTY:	UNIT COST:	TOTAL COST:
		TOTAL:			
FOB/REMARKS:					

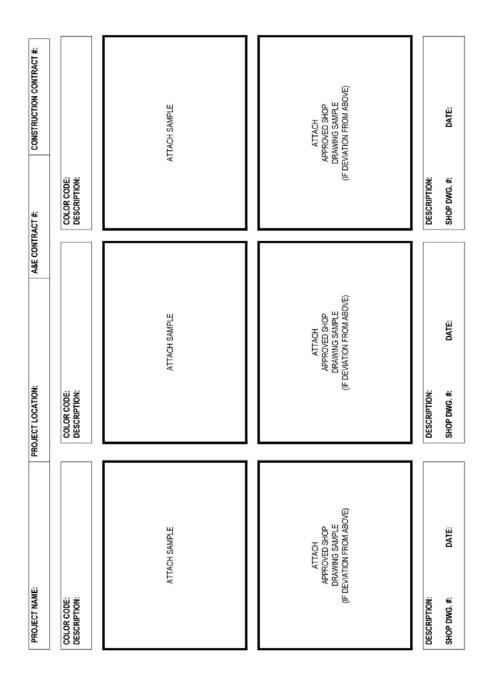
# Figure D-2 Navy Sample Furniture Illustration Sheet

NISH	ANUFACTURER	ENGINEERING COMMAND	
	FM	+	
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VISH			
NISH			
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	AICH		
	11011		

### Figure D-3 Navy Sample FF&E Order Form.

FURNITURE AND ACCESSORIES DATE	PROJ. NO.	ITEM NO.
PROCUREMENT LIST		
PROJECT TITLE/LOCATION		CONTRACT NO.
FED. SUPPLY CATEGORY	S.I.N.	GROUP AND PART
GSA FED.STOCK OPEN MKT.		
CONTRACTOR/SOURCE		EXP
		MOL
		DELIVER FOR
		ORIGIN DESTINATION
		FED. STOCK NO.
ITEM NAME/DESCRIPTION		FINISH/FABRIC
LOCATION OF ITEM		SIDEMARK CONTAINER
2007.11.01.01.11.2		SIDE IN CONTROL OF THE CONTROL OF TH
		PROCUREMENT DOC NO
РНОТО		QUANTITY
		UNIT PRICE
		TOTAL PRICE
		SHIP TO:

Figure D-4 Navy Sample SID Color Binder Form.

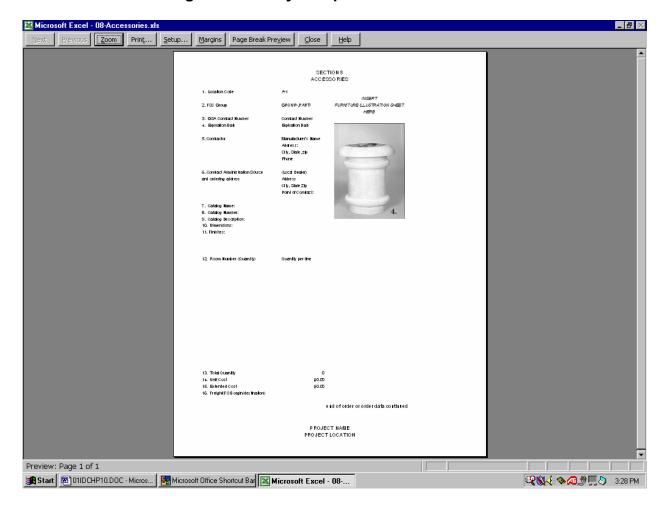


# Figure D-5 Army Sample FF&E Order Form.

### ORDER FORM

ITEM CODE:	
ITEM NAME:	
MANUFACTURER: (Name, Address, Phone # , Fax #, Website, E-Mail)	
CONTRACTOR: (Name, Address, Phone # , Fax #, Website, E-Mail)	
FSC GROUP:	
SIN:	
GSA CONTRACT NUMBER:	
EXPIRATION DATE:	
DEALERSHIP/INSTALLER: (Name, Address, Phone # , Fax #, Website, E-Mail)	
MODEL NAME:	
MODEL NUMBER:	
DESCRIPTION:	
DIMENSIONS:	
FINISH:	
FABRIC:	
LOCATION: (Room Number, Room Name, Quantity)	
TOTAL QUANTITY:	
UNIT COST:	
TOTAL COST:	
PROJECT NAME PROJECT LOCATION ITEM	CODE:

Figure D-6 Army Sample FF&E Order Form.



#### APPENDIX E – FF&E PROCUREMENT REFERENCES AND SOURCES

### Federal Acquisition Regulations (FAR).

FAR Part 8 directly affects the interior design process by outlining the required sources of supplies and services and their use. Of particular importance to the process of developing and procuring FF&E interior design is paragraph 8.001, Priorities for use of Government supply sources. These are as follows:

Agency inventory

Excess from other agencies (Subpart 8.1)

Federal Prison Industries, Inc. (Subpart 8.6)

Products available from the Committee for Purchase From People Who are Blind or Severely Disabled (Subpart 8.7)

Wholesale supply sources (such as stock programs of the General Services Administration)

Mandatory Federal Supply Schedules (Subpart 8.4)

Optional use Federal Supply Schedules (Subpart 8.4)

Commercial sources

Additional information may be obtained through the website: http://www.arnet.gov/far/.

### **General Services Administration (GSA) Schedules.**

The GSA contracts with a variety of manufacturers for a variety of products. These contracts are grouped by product type, and are awarded to either multiple or single vendors. This and more information may be obtained from the <a href="GSA website">GSA website</a>. To obtain a list of GSA schedules, access the Schedules e-Library at <a href="http://www.gsa.gov/elibrary">http://www.gsa.gov/elibrary</a>.

#### Federal Prison Industries.

The Omnibus spending bill for Fiscal Year 2005 (H.R.4818) was signed into law on December 8, 2004. Section 637 of Public Law 108-447 mandates that both civilian agencies and the Department of Defense not purchase from Federal Prison Industries (FPI) unless it determines that the products or services offered by FPI provide best value to the buying agency. If FPI does not provide the best value, then the buying agency may purchase from other sources according to government procurement regulations. Customers can consider many factors including price, delivery time. quality, warranty considerations, trade-in considerations, past performance/experience, and technical qualifications when selecting best value. Changes to FAR 8.602 will be forthcoming. This law is applicable beginning fiscal year 2005, continuing thereafter. The specific paragraph is quoted below for your review: "SEC. 637. None of the funds made available under this or any other Act for fiscal year 2005 and each fiscal year thereafter shall be expended for the purchase of a product or service offered by Federal Prisons Inc unless the agency making such purchase determines that such offered product or service provides the best value to the buying agency pursuant to government wide procurement regulations...." http://www.gsa.gov/Portal/gsa/ep/contentView.do?P=3FN1&contentId=17746&contentT ype=GSA BASIC

Additional information may be obtained through the website: http://www.unicor.gov/index.cfm